EXPLORING THE INFLUENCE OF TASK-SPECIFIC SELF-EFFICACY ON OPPORTUNITY RECOGNITION PERCEPTIONS AND BEHAVIORS

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ABSTRACT

This paper draws from social cognitive theory using the work of Chen et al. (1998), and Tierney and Farmer (2002) to empirically explore the impact of task-specific self-efficacy on opportunity recognition. The primary objective is to expand upon previous research by DeKoning (1999) and Ozgen (2003) exploring sociocognitive influences of opportunity recognition. Findings from the study indicate that entrepreneurial self-efficacy and creative self-efficacy have a positive relationship with opportunity recognition perceptions, and creative self-efficacy has a positive relationship with opportunity recognition behaviors. Creative self-efficacy was also found to be a more influential predictor of opportunity recognition perceptions and behaviors.

INTRODUCTION

A centralized theme in recent entrepreneurship literature has been the investigation of the opportunity. Notable entrepreneurship scholars argue that “opportunity” is the core essence of entrepreneurship, although previously overlooked by researchers (Davidsson, 2003; Shane 2000). Shane and Venkataraman (2000, p. 218) ignited a paradigm shift in entrepreneurship research by demarcating their definition of entrepreneurship as “the nexus of two phenomena: the presence of lucrative opportunities and the presence of enterprising individuals”. Shane and Venkataraman’s (2000) conceptual study thrust opportunity and the opportunity recognition process to the forefront of entrepreneurship research. Lumpkin, Hills and Shrader (2001, p. 5) define opportunity recognition as “perceiving a possibility to create new businesses, or significantly improving the position of an existing business” which results in new profit potential.

Despite the large stream of contributions made by entrepreneurship researchers, opportunity recognition has been characterized as being fragmented, with disparate, kaleidoscopic models (Davidsson, 2004; Park, 2005). In fact, the field of entrepreneurship is often characterized as lacking an organizing framework and at times, atheoretical. Over the past ten years, entrepreneurship researchers employed diverse theoretical approaches to advance our knowledge of opportunity recognition which include information flow, learning, cognitive, sociocognitive, and social networks (see Baron & Ensley, 2006; Corbett, 2002; DeKoning, 1999; Ozgen, 2003; Singh, 2000). While each theoretical framework has merit and diverging themes are common, very few scholars engage in further development of existing theoretical approaches.

Some researchers purport that promising areas for contributions to opportunity recognition research are studies utilizing social cognitive theory (Krueger, 2003; Markman & Baron, 2003; Shaver, 2003). Yet, there is surprisingly little extant empirical research exploring sociocognitive influences on opportunity recognition. Social cognitive theory stems from social psychology and posits that individuals have an ability to influence their own motivation and action through the interaction of cognitive, emotional and other personal and environmental factors. The current research seeks to expand on existing cognitive approaches to opportunity recognition. Prominent studies explore self-efficacy’s influence on new venture creation processes, such as
entrepreneurial intentions and opportunity recognition (e.g. Boyd & Vozikis, 1994; DeKoning, 1999; Ozgen, 2003). This research applies similar logic through the lens of task-specific self-efficacy.

Bandura (1986) posited that individuals can believe that taking a course of action can produce an outcome, but may not act because they question whether or not they can actually execute what is required. This is critical for entrepreneurs who may dwell on personal deficiencies thereby limiting their cognitive growth. Research has shown that self-efficacy is task-specific (Bandura, 1986) and despite the fact that two tasks may be highly similar, self-efficacy on one task may not necessarily influence efficacy on the other (Krueger, 2003). In fact, Krueger (2003) suggests that there is a need to assess the relative impact between task-specific and general measures and changes in self-efficacy within deeper cognitive structures and levels of expertise for constructs such as opportunity recognition. Simply put, there is an inherent need to better understand the role of task-specific self-efficacy variables on opportunity recognition. To address this gap, the research proposes the following research question: based upon Bandura’s social cognitive theory’s conceptualization of self-efficacy, is there a relationship between task-specific self-efficacy factors and opportunity recognition perceptions and behaviors? As a secondary objective, the research also seeks to explore differences in the explanatory power of the proposed sociocognitive model as compared to previous cognitive models.

