

**Early Influences and Entrepreneurial Intent: Examining the Roles of Education,
Experience, and Advice Networks**

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ABSTRACT

The independent effects of education, personal experience, and advice networks in the development of new venture creation intent is of considerable interest to educators, researchers, practitioners, and policy makers. Little research, however, has systematically considered the possibility that the relative importance of these factors varies in the early stages of entrepreneurial intent formation. Using a unique dataset (n=963), this study investigates these key relationships at two different points in time. Our results suggest that personal start-up experience and advice networks are particularly influential on the formation of intent to start a new venture, and that a marked shift in significance occurs from the former to the latter.

Keywords: entrepreneurial intent, formal education, professional experience, start-up experience, advice networks

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INTRODUCTION

Why it is that some individuals develop the intent to pursue start-up activities or entrepreneurial opportunity while others do not (Krueger, 1993; Matthews, Schenkel, & Yates, 2015; Shane, 2000)? At the core of extant explanations is the idea that information is unevenly distributed (Hayek 1945). One key reason for such uneven distribution suggests that it is the cost of acquiring additional information which tends to rise exponentially (Casson, 2003). As a result, fully resolving information access gaps from one individual to the next within the marketplace becomes cost prohibitive, making optimal economic decisions virtually impracticable at any given point in time (Kirzner, 1979). From this perspective, information becomes an actionable resource in the sense that it allows *some* individuals to perceive and act more efficiently, creatively, and effectively in the marketplace through new venturing activity than others (Kirzner, 1999).

In recent years, increasing interest has emerged with respect to the role of education and start-up assistance in enhancing information available to nascent entrepreneurs and in turn fostering start-up or entrepreneurial activity (e.g., Chrisman & McMullan, 2004; Harris, Gibson, & Taylor, 2007). Such interest is clearly driven, at least in part, by the continued emergence of small business and entrepreneurship education (e.g., formal entrepreneurship programs across universities) and assistance programs (e.g., SCORE, SBDC, SBA, community entrepreneurship centers and accelerators) throughout the United States (Kuratko, 2005). These support activities are built on the

presumption that the availability of information resources and advice helps individuals develop “corridors” of knowledge (Ronstadt, 1988) and skills for managing important practical start-up challenges (Blair & Marcum, 2015), thereby facilitating the formation of the intent to launch a new venture. Even though the benefits of entrepreneurship education have been discussed by numerous researchers, the nature and extent of the presumed positive impact these programs have on start-up and new venture creation competencies and intentions remains less than fully understood (e.g., Duvall-Couetil, 2013; Peterman & Kennedy, 2003; Wilbanks, 2013). Scholars have argued that one reason is that current and widely known intentions models are underspecified, too “narrow minded,” or cerebral in the sense that they fail to provide a full sense of the role of human and social capital influences (Hindle, Klyver, & Jennings, 2009). In a closely related fashion, Brännbeck, Krueger Jr., Carsud, Kickul, and Elfving (2007) argue that how intentions evolve remains less than fully known because the dynamics of what informs the early stage start-up decision-making process are poorly understood.

This paper amplifies our understanding of in the nascent start-up process by drawing on the extant human and social capital literatures. Specifically, this research builds on and further informs theory with regard to the role(s) knowledge and advice networks play in the process of forming entrepreneurial intent. We develop and empirically test a robust model which suggests that knowledge, both experientially-based and formal education-based, and advice networks each play systematically unique roles in influencing the formation of entrepreneurial intent. Our

contention is that, all else being equal, knowledge, both based in prior experience and that which is based in traditional education, and advice networks each provide unique forms of information helpful to the development of the intent to pursue a start-up opportunity.

THEORY AND HYPOTHESIS DEVELOPMENT

Entrepreneurial Intent

Building on the prior research, we adopt the definition of entrepreneurship as, "...the creation of venture and value for multiple constituencies, including, but not limited to, customers, employees, communities, and countries" (Matthews & Brueggemann, 2015). Subsequently, in this research, we define "entrepreneurial intent" as the intention to engage in activity to start a new venture and "entrepreneurial actions" as those resulting activities associated with creating the new venture and value.¹ Driven in part by disappointing results confronted when focusing on character traits and demographic factors to explain start-up activity, entrepreneurship researchers have adopted models of start-up or entrepreneurial intent as a way of predicting and understanding entrepreneurship as a behavioral phenomenon (Ajzen, 1991; Krueger Jr., Reilly, & Carsrud, 2000; Shapero & Sokol, 1982). Specifically, the study of entrepreneurial intent draws on a well-established body of literature that links intention to subsequent new venture creation actions as a form of "planned behavior"

