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Entrepreneurship in young adults: Initial findings from the young entrepreneurs study ☆

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ABSTRACT

The scientific study of youth entrepreneurship is truly in its infancy, with research on the development of entrepreneurship constrained by theoretical foundations that rely on static, trait-like approaches that equate entrepreneurship with stable personality characteristics. In this article, we define entrepreneurship as a fluid process that relies on the bidirectional interplay between a developing individual and his or her context. We report initial findings from the Young Entrepreneurs Study that clarify how entrepreneurial intentions and actions manifest in youth. We present quantitative analyses that examined the relations between entrepreneurial strengths and entrepreneurial activities in a sample of 3461 college students, and we describe the results of semi-structured interviews from a 48-person subset of our larger sample that explored how entrepreneurial intentions and actions manifested in our sample. We describe a mixed-method triangulation that integrates these two sets of findings, then discuss implications for future research.

Successful entrepreneurship, which we define as including both serial business creation and long-term business ownership (e.g., Schumpeter, 1934), offers a viable pathway to economic growth (Clifton, 2011) and personal fulfillment (Damon & Lerner, 2008). Yet, like all developmental outcomes, entrepreneurship does not occur in a vacuum. The development of entrepreneurship requires social and economic conditions that promote entrepreneurial activity as well as individual capacities that help individuals create and sustain productive enterprises. Economics and business management scholars have devoted considerable attention to the societal and economic conditions that promote free enterprise (e.g., see Xavier, Kelley, Kew, Herrington, & Vorderwülbecke, 2012 for a brief overview), and psychological researchers have investigated the individual capacities and characteristics associated with entrepreneurial success (e.g., Schmitt-Rodermund, 2004). Previous research, however, has primarily focused on entrepreneurship in adults, so little is known about how young people interact with social and economic contexts to acquire entrepreneurial capacities (Damon & Lerner, 2008).

The transition to adulthood is an important period for understanding successful entrepreneurship; although nearly half of American youth report having plans to start their own businesses (Gallup & Operation Hope, 2012), only about 10% of the U.S. adult population is engaged in entrepreneurial activities (Kelly et al., 2012). This discrepancy between youth's aspirations and adults' activities highlights the importance of understanding *whether* and *how* young people develop entrepreneurial intent and succeed in entrepreneurial activities during the transition to adulthood. In this paper we address this issue by examining how entrepreneurial interests and actions are manifested in a sample of college-aged participants.

One limitation to understanding the development of entrepreneurship is that existing research generally relies on static, trait-like approaches that equate entrepreneurship with a stable personality characteristic (but see the work of Schmitt-Rodermund, 2004, 2007, and colleagues for an exception), rather than as a set of actions that depend on fluid and malleable relations between individuals and their contexts. Such static definitions leave little room for intraindividual development and, by extension, negate the idea that entrepreneurship can be cultivated.

We alternatively propose that entrepreneurship emerges out of bidirectional relations between individuals and their ecologies (represented as person ↔ context relations). This alternative definition stresses the mutually influential relations between a developing and

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active individual and his or her complex and dynamic context. Relational Developmental Systems Theories (RDSTs; see Overton, 2010, 2013) represent one theoretical paradigm that emphasizes such coactive, bidirectional relations and, as we note elsewhere (Geldhof et al., in press), RDSTs are especially useful for understanding the ways these relations support the development of entrepreneurship. According to RDSTs, attributes of the individual contribute to the development of entrepreneurial careers, but they do so as part of a larger person-context system. Contextual factors, such as having an important adult role model, similarly impact the development of entrepreneurship through their relations with variables from other levels (e.g., purposes or goals of the individual). Thus, variables from all levels of organization, including the biological, behavioral, and contextual levels, are important for understanding the developmental precursors of entrepreneurship.

Relevant to the development of entrepreneurship, RDSTs also stress the concept of relative plasticity, that is, the potential for systematic change (e.g., Lerner, 1996). Under the assumption of relative plasticity, researchers acknowledge that developmental trajectories remain relatively plastic (i.e., potentially able to change) throughout the life span, but they also acknowledge that the degree of plasticity is not fixed across development. An individual's career trajectory is substantially more flexible when he or she is in college than after he or she becomes established in a career field. As illustrated by the concept of "second careers," however, career trajectories may never be truly fixed. Entrepreneurial interests may emerge well into adulthood (Freedman, 2007). Thus, although research on the personal and ecological characteristics that support entrepreneurship during adulthood are informative, research that examines entrepreneurship during a period of relatively greater plasticity (i.e., late adolescence and the transition to adulthood) is likely to lead to intervention and training programs that can have substantially stronger effects.

Scholars from several fields (e.g., Gartner, 1989; Kelley, Singer, & Herrington, 2012; Peneder, 2009; Ripsas, 1998; Obschonka, Silbereisen, & Schmitt-Rodermund, 2011; Schmitt-Rodermund, 2007; Schoon & Duckworth, 2012) have called for theoretical approaches similar to RDSTs when studying entrepreneurship, but little empirical research has been conducted using such approaches. Accordingly, we used a relational developmental systems perspective to design the Young Entrepreneurs Study (YES). YES investigates the development of entrepreneurship across late adolescence and young adulthood in a sample of students attending American colleges and universities between 2011 and 2014. In the present article, we first review the few studies of the individual and contextual factors associated with entrepreneurial intent and activities among young people. We then describe the YES project as an extension of this literature and present mixed-methods data from its first wave of data collection. Specifically, we highlight ways that entrepreneurial intentions and related constructs manifest in a sample of American college students. This inductive research represents a critical step in entrepreneurship scholarship by investigating the validity of our measures so they can be used in future research examining person ↔ context processes that promote entrepreneurship.

Young people's entrepreneurial intentions and activities

As Damon and Lerner (2008) note, the scientific study of youth entrepreneurship is in its infancy. To date, so few studies have been done that most reviews of the entrepreneurship literature do not even mention the topic. For example, a recent and comprehensive collection of reviews of the entrepreneurship research from a psychological perspective does not even contain the word "youth" in its index. Indeed, studies of young people are not even mentioned in the volume (Baum, Frese, & Baron, 2007). Nevertheless, some promising beginnings have been made in identifying the forms, correlates, and predictors of young people's entrepreneurial intentions and actions (e.g., Schoon & Duckworth, 2012).

Among published research, studies suggest that youth are divided in their orientation toward entrepreneurial pursuits. A national survey of "youth entrepreneurship attitudes" in Australia found that most young people did not see themselves as possessing the personal attributes required for successful entrepreneurship (Sergeant & Crawford, 2001). However, almost two-thirds of the young people surveyed believed that they possessed *some* of the requisite qualities for entrepreneurship. Similarly, a study of the long-term goals of American youth found that only a small minority of youth were primarily motivated by ambitions such as starting a business (Damon, 2008). Even so, several young people in this study had already accomplished extraordinary entrepreneurial achievements during their teenage years.

Damon (2008) also found that, by ages as young as eleven or twelve, some participants displayed "entrepreneurial capacities such as resourcefulness, persistence, know-how, and a tolerance of risk and temporary set-backs" (p. 114). Furthermore, he found that these highly entrepreneurial young people shared several early experiences that may have fostered their entrepreneurial capacities and interests, including: information and modeling provided by persons outside the immediate family, observations of successful people at work, realizations that something important in the world can be built, realizations that they can build something and make a difference in the world, initial attempts to accomplish something, support from immediate family, learning of skills needed for this pursuit, increased practical effectiveness, enhanced optimism and self-confidence, and long-term commitment to goals. Damon's study, however, was exploratory in nature and included only a small number of youth who were highly entrepreneurial ($N = 12$).