The research draws from the work of Bandura (1986), Chen et al. (1998), and Tierney and Farmer (2002) to empirically explore the impact of task-specific self-efficacy on opportunity recognition. The paper proceeds with an overview of self-efficacy and its sources, followed by a discussion of task-specific self-efficacy. The variables of interest (e.g. entrepreneurial and creative self-efficacy) are then introduced for hypotheses development. Subsequently, research methodology and results are presented, and the paper concludes with major findings and implications of the study.

SELF-EFFICACY AND ITS SOURCES

Bandura’s (1986) work centers around the concept of self-referent thought. Bandura’s primary contention is that the discrepancy between knowing what to do and acting upon that knowledge is controlled by self-referent thought processes, where the most influential self-referent thought is self-efficacy. Self-efficacy refers to an individual’s belief in their ability to accomplish a goal or outcome (Bandura, 1997). Bandura’s (1997) theory of self-efficacy essentially suggests that what people believe about their abilities will influence what they do and how they try to do it. This is particularly important in the case of entrepreneurs and entrepreneurship considering that entrepreneurial intentions and pursuits may be influenced by personal, contextual and cognitive factors such as self-efficacy (Boyd & Vozikis, 1994; Sequeira, 2004).
Self-efficacy is a powerful belief structure that can influence human decision-making and sense of competence. Perceived self-efficacy has long been a predictor of performance and action, with Bandura’s (1997) definition of self-efficacy being one’s belief in their ability to accomplish a goal. Self-efficacy reflects the power of an individual’s belief and perceptions of their capabilities on execution of tasks, such as starting a business or recognizing a business opportunity. Entrepreneurship researchers denote self-efficacy’s importance and the role it plays in uncovering the essential skills needed at the beginning of and throughout the entrepreneurial process (Ardichvili et al., 2003; Ozgen, 2003). Self-efficacy is also stated to be highly correlated with intentions to start a new venture and explore new opportunities (Boyd & Vozikis, 1994).

Bandura (1986) lists four sources of information from which individuals can derive self-efficacy: the first is enactive attainment which is based on mastery experiences where repeated successes raise efficacy levels and repeated failures lower them. The strong sense of self-efficacy developed through repeated successes can then be generalized to other situations across a wide range of activities. The second source of efficacy is vicarious experience where seeing or visualizing similar others succeed can raise the self-perception of observers so that they too can master similar activities. The third source of self-efficacy is verbal persuasion where people are persuaded verbally that they possess the capabilities to master certain tasks. This technique is used frequently in the teacher-student setting. The fourth source of self-efficacy is physiological state where people become aroused through a fear of inadequacy. This causes visceral reactions that generate further fear which can either lessen or heighten perceived self-efficacy.

According to Acs and Audretsch (2003), in the entrepreneurial domain, self-efficacy replaces the perceived behavioral control that is a component of Azjen’s (1991) theory of planned behavior. Behavior can sometimes be disjoined from actual capability. This is evident in Bandura’s (1997) postulation that "people's level of motivation, affective states, and actions are based more on what they believe than on what is objectively true" (p. 2). Self-efficacy helps explain why some people, who are considered to be extremely talented, are often surpassed (in terms of success) by less talented individuals having higher levels of self-efficacy. Taken together, the source that is most likely to influence the variables of interest to this study is that of enactive attainment through mastery experiences. In the entrepreneurial domain, past successes involving the creation of innovative products or the completion of challenging entrepreneurial tasks can motivate entrepreneurs thereby increasing their confidence and self-beliefs. In an effort to better assess this phenomenon, I examine task-specific self-efficacy factors that previous entrepreneurship literature suggests may be causally linked to opportunity recognition (Ardichvili et al., 2003, Ozgen, 2003).