(Ajzen, 1987, 1991). Intention-based models of entrepreneurial action assume that behavior is systematically influenced to some significant degree by future expectations (Casson, 2003; Shapero & Sokol, 1982). But what drives whether or not, and the extent to which, an individual develops the intent to pursue a start-up or entrepreneurial endeavor is a question that remains less than fully answered. Answers to this question are critical given the continued interest in entrepreneurship education (Kuratko, 2005). Because of its potential to serve as an important "triggering environment" (Kuehn, 2008), such answers maintain the potential for adding new and enduring value to entrepreneurship education programming by positively influencing the probability of new venture success (Katz, 2007).

Scholars postulate that expectations and intentions that develop toward the recognition and pursuit of a start-up opportunity are based on an individual's knowledge and access to information, both about their respective surrounding external environment as well as their internal motivations and abilities (Knight, 1921; Shane, 2003; Singh, 2000). As conceptualized from a "planned behavior" perspective, individuals perceive and learn from their personal life experience, which in turn informs them about the potential efficacy of pursuing entrepreneurial opportunity. Sometimes these experiences reflect direct functional, industry, or start-up experience (Shane, 2000). At other times, these experiences may be the result of seeing how

¹ For a more robust discussion of the overuse and misuse of the word "entrepreneurial" that has led to confusion regarding the terms "entrepreneurial intent" and "entrepreneurial opportunity" (that is,

the identification of an underserved or unserved market opportunity or the opportunity to start a venture), please see, Matthews, Schenkel, and Yates (2015); and Solomon and Matthews (2014).

others engage in and are impacted by start-up activity. Indeed, a central premise of Social Cognitive Theory is that individuals can develop a sense of self-efficacy either through the direct experience (that is, learning by doing) *or* vicariously by observing another person doing something (Bandura, 1986). Thus, whether direct or vicarious, information coupled with knowledge based on experience is presumably a key influence on the attitude toward the pursuit of new venture creation (Ajzen, 1991) because it is believed to bear a significant impact on individuals' perceptions of desirability and feasibility, and the propensity to act (Kuehn, 2008).

Scholars do indeed find empirical support for the idea that entrepreneurship reflects a stronger fit that emerges between some people and their environment (Markman & Baron, 2003). In some studies, start-up intentions have been empirically shown as one of the most significant predictors of entrepreneurial behavior (e.g., Honig, 2004). Such observation arguably reflects the ability of prospective entrepreneurs to recognize the strategic value of resources coupled with the ability to secure and direct otherwise un- or under-exploited resources (Alvarez & Busenitz, 2001). In doing so, it represents important human capital that provides an influential underlying foundation for a string of subsequent decisions and activities that will impact venture performance (Haber & Reichel, 2007).

Yet as noted at the outset of this paper, scholars are increasingly challenging existing models of entrepreneurial intentions for taking an overly "between the ears" view, or on the grounds that for the most part ignores the role of social capital (Hindle, Klyver, & Jennings,

2009). We agree that the dynamics between human and social capital are particularly significant in the early stages of the entrepreneurial process, given the potential for each to *inform* – that is to supply with information or direct – individuals about factors that may influence the prospects of successfully pursuing opportunity. Indeed, evidence has recently emerged to suggest individuals may sometimes seek to substitute or complement some forms of human and social capital for and with one another (Klyver & Schenkel, 2014). Our goal in this paper is to advance the current understanding of how intentions evolve by embracing extant research to investigate the combined influence of human and social capital in order to more fully capture the inherent dynamics of start-up or entrepreneurial intent as a key emergent aspect of broader decision making in the new venture creation process (Brännbeck et al., 2007). We do so by focusing on human capital, both formal education-based and experientially-based, and social capital in the form of advice networks, investigating the systematically unique role each plays in influencing the formation of entrepreneurial intent.

