ENTREPRENEURIAL IDENTITY: THE MISSING LINK FOR ENTREPRENEURSHIP EDUCATION

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ABSTRACT

The present study merges work related to entrepreneurial cognition to deepen theory as to how students come to view themselves as entrepreneurs. Given the significance established for dispositions like identity in prior literature related to transfer effects, these findings appear to be an important area for entrepreneurship educators interested in transfer of learning beyond the classroom. Results of the present research suggest that students' entrepreneurial identity aspiration mediated the combined impact of entrepreneurial outcome expectations and self-efficacy related to starting a business on their intention to start a business. In addition, entrepreneurial self-efficacy was also found to directly influence start-up intention. It would appear that the dispositional effect of identity helps consolidate more specific outcome expectations and efficacy perceptions to influence intent. Overall, the proposed model is theoretically grounded, parsimonious, and compares very favorably with other models in terms of predictive ability. Findings hold theoretical and practical implications for future work in the area.

INTRODUCTION

Entrepreneurship is a key driver of our economy. Wealth and a majority of jobs are created by small businesses started by entrepreneurially minded individuals, many of whom go on to create large enterprises. People exposed to entrepreneurship frequently express that they have more opportunity to exercise creative freedoms, higher self-esteem, and an overall greater sense of control over their own lives. As a result, business people, political leaders, economists, and educators believe that fostering a robust entrepreneurial culture will maximize individual and collective economic and social success on a local, national, and global scale (The Consortium for Entrepreneurship Education, 2017).

Linking entrepreneurship to economic growth is certainly not new.

In his 1911 classic treatise, Theory of Economic Development, Schumpeter proposed that entrepreneurs starting new businesses provided the engine for economic growth (Audretsch, Keilbach & Lehmann, 2006). Today, dynamic forces, such as technological disruption, fluctuating economies or demographic changes, have brought new opportunities and threats for organizations, and transformed societies from all over the world. In order to cope with these shifting forces, there is wide recognition that the entrepreneurial process constitutes one of the key factors in the future of global economic development (Toma, Grigore & Marinescu, 2014). Given the emergence of wide ranging recognition of entrepreneurship as one of the most potent

economic forces over the last two decades, the expansion of entrepreneurship education has followed a similar trajectory. The recent growth and development in the curricula and programs devoted to entrepreneurship and new-venture creation have been remarkable. Since the 1970's, the number of colleges and universities that offer courses related to entrepreneurship has grown from a handful to over 1,600 (Kuratco, 2005). Over a three-decade span, degree and diploma offerings in entrepreneurship have grown fivefold; course offerings have grown approximately twentyfold; and the number of freshmen who want to be an entrepreneur has doubled (Prior, 2014).

Despite the impressive growth in entrepreneurship education, questions remain as to the ability of students to transfer their entrepreneurial learning beyond the classroom. While the importance of transfer of learning has been recognized in psychology (Perkins, 1987; Salomon & Perkins, 1989) and more recently in the business literature (Bechard & Gregoire, 2002; Smith & VanDoren, 2004; Ramocki, 2007), questions have long been raised regarding the efficacy of transfer of learning (Singley & Anderson, 1989; Baldwin & Ford, 1988; Detterman, 1992). Specifically, research focusing on the design and delivery of learning interventions aimed at skill acquisition has found a lack of transfer as the norm rather than the exception (Tziner, Haccoun & adish, 1991; Brinkerhoff & Montesino, 1995). Given the importance of transfer of learning to higher education in general and entrepreneurship education in particular, addressing issues implicated in the transfer problem may be one of the most significant challenges in teaching/learning practice and research.

The transfer literature has long recognized the issue of motivation in addition to skill development in considering the effectiveness of transfer (Noe, 1986). Similarly, (Perkins & Tishman, 2001) raise the issue of a "disposition effect" which highlights the importance of motivational issues in addition to ability (skills) in addressing transfer of learning gaps. It would appear that the time is right for a more nuanced reconsideration of the underlying cognitive processes that addresses our understanding of when entrepreneurial learning might extend beyond the classroom.

Identity has been recognized as an integral aspect of the entrepreneurial experience beyond the assimilation of knowledge and skills (Rae, 2005; Krueger, 2007a; Smith & Woodworth, 2012). Identity is an important concept for learning transfer as it has been linked to both behavioral intentions and future behavior (Compeau & Higgins, 1995; Sparks & Shepherd, 1992; Charng, Piliavin & Callero, 1988; Biddle, Bank & Slavings, 1987). Thus, entrepreneurship educators might develop a better understanding of entrepreneurial learning transfer by examining the process by which related perceptions and skills translate to entrepreneurial identity. The higher education literature has distinguished between skills and dispositions (i.e., the consistent internal motivation to use the skills) in both conceptual and empirical work (Paul, 1990; Ennis, 1996; Facione, Facione & Giancarlo, 2000). The distinction is important as examples can be found across a host of areas where individuals may possess various skills but lack the motivation to use them.

This research relates to two questions at the core of entrepreneurial education. "How do students come to view themselves as entrepreneurs?" and "Why do some entrepreneurship students successfully transfer their learning beyond the classroom and launch businesses and others do not?". We believe the answers to these questions are interrelated in fundamental concepts in the field. Many examples of "the how to"-examining entrepreneurial content and the application of various pedagogical techniques and methods-in entrepreneurship education appear in the literature. For example, Bechard and Gregoire (2002) examined entrepreneurship

education literature from 1984-2001 and found that about 63% of the published work focused on content with another 21% examining the broader societal role of education and another 11% focusing on the development and implementation of education programs. In contrast, less attention has been devoted to the exploration of the processes by which students are influenced by entrepreneurial education. (Moustaghfir and Sirca, 2010) suggest Entrepreneurial Learning has recently emerged as a new practice involving both entrepreneurship and higher education processes. (Cope, 2005) observed that 'a better theoretical grasp of entrepreneurial learning is imperative; as it is through learning that entrepreneurs develop and grow'. Such study could provide insight into why students are motivated to transfer learning beyond the classroom, an important objective for entrepreneurial education (Bechard & Gregoire, 2002).