**TASK-SPECIFIC SELF-EFFICACY AND OPPORTUNITY RECOGNITION**

Self-efficacy theory is important to the study of opportunity recognition because it suggests that acquiring skills is simply not enough to change how individuals’ think, but believing in those skills (perceived efficacy versus actual efficacy) is actually what can make the difference (Krueger, 2003). This implies that self-efficacy may effectively distinguish between who will be proficient at recognizing opportunities and who will not. Knowledge of self allows entrepreneurs to know their capabilities related to various tasks, one of which may be the ability to recognize opportunities. Opportunity recognition is an independent, iterative, nonlinear, complex process which is significantly influenced by self-efficacy (Ozgen, 2003). The present study aims to determine if this same assertion can be made for task-specific self-efficacy.
Task-specific self-efficacy is prevalent in both organizational (e.g. job self-efficacy, occupational self-efficacy, group self-efficacy) and entrepreneurship (e.g. entrepreneurial self-efficacy) literature. Researchers purport that task-specific self-efficacy is a better predictor of task performance and behavior than generalized self-efficacy (Scholz, Dona, Sud, & Schwarzer, 2002; Smith, Kass, Rotunda & Schneider, 2006). Previous studies found that task-specific and generalized self-efficacy are highly correlated (Chen, Gully, Whiteman, & Kilcullen, 2000; Scholz et al., 2002). However, Bandura (1997) has argued that task-specific self-efficacy is more useful in predicting performance. Research by Scholz et al. (2002) supports this assertion, finding that task-specific self-efficacy is important for helping individuals rebound from specific failures and avoiding performance deficits in the future. Moreover, the creation of a task-specific self-efficacy model of opportunity recognition provides a natural new direction in social cognitive perspective of opportunity recognition.

Of particular interest to this research are entrepreneurial self-efficacy (Chen et al., 1998) and the more recently conceptualized creative self-efficacy (Tierney & Farmer, 2002). The variables were chosen because of their established theoretical and empirical importance to entrepreneurship. For example, creativity has historical precedence for influencing both entrepreneurship (Bonafous-Boucher & Radu, 2006; Schumpeter, 1934) and opportunity recognition (Lumpkin et al., 2001), but its sociocognitive successor, creative self-efficacy has yet to attain such accolades. More importantly, use of these two predictors may facilitate stronger empirical linkage of social cognitive theory to opportunity recognition behaviors and perceptions. Similarly, entrepreneurship researchers continue to provide empirical findings supporting the influence of entrepreneurial self-efficacy on entrepreneurial intentions and new venture creation (Chen et al., 1998; DeNoble, Jung, & Ehrlich, 1999; Sequeira, 2004). Along the continuum of new venture creation, opportunity recognition must occur. To commence model development, a conceptual discussion is advanced detailing relationships between entrepreneurial self-efficacy, creative self-efficacy and opportunity recognition.

Entrepreneurial Self-Efficacy: Relationship to Opportunity Recognition

Since its introduction to literature, entrepreneurial self-efficacy has played a prominent role in studies relating to entrepreneurial intentions, interest and new venture formation (Bird, 1988; Boyd & Vozikis, 1994; Chen et al., 1998; Sequeira, 2004). Entrepreneurial self-efficacy refers to a person’s belief that he or she can successfully perform the various roles and tasks of entrepreneurship (Chen et al., 1998). The concept itself has evolved over the past twenty years into the present definitional status it enjoys today. Perhaps the most cited works concerning entrepreneurial self-efficacy are seminal conceptual papers by Bird (1988) and Boyd and Vozikis (1994).

Bird’s (1988) model is built upon cognitive psychology and attempts to provide linkages of an individual’s beliefs and their subsequent behavior. Using Fishbein and Azjen’s (1975) framework linking beliefs and attitudes to intentions and behavior, Bird (1988) develops an Entrepreneurial Intentionality model using personal (e.g. prior experience as an entrepreneur, personality characteristics, abilities) and contextual factors (e.g. social, political factors of displacement, changes in markets, government deregulation) that separately influence rational analytic and intuitive holistic thinking which together structures intentionality.