Knowledge

Knowledge can be conceptualized as the accumulated body of information gained by individuals over their respective life experiences (Shane, 2000). Varying life experiences and access to information leads to unequal distribution of information among individuals (Hayek, 1945). As such, for some individuals, knowledge about idiosyncratic topics could be easier to access because stores of related information previously entered into memory (Dreyfus & Dreyfus, 1986; D'Souza & Schenkel, 2011; Palich & Bagby, 1995). In

this sense, knowledge represents the type, range, and mix of information systematically embedded in an individual's unique personal and social experiences. Knowledge can be classified as either *tacit* (know-how) or *explicit* (know-what) (Polanyi, 1967). Tacit knowledge consists of the difficult or non-codifiable information of an activity (e.g., knowledge gained by way of deep training or specific types of work experience) while explicit knowledge consists of information that is easily codifiable and conveyable (e.g., knowledge gained by way of a formal education or general work experience). Because tacit and codifiable knowledge are experienced, and hence transferred differently, knowledge corridors (Ronstadt, 1988) are likely to develop differently across individuals. Despite such differences, the potential for systematic patterns of similar knowledge structures or expert scripts remains (Seawright, Smith, Mitchell, & McClendon, 2011).

Drawing on the explicit-tacit knowledge distinction, researchers have operationalized knowledge through objective measures including formal education, startup experience, work experience, and managerial experience (Cohen & Levinthal, 1990; Davidsson & Honig, 2003; Harris, Gibson, & Taylor, 2007; Kim et al., 2006; Schenkel, 2004). Implicit within these operationalizations is the presumption that knowledge represents a form of human capital that leads to the creation of general business skills (Boden & Nucci, 2000; Davidsson & Honig, 2003; Kim, Aldrich, & Keister, 2006). Such skills, by extension, hold the potential to enhance intentional implementation activities necessary in starting a new venture (D'Souza & Schenkel, 2011; Shane, 2000, 2003). We

now consider each of these knowledge types in detail to see how they are related to intention of starting a business venture.

Formal Education

Studies have shown that formal education is one significant component of human capital with the potential to spur entrepreneurial activity. Operationalized as the accumulation of explicit knowledge, formal education presumably helps build skills useful in becoming an entrepreneur (Bates, 1995; Davidsson & Honig, 2003; Bellu, Davidsson, & Goldfarb, 1990; Evans & Jovanovic, 1989; Gimeno, Folta, Cooper & Woo, 1997; Honig, 1996, 1998; Reynolds, 1997). This perspective is consistent with the notion of vicarious learning reflected in social cognitive theory (Bandura, 1986), as well as with empirical evidence suggesting that growing up with close family involved in entrepreneurial activity has a positive impact on individual's interest in pursuing self-employment (Matthews & Moser, 1996). Although much remains to be learned about the variability of teaching methods (Neck & Greene, 2011) in and impact of entrepreneurship education programs (Duval-Couetil, 2013), empirical evidence suggests that formal education has a positive, albeit limited impact on human capital assets (Volery, Müller, Oser, Naepflin, & Rey, 2013). Moreover, it is generally associated with an increased pace in the nascent new venture creation stages, particularly with respect to undertaking and completion of important start-up gestational activities and milestones (Davidsson & Honig, 2003). Thus, we would expect:

Hypothesis 1: Formal education will be positively associated with start-up intent.

Prior Experience

Work, supervisory, and start-up experiences reflect knowledge sources that also hold the potential to independently impact entrepreneurial activity (Bates, 1995; Gimeno, Folta et al., 1997; Robinson & Sexton, 1994) and at different levels of depth (Krueger Jr., 2007). This idea is reinforced by arguments that costs of acquiring information frequently vary across individuals, inhibiting their ability to make optimal economic decisions (Casson, 2003). As a result, each has the potential to uniquely add to the extant theoretical understanding and knowledge base that underpins entrepreneurial activity. Consistent with this line of reasoning, Ucbasaran, Wright, and Binks (2003) find that experienced entrepreneurs identify more opportunities than novice entrepreneurs. Davidsson and Honig (2003) find that prior startup experience has a direct and positive impact on the discovery and exploitation of an entrepreneurial opportunity though they find no such a relationship with supervising/managerial experience. This finding, they suggest, is due to the non-entrepreneurial nature of managerial activities undertaken by the individual in an existing organization. It also may be a result of the perceived opportunity cost of moving from a managerial position into a start-up venture (Amit, Glosten, & Muller, 1993). Thus, we would expect:

Hypothesis 2a: Prior work experience will be positively associated with start-up intent.

Hypothesis 2b: Prior managerial experience will be negatively associated with start-up intent.

Hypothesis 2c: Prior start-up experience will be positively associated with start-up intent.