The present study merges aspects of the social cognition, self-regulation, and entrepreneurial cognition literature to address how students come to view themselves as entrepreneurs. Given the significance of career identity development in college (Stringer & Kerpelman, 2010) as well as the prominent role played by identity in understanding future behavior, this would be an important area for entrepreneurship educators interested in issues relating to the transfer of learning beyond the classroom. This research aims to contribute to the literature by examining the process through which entrepreneurial identity aspiration is influenced by the combined effects of entrepreneurial outcome and efficacy perceptions. Identity aspiration, in turn, is posited to act as a mediator of this interaction effect on student intention to start a business. Self-efficacy is also posited to directly influence intention. This would deepen theory in the area by examining moderating and mediating relationships of theoretically grounded constructs (Bagozzi, 2007). To our knowledge this is the first study to examine these combined effects in the entrepreneurial education context.
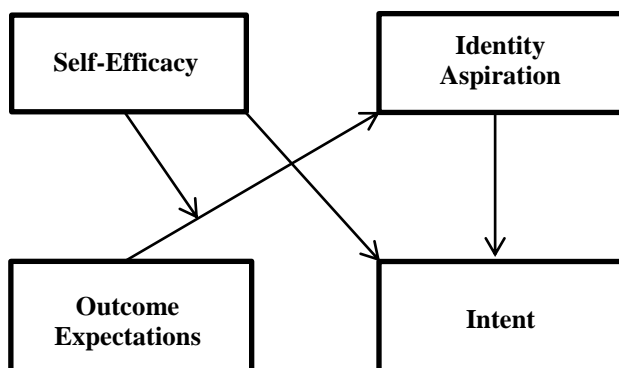
Figure 1
HYPOTHESIZED MODERATING AND MEDIATING RELATIONSHIPS

Entrepreneurial Intent

Entrepreneurial intent to launch a business is the key outcome construct of this study. Social psychology has long identified intentions as the single best predictor of future planned behavior (Bagozzi, Baumgartner & Yi, 1989; Azjen, 1991). Not surprisingly, intention has also been viewed as an important entrepreneurial consequence (Krueger, Reilly & Carsrud, 2000) as it has shown validity in meta-analyses predicting subsequent future behavior (Sheeran, 2002). As noted by (Bae, Qian, Miao & Fiet (2014) most university-level programs are intended to

prepare aspiring entrepreneurs. Given that the majority of students are, at best, nascent in their development, entrepreneurial intent is a conceptually and empirically relevant consequent construct in the model.

Entrepreneurial Outcome Expectations and Efficacy

The entrepreneurial literature has identified several theory-based perceptual domains as antecedents to intentions. Perceived desirability (attractiveness) and feasibility (capability) of performing behavior and attitude toward the outcomes (tangible and intangible) of behavior and self-efficacy (perceived competence) associated with behavior have been identified among the most important antecedents of entrepreneurial intention (Krueger, 2000; Autio, keeley, Klofsten, Parker & Hay, 2001; Zhao, Seibert & Hills, 2005; Krueger, 2007a; Lee, Wong, Foo & Leung, 2009). While a number of other potential antecedents of intent have been explored in the entrepreneurial literature (i.e., subjective norms, individual differences-gender, race, age, and family background, trait variables-need for achievement, locus of control, and tolerance for ambiguity, and educational formats-semester and workshop), these have been found to have, at best, inconsistent or no effect on entrepreneurial intention (Krueger, 2000; Gird & Bagraim, 2008; Bae, Qian, Miao & Fiet, 2014). Virtually, all of the research on entrepreneurial intent utilizing outcome expectation and efficacy-like constructs have posited and investigated direct, or in more limited cases, mediated effects of outcome and efficacy perceptions.

Indeed, the original self-efficacy framework of (Bandura, 1977) has recognized these two perceptual domains; outcome expectancies and efficacy perceptions as the core elements of response initiation in the self-regulatory system which has been adopted widely to explain behavior in educational contexts. However, in fact, (Bandura, 1977) posits that these domains may interact in that outcome expectancies should not influence behavior unless one possesses "the conviction that one can successfully execute the behavior required to produce the outcome" (Bandura, 1977).

Of relevance to the present study, are findings related to strong effects for confidence in one's ability to predict start-up activity in contrast to the marginal effects found for outcome expectancies (Townsend, Busenitz & Arthurs, 2010). Such findings might point to the fact that outcome expectations are moderated by another variable. To this point, self-efficacy has been found to moderate the effects of workplace training for newcomers on ability to cope, job performance, and intention to quit (Saks, 1995). Indeed, the idea that outcome expectations may interact with efficacy perceptions to influence entrepreneurial intent has only recently been conceptualized and supported in entrepreneurship research (Lee, Wong, Der Foo & Leung, 2009; Fitzsimmons & Douglas, 2011). It is our contention that this interaction is important to account for in models explaining nascent entrepreneurs' intent. However, we deepen theory in the area by positing that they are more distal antecedents of intention and are more immediate antecedents to entrepreneurial self-identity.