Another study, this one of students and small business founders in East Germany during the decade immediately following re-unification, found that students with authoritative parents showed high levels of entrepreneurial interests, competence, and personality characteristics; furthermore, students who had observed their parents engaging in entrepreneurial activity were more likely to show entrepreneurial competence than those who had not (Schmitt-Rodermund, 2004). Students who showed interest in entrepreneurial activities at the time of data collection planned to be self-employed and pursuing entrepreneurial careers by age 40, whereas those who did not express entrepreneurial interests were planning for careers in government, the independent non-profit sector, or in companies run by others.

Recently, Schmitt-Rodermund and her colleagues also analyzed data from a large group of boys ($N = 718$) from the Terman study of gifted children (Schmitt-Rodermund, 2007). Boys who demonstrated the most personal characteristics and interests linked to entrepreneurship when they were 12 or 13 also had the greatest propensities to become engaged in entrepreneurship by age 51, especially if they grew up with authoritative parents.

Schmitt-Rodermund and Vondracek (2002) found that, for youth willing to expend effort, entrepreneurial orientation was higher for those who displayed higher self-efficacy, who were open to new experiences, and who were low in agreeableness. In addition, entrepreneurs have been shown to display characteristics such as intentional self-regulation skills, aspects of youth character (e.g., creativity, curiosity, diligence, future mindedness, and reliability), and other personal attributes previously found to relate to entrepreneurial behavior (e.g., risk tolerance and work values related to intrinsic motivation; Damon & Lerner, 2008). In addition, childhood and adolescent experiences (i.e., early commercial activities), proclivities toward leadership and inventive activities, and contextual resources (e.g., entrepreneurial role models and authoritative parenting), lead to entrepreneurial activities during adulthood (Obschonka et al., 2011).

Finally, pilot interviews for the YES project (not presented here) suggested that a key feature differentiating entrepreneurs from non-entrepreneurs was the way each group approached money. Interviews conducted in preparation for the YES project suggested that entrepreneurs treated money not as an end, but instead as a means. Differences in how entrepreneurs approach money may therefore be important for

both (a) differentiating between entrepreneurs and non-entrepreneurs, and (b) differentiating serial entrepreneurs from business owners whose goal is to start only one business and to run that business as a life-long career.

The admittedly thin research literature on the development of youth entrepreneurship has made a start in identifying factors that play a role in elucidating this process. This research base suggests the importance of cultivating a child's entrepreneurial capacities, including dispositions such as self-efficacy and risk-taking, as well as innovativeness, competency, and "know-how." These findings also suggest the importance of authoritative parenting and the influence of entrepreneurial role models, both within and beyond the family. In addition, this literature suggests that entrepreneurial interest during adolescence is linked to the adolescent's intention to pursue an entrepreneurial career (Schoon & Duckworth, 2012) — although no research to date has been able to confirm that early entrepreneurial intentions directly translate into a successful entrepreneurial career. Yet, the available research indicates that young people's attitudes and interests shape their plans regarding their own entrepreneurial futures. How these futures may be manifested among different groups of youth across the U.S. (or internationally) remains a question for future longitudinal research.

The current study

Previous research has succeeded in laying the groundwork for a relational developmental systems-based approach to the development of entrepreneurship, but it has also left unanswered several pressing questions. Indeed, researchers have yet to identify how entrepreneurial interests and activities manifest in young people. In this article, we begin to address this topic by presenting results from the first wave of the YES project, a longitudinal study designed to assess the development of youth entrepreneurship. Although the present article does not explicitly consider bidirectional processes, this preliminary research provides an important foundation for future work examining the person ↔ context relations that foster entrepreneurship in young people. By providing information about how entrepreneurial interests and activities manifest in this age group, we may set the foundation for future RDST-oriented research geared toward encouraging the development of entrepreneurship in young people.

In this article, we describe the mixed-methods design of the YES project and explain its use in exploring how entrepreneurial intentions and actions manifested in our sample of college students. We present analyses of quantitative data, primarily exploratory factor analyses, alongside data from semi-structured interviews. The interview asked respondents to discuss at length their entrepreneurial interests and activities and the factors that influence their entrepreneurial goals and pursuits; therefore we gain depth of understanding about the survey constructs by probing what they mean to individuals and how they manifest in real-life cases. Taking a convergent parallel mixed methods design (Creswell & Plano Clark, 2011), we then examine levels of agreement between our quantitative and qualitative results and suggest future directions for research on the development of entrepreneurship in general, and for future waves of the YES project in particular.

Method

The YES project is a mixed-methods longitudinal study aimed at understanding the development of entrepreneurship in a sample of students enrolled in colleges and universities in the United States between 2011 and 2014. The timing of the YES project is especially notable, as our participants occupy a specific intersection of time and place marked by the so called "Great Recession," which weakened many national economies. The increases in unemployment caused by this economic recession may have made entrepreneurship an especially attractive career choice for students with reduced job prospects in traditional careers.

We have collected an initial wave of data and are currently following participants across two more times of (annual) measurement in a continuous-time variant of a cohort-sequential design. The present results consider only the first wave of the YES project and are therefore cross-sectional; longitudinal analyses will be included in future publications as those data become available.

Participants

Survey sample

We recruited 3461 participants from colleges and universities located in three regions of the United States (New England, the West Coast, and the Midwest), with approximately equal numbers of participants selected from each region (1285 New England, 992 West Coast, 1048 Midwest, 136 unspecified). Depending on the requirements of the university from which they were recruited, participants either received course credit or were entered into a drawing for one of twenty iPads in return for their participation. Participants had a mean age of 21.10 ($SD = 1.57$) years, and 60% were women. Most participants self-identified as European American (61%), although several other ethnic backgrounds were reported (4% African American, 20% Asian, 6% Latino/a, and 9% other).

Interview sample

A subset of 48 survey respondents (16 from each region) participated in semi-structured interviews. Because we anticipated a high correlation between entrepreneurial intent and indices of positive development, we selected our interviewees such that all displayed high levels of positive development but only some showed high levels of entrepreneurial intent. After approximately half of the Wave 1 quantitative data were collected, we ran a cluster analysis to determine whether positively developing entrepreneurial and non-entrepreneurial participants could be identified. We identified eight clusters, two of which displayed especially high positive development (results not presented). One of these positively developing clusters was characterized by high entrepreneurial intent (using the measure discussed in our quantitative analyses below); the other was not. We therefore drew our interview sample from these two clusters with the goal of selecting, from each of our three geographic regions, eight highly entrepreneurial participants, four moderately entrepreneurial participants, and four non-entrepreneurial participants. We selected interviewees for gender balance and ethnic diversity. Interviewees each received a $40 gift certificate as compensation for their time.

On average, interviewees were 21.5 years old ($SD = 1.61$), 66% were women, and all except two were currently enrolled in some type of post-secondary institution. That is, all participants were recruited from colleges or universities, but two interviewees were not enrolled at the time of the interviews. Of our participants, 53% identified as European American, 6% African American, 17% Asian or Asian-American, 13% Latino/a or Hispanic, 4% Asian Indian, and 2% multiethnic. The remaining participants identified as "other race/ethnicity." All interviewees were proficient in English.

Measures

Quantitative survey

In the following sections, we briefly describe the quantitative measures analyzed in the present study. All items are listed in Table 1.

Investment awareness. The YES research team developed a 23-item assessment of participants' perspectives on money. Of these 23 items, six specifically targeted participants' knowledge of and proclivity toward financial investing. Responses ranged from 1 = *strongly disagree* to 5 = *strongly agree*, with higher scores representing a greater understanding of or proclivity toward financial investment.

Money as a tool. Our pilot research suggested that entrepreneurs treated money as a means for reaching their goals, whereas their non-

Table 1
Exploratory factor analysis factor loadings[a].