Advice Networks

Given the start-up of a new business is fraught with many challenges, researchers observe that entrepreneurs realize they need information and advice beyond that which they possess on their own (Smeltzer, Van Hook, & Hutt, 1991). Similarly, and based on the resource-based perspective (Alvarez & Busenitz, 2001; Wernerfelt, 1984), researchers studying social capital argue that entrepreneurs gain unique resources in the form of social capital from their network. Specifically, it is argued that social capital resources obtained from networks include information, advice, and social support, and legitimacy (Hindle et al., 2009). Indeed, anecdotal observation suggests that a wide range of government-sponsored programs such as the SBA, SBDC, SCORE, and community entrepreneurship centers have emerged over the past decades across the U.S. to offer entrepreneurship education and assistance programming built at least in part on the logic that such informal or organic advice networks can be replicated into formal assistance structures. Empirical studies support these observations by suggesting that participation in such public assistance programs has a significant direct positive effect on venture performance (e.g., Schayek & Dvir, 2011).

While research on the effectiveness of education, assistance, and training for entrepreneurs in general remains mixed (e.g., Chrisman & McMullan, 2004; Wu & Jung, 2008; Zinger, LeBrasseur, & Zanibb, 2001), the influence of factors such as advice (direct and indirect) provided by role models (Scherer, Adams, Carley, & Wiebe, 1989; Krueger Jr., Reilly, & Carsrud, 2000; Kirkwood, 2007) is generally observed to be

positive. Some suggest that individuals develop entrepreneurial intentions if they observe entrepreneurial acts directly (Scherer et al., 1989; Hmieleski & Corbett, 2006). Others suggest that role models impact individual's entrepreneurial intent indirectly through feasibility and desirability plus a propensity to act on opportunities (Krueger Jr. 1993). This brings us to our final hypothesis:

Hypothesis 3: Access to advice networks about start-up resources will be positively associated with start-up intent.

METHODOLOGY

Data and Sample

Data for this project were generated via a web-based survey of 963 university-level students in the Southeast region of the United States. Students had varying levels of academic experience both in terms of their academic rank and level of training in entrepreneurship. Given the temporal aspect of the research focus in this investigation, students were sampled from two courses. The first was introductory entrepreneurship course in which the focus was on acquainting students with a range of core foundational concepts in entrepreneurship as a discipline. The second course was a capstone entrepreneurship course in which the focus was on students developing greater proficiency with business modeling and planning. Students completing the capstone course did so only after completing the introductory course and two other courses as part of a broader entrepreneurship curriculum. Thus, the data collection points reflect between a year and a year and one half of time passage on average for between curriculum comparison points. Both courses employed a range of experiential learning

exercises and techniques throughout the semester. These techniques included student research beyond the classroom of both a primary and secondary nature as part of final course projects. Prospective respondents were emailed a request for their participation both at the beginning and end of each course, and a web link for completing the survey was included with the inquiry. Time one (T1) and time two (T2) responses were matched for each course, and then student identifying information removed from the file to facilitate the maintaining of respondent confidentiality. Two subsequent follow up requests were sent to those who did not respond to the initial inquiry for each phase, resulting in a total initial sample size of 692 responses for T1, and 548 responses for T2 across the two courses. Thus, the final aggregated response rate was approximately 71.86 percent for T1 and 56.90 percent for T2 respectively.

Data Analysis Strategy

Principle components factor analysis, descriptive, and hierarchical multiple linear regression techniques are employed to evaluate the hypothesized relationships. Specifically, we first employ principle components factors analysis (Jöreskog, 1969) to assess the underlying factor structure is consistent with prior research on the entrepreneurial intent (Krueger Jr. et al., 2000) and entrepreneurship advice networks (Chrisman & Katrishaen, 1994; Chrisman & McMullan, 2004) constructs. Next, we employ hierarchical multiple linear regression to examine whether formal education, prior experience, and advice network access predicts entrepreneurial intent, both early and late in the coursework of a comprehensive entrepreneurship curriculum. In order to assess the contribution of each, we consider

whether the extent to which each of these variables extends the predictive capability reflected in the overall regression model.

Dependent Variable

Entrepreneurial intent. Entrepreneurial intent was measured using a four-item scale based on prior research (Krueger Jr. et al., 2000). Respondents were asked “To what extent do you intend to start your own business . . . prior to graduation?”; “. . . in the next year?”; “. . . in the next 5 years?”; and “. . . at some point beyond five years?” All four items were coded individually on a 5-point Likert scale ranging from 1 (“No intent”) to 5 (“Very strong intent”). These four items produced a strong Cronbach alpha of .829 among the items at T1 and .864 among the items at T2. Principal component analysis using Varimax rotation was then employed to further examine whether the list of items produced a factor structure that warranted the aggregation of these individual items into a single measure. This analysis revealed the four items loaded on a single component with an eigenvalue of 2.655 and explained 66.387 percent of the total variance observed among the T1 items, and an eigenvalue of 2.851 and 71.304 percent of the total variance explained observed among the T2 items. Therefore, respondent item scores for these items were aggregated into a single factor via an arithmetic mean score for subsequent hypothesis testing.