Entrepreneurial Self-Identity

The entrepreneurship literature has highlighted the potential of identity as a central construct in entrepreneurial activities that needs to be addressed in greater depth (Krueger, 2007a; Murnieks & Mosakowski, 2007). Self-identity is defined as an outcome of a process by which a person mentally "connects" themselves to an area of conduct (Connor & Armitage, 1998). In this way an individual may come to view themselves as a ballet dancer, tennis player or

entrepreneur. As such, self-identity can differentiate an individual from others and at the same time associate an individual with a relevant reference group (Christensen, Rothgerber, Wood & Matz, 2004). Within the psychology and sociology literature self-identity is conceived as an important influencer of behavioral intentions, and behavior (Compeau & Higgins, 1995; Sparks & Shepherd, 1992; Charng, 1988; Biddle, 1987; Markus, 1980). While another social component, subjective norm, has received a good deal of attention in various models, identity-related constructs have received much less attention yet hold potential for explaining intention (Bagozzi, 2007). Self-identity theory predicts that it is through a process of internalization that self-identity tied to a behavior becomes a more salient aspect of an individual's overall self-concept, thus increasing in importance as a source of future action as well as consistency of action (Charng, 1988). Indeed, (Whitmarsh & O'Neill, 2010) note that identity provides a strong cross-situational motivation for behavior. Further, of relevance to the present study, is the idea that identity formation is fostered by cognitive growth (Erickson, 1968; Marcia, 1980) as an entrepreneurial mind-set is spurred by the development of cognitive structures (Krueger, 2007a).

Given the significance of the self-identity for understanding behavioral continuity, the key issue in the transfer of learning, and its association with cognitive infrastructure development, we propose entrepreneurial self-identity as an important mediator, that is, a key consequent of outcome expectations and self-efficacy and a key antecedent of entrepreneurial intention. Bandura (2001) addresses the notion that the motivating ability of outcome expectancies is partly governed by beliefs of personal capabilities for many occupational activities. Further, in the workplace, self-efficacy moderates how individuals seek, integrate, and use information (Brown, Ganesan & Challagalla, 2001). More recently, identity theory has linked self-efficacy to the identification process (Vignoles, Regalia, Manzi, Golledge & Scabini, 2006). Based on the preceding discussion we formally hypothesize that:

> H1   *Entrepreneurial outcome expectations will interact with (be moderated by) entrepreneurial self-efficacy to influence entrepreneurial identity aspiration such that higher outcome expectations will positively influence identity aspiration when self-efficacy is higher.*

The idea that the identity construct might be an important mediator between entrepreneurial outcome expectancies, self-efficacy and intention is suggested from within and outside of the entrepreneurial literature. First, including identity-related variables to models explaining behavioral intention has been championed given that empirical evidence across a variety of domains supports the predictive validity of identity over and above normative concepts and past experience (Thorbjornsen, Pedersen & Nysveen, 2007; Rise, Sheeran & Hukkelberg, 2010). In addition, (Shook & Bratianu, 2010) suggest that self-identity be examined in future research aimed at entrepreneurial students. Therefore:

> H2   *The interaction of entrepreneurial outcome expectations and self-efficacy will work through (be mediated by) identity aspiration to influence entrepreneurial intent.*

Lastly, owing to the strong effects identified for self-efficacy in meta-analytic work across a range of domains we also posit a direct effect for self-efficacy on intention in addition to its moderated effect. (Armitage & Conner, 2001) found strong correlations between self-efficacy and intention and behavior with self-efficacy accounting for the most additional variance in intention in comparison the less clearly operationalized perceived behavioral control construct. As a result, they recommend self-efficacy as the "preferred" measure of "behavioral control." Further, (Zhao, Seibert & Hills, 2005) found self-efficacy to be a strong proximal antecedent of

entrepreneurial intentions and it also explained the effects of other variables (perceptions of learning, experience, and risk propensity) working through it to influence intentions. Thus:

H3   Entrepreneurial self-efficacy will directly influence entrepreneurial intent.

METHODS

Procedure and Sample

As a part of the Entrepreneurship Education Project (Liguori & Vanevenhoven, 2013), entrepreneurship program representatives were solicited to have students at their universities complete a web-based survey examining entrepreneurial cognitions. Representatives were identified and contacted through various websites and list serves, journal article authorship, and searches of universities offering entrepreneurship education. Of the 376 individuals at universities in the United States contacted, 219 agreed to participate. These representatives collected 3,007 completed student responses from a total of 53 universities. Our sample included 517 students predominantly from the United States studying in the U.S. We chose student subjects from multiple programs by design as our objective was to explore student processes and not the influence of any particular pedagogical technique. All respondents were informed of the purpose of the study, its voluntary nature, and that their responses would be anonymous.

A majority of respondents were full-time students attending a public university. A multitude of business and nonbusiness majors were represented in the sample with no single major accounting for more than 14%. Most respondents were traditional college age. Fifty-six percent of the respondents were male. Forty-six per cent of students worked part-time while twenty-two per cent worked full-time. Finally, thirteen per cent of respondents represented a minority group.

Table 1
SAMPLE DEMOGRAPHICS

	Variable	Percent
Gender	Male	56%
	Female	44%
Age	18-20	16%
	21-23	22%
	24-26	22%
	27-29	15%
	30 and older	25%
Minority Status	Yes	13%
	No	87%
Employment Status	Full-Time	22%
	Part-Time	46%
	Not Employed	27%
	Self Employed	5%
University	Public	89%
	Private	11%
Student Status	Full Time	87%
	Part Time	13%
Major	Business Administration	14%

	Accounting	12%
	Management	10%
	Marketing	6%
	Economics	4%
	Finance	4%

Note: Thirty other Business and Non Business majors were represented.

Measures

The questionnaire included multi-item measures of the constructs presented in the model in Figure 1 in addition to demographic descriptors. Construct measures were adapted from previously published scales. Given that the majority of students are, at best, nascent in their development, entrepreneurial intent to launch a business is the conceptually relevant domain for the constructs.

