



RESEARCH ON ENTREPRENEURSHIP AND ITS ANTECEDENTS:
AN ANNOTATED BIBLIOGRAPHY

THE NFTE RESEARCH OFFICE

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Introduction

Following is an annotated bibliography of some of the key academic research on the antecedents to entrepreneurship, or what leads to entrepreneurial behavior. In all, there are 78 titles in this document, including mostly articles from peer reviewed research journals and a much smaller number of books and independent reports. At the beginning of each section we provide a short summary of the main topic areas covered in the articles as well as additional information about their relevance to the larger field of study. Each of the individual citations further include a short description of the work cited with key findings, methods used and, in the case of original research, subject studied. Though mostly academic research, this list also includes reports by government and non-government agencies. We developed this as reference document in an effort to understand in more depth the scope of the research and how it can inform the work of NFTE.

The works cited here cover the following core topics in entrepreneurship research:

- Cognitive skills & entrepreneurship
- Self-efficacy and entrepreneurship
- Entrepreneurship education
- Entrepreneurship and Intent
- Opportunity recognition and entrepreneurship
- Youth & entrepreneurship
- General entrepreneurship theory
- Motivation & Entrepreneurship

This document is not meant to be an exhaustive list. We are particularly eager to explore the research on factors that influence or cause individuals to become entrepreneurs or develop entrepreneurial qualities. As an organization that provides schools, teachers and students with entrepreneurship education, we are especially interested in the work being done with youth and students in middle and high schools across the world. While there is a robust literature on adult entrepreneurial behavior, there is much less on youth entrepreneurship in K-12 settings, a critical lacunae considering the fact that students can form career intentions in their early adolescent years. We hope that this document and our ongoing work will help develop further research in this area.

Select findings:

- Overall characteristics of the studies:
 - Entrepreneurship as a field of research is relatively new and has taken off since the late-1990's.
 - Within entrepreneurship research, the study of entrepreneurship education is an even newer field. All of the studies on this topic cited here have been conducted within the past 10 years, with most coming in the past 5 years.
 - Most of the research cited here focuses on cognition, self-efficacy and education, while areas like motivation & opportunity recognition are less well covered.
 - These studies represent a mix of in terms of research methodologies and rigor. They have also taken place in countries across the global, with a concentration in the US, Europe, Asia and Australia.
- Findings of interest to NFTE:
 - While some people are better able to recognize opportunity than others, this is a skill that can be taught (Baron, R.A. 2006; Munoz, C. 2011).
 - People with higher risk preferences also have greater intentions of becoming an entrepreneur (Barbosa, S., Gerhardt, M., & Kickul, J. 2007).
 - National cultural context can be an influencing factor in the level of entrepreneurial intent and self-efficacy (Nakitoyak, A., et. al. 2010).

Cognitive Skills & Entrepreneurship

Cognitive skills refer to a person's ability to perform and process information in an academic setting. These include skills like memory, speech and the ability to learn new information. This section lists research titles that focus on the relationship between cognition, its development in individuals and entrepreneurship.

Baron, R.A., & Markman, G.D. (1999). Cognitive mechanisms: Potential differences between entrepreneurs and non-entrepreneurs. In P.D. Reynolds, W.D. Bygrave, et al. (Eds.), *Frontiers of entrepreneurship research*. Wellesley, MA: Babson College

- *Building on a large body of extant research on human cognition and entrepreneurship, this study seeks to examine cognitive mechanisms that have yet to be considered in great depth. The mechanisms explored include: counterfactual thinking, affect infusion, attributional style, the planning fallacy, and self-justification.*

Baron, R.A. (2004). The cognitive perspective: A valuable tool for analyzing entrepreneurship's basic "Why" Questions'. *Journal of Business Venturing*, 19(2), 221-239.

- *This article addresses three core research questions: 1) Why do certain people choose to become entrepreneurs, 2) Why do some entrepreneurs recognize opportunity better, and 3) Why are some entrepreneurs more successful than others? Baron argues that the critical factors behind these key characteristics of entrepreneurs rests in cognitive factors, such as an individual's capacity to perceive risks as smaller than others do, more proficient pattern recognition and counterfactual thinking, to mention a few.*

Baum, J.R., & Locke, E.A. (2004). The relationship of entrepreneurial traits, skill and motivation to subsequent venture growth. *Journal of Applied Psychology*: Vol. 80, No 4, pp. 587 – 598.