Independent Variables

Formal education. Human capital theory (Becker, 1964) suggests that knowledge is an important factor in increasing the cognitive ability for individuals, which in turn enhances their ability to be both more efficient and effective in their efforts. Consistent with this theoretical perspective, formal education has

also been shown to be a strong empirical indicator of nascent entrepreneurial activity (e.g., Davidsson & Honig, 2003; Honig, 1996; Robinson & Sexton, 1994). Given both the theoretical and empirical evidence, survey respondents were asked, “What is your academic rank (for example, Freshman, Sophomore, etc.)?”. Respondents replying with “Freshman” were coded as 1, “Sophomore” coded as 2, “Junior” coded as 3, and “Senior” coded as 4.

Professional experience. Experience and practical learning through one’s professional experience is also an important source of human capital (Becker, 1964). Professional experience too has been shown to be a strong empirical indicator of nascent entrepreneurial activity (e.g., Davidsson & Honig, 2003; Robinson & Sexton, 1994). Accordingly, professional experience was measured in two ways. First, the survey asked, “How many total years of full-time, paid work experience in any field have you had?” Second, the survey asked, “For how many years, if any, did you have managerial, supervisory, or administrative responsibilities?” Responses to each of these questions were coded in the actual number of years reported.

Start-up experience. Entrepreneurship research has demonstrated that prior start-up experience encompasses a level of specificity that extends beyond the general notion general work experience (Bates, 1995; Robinson & Sexton, 1994). Therefore, prior start-up experience was measured by asking respondents, “How many businesses have you started?” Responses were coded as the actual number of start-up ventures. Responses ranged from zero (0) to six (6).

Entrepreneurship advice networks. Drawing on prior research (e.g., Chrisman & Katrishen, 1994; Chrisman & McMullan, 2004), respondents were asked to consider the various forms of support provided at their university to foster entrepreneurial activity. They were then asked to rate the extent to which they agreed (1 = Strongly disagree, to 5 = Strongly agree) the support included each of the following: Business planning assistance/advice; Product/ service development assistance/advice; Comp-etitive analysis assistance/advice; Accounting assistance/advice; and Legal assistance/advice. These five items produced a strong Cronbach alpha of .885 among the items at T1. Principal component analysis using Varimax rotation was then employed to further examine whether the list of items produced a factor structure that warranted the aggregation of these individual items into a single measure. This analysis revealed the five items loaded on a single component, with an eigenvalue of 3.434 and explained 68.688 percent of the total variance observed among the items. Similarly, these five items produced a strong Cronbach alpha of .855, an an eigenvalue of 3.167 and explained 63.337 percent of the total variance observed among the items respectively at T2. Therefore, respondent item scores for these items were aggregated into a single factor via an arithmetic mean score at each time period respectively for subsequent hypothesis testing.

EMPIRICAL RESULTS

The means, standard deviations, and zero-order correlations among the variables for the full sample in our study are presented in Table 1. Academic rank was not significantly related to entrepreneurial intent at either at time one

(T1) ($r = .001, p > .10$) or time two (T2) ($r = .050, p > .10$). Work experience was significantly related to entrepreneurial intent at T1 ($r = .372, p > .01$) but not at T2 ($r = .050, p > .10$). Analysis of the correlations in Table 1 also shows that while none were significantly related to entrepreneurial intent at T1, managerial experience ($r = .112, p > .05$), prior start-up experience ($r = .346, p > .01$), and entrepreneurial advice networks ($r = .212, p > .01$) each tended toward higher entrepreneurial intent at T2. A post hoc means comparison test reveals no significant change in the overall level of entrepreneurial intent reported between T1 and T2.

Does progression through a traditional, formal education program positively relate to the development of entrepreneurial intent? Multiple linear regression results presented in Tables 2 and 3 suggest the answer to that question is that it does not, at least not directly as measured by one's academic rank.