In an extension to the contribution by Bird (1988), Boyd and Vozikis (1994) noting the need to modify Bird’s original model, incorporate aspects of social psychology to the framework adding dimensions of perceived behavioral control as posited in Azjen’s (1988) theory of planned
behavior and beliefs. To achieve this they proposed adding the social cognitive variable of self-efficacy to add insight into the cognitive process by which entrepreneurial intentions are enacted. The authors suggest that individuals, through enactive mastery or repeated performance accomplishments, can strengthen their self-efficacy, particularly for task-specific constructs such as entrepreneurial self-efficacy. In Boyd and Vozikis’ (1994) model, self-efficacy, along with attitudes and perceptions are stated to be outcomes of the thought processes, which then impact intentions, leading to entrepreneurial action and behavior.

Boyd and Vozikis (1994, p. 70) then allude to the salience of this process to opportunity stating that “…a person will only initiate entrepreneurial actions when self-efficacy is high in relation to the perceived requirements of a specific opportunity.” Interestingly, while researchers contend that entrepreneurial self-efficacy is an important antecedent of opportunity recognition (DeKoning, 1999; Park, 2005), scant empirical research exists assessing its impact on opportunity recognition. It is well established in the literature that opportunity recognition occurs prior to and post-firm founding (Lumpkin et al., 2001). However, much of the extant work examining entrepreneurial self-efficacy and its possible influence on opportunity recognition is conceptual in nature (Park, 2005). Research by Ozgen (2003) shows empirical evidence concerning the linkage between self-efficacy and opportunity recognition where a positive relationship was found.

A study by Chen et al. (1998) showed that beliefs in entrepreneurial competence can distinguish entrepreneurs from managers, as well as students with entrepreneurial intentions. In creating their construct for entrepreneurial self-efficacy, the authors argued that those high in self-efficacy will have a greater probability of exploiting opportunities because such activities demand confidence in one’s ability to successfully execute a venture opportunity (Chen et al., 1998). Chen and colleagues (1998) developed a 22-item instrument of self-efficacy measuring key dimensions of entrepreneurial competency. The primary factors measured are marketing (e.g. ability to set marketing goals and expand business), innovation (e.g. new venturing and new ideas), management (e.g. planning, reducing risk and uncertainty), risk-taking (e.g. making decisions under uncertainty and risk), and financial control (e.g. ability to develop financial system and internal control).

Entrepreneurship researchers suggest that the instrument created by Chen et al. (1998) is psychometrically sound and demonstrates considerable validity (Krueger, 2003). Finally, in an interesting conceptual paper on thought leadership, self-efficacy and performance, Neck, Neck, Manz and Godwin (1999) proposed that utilizing certain cognitive strategies such as thought self-leadership (e.g. influencing oneself to establish self-direction and motivation needed to perform) is related to an entrepreneur’s opportunity perceptions, self-efficacy perceptions and behavior. This discussion yields ample support for the viability of entrepreneurial self-efficacy as a determinant of opportunity recognition. Thus, it is posited:

\[ H_{1a}: \text{Entrepreneurial self-efficacy will be positively related to opportunity recognition perceptions.} \]

\[ H_{1b}: \text{Entrepreneurial self-efficacy will be positively related to opportunity recognition behaviors.} \]

**Creative Self-Efficacy: Relationship to Opportunity Recognition**

Creative self-efficacy measures an individual’s confidence in their ability to achieve creative outcomes (Tierney & Farmer, 2002). Since creative self-efficacy is derived from creativity,
assessing creativity’s importance and linkage to opportunity recognition provides an appropriate starting point for the discussion. Creativity involves both thought and action (Bonnafous-Boucher & Radu, 2006). It is a salient sociocognitive variable frequently used in organizational (Amabile, 1988; Tierney & Farmer, 2002) and entrepreneurship literature (Bonnafous-Boucher & Radu, 2006; Lumpkin et al., 2001; Ucbasaran & Westhead, 2002; Wu, McMullen, Neubert & Yi, in press). Furthermore, creativity is purported to be a key success factor for venture startup (Amabile, 1997). Bandura (1986) stated that “creativity constitutes one of the higher forms of human expression” (p. 104). In his discussion of self-efficacy, Bandura posits that creative development is fueled by modeling which provides the cognitive and behavioral tools for innovation. Creativity is subsequently achieved through observational learning and modeling innovative others. Bonnafous-Boucher and Radu (2006) refer to creativity as the production of new ideas by an individual. In an early work, Shackel (1982) purported that opportunity recognition is a function of variation in people’s creativity or imagination.