- *This was a six year longitudinal study of 229 entrepreneur CEO's and 106 associates in a single industry. It found that goals, self-efficacy and communicated vision had direct effects on actual venture growth.*

Carsrud, Alan. *Understanding the Entrepreneurial Mind*. Springer Science: New York, 2009

- *This comprehensive textbook combines the best research on entrepreneurship in the field today. Pushing what has already been researched about entrepreneurial intent and decision making processes, this book explores further: perceptions, motivations, risk, passion, and opportunity recognition, and draws from quantitative empirical research and qualitative case studies.*

Haynie, JM., & Shepherd, D. (2010). A situated metacognitive model of the entrepreneurial mindset. *Journal of Business Venturing*. Vol. 25, No 2, pp 217-229

- *This article focuses on the meta-cognitive processes that enable the entrepreneur to think beyond or re-organize existing knowledge structures and heuristics, promoting adaptable cognitions in the face of novel and uncertain decision contexts.*

Krueger, Norris. (2005) The Cognitive Psychology of Entrepreneurship. Handbook of Entrepreneurship Research, Volume 1, pp 105-140.

- *An overview of the cognitive processes that drive entrepreneurial thinking answering the questions, “what is the nature of entrepreneurial thinking?” and “what cognitive phenomena are associated with seeing and acting on opportunities?”*

Krueger, Norris. (2007) What Lies Beneath? The Experiential Essence of Entrepreneurial Thinking. Entrepreneurship Theory and Practice. Vol. 31, No 1, pp 128-138.

- *This article seeks to provide insight into identifying certain cognitive developmental experiences that will create deep critical belief structures and anchor entrepreneurial thinking.*

McGrath, R., & MacMillan, I. The Entrepreneurial Mindset: Strategies of Creating Opportunities in an Age of Uncertainty. Harvard Business Press: Boston, 2000

- *This book offers practical strategies for how people can think entrepreneurially within their current organizations in order to capitalize on the benefits of uncertainty. The authors draw on research as well as their own teaching, working and consulting experience.*

Mitchell, R.K., Busenitz, L., Lant, T., McDougall, P.P., Morse, E. A., & Smith, B. (2002). Toward a theory of entrepreneurial cognition: Rethinking the people side of entrepreneurship research. Entrepreneurship Theory & Practice, 27, 93-104

- *This article outlines the progression of entrepreneurship cognition research and lists which researchers led the way at each stage. This article discusses how personality-based studies have largely failed to identify the core aspects of entrepreneurs and points the way for cognitive research as a more rigorous method to understand this phenomenon.*

Mitchell, R.K., Busenitz, L.W. (2007) The Central Question in Entrepreneurial Cognitive Research 2007. Entrepreneurship Theory and Practice, Vol. 31, No 1, pp. 1-27.

- *This literature review seeks to answer the question, “how do entrepreneurs think?” It details previous research and offers new directions, including a focus on how entrepreneurs use a more heuristic-based logic than systematic procession logic.*

Sanchez, Jose, et. Al. (2011). The entrepreneur from a cognitive approach. Piscothema, Vol. 23, No 3, pp. 433-438

- *This article highlights and reviews how cognitive psychology has aided the field of*

entrepreneurship research as a way to emphasize the superiority of cognitive studies over personality studies.

Ward, Thomas. (2004). Cognition, creativity, and entrepreneurship. *Journal of Business Venturing*, 19, pp 173-188

- *This article seeks to draw a connection between creativity and cognition and prior knowledge as it relates to generating entrepreneurial ideas.*

Self-Efficacy and Entrepreneurship

Self-Efficacy refers to the extent of a person's belief in their ability to complete certain tasks or goals. According to Albert Bandura, the leading theorist in self-efficacy research argues that self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1995, p. 2). Self-efficacy has become one of the most studied topics in psychology and has been shown to impact individual behavior and motivation, among other things. Most of the articles in this section explore the connection between an individual's self-efficacy toward entrepreneurship and their actual intent or capacity to engage in this activity.

Bandura, Albert. (2001). Self-Efficacy Beliefs as Shapers of Children's Aspirations and Career Trajectories. *Child Development*, Vol. 72, No 1, pp. 187-206.

- *This study tested 272 children to determine what mediators influence their self-efficacy and will have an impact on their future career choices.*

Barbosa, S., Gerhardt, M., & Kickul, J. (2007). The role of cognitive style and risk preference on entrepreneurial self-efficacy and entrepreneurial intentions. *Journal of Leadership & Organizational Studies*, 13(4), 86-104.