	Factor			
	Intent	Investment	Tool	Career values
Rate the following goals according to how important they are in your life.				
Start my own business	.98			
Develop my own business	.97			
Start a new organization	.67			
Change the way a business or organization runs	.38			
Please rate how much you agree or disagree with these ideas.				
I am always on the lookout for good financial investments		.70		
I am aware of the tax implications of my financial activities		.56		
I enjoy reading about investing and other financial matters.		.77		
I would be comfortable going into debt to make a financial investment.		.40		
The more money I am able to borrow, the more my financial holdings are worth.		.30		
Taking on debt is not a good idea and should be avoided.		*na*		
Please rate how much you agree or disagree with these ideas.				
I believe that you might need to spend money in order to make money.			.30	
I think of money as a tool that can help me build something of value in the world.			.74	
I see money as a way for me to make important contributions to society.			.66	
Money will help me develop something that other people will use.			.59	
Money is a means, not an end.			.35	
Please rate how important each of the following is to you. A career…				
…where you make the decisions				.65
…where most problems are quite difficult and challenging.				.48
…that is interesting to do.				.59
…where you can see the payoff of what you create.				.55
…where you can have the chance to be creative.				.51
…that leaves you mostly free of supervision by others.				.36

Note. [a]Loadings < .20 not shown.

entrepreneurial peers tended to treat money as an end in and of itself. To more fully understand this tentative finding, and to ensure that we explored as comprehensive a set of items as possible during our inductive analyses, our questionnaire contained a set of five items that measured whether participants tend to see money as a tool (i.e., a means) or as an end to be attained. As with the items measuring participants' investment acumen, responses ranged from 1 = *strongly disagree* to 5 = *strongly agree*, with higher scores representing a stronger sense of money as a means rather than an end.

Entrepreneurial intent. We created a measure of entrepreneurial intent by factor analyzing a set of items measuring participants' life goals in our pilot data set (see also Geldhof et al., in press). Our measure of entrepreneurial intent contained four items in which participants indicated how important starting/developing a new business or organization was in their lives. Responses ranged from 1 = *not at all important* to 5 = *extremely important*, with higher scores representing higher levels of entrepreneurial intent.

Entrepreneurial career values. To measure participants' work-related values, we began with 13 items adapted from the Job Values Scale (Johnson, 2001, 2002, 2005). Preliminary factor analyses suggested that six of these items formed a cohesive factor representing the degree that participants valued having a career marked by aspects of entrepreneurship; we retained those six items for subsequent analyses. For each item participants indicated how important each career aspect was to them, with response options ranging from 1 = *not important* to 5 = *extremely important*.

Entrepreneurial activities. We assessed the number of times participants had been involved in four activities: starting a club, designing a new product or service, developing a business plan, and starting a business. The five response options ranged from "0" to "4 or more".

Qualitative interview

The semi-structured YES interview protocol was designed to elicit information about participants' (a) future goals, (b) entrepreneurial experiences and supports, (c) entrepreneurial qualities, and (d) attitudes about entrepreneurship. Each of these sections included seven or eight questions. Example questions are: "What are some of your long-term goals?", "What are some qualities you have that will help you achieve those goals?", "As a child or teenager do you remember any efforts to earn money on your own?", and "In what ways have other people helped you or influenced you in pursuing your goals?" See Appendix A for the full interview protocol.

Data analyses

Quantitative

The purpose of our quantitative analyses was to inductively explore ways that entrepreneurship and related constructs manifested in the first wave of the YES project. To more fully understand the relations among the constructs we measured – and thus to better understand how entrepreneurship may manifest in late adolescents and young adults – we performed an exploratory factor analysis (EFA) that simultaneously examined our measures of entrepreneurial intent, investment acumen, understanding of money as a means, and Entrepreneurial Career Values. Our EFA utilized robust maximum likelihood extraction and geomin rotation in Mplus (version 7). Research suggests strong between-gender differences in displayed levels of entrepreneurship (e.g., Schmitt-Rodermund & Vondracek, 2002; Schröder, Schmitt-Rodermund, & Arnaud, 2011); accordingly, to examine whether the observed structure held for both male and female participants, we additionally conducted a series of confirmatory factor analyses designed to test factorial (i.e., measurement) invariance between men and women.

We next tested the scales' validity by entering the factors from the EFA model into a series of structural equation models (SEMs) in which

the latent factors predicted the self-reported entrepreneurial activities described above. Due to the complexity of the models, which we describe below, we analyzed the four entrepreneurial activities separately. We also conducted separate analyses for men and women rather than coding gender differences via interaction terms. This resulted in a total of eight models: one for each of the four activities within each of the two gender groups.

For each of the eight gender-activity pairing models, we used a hurdle model. This technique (described below) allowed us to model two different components of activity participation: whether participants had engaged in an activity at all (i.e., at least once), and, for those who had participated at least one time, how many times they had participated. The concept behind a hurdle model is that one type of distribution is used to model the first component, which determines whether an individual participated in an activity; these analyses use logistic regression. If he or she did participate at least once, the "hurdle" is crossed, and another distribution is used to model the second component (here, negative binomial), which determines how many times an individual has participated in the activity, given that he or she has participated at least once. These analyses use loglinear regression

The first component uses logistic regression techniques to determine whether participants ever engaged in each activity (i.e., whether participants reported a zero for that activity, or any other value above zero). The second component operates only for those participants who reported engaging in the activity at least once and uses loglinear regression to investigate how many times participants engaged in the activities. Values for participants who did not participate in a given activity were coded as missing for these analyses. These loglinear models, however, assume that at least some of the data values are zeroes. To meet this requirement, all values for participants included in the loglinear models (i.e., those individuals who participated in the activity at least once) were recoded as observed counts minus one (e.g., a count of one was re-coded as zero, a count of two was recoded as one). This rescaling does not affect the analysis itself and only has implications for interpreting the resulting coefficients (these implications are described in the Results section).

Qualitative

We used an inductive approach to analyze the interviews in three related ways: first, to identify different levels of entrepreneurial intention; second, to describe how entrepreneurial intentions manifest in our sample; and third, to describe what entrepreneurial achievement looked like in our sample.

Levels of entrepreneurial intention. In the first analysis, two coders used a constant comparison approach (Glaser, 1965) to code transcripts based on their degree of entrepreneurial intention. The coders both read a sample of interviews and sorted them into different groups based on a global evaluation of their level of entrepreneurial intention (high, moderate, or none). Coders then re-read interviews in each cluster and proposed definitions of high, moderate, and no evidence of entrepreneurial intention. The resulting definitions were applied to subsequent transcripts and were continuously modified to ensure they adequately fit the data. Once the coding scheme was developed, the two coders read a new sample of the interviews (25%, or 12 of the 48 interviews), coded them independently, and compared their codes with one another (weighted kappa = .769; Cohen, 1968).

Descriptive analysis of entrepreneurial intention and achievement. For the second and third qualitative analyses, three researchers open coded (Strauss & Corbin, 2008) all content relevant to participants' entrepreneurial intentions and activities that could be considered entrepreneurial achievements. For this analysis, we defined entrepreneurial intention as a plan to start a business or organization, or develop a new product, as indicated by statements describing such a plan or preparation for developing a new venture or product. Entrepreneurial achievement was defined as current or past activity related to starting a new business or organization, or developing a new product. Coders met to discuss emerging themes within and across interviews, and these themes formed the foundations of a preliminary coding guide. This guide was used to code a subset of 20% of the interviews. During this process, the coding guide was revised in light of emerging themes. The final coding guide had adequate inter-rater reliability on 20% of the interviews (kappa = .70) on all but one of the codes and was thus applied to the entire interview sample.