Table 1: Means, Standard Deviations, and Correlations ¹

Variable	Full Sample		Intro Course		Capstone Course		1	2	3	4	5	6	7
	Mean	s.d.	Mean	s.d.	Mean	s.d.							
1. Ent. intent(T1)	2.82	1.03	2.76	1.05	3.05	0.88							
2. Ent. intent(T2)	3.08	1.21	2.99	1.21	3.51	1.08	.683**						
3. Formal education	3.16	0.88	2.96	0.87	3.96	0.29	.001	.050					
4. Work experience	3.17	3.42	3.38	3.66	2.36	2.05	.372*	.064	.187**				
5. Mgmt/supervisory exp.	2.25	2.46	2.32	2.67	2.01	1.30	.068	.112*	.166**	.735**			
6. Prior start-up exp.	1.31	1.04	1.30	1.01	1.37	1.13	.037	.346**	.067	.189**	.313**		
7. Ent. advice networks(T1)	3.75	0.68	3.65	0.66	4.15	0.61	-.004	.074	.048	-.105**	-.074	.056	
8. Ent. advice networks(T2)	3.99	0.67	3.91	0.65	4.39	0.60	.105	.212**	.109*	-.006	.010	.145**	.403**

† $p \leq .10$; * $p \leq .05$; ** $p \leq .01$

¹ Correlations presented are based on full sample.

As shown in each of the models in Tables 2 and 3, academic rank does not predict entrepreneurial intent at T1 or T2 for the full sample, nor for respondents in either the

introductory or capstone course. Consequently, no support is found for H1.

Table 2: Results of Regression Analyses Predicting Entrepreneurial Intent at Time 1^a

Predictor Variable	Model 1			Model 3			Model 3		
	Full sample	Intro course	Capstone course	Full sample	Intro course	Capstone course	Full sample	Intro course	Capstone course
Formal education	.001	-.051	-.098	-.010	-.070	-.133	-.009	-.073	-.132
Work experience				-.013	.057	-.186	-.013	.057	-.184
Managerial or supervisory exp.				.062	.027	.140	.062	.027	.141
Prior start-up exp.				.035	.006	.241*	.035	.009	.236*
Entrepreneurial advice networks							-.004	-.031	-.057
Model F value	0.000	1.028	0.871	0.572	0.851	2.136 [†]	0.458	0.754	1.754
Adjusted R ²	-.002	.000	-.001	-.004	-.002	.048	-.006	-.003	.040
Change in R ²	-.002	.000	-.001	-.002	-.002	.049 [†]	-.002	-.001	-.009

^a Full sample, n = 481; Intro course, n = 390; Capstone course, n = 91.

Standardized regression coefficients are shown.

† $p < .10$; * $p < .05$; ** $p < .01$

Table 3: Results of Regression Analyses Predicting Entrepreneurial Intent at Time 2^a

Predictor Variable	Model 1			Model 2			Model 3		
	Full sample	Intro course	Capstone course	Full sample	Intro course	Capstone course	Full sample	Intro course	Capstone course
Formal education	.047	-.054	-.053	.031	-.063	-.076	.010	-.051	-.118
Work experience				-.034	.041	-.129	-.025	.034	-.117
Managerial or supervisory experience				.027	-.033	.201	.027	-.031	.213 [†]
Prior start-up experience				.348**	.360**	.334**	.321**	.341**	.313**
Entrepreneurial advice networks							.192**	.164**	.141
Model F value	0.932	0.984	0.224	14.926**	12.847**	3.305*	15.999**	12.693**	2.979*
Adjusted R ²	.000	.000	-.010	.116	.121	.102	.150	.146	.109
Change in R ²	.000	.000	-.010	.116**	.121**	.112**	.034**	.025**	.007

^a Full sample, n = 426; Intro course, n = 344; Capstone course, n = 82. Standardized regression coefficients are shown.

[†] $p < .10$; * $p < .05$; ** $p < .01$

Does experience, either of a professional nature or in the start-up process, positively relate to the development of entrepreneurial intent? Multiple linear regression results suggest the answer to this question is affirmative. The results in Table 2 show that upon entering entrepreneurship coursework, neither prior work experience nor prior managerial or supervisory experience predicts entrepreneurial intent. Prior start-up experience, by contrast, does appear to be a significant positive influence over entrepreneurial intent for those entering into their capstone entrepreneurship course. Interestingly, the results in Table 3 show a very different pattern at the conclusion of entrepreneurship coursework. Specifically, and at the outset of each course considered, neither prior work experience nor managerial nor prior managerial or supervisory experience predicts entrepreneurial intent

following coursework. However, the results show that prior start-up experience, both in general ($\beta=.348$, $\rho\leq.01$) and when considering the introductory ($\beta=.360$, $\rho\leq.01$) and capstone ($\beta=.334$, $\rho\leq.01$) courses separately, becomes a strong influence associated with the development of entrepreneurial intent following the completion of entrepreneurship coursework. Thus, whereas no support is found for H2a or H2b, strong support is found for H2c.