- *This study examines how cognitive style and risk preference separately, and together, affect an individual's assessment of his or her entrepreneurial intentions. Results showed that people with higher risk-preference had entrepreneurial intentions.*

Chen, Chao, et al. (1998) "Does Entrepreneurial Self-Efficacy Distinguish Managers from Entrepreneurs" *Journal of Business Venturing*. Volume 13, Issue 4, pp 295-316.

- *This study consisted of two groups: university students and small business executives, both founders and non-founders. The study shows that self-efficacy has a positive relationship to students studying entrepreneurship, management and organizational psychology. Entrepreneurship students had the highest self-efficacy. Among small business owners, business founders had higher self-efficacy in innovation and risk-taking.*

Chen-Mei, Chou. (2011) Influence of Entrepreneurial Self-Efficacy on Entrepreneurial Learning Behavior. *International Business Management*, Vol. 3, Issue 2, pp 7-11.

- *This study of 448 vocational and technical school students in Taiwan that found students' entrepreneurial intent and self-efficacy had a positive correlation to their entrepreneurial learning behavior.*

Culbertson, Satorias (2011). "Enhancing Entrepreneurship: The Role of Goal Orientation and Self-Efficacy," *Journal of Career Assessment*, Vol. 19, No 2, pp. 115-129.

- *This study seeks to measure the influence of goal orientation and self-efficacy in predicting whether one will enter an entrepreneurial career path or more managerial career path. The results suggest self-efficacy does not influence managerial goals, but may influence entrepreneurial goals.*

DeNoble, Alex. (1999) Entrepreneurial Self-Efficacy: The Development of a Measure and its Relationship to Entrepreneurial Action. Working Paper, Babson College.

- *This paper seeks to develop a construct to measure entrepreneurial self-efficacy and its commitment to entrepreneurial intent and actions. To develop the measure, researchers created an original questionnaire and collected data from 272 undergraduate students taking business courses and 87 MBA students taking entrepreneurship courses from the same university in the United States.*

Forbes, D.P., (2005). The effects of strategic decision making on entrepreneurial self-efficacy," *Entrepreneurship Theory and Practice*, Vol. 29, Iss 5, pp. 599-626.

- *This study sought to determine if an entrepreneur's level of self-efficacy was influenced by the ways their venture made decisions. A positive relationship was found between self-efficacy and decision making that involves other employees, uses more current information, and is overall more comprehensive. Data comes from 95 ventures in New York.*

Izquierdo, E., Buelens, M. (2008), "Competing models of entrepreneurial intentions: the influence of entrepreneurial self-efficacy and attitudes", *IntEnt2008 Conference*, Oxford, OH, 17-20 July

- *This study seeks to examine the extent to which entrepreneurship education affects venture creation based on its impact on attitudes and self-efficacy. Data was collected from 236 undergraduate students enrolled in an entrepreneurship course in America.*

Lucas, W.A., & Cooper, S.Y. (2005) "Enhancing self-efficacy to enable entrepreneurship: The case of CMI's Connections," *MIT Sloan School of Management Working Paper*

- *This paper evaluates a one week program offered at Cambridge-MIT that showed improvements in entrepreneurial self-efficacy and a strengthening of pre-entrepreneurial awareness and exploration through the curriculum offered.*

Markman, G.D., Baron, R.A., & Balkin, D.B. (2005). Are perseverance and self-efficacy costless? Assessing entrepreneurs' regretful thinking. *Journal of Organizational Behavior*, 26(1), 1-19.

- *This study takes a random sample from 217 patent inventors from the medical field and finds that perseverance and self-efficacy co-occur with regretful thinking. Findings also suggest that entrepreneurs have greater perceived control over adversity and outcome over adversity than do non-entrepreneurs.*

McGee, Jeffery, et. al. (2009) "Entrepreneurial self-efficacy: refining the measure," *Entrepreneurship Theory and Practice*, Vol. 33, No 4, p965

- *This study seeks to build upon previous attempts to measure self-efficacy. The sample comes from nascent entrepreneurs, defined as those who are not yet entrepreneurs, but possess the desire to start a new business. A 50-question survey was given to 88 undergraduate business students.*

Nakitoyak, A., et. al. (2010) "Entrepreneurial self-efficacy and entrepreneurial intention: the Turkish case," *International Entrepreneurship and Management Journal*, Vol. 6, Iss 4, pp. 419-435

- *This study examined the relationship of entrepreneurial self-efficacy and intent specifically within the Turkish culture. Results were then compared against similar studies conducted in the US and Korea. Findings show that national cultural context is an influential factor in entrepreneurship.*

Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship Theory & Practice*, 31(3), 387-406

- *This is one of very few gender specific studies seeking to determine the role of gender on entrepreneurial self-efficacy and intent. Two sample groups are used in this study: MBA students and middle/high school students. Over 4,200 middle/high school students were studied from 29 schools (3,000 female, 1,200 male). 930 MBA students from 7 schools were studied (410 women, 520 men).*

Zhao, H., Seibert, C., & Hills, C. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, 90(2), 1265-1272.