Mixed-methods. To further investigate the validity of our quantitative scales and qualitative codes, we performed two sets of analyses that examined the extent of agreement between our quantitative and qualitative descriptions of entrepreneurial intention. First, we conducted analyses of variance (ANOVAs) that examined the degree to which our qualitatively assessed levels of entrepreneurial intent (none, moderate, and high) predicted each of the quantitative factors suggested by our EFA models. We included gender as an interaction variable in these analyses and performed post-hoc pair-wise comparisons for each model by controlling alpha using Tukey–Kramer corrections (nominal $\alpha = .05$). Due to the very low level of missing data (<5%), we used list-wise deletion.

Our second set of mixed-methods analyses compared our quantitative measure of entrepreneurial intent across levels of each content code representing how entrepreneurial intentions manifested in participant interviews. Specifically, we used Mann–Whitney U statistics to determine whether participants whose interviews included at least one instance of each content code displayed significantly higher levels of entrepreneurial intent than participants whose interviews did not include that code. Because these types of models do not allow interactions, we ran separate analyses by gender. Due to the large number of tests, we set nominal alpha at .10 and controlled our Type-I Error rate using a Bonferroni correction.

Results

We discuss three sets of results that, when taken together, inform how entrepreneurial intentions and actions were manifested in late adolescents and young adults. We present our quantitative findings first, followed by findings from our qualitative interviews. We then present the mixed-methods results that integrate key aspects of our quantitative and qualitative results.

Quantitative findings

We report two sets of quantitative findings, as described above: an EFA that aggregated entrepreneurship items into a set of latent factors and a series of follow-up SEMs that determined how these latent factors related to participants' self-reported engagement in entrepreneurial activities.

Exploratory factor analysis

A scree plot of our covariance matrix's eigenvalues indicated two strong latent factors and three weaker, but substantial, factors. We accordingly examined results for three-, four-, five-, and six-factor solutions. The four-, five-, and six-factor solutions all displayed acceptable model fit, with the four-factor solution showing an optimal balance of construct interpretability, adherence to simple structure, and model fit (RMSEA = .05, 90% C. I. [.05, .05], CFI = .94, TLI = .91). Table 1 presents estimated factor loadings from this model. As this table shows, each factor in our EFA model represented one of the included scales: Entrepreneurial Intent, Investment Acumen, Money as Tool, and Entrepreneurial Career Values. Several items displayed very weak loadings (e.g., <.40) and were dropped from our subsequent SEM and ANOVA models. Means and standard deviations for each factor's scale composite (i.e., the mean of all items in each scale) and for all outcomes are presented in Table 2.

Table 2
Means and standard deviations for scale composites and outcomes.

	Men		Women	
	Mean	SD	Mean	SD
Entrepreneurial Intent	3.15	1.21	2.68	1.22
Investment Acumen	3.08	0.99	2.58	0.88
Money as Tool	3.67	0.79	3.44	0.80
Entrepreneurial Career Values	4.10	0.58	4.00	0.58
How many times have you…				
Started a club	0.72	0.98	0.58	0.85
Designed a product/service	0.96	1.29	0.58	0.99
Developed a business plan	0.93	1.23	0.58	0.98
Started a business	0.31	0.75	0.13	0.45

Structural equation models

As a first step in our SEMs (rather than a confirmation of the structure found in our EFA), we ran a follow-up confirmatory factor analysis, which showed good fit (RMSEA = .05, 90% C. I. [.05, .06], CFI = .96, TLI = .95). To ensure that the items related to the constructs in similar ways for both men and women, we then fit a two-group confirmatory factor analysis (RMSEA = .05, 90% C. I. [.04, .05], CFI = .97, TLI = .96) and found both weak (i.e., loading) and strong (i.e., intercept) invariance of the constructs across groups using the change in CFI criterion suggested by Cheung and Rensvold (i.e., a change less than .01; 2002). Table 3 includes latent correlations from the strong invariance CFA model. This set of analyses confirmed that the meaning of the latent factors was similar across genders, and, thus, it would be appropriate to compare the findings from the separate models we conducted for men and women.

We then ran a series of SEMs, separately by gender, with the four entrepreneurial activities as outcomes. We pruned each model to include only statistically significant predictors (p for all admissible single-degree-of-freedom likelihood ratio tests > .05; BIC change was negative for all other model modifications). We specified latent factors to have unit variances, meaning a 1-unit increase in each predictor corresponded to a 1 *SD* increase in the corresponding latent factor.

Table 4 presents intercept and regression coefficients, in exponentiated form, from our final SEMs. These coefficients are presented in exponentiated form because their original form is not readily interpretable. Table 4 is divided into two parts. The first portion represents the logistic prediction equations for whether participants participated in each activity (i.e., zero vs. one or more times). The second portion of the table presents the loglinear prediction equation for the expected number of times a participant engaged in each activity, given that the participant engaged in the activity at least once. As stated above, counts for the loglinear portion of the models were coded as observed count minus one to accommodate parametric restrictions of these models.

Using the first outcome as an example, the intercept for the logistic equation predicting "Have you ever started a club" for male participants is .448. This number represents the odds of ever starting a club for male participants whose scores on the other variables included in the model were at the sample mean. Thus, for every participant at the average on all predictors who did not start a club, .448 participants did. These odds translate to mean .448/(1 + .448) = 30.94% of male participants at the mean of entrepreneurial intent are expected to have started a club. Furthermore, the coefficient for Entrepreneurial Intent is 1.154. This means that every one-standard deviation increase in Entrepreneurial Intent multiplies the odds of having started a club by 1.154. Thus, (.448*1.154)/(1 + (.448*1.154)) = 34.08% of men whose score on Entrepreneurial Intent was one standard deviation above the mean are expected to have started a club, compared to only 30.94% of men whose score on Entrepreneurial Intent was at the sample mean.

The second (loglinear) part of this model predicted the expected number of clubs each male participant started, provided he had started at least one club. Because we scaled our outcomes as (number of events − 1) in these analyses, the intercept of .501 means that a male participant whose scores on all predictors included in the model were at the sample mean is expected to have started 1.501 clubs. The exponentiated regression coefficient for Entrepreneurial Intent in this model was 1.302, meaning for every one-standard deviation increase in Entrepreneurial Intent, this expected number of clubs is multiplied by 1.302. Similarly, a one-standard-deviation increase in Entrepreneurial Career Values was expected to multiply the number of clubs started by 1.214, such that a participant who scored one standard deviation above the mean on both predictors was therefore expected to have started (.501 * 1.302 * 1.214) + 1 = 1.79 clubs.

The rest of Table 4 shows that the factors (i.e., Entrepreneurial Intent, Investment Acumen, Money as Tool, and Entrepreneurial Career Values) generally predicted higher engagement in activities related to entrepreneurship, with the logistic components (i.e., whether participants had participated at least once) displaying somewhat stronger effect sizes than the loglinear portions (i.e., the number of times someone had participated, given that he or she had done so at least once). These findings mean that the factors were better at predicting engagement in activities (i.e., yes/no) rather than the amount of engagement (i.e., how many times). In terms of individual predictors, Entrepreneurial Intent and Investment Acumen were especially strong predictors in both the logistic and loglinear portions of the models, with especially pronounced gender differences for these factors in the loglinear portions of the models. Viewed holistically, the results imply that both factors contribute to ever having engaged in one of the listed entrepreneurial activities, but that the number of times a participant engages in each activity depends most consistently on entrepreneurial intent among men and on investment acumen among women. In addition, Seeing Money as a Tool was only related to starting a club and designing a new product or service in the logistic part of the models among female participants, whereas Entrepreneurial Career Values were positively related to designing a new product or service in all models. These results suggest that seeing money as a means rather than an end may not be a consistent predictor of entrepreneurial activity and that our measure of Entrepreneurial Career Values may be especially endorsed by entrepreneurial individuals inclined toward inventing new products as opposed to those simply interested in running a business for the sake of entrepreneurship itself.