Creativity is often cited as important to the opportunity recognition and identification processes (Bonnafous-Boucher & Radu, 2006; Hills et al., 1997; Lumpkin et al., 2001). Ray and Cardozo (1996) provided a definition of entrepreneurial creativity as “an ability to rapidly recognize the associations between problems and their purported solutions by identification of non-obvious associations and/or by reshaping or reforming available resources in a non-obvious way” (p. 12). Long and McMullan (1984) also point out that opportunity identification has been linked to creative thinking. Creativity and innovation are also stated to be central to the success of new ventures and in recognizing opportunities (Hills et al., 1997; Lumpkin et al., 2001). In order to recognize opportunities, entrepreneurs must proceed through a creative process that facilitates the creation of new products and processes that disrupt markets (Schumpeter, 1934; Park, 2005).

Tierney and Farmer’s (2002) work integrated the creativity research of Amabile (1988) and Bandura’s (1997) self-efficacy to build their creative self-efficacy construct. In their study of 584 manufacturing employees and 158 operations employees in a high-tech firm, Tierney and Farmer (2002) used confirmatory factor analysis and hierarchical regression and concluded that creative self-efficacy increases the creative performance and job self-efficacy of employees in organizations. Farmer, Tierney, and Kung-McIntyre (2003) considered creativity to be an antecedent of innovation, which according to Drucker (1985) represents an opportunity. To provide further support, Bonnafous-Boucher and Radu (2006) found creativity to be a positive influence on opportunity and new venture creation. Given the rated importance of creativity in the opportunity recognition process (Long & McMullan, 1984; Lumpkin et al., 2001) as well as recent findings of the positive influence of self-efficacy (Ozgen, 2003) on opportunity recognition, it can be conjectured that creative self-efficacy may have a positive influence on opportunity recognition perceptions and behaviors. In summarizing, there is general agreement within entrepreneurship literature touting creativity and self-efficacy as necessary prerequisites for opportunity recognition to occur (Lumpkin et al., 2001). Accordingly, it is argued that:

**Hypothesis 2a:** Creative self-efficacy will be positively related to opportunity recognition perceptions.

**Hypothesis 2b:** Creative self-efficacy will be positively related to opportunity recognition behaviors.

Figure 1 shows the proposed model of task-specific self-efficacy and opportunity recognition. Self-efficacy itself is excluded from the model to avoid potential multicollinearity between self-efficacy and task-specific efficacy variables.
METHOD

Sample and Data Collection

To test the study hypotheses, an online survey was distributed to a sample of 1321 entrepreneur members of three entrepreneurial support organizations located in the South Central region of the U.S. Data collection occurred between September 2008 and January 2009. Final sample size consisted of 232 entrepreneurs representing a usable response rate of 17.56%. Content and face validity of the survey was established a priori by allowing several entrepreneurial experts and academics to pretest and review the survey. No major issues were identified; however, several questions were rephrased based upon suggestions from entrepreneurs and experts.

Measures and Construct Validation

Dependent Variables. The outcome variables used in the study were opportunity recognition behaviors (OPPB) and opportunity recognition perceptions (OPPR). The scale for OPPB was adapted from Singh (2000) and consists of a five-item scale with ratings proceeding from ‘0’ – ‘7’, ‘8-10’, or ‘11+’ opportunities recognized or pursued in the last year. Items were coded as follows to facilitate data analysis: selections for ‘0’ – ‘7’ were coded as is while selections for ‘8-10’ coded as ‘8,’ and ‘11+’ coded as ‘11’. The scale was summated using the mean score. Following a procedure similar to Singh (2000), logarithmic transformation was performed to achieve normality and obtain proper scaling for analysis. Example questions include “Last year, how many potential new venture opportunities did you recognize?” and “Last year, how many new venture opportunities did you pursue?”