- *This study collected data from 265 MBA students from 5 schools to investigate the role of self-efficacy in developing entrepreneurial intentions. Results show entrepreneurship education, experience and risk propensity on entrepreneurial intent were mediated by self-efficacy. Gender was not mediated by self-efficacy but was significant enough that women report lower intentions to be entrepreneurs.*

Cox, L., Mueller, S.L., & Moss, S.E. (2002). The impact of entrepreneurship education on entrepreneurial self-efficacy. *International Journal of Entrepreneurship Education*, 1(2), 229-247.

Mueller, S.L. & Goic, S. (2003). East-West differences in entrepreneurial self-efficacy: Implications for entrepreneurship education in transition economies. *International Journal of Entrepreneurship Education*, 1(4), 613-532.

Entrepreneurship Education

Interest in teaching entrepreneurship has increased exponentially over the past decade across the world. The growth in entrepreneurship education programs can be seen at both the university and graduate school levels, as well as in middle and high schools. Much of the recent research in this area has focused on how to evaluate the impact of entrepreneurship education on students and to identify the best outcomes to measure. Other focal areas include pedagogy, policy implications, and the challenges of teaching entrepreneurship. This studies in this list focus on a mix of students from adolescents on up to graduate students in MBA programs. They further provide evidence from a wide group of countries including the US, Portugal, Hong Kong, Singapore, the Netherlands and others.

Benson, Christina. Agents of Change: Using Transformative Learning Theory to Enhance Social Entrepreneurship Education. Working Paper

- *Using case studies from the US and Ireland among university students, this paper seeks to explore how transformative learning pedagogies can be used to enhance entrepreneurial cognition and mindsets, as well as a deeper appreciation for social entrepreneurship.*

Cheung, C.-K., Au, E. (2010). Running a small business by students in a secondary school: its impact on learning about entrepreneurship. *Journal of Entrepreneurship Education*, Vol.. 13 pp.45-63

- *This is a case study of a small business within a school. The study found in part an increased interest in starting a business after entrepreneurial activity was taught. The study used students in the 10th grade in Hong Kong.*

do Paço, A., Ferreira, J., Raposo, M., Rodrigues, R., Dinis, A. (2011a). Behaviours and entrepreneurial intention: empirical findings about secondary students. *Journal of International Entrepreneurship*, Vol. 9 No.1, pp.20-38.

- *This research study examined whether the Theory of Planned Behavior (TBD) is the best model to approach the development of entrepreneurial intentions in students participating in an entrepreneurship program. The study examines the development of entrepreneurial intention among teenage students (14-15 years old). The finds that the best way to inculcate entrepreneurial in was through pedagogy that focuses on changing personalities*

more than on knowledge.

do Paço, A., Ferreira, J., Raposo, M., Rodrigues, R., Dinis, A. (2011b), Entrepreneurial intention among secondary students: findings from Portugal. *International Journal of Entrepreneurship and Small Business*, Vol. 13 No.1, pp.92-106.

- *Building off the previous study above, this article looks specifically at the results of Portugal. <http://inderscience.metapress.com/content/k64513u264jt5383/>*

Fayolle, A., Gailly, B., Lassas-Clerc, N. (2006a). Assessing the impact of entrepreneurship education programmes: a new methodology. *Journal of European Industrial Training*, Vol. 30 No.9, pp.701-20

- *With the rise in popularity of entrepreneurship education programs, this study seeks to help establish a framework from which to evaluate these programs based on the Theory of Planned Behavior.*

Florin, Juan, et. Al. (2007). Fostering Entrepreneurial Drive In Business Education: An Attitudinal Approach. *Journal of Management Education*, Vol. 31, No 1, pp.17-40

- *This article states that entrepreneurship students have five distinct attitudes they display: desire to innovate, non-conformity, proactiveness, self-efficacy, and achievement-oriented.*

International Labour Organization. (2011). Building Business and Entrepreneurship Awareness.