Entrepreneurial outcome expectations were measured via four items relating to potential tangible as well as intangible outcomes from starting a venture (Krueger, 2007b). Entrepreneurial self-efficacy consisted of six items relating to the perceived confidence in several abilities relating to launching a new venture (McGee, Peterson, Mueller & Sequeira, 2009). Entrepreneurial identity aspiration consisted of six items from the (Farmer, Yao, & Kung-Mcintyre, 2011) conception of the construct as thinking about and seeing oneself as an entrepreneur. Entrepreneurial intent was assessed via three items regarding a respondent's learning about and plans to launch a venture (Thompson, 2009) Please refer to Table 1 for the measures used in this study.

RESULTS

The purpose of this study is to test for mediated moderation, that is, that the moderating effect of self-efficacy on outcome expectations works through identity aspiration to influence entrepreneurial intent. A direct effect of self-efficacy on intent is also expected. As a precursor to analyses, reliability, convergent validity, and discriminant validity were assessed for multi-item measures. All measures were above recommended thresholds for composite reliabilities (0.75-0.96) and Cronbach's Alphas (0.79-0.96). Confirmatory factor analysis (AMOS 18) was used to assess the convergent validity of measures. Observed indicators were all statistically significant ($p<0.01$) for their corresponding factors. Measurement model fit statistics χ^2 (146)=569.38, $p<0.00$, NFI=0.93, CFI=0.95, RMSEA=0.07 suggest that the observed indicators are representative of constructs. The amount of variance extracted for each construct ranged from 0.59-.81. With respect to discriminant validity, the amount of variance extracted for each construct is greater than the squared correlation between constructs. Overall, results provide very good support for convergent and discriminant validity of the construct measures (Fornell & Larker, 1981; Bagozzi & Yi, 1988; Hu & Bentler, 1999; Hair, Black, Babin, Anderson & Tatham, 2006). Summated scores of the multi-item scales were used to address the research hypotheses. Table 2 presents measures and item loadings. Table 3 provides the means, standard deviations, and correlations of the measures.

Table 2
RESULTS OF CONFIRMATORY FACTOR ANALYSIS

	Constructs and Items	**Standardized Coefficient**
Entrepreneurial Outcome Expectations (To what extent do you expect to achieve the following outcomes by starting your own venture? Scaled: (1)not at all/(7)very much	Financial rewards (personal wealth, increase personal income, etc.).	0.83
	Independence/autonomy (personal freedom, be your own boss, etc.).	0.81
	Personal rewards (public recognition, personal growth, to prove I can do it, etc.).	0.67
	Family security (to secure future for family members, to build a business to pass on, etc.).	0.76
Entrepreneurial Self-Efficacy (How much confidence do you have in your ability to: Scaled: 0 to 100)	Come up with a new idea for a product or service on your own.	0.82
	Brainstorm with others to come up with a new idea for a product or a service.	0.76
	Identify the need for a new product or service.	0.81
	Design a product or service that will satisfy customer needs and wants.	0.84
	Estimate customer demand for a new product or service.	0.67
	Get others to identify with and believe in my vision and plans for a new venture.	0.66
Entrepreneurial Identity Aspiration (Please indicate your agreement with each of the following statements: Scaled: (1) strongly disagree/(5)strongly agree)	I often think about becoming an entrepreneur.	0.90
	I would like to see myself as an entrepreneur.	0.90
	Becoming an entrepreneur would be an important part of who I am.	0.90
	When I think about it, the term "entrepreneur" would fit me pretty well.	0.91
	I am always thinking about becoming an entrepreneur.	0.90
	It is important for me to express my entrepreneurial aspirations.	0.88
Entrepreneurial Intent (Thinking of yourself, how true is it that you: Scaled: (1)very untrue(7)very true)	Have no plans to launch your own venture. (R)	0.72
	Spend time learning about starting a new venture.	0.67
	Intend to set up a new venture in the future.	0.89

Note: All standardized coefficients are significant at $p<0.01$.

Table 3
DESCRIPTIVE STATISTICS FOR STUDY CONSTRUCTS

	Standard Mean	Deviation	X1	X2	X3	X4
X1 Outcome Expectations	5.35	1.22	--			
X2 Self-Efficacy	66.20	18.81	0.29[**]	--		
X3 Identity Aspiration	3.34	1.05	0.44[**]	0.52[**]	--	
X4 Intent	4.62	1.51	0.37[**]	0.51[**]	0.71[**]	--

[**] Correlation is significant at $p<0.01$.

Considered together, the proposed hypotheses suggest a mediated moderation as well as a direct effect in the model (Preacher, Rucker & Hays, 2007). While prior research has used (Baron & Kenny, 1986) procedure, recent literature has questioned the logic of the Baron and Kenny criteria (Zhao, 2010). (Preacher & Hays, 2004) developed a procedure for a rigorous test of direct and indirect effects of an independent variable and potential moderators on a dependent variable. The approach utilizes a powerful "bootstrap" test by generating a sampling distribution from a researcher's sample. In this procedure, regression equations are estimated for each bootstrap sample and after 1,000 such samples have been drawn effects are estimated from the mean of these estimates. This process allows for the generation of bias-corrected confidence intervals for indirect (mediated) effects.

Following (Preacher et al., 2007), two regression equations were estimated. For the first equation, outcome expectations, self-efficacy, and the interaction term, (outcome expectations x self-efficacy) are entered as predictors of entrepreneurial identity aspiration. For the second equation, outcome expectations, self-efficacy, the interaction term, and identity aspiration are entered as predictors of entrepreneurial intent.

Conditional process analysis is required with the hypothesized model as the effect of an independent variable should differ in strength as a function of the proposed moderating effect and then work through the proposed mediator to impact the dependent variable (Hayes, 2013). That is, the effect of student outcome expectations should be conditional on the level of self-efficacy and work through identity aspiration to influence entrepreneurial intent. The strength of conditional process analysis relative to conventional tests of mediated moderation (Baron & Kenny, 1986) is that the procedure utilizes the bootstrapping technique to calculate "path" effects in the form of a confidence interval. Confidence intervals that exclude zero are evidence of an effect statistically different from zero. Thus, mediated moderation would be indicated when there is evidence for mediation with the effect of the proposed moderator working through the effect of the proposed mediator.