OPPR is a ten-item scale adapted from Ucbasaran & Westhead (2002) which measures an entrepreneur’s belief in his or her ability to perceive or be alert to business opportunities. The 7-point Likert scale ranged from 1 (Very Strongly Disagree) to 7 (Very Strongly Agree). Sample questions include “I have a special alertness or sensitivity toward opportunities.” and “I consider myself to be opportunistic”.

Independent Variables. Entrepreneurial Self-Efficacy (ESE) is a 22-item scale adapted from Chen et al. (1998) consisting of five components related to entrepreneurial competency including marketing, innovation, financial control, risk-taking and management. The scale is measured with a five-point Likert scale ranging from 1 (Completely Unsure) to 5 (Completely Sure). Creative self-efficacy (CSE) is a three-item scale adapted from Tierney and Farmer (2002) measured with a seven-point Likert scale range from 1 (Very Strongly Disagree) to 7 (Very Strongly Agree).

Control Variables. Control variables used in the study included: age, race, gender, education, years of business experience, firm age and company revenue. These variables were chosen based upon their use in previous opportunity recognition studies and potential for impacting study results (see Ozgen, 2003; Singh, 2000).

To assess the initial factor structure on the constructs, the researcher conducted exploratory factor analysis (EFA) using principal component analysis with varimax rotation on a pilot sample of entrepreneurs. An eight-factor solution emerged, consistent with previous research, whereby two variables (e.g. CSE, OPPR) were shown to be unidimensional, and two variables (e.g. ESE, OPPB) were multidimensional (see Chen et al., 1998; Ucbasaran & Wright, 2002). Five factors, marketing, innovation, financial control, risk-taking and management comprised ESE, and two factors, alertness and developmental comprised OPPR. Since the alertness dimension represents
opportunity recognition perceptions and advances research objectives, indicators relating to the developmental dimension were removed. The intent of the research is to use unidimensional constructs, therefore, a final rotation using generalized least squares (GLS) and varimax rotation provided a four factor solution. Reliability coefficients for constructs exceeded recommended levels for CSE and ESE ($\alpha = .79; \alpha = .90$), and OPPB and OPPR ($\alpha = .85; \alpha = .76$). Measure of sampling adequacy (MSA) was at an appropriate level of .676.

Following the EFA, confirmatory factor analysis (CFA) was conducted to verify the factor structure and dimensionality of constructs. The assessment began with 25 indicators, and upon conclusion of the CFA, 17 indicators remained on four constructs. Results indicated the four factors fit the model well ($\chi^2 = 168.360, p = .000, \text{df}=111$, goodness-of-fit index, GFI=.922, comparative fit index, CFI=.965, root-mean-square error of approximation, RMSEA=.047). No issues were found relating to cross-loadings indicating discriminant validity was achieved. Convergent validity may be demonstrated by indicator items loading strongly on a factor (e.g. >.50). Standardized loading estimates exceeded the .50 threshold and converged onto their respective factors. Another indicator of convergence is the variance extracted (VE). A VE of .5 or higher suggests adequate convergence (Hair, Black, Babin, Anderson, & Tatham, 2006). All study variables met this requirement for convergence. Construct reliability (CR) for each latent variable were acceptable (recommended values $\geq .70$): CSE ($CR = .80$), ESE ($CR = .91$), OPPR ($CR = .79$) and OPPB ($CR = .79$).

Procedures

A correlation analysis measured the relative strength of associations between variables. Hierarchical regression analysis was then performed to empirically assess the hypothesized relationships. Two models were tested for each outcome variable. The base model contained control variables, and the augmented model contained control variables plus independent variables. As a final step, the relative strength of the independent variables on dependent variables are reviewed followed by an examination of the explanatory power of the model.