- *This publication looks at the ILO's implementation of an entrepreneurship program it developed in vocational and technical schools at the secondary and university level. Suggestions are made on how to incorporate entrepreneurship education into schools.*

Marques, Carla, et. al. (2012). Entrepreneurship education: How psychological, demographic and behavioural factors predict the entrepreneurial intention. *Education + Training*, Vol. 54, Iss 8/9, pp 657 – 672

- *This paper shows that entrepreneurial intention is influenced by demographic, psychological and behavioural factors. It also provides evidence for expanding entrepreneurship education into secondary schools.*

Lena, Lee. (2003). Attitude toward entrepreneurship education and new venture creation. *Journal of Enterprising Culture*. Vol. 11, No. 4, pp. 339-357.

- *This study was conducted in Singapore and collected data from 11,600 university students. The purpose of the study was to try and determine if there is a link between new venture creation and entrepreneurship education.*

Linder, Johannes. (Essay) Entrepreneurship Education between economic philosophy and key competence for lifelong learning.

- *This is an essay that argues that entrepreneurship education is valuable not just for the information learned, but because it helps teach students how to participate in society and is therefore a key competence across all subjects.*

Oosterbeek, Hessel, (2010). "The impact of entrepreneurship education on entrepreneurship skills and motivation" *European Economic Review*. Volume 54: Issue 3, pp 442-454

- *This study seeks to identify how well the Junior Achievement Young Enterprise student mini-company (SMC) program achieves its goals. The study took place in 2005-2006 in the Netherlands. They found that the program did not increase entrepreneurial intent.*

Rodrigues, R.G., Dinis, A., Paço, A., Ferreira, J., Raposo, M. (2012), "The effect of an entrepreneurial training programme on entrepreneurial traits and intention of secondary students", in Burger-Helmchen, T. (Eds). *Entrepreneurship – Born, Made and Educated*, InTech, Rijeka, pp.77-92.

- *This article offers a literature review of the entrepreneurship education field, and also argues for the importance of entrepreneurship education on the basis that becoming an entrepreneur is something that can be taught.*

Vanevenhoven, Jeff. (2013). The Impact of Entrepreneurship Education: Introducing the Entrepreneurship Education Project. *Journal of Small Business Management*, Vol. 51, No. 3, pp. 315-328

- *This article talks about a new initiative to collect data on entrepreneurship education, specifically among university students. It is specifically seeking to measure self-efficacy and intent by collecting longitudinal data in order to track students well after graduation. Find more at <http://trepeducation.com/> Currently there are 400 universities participating with over 18,000 student records available.*

World Economic Forum (2009). "Educating the Next Wave of Entrepreneurs" *Global Education Initiative*, Switzerland.

- *This report serves as a broad foundation and first step to gathering evidence on current entrepreneurship education programs around the world, from youth to adults, and poor to rich, to use for further discussion and recommendations.*

Zhao, Y. & Meyer, H. D. (2013). High on PISA, low on entrepreneurship? What PISA does not measure. In Heinz-Dieter Meyer & Aaron Benavot. *PISA, power, and policy: The emergence of global educational governance* (267-278). Oxford, UK: Symposium.

- *This article is contained within a book that examines the PISA test and its potential detrimental effects if it becomes a standardized tool for global education.*

Journal of Small Business Management, Special Issue: Measuring the Impact of Entrepreneurship Education, Volume 51, Issue 3, pp 313-370

- *This special issue has 9 articles focusing on different aspects of the current landscape of entrepreneurship education, including different pedagogical approaches and methods for measuring impacts.*

<http://onlinelibrary.wiley.com/doi/10.1111/jsbm.2013.51.issue-3/issuetoc>

Entrepreneurship and Intent

Researchers looking into entrepreneurial intent examine how people become interested in entrepreneurship and then try to distinguish what separates those people who form an interesting idea from those who actually follow through with it. Intent is frequently used as an outcome variable to measure the impact of entrepreneurship education and experience on students. The research here examines the relationship between entrepreneurial intent and other factors such as self-efficacy, self-regulation and contextual factors.

Auttio, Erkkö. (2001). Entrepreneurial Intent Among Students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*, Vol. 2, No. 2, pp. 145-160

- *This study of university students found a positive correlation between attitude toward entrepreneurship and perceived behavioral control in relationship to entrepreneurial intent. The survey was given to 3,500 students from Finland, Sweden, and the USA.*

Bird, Barbara. (1988). Implementing Entrepreneurial Ideas: The Case for Intention. *Academy of Management Review*, Vol. 13, No. 3, pp. 442-453

- *This is one of the earliest articles making the case for the importance of intention as it is related to entrepreneurship. The arguments in this article are backed up by previous research.*

Drennan, J., Kennedy, J., Renfrow, P. (2005). Impact of childhood experiences on the development of entrepreneurial intentions. *International Journal of Entrepreneurship and Innovation*, Vol. 6 No.4, pp.231-8.