Does exposure to advice networks positively relate to the development of entrepreneurial intent? Multiple linear regression results suggest it does. As in the case of traditional, formal education and prior work experience, the results in Table 2 reveal that upon entering entrepreneurship coursework, access to entrepreneurial assistance and advice networks is unrelated to respondents

expressing entrepreneurial intent. However, the results in Table 3 show that access to entrepreneurial assistance and advice networks is generally related to entrepreneurial intent ($\beta=.192$, $p\leq.01$) at the conclusion of traditional entrepreneurship coursework. Moreover, these results show that access to entrepreneurial assistance and advice networks is particularly positive and significant to the development of entrepreneurial intent following the introductory entrepreneurship course ($\beta=.164$, $p\leq.01$) in a comprehensive entrepreneurship curriculum, though such networks are unrelated to the likelihood of developing entrepreneurial intent following the completion of the capstone course ($\beta=.141$, $p>.10$) in that same curriculum. Collectively, these results provide partial support for H3.

DISCUSSION

Theoretical Implications

Human and social capital impact on the formation of entrepreneurial intent. This research builds on the idea that the process of forming entrepreneurial intent reflects a complex set of knowledge resources that include traditional, formal education, work, managerial, and prior start-up experience, and advice from others. Together, these knowledge resources can and should be conceptualized as information asymmetries that provide a more complete understanding of the role of human and social capital influences than prior research has suggested (Hindle et al., 2009). For example, the systematic variability observed in the present results across the two time periods suggests that prior personal experience with the start-up process and connectivity to advice networks are particularly important human and social

capital aspects in the early emergence of entrepreneurial intent. These findings extend prior insights on nascent entrepreneurial decision-making (e.g., Brännbeck et al., 2007), particularly that which is considered at the nexus of perceived internal motivations and abilities and the recognition of marketplace opportunity (Knight, 1921; Shane, 2003; Singh, 2000). Specifically, these findings suggest that the immediate applicability of these sources of information may be particularly helpful to individuals as they seek to evaluate their ideas for starting up a venture against their perceptions of the marketplace. This possibility is consistent with what Alvarez, Barney, and Young (2010: 24) call an “evolutionary realist approach,” whereby individuals seek to test their marketplace perceptions with more objective external information sources before deciding if and how to proceed in acting on a start-up or entrepreneurial idea.

Social capital: time and its changing nature. It has become axiomatic that “timing is everything.” The present findings suggest a theoretical corollary to this axiom with respect to the role of social capital in the development of entrepreneurial intent. Specifically, Klyver and Schenkel (2014) find that in startups, the benefit of belonging to a network of entrepreneurs is diminished if the entrepreneur has prior start-up experience or is more confident in their personal ability to start a business venture. They theorize that this is due to a redundancy of social capital resources the entrepreneur already possesses. Our results extend that line of theoretical reasoning. They do so by highlighting the seemingly parallel shift from a focus on outside resources towards one of self-reliance in the nascent stages of new venture creation. Moreover, the

present findings suggest that such a shift may occur fairly early following experience with, and training in, the entrepreneurial process.

Normative Implications

Experiential knowledge over time. When students first come into a comprehensive entrepreneurship program, it appears that start-up experience has little impact on their reported entrepreneurial intent. If they possess prior start-up experience upon entry, the likelihood of developing such intent appears to significantly increase by the end of the first entrepreneurship course. By contrast, when students enter the final entrepreneurship course at the end of such a program, it appears that start-up experience has a significant and positive impact on the likelihood students report having start-up or entrepreneurial intent that only intensifies with further training throughout the semester. This pattern and consistency of this positive finding speaks well of the continued interest in entrepreneurship education (Kuratko 2005). Specifically, it supports the line of reasoning that suggests that learning about entrepreneurship is increasingly perceived as having the potential to add real value by positively influencing the probability of new venture success (Harris et al., 2007; Fregetto, 2015; Katz, 2007). For those approaching graduation, a noted important “triggering” (Kuehn, 2008) or “displacement event” (Krueger Jr. et al., 2000), the results suggest the importance of experiences in the start-up process as a positive factor in the development of the intent to launch a venture. Coupled with evidence suggesting that experienced entrepreneurs identify more opportunities than novice entrepreneurs (Ucbasaran et al., 2003), the present results underscore the importance of the experiential, and potentially self-

reinforcing nature of entrepreneurship educational experiences, as an essential element toward cultivating entrepreneurial thinking (Krueger Jr., 2007; Neck & Greene, 2011).