The study variables were loaded into the Process macro (Hayes, 2013) in SPSS 21. Mean centering was used given the potential negative effects of collinearity between regressor variables (independent variables and interaction terms) required for analysis (Shieh, 2011). Results of the analysis to test the conditional effects model (Figure 1) are presented in Table 4. Table 4 shows that H1 is supported with the proposed interaction effect (outcome expectations x self-efficacy) significant (p value<0.03) in the first regression equation predicting identity aspiration. Further, H2 is supported with the mediator effect of identity aspiration highly significant in the second regression equation predicting entrepreneurial intent (p value<0.00) while the direct effect of the interaction term is no significant (p value0<0.63). H3 is supported

in that while the effects of outcome expectations and the interaction on intent were not significant, a direct effect of self-efficacy (p value<0.00) on intent was observed.

As a precaution, variance inflation factors (VIFs) were examined to assess the effects of collinearity among the independent variables and interaction terms. For the first equation addressing H1, VIFs ranged from 1.09-1.11. For the second equation addressing H2 and H3, VIFs ranged from 1.09-1.60. Thus, as a result of mean centering, a collinearity problem is not indicated (Hair, 2006).

Table 4
LINEAR REGRESSION RESULTS

Antecedents	Consequent					
	Identity Aspiration			Intent		
	Coeff.	SE	p	Coeff.	SE	p
Outcome Expectations	0.288	0.03	0.00	0.070	0.04	0.11
Self-Efficacy	0.25	0.00	0.00	0.014	0.00	0.00
Out. x S-E	0.003	0.00	0.03	-0.001	0.00	0.63
Identity Aspiration	--	--	--	0.877	0.06	0.00
Constant	3.34	0.04	0.00	1.75	0.19	0.00

To depict the nature of the interaction effect associated with the first regression equation predicting identity aspiration (H1), slopes are plotted for individuals one standard deviation above the mean (Mean=92.54) and for individuals one standard deviation below the mean (Mean=33.54) for entrepreneurial self-efficacy. Figure 2 displays the interaction effect on identity aspiration. For higher level outcome expectations, higher self-efficacy significantly strengthened individuals entrepreneurial identity aspiration ($F_{(1, 76)}$=23.10., p<0.00). In contrast, outcome expectations do not have this effect on identity aspiration when self-efficacy is lower ($F_{(1, 69)}$=2.27, p<0.14).
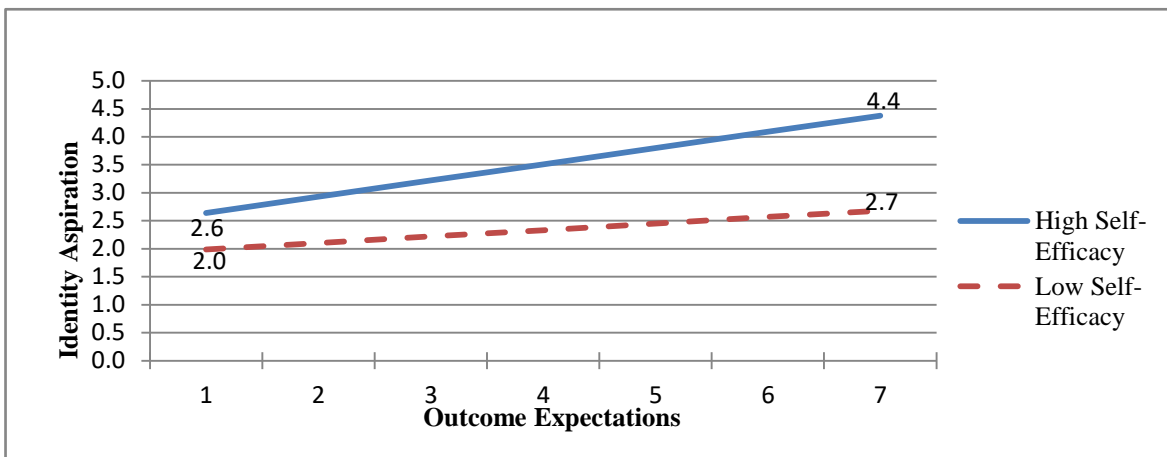
Figure 2
INTERACTIVE EEFFECTS OF OUTCOME EXPECTATIONS AND SELF-EFFICACY ON IDENTITY ASPIRATION

Further support for H2, the test of mediated moderation, can be derived from the conditional indirect effects that are provided by the bootstrapping results. Table 5 displays the

bootstrapping results for the conditional indirect effect of the moderation at various levels (i.e., low=one standard deviation below the mean, medium=at the mean, and high=one standard deviation above the mean).

Table 5
INDIRECT EFFECTS OF OUTCOME EXPECTATIONS ON INTENT AT VALUES OF THE MODERATOR

Mediator	Value of Moderator*	Effect	Bootstrap SE	Lower Level CI	Upper Level CI
Iden. Aspiration	-18.79	0.200	0.046	0.118	0.299**
Iden. Aspiration	0 .00	0.252	0.036	0.188	0.331**
Iden. Aspiration	18.79	0.304	0.044	0.229	0.402**

*Values for moderator are for the mean and +/- one SD from the mean.
**signifies a 95% confidence interval.

The "Effect" column in Table 5 shows the combined effect of the interaction on entrepreneurial intent at various values working through the mediator. Recall that confidence intervals (lower level-upper level) that exclude zero are evidence of an effect statistically different from zero. Thus, mediated moderation would be indicated when there is evidence for mediation with the effect of the proposed moderator working through the effect of the proposed mediator.