- *This study surveyed 1,000 university students in Australia and found that perceptions about entrepreneurship were influenced by parental ownership of a business, a difficult childhood, and frequent moving. Parental ownership and a difficult background led to increased desires to start a business, whereas moving a lot led to less of a desire.*

Engle, Robert. (2010). Entrepreneurial Intent: A twelve-country evaluation of Ajzen's model of planned behavior. *International Journal of Entrepreneurial Behavior and Research*, Vol. 16, No. 1, pp. 35-57

- *1,800 university students from twelve countries were surveyed to test Ajzen's Theory of Planned Behavior on entrepreneurial intent. Results show that the theory does have an impact, though results vary by country.*

Flack, Oliver. (2012). Identity and Entrepreneurship: do school peers shape entrepreneurial intentions. *Small Business Economics*, 39:39-57

- *This study argues that entrepreneurial intent is shaped by socialization, not only parental, but by peers. They found among 15 year olds that having an entrepreneurial peer group does have a positive impact on intent. The strength of this effect varies by country, with the cultural value of individualism having the most influence.*

Ferreria, Joao. (2012). A Model of entrepreneurial intention. *Journal of Small Business and Enterprise Development*, Vol. 19, No. 3, pp. 424-440

- *The purpose of this study was to try and develop a model that identifies what variables have an effect on entrepreneurial intent among 74 secondary students in the 9th grade in Portugal. Need for achievement, self-confidence, and personal attitude were found to correlate with intent.*

Geldhof, G. J., Weiner, M., Aganz, J.P., Mueller, M.K., & Lerner, R.M., (2013). Understanding entrepreneurial intent in late adolescence: The role of intentional self-regulation and innovation. *Journal of Youth and Adolescence*, Online publication.

- *This study tested 3,000+ college students to find out whether personal characteristics and contextual factors influenced entrepreneurial intent. Study suggests self-regulation, innovation orientation, and entrepreneurial role models are good predictors.*
<http://link.springer.com/article/10.1007%2Fs10964-013-9930-8#page-1>

Krueger, N. Jr, Carsrud, A. (1993), "Entrepreneurial intentions: applying the theory of planned behavior", *Entrepreneurship and Regional Development*, Vol. 5, No.3, pp.315-30

- *One of the first, if not the first, articles written about drawing a connection between entrepreneurship and the Theory of Planned Behavior. In many respects, this article is the starting point for examining entrepreneurial intent and understanding not only what influences entrepreneurs, but also how.*

Krueger, Norris. (2000). Competing Models of Entrepreneurial Intentions. *Journal of Business Venturing*, 15, 411-432.

- *This is an academic paper that examines the differences between Ajzen's Theory of Planned Behavior and Shapero's model of the entrepreneurial event as predictors of entrepreneurial intent.*

Min-Seok, Cha. (2010). The Entrepreneurial Journey: from entrepreneurial intent to opportunity realization. *Journal of High Technology Management Research*, 21, 31-42.

- *This is one of very few articles that attempt to analyze how nascent entrepreneurs go from intent to realization. This study looks at high tech ventures in Korea.*

Prabhu, Veena. (2012). Proactive personality and entrepreneurial intent. *International Journal of Entrepreneurial Behavior*, Vol. 18, No. 5, 559-586

- *The purpose of this study sought to determine whether or not proactive personality or entrepreneurial self-efficacy are antecedents to entrepreneurial intent. Subjects included university students from business schools in four different countries. Results show a positive relationship between both proactive personality and entrepreneurial self-efficacy to entrepreneurial intent.*

Thompson, Edmund R. (2009). Individual Entrepreneurial Intent: Construct Clarification and Development of an Internationally Reliable Metric. *Entrepreneurship Theory and Practice*, Vol. 33, Issue 3, pp. 669-694.