Table 3
Latent correlations.

	1	2	3	4
Exploratory factor analysis				
1. Entrepreneurial Intent	1			
2. Investment Acumen	.52	1		
3. Money as Tool	.34	.36	1	
4. Entrepreneurial Career Values	.29	.16	.32	1
Confirmatory factor analysis — men				
1. Entrepreneurial Intent	1			
2. Investment Acumen	.52	1		
3. Money as Tool	.44	.40	1	
4. Entrepreneurial Career Values	.35	.27	.44	1
Confirmatory factor analysis — women				
1. Entrepreneurial Intent	1			
2. Investment Acumen	.49	1		
3. Money as Tool	.37	.41	1	
4. Entrepreneurial Career Values	.37	.25	.35	1

Note. All correlations significant at p<.001.

Qualitative findings

Levels of entrepreneurial intention

Below, we present a brief description and illustrative quotations for the three levels of entrepreneurial intention coded during the qualitative analysis of the interviews. Throughout our qualitative results, we

Table 4
Exponentiated latent regression coefficients.

Logistic models					
Have you ever…	Intercept	Entrepreneurial Intent	Investment Acumen	Money as Tool	Career values
Men					
Started a club	.448***	1.154**			
Designed a product/service	.424***	1.376***	1.113*		1.102*
Developed a business plan	.419***	1.359***	1.290***		
Started a business	.148***	1.81***	**1.314****		
Women					
Started a club	.392***	1.079***		**1.138****	
Designed a product/service	.305***	1.226***	1.151**	**1.158****	1.226**
Developed a business plan	.316***	1.310***	1.507***		
Started a business	.084***	1.933***			
Loglinear models					
How many times have you…	Intercept	Entrepreneurial Intent	Investment Acumen	Money as Tool	Career values
Men					
Started a club	.501***	**1.302*****	1.490**		**1.214***
Designed a product/service	.917	**1.145***			1.143*
Developed a business plan	.824**	**1.285*****			
Started a business	.410***		1.542**		
Women					
Started a club	.437***		1.340***		
Designed a product/service	**.683*****				1.236**
Developed a business plan	.626***		**1.219****		
Started a business	.20***		1.815***		

Note. **Bold** effects are significant in this gender group only.
** $p<.01$.
*** $p<.001$.
* $p<.05$.

operationalized entrepreneurship as starting a business or organization, or developing a new product.

High entrepreneurial intent. Recalling that we selected interviewees in a manner that would enable us to include 50% of interviewed participants with entrepreneurial intent, we nevertheless found that (only) about one third of our interviewees displayed a high level of entrepreneurial intent (15 of 48; 31% of qualitative sample). This code was applied to young people who discussed a strong and consistent commitment to starting their own businesses or creating novel products, evidenced by having both past entrepreneurial experience (e.g. taking classes in entrepreneurship, starting other businesses) and clear entrepreneurial plans (e.g. having already begun working on a business plan, knowing what they need to do to launch a company or product). Interviews were coded globally, and those that demonstrated both past experience and future plans met the threshold of high entrepreneurial intention. An example of entrepreneurial experience was evident in a young man who noted, "I always had little entrepreneurial ventures on the side. So any time I saw the opportunity — any time it snowed, I'd go out with snow blowers and make money."

Moderate entrepreneurial intent. Nearly half of interviewees demonstrated a moderate level of entrepreneurial intent (21 of 48; 44% of qualitative sample). This code was applied to young people who were not strongly committed to becoming entrepreneurs but were not opposed to the possibility. A sub-group of individuals in this cluster demonstrated a fairly strong commitment to becoming entrepreneurs, but lacked clear plans for doing so. For instance, a female participant, who minored in entrepreneurship, said, "I've definitely thought about [starting a business] more towards my late future, though. Once I kind of work and have the experience of finding what, exactly, I love — my passion…"

Other individuals in the moderate cluster demonstrated considerably less intense commitments to becoming entrepreneurs. They tended to be unsure of exactly what their future career plans were likely to entail and they remained open to an array of career options. When one participant in this group was asked if he was interested in taking an entrepreneurship course, he stated:

> I guess I would. It's something, as I mentioned, I'm always interested in learning new things, and it's something I haven't been exposed to. And it's actually –I think it's actually — I would get a lot out of it. I would definitely take one just to get like a glimpse of it and the basic skills that would help me in every other thing I do in life, I guess.

This college student discussed starting an engineering firm with his brothers, but he was also considering a variety of other career paths.

No entrepreneurial intent. Lastly, a quarter of participants displayed no entrepreneurial intent (12 of 48 interviewees; 25% of the qualitative sample). Whereas individuals with high intent were *committed* to becoming entrepreneurs and individuals with moderate intent were *open* to the possibility of becoming entrepreneurs, individuals who were coded as having no entrepreneurial intention had decided that entrepreneurship was not for them. They may have believed that entrepreneurs do useful work, but they did not see themselves becoming entrepreneurs, as this participant described:

> So it's really important to continue entrepreneurship. I was thinking to go to the area that — making a business. But at this point of my life, I think I want to go and do some research, so I've been going straight to a PhD and stay in school and do teaching and researching.

In comparison to other clusters, participants in this cluster were more likely to express concerns about the ethics of business generally and entrepreneurship in particular. One young man said: "I think we

need to be more concerned about the ethics of entrepreneurs – especially if they have a huge influence – and really hold them accountable."

Types of entrepreneurial intention

In analyzing the interviews for content of entrepreneurial intentions, six codes emerged: (1) start a venture after establishing a career, (2) start a venture for the sake of being an entrepreneur, (3) continue current entrepreneurship, (4) vague intention, (5) disconnected entrepreneurship idea, and (6) intention demonstrated in preparatory activities. Using these codes, we identified three overarching types of intention: a plan to start a venture as the culmination of a career in a specific field; intention to be a career entrepreneur; and less-developed intentions that were vague, disconnected, or unrealistic. Table 5 shows the number of interviews that had each descriptive code for entrepreneurial intention and achievement.

Intention to start a venture after establishing a career. Of the 48 interview participants, 11 (23%) described an intention to start a new business or organization, or develop new products, after establishing a career in a specific field. The majority ($n = 8$) described prosocial goals and had elaborate plans to fill a social need or solve a social problem by starting a business or organization in the future. Some hoped to create a nonprofit enterprise, such as a young woman who wanted to start an "affordable housing type thing, like settlement house-ish, but more modernized than that and help with the issues of gentrification that are happening in the cities." Others planned to contribute through for-profit ventures, such as a young woman who hoped to someday start a hotel with a philanthropic side, "To build this business and expand it over to different countries… . Partially being able to also help those underdeveloped countries become more prosperous [by bringing wealthy tourists]." These prosocial individuals were drawn to entrepreneurship as a response to problems they perceived in their social environment.

Because most of these interviewees were pursuing a career in a field outside of business, few were preparing for the entrepreneurial aspects of their goals. Of the 11 in this category, only four had taken either an entrepreneurship course or business course. All of them were preparing by developing expertise in a domain, such as social work, hotel management, video production, or bioengineering, instead of developing capacity for entrepreneurship.

Table 5
Number of interviewees (N = 48) with each intention and achievement code by level of intent.