Support for mediated moderation is provided in that significant effects are indicated for all three confidence intervals (associated with one standard deviation below the mean for the moderator, at the mean, and one standard deviation above the mean for the moderator). Overall, increasing positive effects are observed of the interaction working through identity aspiration to influence intent.

In summary, consistent with predictions, the entrepreneurial outcome expectations of students interact with their self-efficacy related to venture launch abilities to influence their entrepreneurial identity aspiration. Specifically, identity aspiration is strengthened with increasing outcome perceptions when self-efficacy is high but not when self-efficacy is low. Further, the influence of this interaction on student entrepreneurial intent to launch a new venture is indirect in that it is mediated by their identity aspiration. A direct effect of self-efficacy on intent was also observed.

DISCUSSION

The present study merges work related to entrepreneurial cognition to deepen theory as to how students come to view themselves as entrepreneurs-that is, the processes that influence student entrepreneurial identity and through which identity influences intention to start a venture. Understanding the processes that influence students' entrepreneurial self-identity is important given the prominent role played by self-identity in behavioral intentions and future behavior. Considering the significance established for broader dispositions like identity in prior literature related to transfer effects, and that self-identity provides consistency and continuity across experience contexts, these findings appear to be an important area for entrepreneurship educators interested in transfer of learning beyond the classroom setting.

Results of the present research suggest that students' entrepreneurial identity aspiration mediated the combined impact of entrepreneurial outcome expectations and self-efficacy related to starting a business on their intention to start a business. Identity aspiration was strengthened

with increasing outcome perceptions when self-efficacy was high but not when self-efficacy was low. In addition, entrepreneurial self-efficacy was also found to directly influence start-up intention. It would appear that the dispositional effect of identity helps consolidate more specific outcome expectations and efficacy perceptions to influence intent. We have deepened theory in the area by examining both moderating and mediating relationships of theoretically grounded constructs (Bagozzi, 2007). This is the first study to examine these combined effects in the entrepreneurial education context.

Overall, the proposed model is theoretically grounded, parsimonious, and compares very favorably with other examined models in terms of predictive ability. The proposed model explained 54% of the variability in student intent in comparison to ranges of 27%-39% for the Theory of Planned Behavior identified in a meta-analytic review across a range of domains (Armitage & Conner, 2001) and 24%-53% for studies examining student entrepreneurial intent (Krueger, 2000; Phan, Wong & Wang, 2002; Segal, Borgia & Schoenfeld, 2005; Gird & Bagraim, 2008).

Contribution to the Entrepreneurship Education Literature

These findings offer insights to the extant literature. First, we extend work in the area by addressing calls in the literature for the examination of identity in greater depth (Krueger, 2007a; Murnieks & Mosakowski, 2007). Despite the importance of cognitive infrastructures in identity development, the literature notes the paucity of research on aspects of entrepreneurial cognition linked to identity status (Krueger, 2007a). This study takes a small step to address this gap. Rather than include identity as another, among many, antecedents of intent we posit and find support for the notion that it is a more proximal antecedent of intent in comparison to outcome and efficacy expectancies. Thus identity may be an important conduit for the effects of other antecedents identified in models of entrepreneurial intent. While entrepreneurial thinking and research has integrated important aspects of expectancy and self-efficacy theories, it appears that the area could benefit from a more comprehensive integration of self-verification-the process through which self-relevant perceptions in a context get connected to an internal identity standard that serves as a guide to current and future behavior (Burke & Stets, 1999).

Note that a recent meta-analysis on the relationship between entrepreneurial education and intentions found a significant but small correlation between education and intention, however, the effect was no significant when controlling for pre-education intention (Bae, 2014). In another study, engaging in entrepreneurial experiential learning activities was found to positively influence student outcome expectations and intention, however, this type of engagement was found to be negatively related to entrepreneurial self-efficacy (Kassean, Vanevenhoven, Liguori & Winkel, 2015). In addition, self-efficacy was also found to partially mediate the influence of the learning activities on intention. Again, we use these findings to point to the potential usefulness of accounting for student identity processes in future assessments of entrepreneurial education as the present study found identity aspiration to be an important proximal antecedent to entrepreneurial intention.

The inclusion of an identity construct may also help account for the weaker effects observed for the subjective norm construct as a representative of social influence in prior research (Rise, 2010). While both constructs result from socially derived influences, identities are associated with categories of persons which are adopted as descriptive (or desired) by individuals. In contrast, subjective norms are different in that they are perceptions of what significant others think an individual should do. Thus, they are different socially-related

constructs with the potential for differential influence. The effect of culture (i.e., individualistic vs. collectivistic) could mitigate or enhance the salience of socially-related constructs.

Examining proposed interactions of core constructs found in other models of entrepreneurial intention also deepens theory in the area. Recall that while intention models have incorporated entrepreneurial outcomes and efficacy, the vast majority have examined direct effects or have examined self-efficacy as a mediator with only a couple of studies examining the moderating effect of self-efficacy on intention (Lee, 2009; Fitzsimmons & Douglas, 2011).

Future Research

The unique interaction with self-efficacy moderating the effect of outcome expectations bears further exploration. Future research could explore other possible moderating effects of self-efficacy that could account for weaker than expected main effects for alternative constructs.

Consistent with the findings of earlier research on intention models, self-efficacy was also found to have a significant direct effect on intention. Given the objective of the present research was to focus on student processes we employed an efficacy measure oriented to launch activities. Future research could examine indirect as well as direct effects of various facets of self-efficacy for individuals at various stages of entrepreneurship (McGee, Peterson, Mueller & Sequeria, 2009). Such findings add even more support for the efficacy framework of (Bandura, 1977) in that outcome and efficacy perceptions appear to support subsequent cognitive infrastructure and performance requirements.