- *This paper examines the need to further develop an entrepreneurial intent construct in order to deliver more valid and reliable results through an internationally applicable individual entrepreneurial intent scale.*

Zhao, H. (2005). The Mediating Role of Self-Efficacy in the Development of Entrepreneurial Intentions. *Journal of Applied Psychology*, Vol. 90, No 6, 1265-1272

- *This study used 265 MBA students from 5 universities to test whether or not self-efficacy has a mediating role in developing entrepreneurial intentions. Results show that the effects of perceived learning from entrepreneurship education classes, previous entrepreneurship experience and a degree of risk-taking on entrepreneurial intentions are in fact mediated by entrepreneurial self-efficacy.*

Zhao, H. (2010). The Relationship of Personality to Entrepreneurial Intentions and Performance: A Meta-Analytic Review. *Journal of Management*, Vol. 36:2 pp 381-404.

- *Using the Five Factor model of personality, this study seeks to examine the relationship of personality to outcomes at two different stages of the entrepreneurial process: intentions and performance.*

Opportunity Recognition and Entrepreneurship

The concept of opportunity recognition refers to the capacity for an individual to recognize business or other types of opportunities that others might not see. The research in this section seeks to understand how entrepreneurs think and the antecedents to their capacity to see and

recognize business potential as a result of personality traits, contexts, prior knowledge and other factors. The finding from some of these articles that opportunity recognition is a malleable skill that can be trained is important for the development of entrepreneurship education programs and the focus on this “softer” skill.

Ardichvili, Alexander. (2003) A theory of entrepreneurial identification and development. *Journal of Business Venturing*: Volume 18, Issue 1, pp. 105-123.

- *This paper identifies personality traits, social networks, and prior knowledge as antecedents of entrepreneurial alertness to business opportunities.*

Baron, R.A. (2008). The Role of Affect In The Entrepreneurial Process. *Academy of Management Review*: Volume 22, No 3, pp 328-340

- *This paper seeks to develop a theoretical framework for understanding the potential role of affect in entrepreneurship, specifically opportunity recognition and resource acquisition.*

Baron, R.A. (2006) Opportunity Recognition as Pattern Recognition: How Entrepreneurs ‘Connect The Dots’ to Identify New Business Opportunities. *Academy of Management Perspectives*

- *Baron identifies three ways this perspective is helpful. First, it provides one framework combining three important factors: engaging in an active search, alertness to opportunities, and prior knowledge. Second, it helps explain why some people identify specific opportunities. Third, it suggests ways people can be trained to be better at identifying opportunities.*

Gaglio, Connie. (2004). The Role of Mental Simulations and Counterfactual Thinking in the Opportunity Identification Process. *Entrepreneurship Theory & Practice*, Vol. 28, No. 6, pp. 533-552.

- *This article examines the question of how entrepreneurs think and reason so that they can identify innovative opportunities. Specific attention is paid to cognitive processes and counterfactual thinking.*

Isenberg, Daniel. *Worthless, Impossible, Stupid: How Contrarian Entrepreneurs Create and Capture Extraordinary Value*. Harvard Business Review Press: Boston, 2013

- *This book follows the stories of different entrepreneurs and how they were able to see hidden value in situations where others did not.*

Munoz, Cristian. (2011). Developing Opportunity-Identification Capabilities in the Classroom: Visual Evidence for Changing Mental Frames. *Academy of Management Learning & Education*, Vol. 10, No. 2, pp. 277-295.

- *This article seeks to identify a connection between students’ capabilities to identify*

opportunities to a change in their learned opportunity-identification mental framework. While students could not necessarily verbally articulate this growth, changes were represented visually. A recommendation is made to alter entrepreneurship education courses in a way that changes how students perceive reality and interpret information in order to better identify business opportunities.

Youth & Entrepreneurship

This section contains articles that specifically address youth entrepreneurship. While some studies in other sections were conducted with youth with a specific focus, these articles are generally broader and cover a range of topics from personality to pedagogy.

Geldhof, G. J., Porter, T., Weiner, M. B, Malin, H., Bronk, K. C., Agans, J. P., Mueller, M., Damon, W., & Lerner, R. M. (2012). Fostering youth entrepreneurship: Preliminary findings from the Young Entrepreneurs Study. *Journal of Research in Adolescence*. Manuscript submitted for publication

- *Article suggests that self-regulation skills, innovation orientation, and entrepreneurial role models are key predictors of entrepreneurial success.*
- *Not yet published.*

Integral Assets Consulting. (2006) Youth Entrepreneurship: Theory, Practice and Field Development. Prepared for Kellogg Foundation.

- *This is a robust 60-page document that breaks down several aspects of youth entrepreneurship, including a specific look at entrepreneurship education in the k-12 space.*

Lerner, R. M., & Damon, W. (2012). Entrepreneurship in adolescence: A relational developmental systems approach. *International Journal of Developmental Science*, 6(3).