	Level of intent		
	High ($n = 15$)	Moderate ($n = 21$)	None ($n = 12$)
Intent			
1. Continuing current entrepreneurship	6	0	0
2. New venture after career	4	7	0
3. New venture for entrepreneurship	7	1	0
4. Preparatory activities	12	10	0
5. Disconnected idea	2	5	1
6. Vague intention	1	6	3
7. Describes self as entrepreneurial	2	1	0
Achievement			
1. Current active venture	7	0	0
2. Worked for new venture	1	3	1
3. Past venture	7	2	2
4. Pre-college entrepreneurial activities	12	5	4
5. Started a club	6	9	2
6. Planned and implemented an event	0	2	0

Intention to pursue a career in entrepreneurship. Eight (17%) interviewees described an intention to start a new venture because they aspired to a career in entrepreneurship. Most were motivated by individual factors, such as lifestyle preferences, and expressed a desire for flexibility in their work life, to be their own boss, and to have control over their time. Some were also motivated by an interest in strategy and problem solving in general; they described interest in business or product ideas without expressing personal attachment to the specific content of the ideas. Unlike those who planned to start a venture after establishing a career, these career entrepreneurs described having "a ton of ideas." Although they lacked the passion for specific content as expressed by those in the previous category, this group was nonetheless certain about entrepreneurship and its fit with their lifestyle and career preferences.

Participants who intended to become career entrepreneurs saw developing a new venture as either a starting point or destination for their career. Some planned to develop startups or new products early in their career, as an opportunity to gain experience or amass capital for future endeavors. For example, one young man planned to start a restaurant – which he saw as an easy and profitable first venture – in the near future to give him the funds and skills needed to later develop riskier ventures. Another intended to create startups right out of college: "I see… at least for seven, eight years, doing start-ups. And after that… join my father's business." In contrast, some interviewees felt they needed to gain experience before eventually starting their own business; for example, one participant planned to gain the experience needed to start a business by working for existing startups:

> I'll probably try working for a couple startups for a couple years to try to figure out what I want to do in the future, and then from there, I'd like to own my own business someday. I think that way I can make less mistakes when I start my company.

Vague and disconnected entrepreneurial intention. The third category included 18 (38%) participants who expressed entrepreneurial intention but indicated they were not yet developing a realistic plan or direction for implementing that intention. When asked, these participants mentioned the possibility of entrepreneurship, but the entrepreneurial intentions they described lacked direction or were far removed from their other goals and career plans. For example, one young man who was interested in the possibility of entrepreneurship described his entrepreneurial intentions:

> Eventually, I want to start my own business of some sort just because both of my parents are entrepreneurs… I wouldn't mind getting into the financial services thing, but if another idea comes up, I'm definitely excited for that too. I'm not really set on one specific thing. I just like to go where life takes me.

Others had well-defined entrepreneurial plans that were either disconnected from their career path or unrealistic and, as such, were unlikely to be realized. For example, one young man described elaborate plans to develop a theme park based on a popular college campus game that would require over one million dollars in startup funds, which he had no apparent ability to raise.

Among these less developed forms of entrepreneurial intention, social factors were more prevalent motivators than intrinsic motivations. In seven cases, interviewees' entrepreneurial intent was externally motivated, either by friends with an entrepreneurial idea, or a desire or expectation to follow the path of an entrepreneurial parent. Five others had no plans to start a business or organization but said that they were keeping an open mind and might start something if they saw a need that they could fill.

Entrepreneurial achievement

The types of entrepreneurial achievements that participants discussed included both past and current ventures. These codes are also summarized in Table 5.

Pre-college entrepreneurial achievements. The most common entrepreneurial achievements, completed by 44% ($n = 21$) of interviewees, were pre-college activities. These included participating in entrepreneurial contests or education programs, starting businesses, initiating fundraising or personal money-making efforts, and designing new products. Coded activities were limited to those that were self-initiated and creative in some way. A number of pre-college money making efforts (e.g., babysitting, occasional lawn mowing,) did not meet these criteria. Although many interviewees engaged in entrepreneurial ventures before college, these ventures varied by extensiveness and complexity.

Nine pre-college ventures represented a very high level of entrepreneurial achievement. These achievements were double coded as both pre-college achievements and past or current achievements. Eight of these double-coded ventures were initiated to make a profit, and one was designed to raise money for disadvantaged people in the participant's community. One participant described how his business, which culminated in a $5000 profit, started:

> I wanted to buy …textbooks, and I was comparing prices, and I realized there was a huge difference…I realized I can make $10 to $15 on one textbook deal, which is pretty easy to sell because everybody's starting to buy during the beginning of the semester.

The other pre-college entrepreneurial activities, discussed by interviewees ($n = 10$) did not result in viable ventures or products. These lower-level achievements tended to happen early in life (i.e., in elementary and middle school), produced trivial or no earnings, and usually involved simple, one or two-time activities that did not require extensive planning (e.g., drawing pictures and selling them to classmates, designing other students' name tags, copying and selling CDs). Some lower level achievements resulted from interviewees' participation in entrepreneurial education programs or contests. For example, one participant described developing a "cane locator" for the elderly as part of a University-led entrepreneurial competition. Although this participant won a prize for the product he developed, he did not pursue manufacturing the device during or after the contest, and the product was never made or distributed.

Current entrepreneurial achievements. Seven interviewees (14.5%) were currently working to develop their own business or product. All of these ventures were commercial; four were in early phases of development, and three were already in operation. Those with businesses that were in operation had different levels of commitment and passion for these ventures. For example, two participants, one with a music business and the other with a video production business, described a high level of commitment and passion for their work. In contrast, one interviewee, who had a web-design business, remarked that he planned to have this business temporarily and "just for the money, 'cause I'm not really interested in websites." All participants with current ventures also had past entrepreneurial achievements. Five of these past ventures (a video production business, a technical help business, a viable computer game, and a car-stereo installation business) reached a high level of entrepreneurial achievement.

Other entrepreneurial achievements. Other entrepreneurial achievements included starting clubs (35% of interviewees), working for start-ups (10%), and planning and executing a major event (4%). Only four of the participants who had started clubs had also started significant entrepreneurial ventures. All of the clubs started by these highly entrepreneurial participants were extensive and required considerable involvement. For example, one participant said "there was a lack of athletics in our high school… there were people who wanted some kind of athletics recreationally, so we started a club for that." In contrast, many clubs started by interviewees were not extensive, required little involvement, and seemed to have been started simply to enhance the lives of the interviewees rather than meet community needs. For example, one participant said, "I started a philosophy club in high school… because I enjoyed philosophy and also because… I needed to start a club for college… it didn't go that well."

Mixed-method triangulation

After independently analyzing our quantitative and qualitative data, we performed a series of analyses to determine the level of agreement between our two sets of results. These analyses represent what Creswell and Plano Clark (2011) term a parallel convergent design, in which quantitative and qualitative analyses occur independently and are then integrated. First, we compared item-level composites of the four quantitative factors across the three qualitatively coded levels of interviewees' entrepreneurial intention. This analysis consisted of a series of one-way ANOVAs, with our qualitatively-derived groupings predicting each scale composite and gender included as a potential moderator of these relations.

Our results suggested that gender did not have a main effect in predicting any of our outcomes in the interview sample, nor did it moderate any of the observed effects. The qualitatively-derived grouping variable only significantly predicted the quantitative measure of Entrepreneurial Intent, $F(2, 45) = 16.58$, $p<.001$, $\eta^2 = .42$, with participants coded as having higher entrepreneurial intent also showing higher scores on the quantitative measure. Post-hoc analyses suggested significant differences between all groups on the measure of Entrepreneurial Intent. The qualitative grouping variable did not predict Investment Acumen, $F(2, 45) = 2.84$, $p=.07$, $\eta^2 = .10$, Money as a Tool, $F(2, 45) = 2.41$, $p=.10$, $\eta^2 = .10$, or Entrepreneurial Career Values, $F(2, 44) = 1.57$, $p=.22$, $\eta^2 = .07$.