In addition, the literature supports the notion of multiple identities within entrepreneurship (Vesalainen & Pihkala, 1999) as well as an individual holding multiple no entrepreneur-related identities in life (Whitmarsh & O'Neill, 2010). Future research could extend this work by exploring relationships among, and the influence of, different identities that are complementary as well as those that are incompatible. This could help identify the role of entrepreneurial identity formation and change within the broader tableau of adult identities.

While powerful emotions have long been a focus of decision research, entrepreneurial research has only recently started to systematically consider the role of emotions (Cardon & Kirk, 2013). Of interest is a recent finding that passion mediates the effect of self-efficacy on entrepreneurial persistence (Cardon & Kirk, 2013). These authors note that the source of strong emotion is identification with activities that engender this type of emotion. Thus identity centrality is an important factor as to the influence of entrepreneurial passion. Future research could specifically examine the nature of the combined effects of identity and passion constructs in prediction of future intention and behavior.

Further, positive and negative self-emotions have been implicated in the process of self-verification and related outcomes (Burke & Stets, 1999). In addition, anticipatory emotions have been linked to appraisals of potential outcomes of behavior, intentions, and behavior (Baumgartner, Pieters & Bagozzi, 2008; Bagozzi, 1998). However, the cognitive mechanisms that underlie anticipatory emotions and our understanding of their role in goal-directed behavior are not well understood (Baumgartner, 2008; Harvey & Victoravich, 2009). Positive and negative anticipatory emotions might also be useful affective constructs to incorporate in future related entrepreneurship research.

Other areas for future research include parental and gender effects. Both Bryant, (Zvonkovic & Reynolds, 2006; Oren, Caduri & Tziner, 2013) noted the dearth of literature addressing the role that parents play in occupational choice in general, and the choice to pursue an entrepreneurial career in particular. As evidenced by (Elley-Brown, 2015; Patton &

McMahon, 2006; Sullivan & Mainiero, 2007), the absence of such literature is particularly evident with regard to the way women make career choices (Polin, Ehrman & Kay, 2016). As noted earlier, empirical work devoted to examining the impact of factors explaining differences in entrepreneurial intention of men and women is still limited and not entirely conclusive (Shinnar, Giacomin & Jansen, 2012; Wilson, Kickul, Marlino, Barbosa & Griffiths, 2009). Although a clear gender gap exists with more male than female entrepreneurs (Hughes, Jennings, Brush, Carter & Welter, 2012), more research is needed to fully explain the gap particularly as it relates to individual perceptions (i.e., expectations and efficacy) and environmental influences (Santos, Roomi & Liñán, 2016) with integration with social identity theory.

Educational Implications

Findings of this study hold practical implications for the classroom. First, these results speak to the potential importance of moving beyond skills-centric assessment to include broader self-regulatory processes reflected by identity. These implications are consistent with the work of (Smith & Woodworth, 2012) who advocate an identity and efficacy approach to developing social entrepreneurs. These authors share examples of content and pedagogy for the classroom as a means of reinforcing such an orientation. They define the entrepreneurial category as well as expose students to prototypical members (to work on identity development) and then utilize active/experiential engagement (to develop student self-efficacy).

While the work of (Smith & Woodworth, 2012) is a valuable addition to entrepreneurship education, we add thinking to this approach from identity theory that identity may develop from group processes (as entrepreneurship classes are often smaller and utilize group projects). Two identity processes are implicated in small groups one based on top-down deduction and the other on bottom-up induction (Postmes, Haslam & Swaab, 2005). In the former process, identity formation could be based on class discussion/assignments related to the identification of exemplar characteristics of entrepreneurs. This process parallels with the thinking of (Smith and Woodworth, 2012) in defining the entrepreneurship category. In the latter process, identity formation could also result from group activity (thinking and doing) and communication processes (from students and instructor feedback) which highlight the fact that active/experiential engagement can be implicated in more than the development of student self-efficacy but also in subsequent identity development. Note that this notion of bottom-up, inductive identity formation would be consistent with the findings of the present study with the combined effects of outcome expectancies and efficacy working through identity aspiration.

To the above broader process conception we also add the following specific considerations for entrepreneurial pedagogy. There is emerging agreement that critical experiences involving deliberate practice which change deep beliefs facilitate the development of an entrepreneurial mind-set (Krueger, 2007a). In this conception, learning moves beyond mere facts to metacognitive capabilities related to awareness of changes in cognitions, the so called learning how to learn. It is through such mechanisms that entrepreneurs understand how they "connect the dots" in self-directed learning. However, there is less agreement as to what should be practiced and, importantly, how to enhance an entrepreneurial mind-set (Krueger, 2007a), particularly as related to experiences in the classroom. Thus, we draw inference from the present findings as well as the social cognition, self-regulatory and entrepreneurial cognition literature to offer practical course management elements.

As noted in the social cognition literature, the way in which skills are developed is critical to the development of self-efficacy (Bandura, 1997). Bandura details aspects of learning

experiences tied to skill development which can contribute to self-efficacy with enactive mastery and vicarious learning among the most powerful. These aspects associated with skill development can be applied to entrepreneurial pedagogy. For example, allowing for multiple practice opportunities that are initially narrowly focused and then gradually broadened to include a more complex range of thinking/doing along with continuous, future-focused feedback fulfills the inactive mastery criterion. So too feedback should be cognitively oriented in addition to outcome oriented as outcome feedback provides minimal self-regulation guidance where cognitive feedback explicitly provides information about a task attributes, cognitive activities, and performance (Butler & Winne, 1995). As noted by (Butler & Winne, 1995), this type of feedback is more fine-grained and allows for better student calibration of the cognitive and behavior processes required for learning performance.