- *Using a relational developmental systems approach as a lens to examine what is currently known about the development of entrepreneurship during adolescence, this article presents an approach to understanding the mutually influential relations between youth and contexts that lead to the development of entrepreneurship capacities later in life.*
<http://iospress.metapress.com/content/t57701632515p432/>

Weiner, Michele, et al. (2012) The Young Entrepreneurship Study: Characteristics of Young Entrepreneurs. Tufts University

- *This poster uses cluster analysis to highlight characteristics that may mark the development of entrepreneurial proclivities in young people. The researchers explore whether entrepreneurial attributes are linked to characteristics of positive youth development*

Young Entrepreneurs Study, Stanford University (2012)

- *The results for this grant funded study are from 2011-2012. The Young Entrepreneurs Study (YES) is jointly run by Tufts University and Stanford University and is a longitudinal study of the development of entrepreneurial purpose, character attributes, and achievements among adolescents in the United States.*

Zhao, Yong. *World Class Learners: Educating Creative Entrepreneurial Students*. Corwin: London, 2012.

- *In this book, Zhao offers contradictory advice and evidence against the American education system's movement toward standardized tests scores and argues for more creativity in the classroom, which in turn helps create more entrepreneurial students.*

General Entrepreneurship Theory

These works are some of the leading texts in the theory of entrepreneurship. The articles here set forth arguments in favor of treating entrepreneurship as a topic that is worthy of academic research and ongoing study. This represents a small fraction of the literature in this area that is mostly related to the issues raised in the previous sections around the relationship between entrepreneurship and individual psychology.

Ajzen, Icek. (1991). *The Theory of Planned Behavior*. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

- This foundational work provides the context for many of the articles in this packet. The Theory of Planned Behavior is widely used among entrepreneurship researchers still, specifically as it relates to intentions.

Mitchell, Ronald and Dino, Richard. (2011) *In Search of Research Excellence: Exemplars in Entrepreneurship*. Northampton: Edward Elgar Publishing.

- *This book identifies the researchers the authors deem as leaders in the field of entrepreneurship research and gathers best practices about how to achieve excellence in entrepreneurship research. Identifies Entrepreneurship Theory and Practice, Journal of Management, Journal of Psychology and Journal of Business Ventures as top publications for entrepreneurship research*<http://online-library.ws/search/?query=In Search of Research Excellence: Exemplars in Entrepreneurship>

Shane, S., & Venkataraman, S. 2000. The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25: 217–226.

- *This is one of the foundational papers that started to shape the field of entrepreneurship research by giving it a contextual framework from which to begin the conversation.*

Shane, S. (2007), *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*, Edward Elgar, Aldershot,

- *This is a book that takes an exhaustive look at all phases of entrepreneurship, including opportunity recognition, people pursuing opportunities, skills and strategies used, and more. Shane is considered a leading expert in the field of entrepreneurship, so this book is a good source of information.*

Venkataraman, S., *The Distinctive Domain of Entrepreneurship Research* (1997).

- *This is Venkataraman's first paper on entrepreneurship as he seeks to define entrepreneurship and entrepreneurship research. While entrepreneurship research had been conducted before this, this paper is viewed by many as one that facilitated the growth of entrepreneurship as a field of research.*

<http://www.researchgate.net/publication/228316384> The Distinctive Domain of Entrepreneurship Research

Motivation & Entrepreneurship

These articles focus on the factors that motivate people to become entrepreneurs. They examine psychological as well as contextual factors as influencers on peoples' decisions to start businesses.

Raman, Kavitha. (2008). *Motivational Factors Affecting Entrepreneurial Decision*. *Communications of the IBIMA*, Vol. 2, 85-89

- *This is a study of 225 women entrepreneurs in Malaysia and it tries to identify motivational factors that could lead women to become entrepreneurs.*

Segal, Gerry. (2005). *The motivation to become an entrepreneur*. *International Journal of Entrepreneurial Behavior and Research*, Vol. 11, No 1, 42-57

- *This paper examines research on motivation within the field of entrepreneurship and psychology and then presents a new model of entrepreneurial motivation based on a study of 114 university students in the United States.*

Shane, S., Locke, E. A., & Collins, C.J. (2003). *Entrepreneurial motivation*. *Human Resource Management Review*, 13(2), 257-279.

- *This is a high-level paper that examines motivations previous research has suggested influences the entrepreneurial process. It also points out areas of weakness that have limited the predictive power of these previous studies.*