Advice networks as information resources.

For educators and policy makers, our results suggest that a while focusing only on formal education in narrow a quantitative sense might not yield significant influence entrepreneurial intent, a more holistic focus and complex and potentially nuanced view of entrepreneurial education that consists of formal classes, co-curricular activities, and access to an entrepreneurial support structure could positively impact the formation of entrepreneurial intent. Advice networks appear to have little impact on their reported entrepreneurial intent, likely because students know little at the outset (that is, at the start of the first course in a broader program of study) about what type of advice is available to prospective entrepreneurs. Yet by the end of their first course and like prior start-up experience, access to entrepreneurial advice networks appears to be significantly and positively associated with entrepreneurial intent. Interestingly, however, and as in the case of when students first enter the final course of the program, it appears that advice networks have no impact on their reported entrepreneurial intent. By the end of the final course in program, little changes in the observed relationship between these factors and entrepreneurial intent.

Taken in total, these findings seem to suggest that the influence of outside sources of information and advice begin to become internalized relatively quickly in students’ academic course of study with respect to the development of entrepreneurial intent. As a

result, the present findings suggest curriculum structure design should be an important consideration for educators. Specifically, they suggest that if the goal is to “inform” students effectively about entrepreneurial career path, then the present results suggest designing a curriculum that exposes them to intensive coursework and advice networks earlier on followed up by highly applied (e.g., field- or experientially-based coursework) in the later stages of their educational program may be a particularly effective approach. Specifically, curriculum should include learning opportunities that are embedded within startup experiences such as student-led startups or internships within community-based startup ventures. Experiences modeled after accelerator programs, which integrate intensive educational components and coaching within the start-up process, also offer promise in light of our results.

Future Research Directions

The findings of this paper suggest a number of directions for future research. First, there is a need for theory and empirical research that amplifies the role of knowledge resource interactions over time. Specifically, consistent with recent challenges to existing models of entrepreneurial intentions on the grounds of taking an overly “between the ears” view by failing to consider the role of social capital (Hindle et al., 2009), the present results suggest that advice networks may be a particularly fruitful approach for understanding both the development and persistence of entrepreneurial intentions, above and beyond an individual’s personal capital alone.

Second, and in closely related fashion, the present results suggest research is needed to

explore the potential for meaningful interactions to extend current theory. For example, researchers might consider both the nature and extent to which the advice networks intensify the presence of prior managerial or start-up experience. Consideration may also be given to whether or not such combined influences are equally influential across individuals with different genders (Malewicki & Leitch, 2011), family business backgrounds (Matthews & Moser, 1996) or levels of involvement (Campbell, Line, Runyan, & Swinney, 2010), or other aspects shown to differentiate entrepreneurial interests.

Third, we suggest that academic rank or year in study may be too narrow to capture the prospective influence of formal or traditional education as reflected in prior research (e.g., Davidsson & Honig, 2003). It is also possible that such a compressed time frame may be masking important nonlinear effects (e.g., Honig, 1996). Consequently, future research should more fully consider other potentially important differentiating aspects of formal education. For example, future research should examine more fully whether factors such as academic discipline may influence formal training with respect to start-up intent or start-up activity. Moreover, future research should also examine potential moderating effects such as the range (e.g., freshman, sophomore, etc.) of academic rank as an influence on the advice network-start-up intent relationship.

Finally, given the present sample reflected students from one academic institution in the southeastern region of the United States, research is also needed to validate and extend the findings along academic rank and the other

variables pursued in this investigation, both within the U.S. and beyond.

CONCLUSION

Education, experience, and advice networks have emerged as useful predictors in the formation of intentions to pursue entrepreneurial opportunity (e.g., Bates, 1995; Kirkwood, 2007; Volery et al., 2013). Our study shows how focusing on the combination of these human and social capital influences can provide a fuller sense of the relative importance and role of each in the formation of entrepreneurial intentions (Hindle et al., 2009). Moreover, it has provided insight into the evolutionary aspect of the intentions formation process (Brännbeck et al., 2007), illustrating how new theoretical insights can be gained from investigations that explicitly focus on differential influences over time rather building on the assumption that such influences necessarily have cumulative impact.

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