RESULTS

Sample Characteristics

Study participants were diverse in terms of gender, racioethnicity, industry and experience. The sample consisted of 62% males and 36% females. The largest groups represented in the sample included Black/African-Americans (63%), Latino/Hispanic (22%), South Asian (5%) and Asian (4%). The mean age of entrepreneurs was 48.26 years (s.d.=9.97) and mean firm age was 9.89 years (s.d =9.22). On average, entrepreneurs in the study reported having 12.64 (s.d.=8.99) years of experience in their business industry prior to starting their ventures. The majority of entrepreneurs in the study were married (e.g. 71%), operated their businesses full-time (e.g. 92%), were college-educated, and primarily located in the southcentral (e.g. 52%), southwestern (e.g. 29%) and southeastern (e.g. 9%) regions of the country. Given that company revenue was ranked from 1 (less than $100,000) to 8 ($100,000,000 or more), entrepreneurs’ average annual revenues fell in the range of $500,000 - $9,999,999 ($M=3.63, \text{s.d. } = 2.25$). Approximately 25% of entrepreneurs reported revenues of $1,000,000 - $9,999,999 and 27% reported revenues of less than $100,000.
Correlation Analysis

Prior to performing hierarchical regression, the researcher sought to determine whether study variables were correlated. Correlation analysis indicated that predictors ESE and CSE were positively correlated (r = .357, p < .01) with one another and the criterion variables OPPR and OPPB. CSE in particular is strongly correlated with OPPR (r = .641, p < .01). Table 1 displays descriptive statistics, correlations and scale reliabilities.

Hierarchical Regression Analysis

Table 2 presents the results of the hierarchical regression analysis for OPPR. Results show that the base model (e.g. Model 1) was significant (R² = .086; F(7,195) = 2.519, p = .017), where significant control variables included gender (B = -.131, p < .10), age (B = -.229, p < .01), and company revenue (B = .149, p < .05). With the addition of CSE and ESE predictors, the augmented model (e.g. Model 2) indicated a good model fit (R² = .455; F(10,195) = 15.457; p = .000) with a statistically significant improvement over Model 1 (Model 2: ΔR² = .426, p = .000). These findings demonstrate that control variables, CSE and ESE cumulatively explained 42.6% of the variance in OPPR, representing a 36.9% increase in R².

Furthermore, in Model 2, CSE (B = .568, p < .001) and ESE (B = .132, p < .05) were significant predictors. Hypothesis 1a stated that entrepreneurial self-efficacy will be positively related to opportunity recognition perceptions, and Hypothesis 2a stated creative self-efficacy will be positively related to opportunity recognition perceptions. The coefficient for ESE (B = .132) was found to be positive and significant providing support for hypothesis 1a. Similarly, the coefficient for CSE (B = .568) was positive and significant in support of hypothesis 2a.

Table 3 presents the results of the hierarchical regression analysis for OPPB. Results show that the base model (e.g. Model 1) was not significant (R² = .047; F(7,195) = 1.316, p = .243) which included only control variables. The addition of CSE and ESE predictors in the augmented model (e.g. Model 2) indicated a good model fit (R² = .098; F(10,195) = 2.002; p = .035) with a statistically significant improvement over Model 1 (Model 2: ΔR² = .049, p = .017). These findings demonstrate that control variables, CSE and ESE cumulatively explain 9.8% of the variance in OPPB, representing a 5.1% increase in R².

Additionally, in Model 2, years of business experience (B = .141, p < .10), race (B = -.121, p < .10), and CSE (B = .183, p < .05) were significant predictors. Hypothesis 1b stated that entrepreneurial self-efficacy will be positively related to opportunity recognition behaviors, and Hypothesis 2b stated creative self-efficacy will be positively related to opportunity recognition behaviors. The coefficient for CSE (B = .183) was found to be positive and significant providing support for hypothesis 2b. In contrast, the coefficient for ESE (B = .074, p = .352) was not significant. Hence, hypothesis 1b was not supported by the model. To summarize, empirical results found support for Hypotheses 1a, 2a, and 2b, while hypothesis 1b was not supported.