In addition, given the importance of attributions in the efficacy feedback process, instructor feedback should first focus on effort feedback in the early stages of learning and then switch to ability feedback in later stages to have the most impact on students' efficacy (Schunk, 1995). In addition, weening students away from instructor feedback and having students work on their self-appraisal skills later in a course would be beneficial as self-evaluation enhances the accuracy of self-perceptions (i.e., related to efficacy) (Schunk, 1995). Active student monitoring of goals, strategies, and products associated with a learning context helps bridge past performances with subsequent task engagement and learning (Butler & Winne, 1995).

Another potential way of fostering efficacy is through modeling. Instructor modeling of entrepreneurial thinking, particularly with the instructor verbalizing cognitive strategies during problem solving, has been found to be effective for developing efficacy for non-observable behavior such as entrepreneurial thinking (Meichenbaum, 1984; Mager, 1992). This form of cognitive modeling has been found to contribute to higher efficacy in comparison to verbal instruction (traditional lecture format) (Gist, 1989). Similarly, having students verbalize strategies along with doing is beneficial as it orients attention to important aspects of the task and helps to cognitively elaborate strategy and enhance related efficacy (Schunk, 1995). Student modeling of good thinking may be more effective than instructor modeling as model similarity to observer has been found to positively impact the process (Shunk & Hanson, 1985; George, Feltz & Chase, 1992). Further, exposure to multiple models has been found to produce stronger efficacy in comparison to one model (Shunk, Hanson & Cox, 1987). Given the prominence of technology in pedagogy today, self-modeling using video feedback could be as effective as instructor modeling (Gist, 1987; Bandura, 1997).

Further insights relate to the fact that self-regulation is based on both reflective and reflexive processes (Bagozzi, 2007). We believe that both of these self-regulatory processes are implicated in the transfer of learning beyond the classroom. In reflective processes individuals actively evaluate their desires in consideration of future implementation of the desires. In the class context, students can be required to reflect on various experiential activities as to the connection to their own experience and then journal about their understanding of the process. While journaling can be completed individually, the majority of the entrepreneurial engagement assignments can be completed in small groups. Thus, students will experience significantly less lecture than the typical class and, instead, will experience a more continuous process of doing in a social context (group/client projects) and reflecting individually on their thinking/doing in groups. As such, this aspect not only engages student in relevant activity but also introduces students to the process of elaboration through self-reflection and serves as the scaffolding for

reflectivity-the active linking of dispositions (identity) to future desires and intentions which holds the potential for transfer beyond the classroom.

The importance of developing a "cognitive infrastructure" and moving students from "novice" to "expert" scripts has been recognized as important for students to learn how to think entrepreneurially (Krueger, 2007a). Metacognition is an awareness of thinking and using self-reflection to change thinking. This type of higher-order thinking has been found to be related to entrepreneurial expertise (Mitchell, Smith, Gustafsson, Davidsson & Mitchell, 2005; Baron & Henry, 2006). Therefore, helping students develop the mental architecture through reflection on experience is a critical activity to entrepreneurial mind-set/identity development.

With regard to the role of the professor, whom we prefer to think of as coach, he or she can circulate around the room while students are engaged in activity, and, through monitoring the process, develop a much better feel for student thinking that allows for better "real time" feedback. In addition to consistent feedback to immersion activities, student journals can be randomly collected at various points during the semester in order to provide feedback on their reflections emphasizing that the students should strive for depth (self-insights) rather than merely "reporting" on activities. Reflection on one's experiences can be vital for the elaboration process as it facilitates the organization, synthesis, and crystallization of the active/experiential learning and identity-related categories. The result for students is a more complete understanding of the entrepreneurial process, and a more holistic understanding of themselves, that is, how the learning is/can be related to current skills and future identities.

Limitations

As with any single study, this research is not without limitations. We employed cross-sectional, self-report measures of student perceptions of constructs. Future research could address design and measurement issues. First, our sample included students by design as our objective was to explore student processes although not the influence of any particular pedagogical technique. Longitudinal designs exploring relations among study constructs for particular students' college experiences (i.e., pedagogical approaches) would allow for pre and post-test designs. Further, such designs would also allow for the exploration of the influence of self-identity on future behavior with would allow for directly addressing transfer effects as well as the effects of experience on identity. It is clear that identity processes are reciprocal in nature with behavior adjusting to an identity standard and, subsequently, the standard adjusting to the interpretation of future behavior (Stets & Burk, 2003).

With respect to self-report measures, this limitation notwithstanding, it is important to note that we account for convergent and discriminant validity of measures. In addition, common methods variance is not likely to account for the interaction effect, a focus of this study, as method variance should increase correlations consistently between construct measures (Aiken & West, 1991).

Finally, additional constructs and measures could be included. For example, the determinants of some intention models (i.e., Theory of Planned Behavior) have been conceived as functions of a hierarchical sequence of goal setting, goal desire, goal intention, and goal striving (Bagozzi, Bergami & Leone, 2003). The value of this framework is that it accounts for declarative and procedural knowledge, accounts for specific linkages among constructs, and it is more situation-specific which might increase the predictive validity in predicting future decision making of entrepreneurs, particularly as related to the influence of entrepreneurial identity on intention and behavior.

CONCLUSION

"How do students come to view themselves as entrepreneurs?" and "Why do some entrepreneurship students successfully transfer their learning beyond the classroom?" will continue to be significant questions within the entrepreneurship education literature. It is hoped that the present study, which considers the combined effects of outcome expectations and self-efficacy on entrepreneurial identity aspiration and subsequent effects on intent to launch a business, constitutes a step forward in understanding how students develop self-identities as entrepreneurs. Unless we understand processes by which expectancies combine to influence identities we are less likely to unravel transfer of learning beyond the classroom.

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