We next compared our indices of Entrepreneurial Intent by testing whether the quantitative level of Entrepreneurial Intent was significantly higher for participants who displayed each of the seven content codes. As Table 6 shows, Mann–Whitney U statistics indicated that the quantitative measure of entrepreneurial intent was significantly higher among participants whose interviews included descriptions of Current Entrepreneurship, New Ventures, and Preparatory Activities, even after controlling Type-I Error Rate using a Bonferroni correction. When examined by gender, the results suggest that the relation between Entrepreneurial Intent and the New Venture code was significant only among men (indeed, no women received this code at all), and that the relation between Entrepreneurial Intent and the Preparatory Activities code was only significant among women. The quantitative measure did not distinguish between participants who presented vague, disconnected, or distal entrepreneurial intentions, however, which suggests that it specifically taps participants' immediate preparation for and engagement in entrepreneurship.

Discussion

In this article we described entrepreneurship from the perspective of Relational Developmental Systems Theories and discussed entrepreneurship as a positive developmental outcome that can be fostered across the life span. As such, the data we presented form a basis for moving the study of entrepreneurship away from static, trait-like foci and toward an emphasis on intraindividual development. Our emphasis on plasticity within development aligns with the theoretical research emanating from several fields (e.g., Gartner, 1989; Kelly et al., 2012; Obschonka et al., 2011; Peneder, 2009; Ripsas, 1998; Schmitt-Rodermund, 2007; Schoon & Duckworth, 2012), and the YES project presents a novel contribution by providing one of the first empirical studies explicitly designed to understand such plasticity. More specifically, the present results inductively explored how entrepreneurship and entrepreneurial intentions were manifested in a sample of college students pursuing their secondary education in the United States toward the end of, or shortly after, the economic period known as the Great Recession.

Table 6
Pairwise comparisons of entrepreneurial intent based on interview codes.

Intention code	U	Exact *p*	Bonferroni-corrected *p*[a]
Overall *(N = 48)*			
1. Continuing current entrepreneurship	238.50	0.002	0.014
2. New venture after career	323.50	0.187	1.000
3. New venture for entrepreneurship	303.50	0.002	0.012
4. Preparatory activities	717.50 < .001 < .001		
5. Disconnected idea	220.50	0.506	1.000
6. Vague intention	256.00	0.788	1.000
7. Describes self as entrepreneurial	108.00	0.153	1.000
Men *(N = 26)*			
1. Continuing current entrepreneurship	103.50	0.017	0.117
2. New venture after career	93.00	0.486	1.000
3. New venture for entrepreneurship	161.00	0.002	0.013
4. Preparatory activities	95.00	0.032	0.227
5. Disconnected idea	43.00	0.154	1.000
6. Vague intention	74.50	0.705	1.000
7. Describes self as entrepreneurial	56.50	0.223	1.000
Women *(N = 21)*			
1. Continuing current entrepreneurship	20.00	0.238	1.000
2. New venture after career	72.00	0.170	1.000
3. New venture for entrepreneurship	n/a	n/a	n/a
4. Preparatory activities	108.00 < .001	0.001	
5. Disconnected idea	70.50	0.742	1.000
6. Vague intention	34.00	0.936	1.000
7. Describes self as entrepreneurial	n/a	n/a	n/a

[a] This column provides exact *p*-values multiplied by seven so they can be interpreted relative to global alpha. Corrected *p* values are capped at 1.00.

We combined analyses of survey data with interview data that allowed participants to discuss entrepreneurship as it was manifested in their own lives. Our quantitative results suggested that items from the four scales we used displayed high construct validity. These results are encouraging, in that they support the strength of our scales while also suggesting that observed relations among these scales (e.g., Table 3 above) directly inform our understanding about the covariation among entrepreneurial strengths. Subsequent SEM models provided further evidence for the scales' criterion validity. Each of our scales predicted participants' engagement in at least one of the studied entrepreneurial activities. Investment acumen provided especially strong and consistent results, suggesting that future research on entrepreneurship development should pay close attention to factors related to financial investments. As such, the present paper provides quantitative evidence in support of all four quantitative scales examined.

Our quantitative analyses allowed us to examine factors related to entrepreneurial interests at the level of our entire sample, whereas our qualitative analyses allowed us to further explore entrepreneurial intention and entrepreneurial activity at the level of individual participants. First, the qualitative analyses validated our quantitative grouping of college-aged participants into high, moderate, low, and no entrepreneurial intention. The interviews also gave some depth to previous findings on entrepreneurship among young people, first by uncovering different types of entrepreneurial intention that would lead to different entrepreneurial paths and outcomes, and second by elaborating the types of entrepreneurial activities observed among this age group. Inductively exploring the interviews therefore confirmed that a wide range of entrepreneurial interests and activities existed in our sample. These findings lend support to the idea that entrepreneurship can be promoted in late adolescence and early adulthood. The interview analysis also showed that the co-action of personal and contextual factors may lead to different types of entrepreneurial intention and the engagement in different entrepreneurial activities.

Finally, our mixed-methods analyses jointly considered our quantitative scales and the codes from our qualitative analyses. Results suggested strong relations between the two measures of level of entrepreneurial intent, which suggests that our quantitative measure captured roughly the same construct as our qualitative code for entrepreneurial intent. Similarly, scores on our quantitative measure of entrepreneurial intent were significantly higher among participants whose interviews included descriptions of Current Entrepreneurship, New Ventures, and Preparatory Activities, but did not distinguish among participants who presented vague, disconnected, or distal entrepreneurial intentions.

Taken as a whole, the above results begin to address the question of how entrepreneurial intentions and actions manifest in young people. We found that entrepreneurially oriented college students undertook a number of entrepreneurial-related activities, both prior to and during college, and we use qualitative interviews to obtain insight into the development of entrepreneurship in youth. Our quantitative results suggest that entrepreneurial students reported having designed new products or services, developed business plans, and in some cases having started their own businesses. We provided evidence that our measures are both valid and reliable, which supports their use in future research. Finally, we capitalized on the mixed-methods orientation of the YES project to both highlight the way quantitative and qualitative analyses can be used in tandem and to provide evidence that our quantitative and qualitative measures of entrepreneurial intent are valid at both the sample and individual levels.

Limitations and future directions

We designed the YES project as a multi-year study of entrepreneurship, and our explicit goal is to study this phenomenon as it emerges toward the end of college and as participants move forward in their post-college careers. A comparison of our quantitative scales and our qualitative codes underscores that our quantitative measures are not yet fully developed and informs how we can make our quantitative list of entrepreneurial activities more complete. Of the seven entrepreneurial activities that emerged in our interviews, three were also assessed in our survey (i.e., starting a past or venture, starting a current venture, and starting a club), and one of these activities – starting a club – did not present an especially strong relation with entrepreneurship in our findings. The agreement between our deductively derived survey items and the activities determined through inductive analysis of our interviews is encouraging, but four activities that emerged from our interviews were not assessed on the survey (working for a new venture, education activities, fundraising, and event planning). Our quantitative measure therefore did not capture the full breadth of entrepreneurial activities in which our participants engaged, and our quantitative results present an incomplete snapshot of the relations between our quantitative factors and those activities participants themselves view as entrepreneurial engagement.

Another major limitation to the present article is that we only present results from Wave 1 of the study. As the YES project progresses, longitudinal analyses will be needed to better examine intraindividual change and to inform which, if any, of the relations described in the present article may be longitudinally significant. It will also be important to determine which of the entrepreneurial actions described in our interviews lead to later entrepreneurship, and which factors moderate the pathway between entrepreneurial intentions and actions. Even with such future work, the YES project is only projected to follow youth over a relatively short time frame. Given that prior research has focused on entrepreneurship in adults (see Damon & Lerner, 2008), future research must expand our findings to samples of diverse ages

and must determine which predictors lead to positive developmental outcomes later in life.