DISCUSSION AND CONCLUSION

The exploratory study yielded interesting results likely to spark new research conversations concerning sociocognitive theory, self-efficacy and opportunity recognition. In regards to task-specific self-efficacy, three conclusions can be made. First, results supported the existence of significant, positive relationships between ESE and OPPR, and CSE and OPPR. Second, a
significant, positive relationship was also found to exist between CSE and OPPB. Third, task-specific self-efficacy variables (in this case CSE and ESE) indeed positively influence opportunity recognition. These findings provide empirical support for the salience of sociocognitive theory, and specifically task-specific self-efficacy as a useful framework for predicting opportunity recognition. More importantly, findings indicate that CSE exhibits relatively more influence on opportunity recognition than ESE.

Standardized coefficients for CSE in each model demonstrate the variable’s relative strength in impacting outcome variables. CSE was shown to be more influential than ESE. This finding is consistent with previous research assertions that creativity is essential to the opportunity recognition process (see Lumpkin et al., 2001). The study also suggests that higher levels of entrepreneurial self-efficacy can help influence or increase an entrepreneur’s OPPR. Essentially, the more confident entrepreneurs are in their ability to perform the tasks relating to entrepreneurship and be creative, the more likely they are perceive confidence in their ability to recognize and pursue business opportunities. In revisiting the study’s primary research question, it can be concluded that using Bandura’s conceptualization of task-specific self-efficacy, significant positive relationships exist between ESE and CSE, and OPPR and OPPB.

Much debate exists over which cognitive theories provide greater explanatory power in the context of opportunity recognition. The research demonstrates that the proposed framework’s explanatory power meets or exceeds the explanatory power of cognitive models presented in previous research. The $\Delta R^2$ for OPPR and OPPB were .426 and .049 respectively. These results can be compared to those in studies by Corbett (2002) with an $\Delta R^2$ of .031, and Ozgen (2003) with an $\Delta R^2$ of .328 who also use cognitive approaches.

This study makes a first attempt to empirically assess relationships between task-specific efficacy variables and opportunity recognition. Preliminary results show that there is merit in the chosen conceptual model and relationships. The proposed study is important to entrepreneurship literature in multiple ways. First, it utilizes what is considered to be a key contributor of opportunity recognition (e.g. self-efficacy) to build a sociocognitive model of opportunity recognition using the constructs of creative and entrepreneurial self-efficacy, variables whose influence on the opportunity recognition is unknown. Second, the study builds on the foundations laid by DeKoning (1999) and later by Ozgen (2003) in their exploration of social cognitive theory’s impact on opportunity recognition. Future researchers should consider incorporating new and existing sociocognitive variables (e.g. risk perceptions) into the model to facilitate development of a comprehensive sociocognitive model of opportunity recognition. Development of a more comprehensive model may yield better explanatory power than other unitheoretical or integrative approaches to opportunity recognition.

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REFERENCES


Figure 1: Task-Specific Self-Efficacy Effects on Opportunity Recognition Perceptions and Behaviors

Table 1: Descriptive Statistics and Correlations among Variables

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Note. N=232, diagonal for variables in parentheses show reliability coefficients.
*p<.05, **p<.01
Table 2: Results of Hierarchical Regression Analyses for Opportunity Recognition Perceptions

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F (model)  2.52*  15.46***
R²   .086  .455
∆R² (adjusted R²)   .426

Note. Standardized regression coefficients are displayed in the Table.
N = 232; † p < .10. * p < .05. ** p < .01, *** p < .001.

Table 3: Results of Hierarchical Regression Analyses for Opportunity Recognition Behaviors

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</tbody>
</table>

F (model)  1.316  2.002*
R²   .047  .098
∆R² (adjusted R²)   .049

Note. Standardized regression coefficients are displayed in the Table.
N = 232; † p < .10. * p < .05. ** p < .01, *** p < .001.