As with much longitudinal research in the social sciences, our sample is not representative of the population in the United States, much less the diverse global population. Because our findings draw from a sample of college students in the United States willing to participate in our survey, they can only hint at which processes underlie the development of entrepreneurship in individuals from diverse backgrounds. For instance, the factors that underlie the development of entrepreneurship in the United States likely differ from factors that catalyze entrepreneurship in emerging financial markets. Within the United States, our findings similarly cannot address whether the processes that encourage college graduates to become entrepreneurial differ from the factors that encourage entrepreneurship among individuals on alternative career paths (e.g., those who attend a trade school rather than a traditional college, or those who do not pursue higher education). A great deal of future research is therefore required before we can understand how the societal and economic conditions discussed by economics and business management scholars (e.g., Xavier et al., 2012) interact with the personal attributes described by psychologists (e.g., Damon & Lerner, 2008; Schmitt-Rodermund, 2004) for promoting entrepreneurship.

We must also emphasize that our participants occupy a unique socio-historical location. All of our participants were enrolled in college during or shortly after the Great Recession, and it remains unclear how this recession impacted our participants' views of entrepreneurship. Do our participants see entrepreneurship as a way to get ahead in a stagnant economy? Do they see the economy as making entrepreneurship especially risky? Do our participants see entrepreneurship differently than members of their birth cohort who are not enrolled in college? The answers to these and related questions may indicate that our findings uniquely apply to one specific generation of college students, and future research is needed to determine how inter- and intra-generational differences in attitudes and beliefs moderate the findings presented above.

Last, we described the present article, and the YES Project as a whole, as stemming from a relational developmental systems perspective. The overarching goal of the YES Project is to determine which aspects of person ↔ context relations optimally foster young adults' entrepreneurial activities. The above analyses provide only foundational measurement-oriented information, and a critical next step is to apply these findings in future publications that focus explicitly on person ↔ context relations. For instance, the quantitative measures considered in this article focus on personal strengths. Additional longitudinal analyses must determine how these personal strengths combine with ecological assets (e.g., the presence or absence of mentors, economic and educational opportunities) to predict positive developmental outcomes, including successful entrepreneurship. Similarly, the qualitative results suggest important aspects of youth entrepreneurship that future studies must consider when developing a relational understanding of entrepreneurship's development during the second and third decades of life.

Although these and other limitations to the YES project are not trivial, they are surmountable, both within the scope of the YES project and in future research endeavors. Longitudinal follow-up of our sample will allow for a more detailed understanding of the developmental processes underlying the emergence of entrepreneurship, and the results of the YES project can serve as a foundation for exploring entrepreneurship in diverse populations. Such research will provide a much greater understanding of the factors that promote entrepreneurship for heterogeneous individuals, and can subsequently be applied in interventions and training programs meant to reduce the discrepancy between the relatively large number of youth interested in entrepreneurship (see Gallup & Operation Hope, 2012) and the substantially smaller number who eventually engage in entrepreneurship (see Kelly et al., 2012). The present article therefore represents a first step toward understanding youth entrepreneurship and the optimization of entrepreneurship's development in all people.

Appendix A. Young entrepreneurs study interview protocol

Introduction

1. To start, can you tell me a little about yourself?
2. What are some things you really care about? What are some things that are most important to you in your life?
3. What would you say you spend most of your time and energy on?

Future goals and planning

4. What are some of your long-term goals? What would you say are your most important life goals? Why do you say that? Are you doing anything now to work toward your most important life goals? What are some of the challenges you face in meeting these goals?
5. [Interviewer Focus on most relevant life goal] What are some personal qualities you have that help you achieve your important life goals? What are some personal qualities that make it more difficult? Is there anything about you that makes you a good match for these goals?
6. In what ways have other people helped you or influenced you in pursuing your life goals? In what ways have other people made it more challenging or difficult to attain your goals?
7. What are some of the obstacles you've faced in pursuing your goals? How have you overcome them? What obstacles do you foresee as you continue to pursue your goals? What do you think you will need to do to overcome them?
8. Thinking about the more immediate future, what are your plans for the next couple of years? In what ways do your more immediate plans relate to your longer term life goals?
9. PROBE if career not discussed as a goal: If someone asked you, what do you see as your life's work, what would you say? Is having a career important to you? Why? Why not? Tell me more about that. Are you doing anything now to prepare for your life's work/career?

Entrepreneurial inclinations and early pursuits and motivations to entrepreneurship

10. Are there any role models who inspire you in your work, or who you admire? Why do you admire him/her/them? What qualities do they have that you'd like to have? (Please explain.)
11. Are there any companies or organizations that you are especially interested in? How much do you know about them? How did you learn about that? What do you think is important or special about them?
12. Do you know anyone who has started or run a business or other organization, or developed and marketed a new product? If so, who? How well do you feel you understand what their work involves? How much does it interest you and how do you feel about it? Has this person [Have these people] encouraged you to get involved or to do something like that on your own? If so, how? What have they done to encourage you? Do you look to this person as a model of what you'd like to achieve or ways you'd like to be? (Please explain.)
13. Have you ever taken a course that addressed entrepreneurship or social entrepreneurship? If yes: What did it involve? How did you like it? What are some of the most important things you learned? If no: Do you have any interest in taking courses on entrepreneurship?
14. Do you ever read books, magazines, or newspaper articles about business, financial matters, how to invest or make money, and so on? Can you tell us about something you might have read or seen that you find inspiring or especially instructive?

15. Starting from when you were a child or teenager, do you remember making any efforts to earn money or raise money for something on your own? Please tell me about that. What made you decide to do that? Did you enjoy it? Would you say you were successful at it? What do you think it was that led you to be un/successful? What are some things you learned from that experience?
16. [Aside from what you just talked about,] Have you ever started a club, organization, or business, or designed a new product? What sort of business/organization? How did it go? What were you after in starting up the business/organization?
17. In thinking about your future career, have you ever thought about starting your own business or organization? If so, what appeals to you about that? What sort of business have you thought about starting? What would you be trying to achieve in starting a business or being involved in a start-up? Do you have any plans to make this a reality?

Entrepreneurial qualities

18. Can you tell me about an experience you've had working on something with a team? How did that go? What do you think about teamwork as a way to get things done? What are the advantages and what are some of the biggest challenges of working together with people on a team? What roles have you typically taken when you've participated in teamwork?
18. Do you think of yourself as a leader? What do you mean by that? How important is it to you to be a leader?
19. Have you ever encountered a problem, need, or lack in the world and thought of a way you could fix or improve it? If so, have you ever acted on an idea to fix or improve something? If yes, describe what you did. If no, what prevented you from acting on your idea?
20. Do you think you have the capacity and desire to make a difference in the world? If so, in what area could you see yourself making a difference? Is this something that you are already working toward?
22. Have you ever taken significant risk in trying to accomplish something important? Can you tell me about that?
23. Have you ever tried to accomplish something that just didn't work out, that you felt was kind of a failure? How did you deal with that?
24. Do you sometimes get so fascinated by something you're doing that it's hard to stop or you lose track of time? When does that happen? How much time do you spend on this and what exactly are you usually doing during that time?

General attitudes about entrepreneurship

25. When you think about people who start businesses or organizations, or design new products, what kinds of images come to mind? In general, would you say that you admire these people? What do you think people who start businesses contribute to the world, for better or for worse? Would you say that entrepreneurs cause more harm or good in the world? What makes you say that?
26. Do you feel that entrepreneurship – which involves starting a business or other organization, or developing new products – is really important for American society? If so, how? If not, what makes you feel that way?

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