ENTREPRENEURS AND SALES REPRESENTATIVES IN THE UNITED STATES AND GERMANY: DO THEY HAVE AN OVERLAPPING SET OF PERSONAL CHARACTERISTICS, SKILLS, AND ABILITIES?

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This study compares a number of personal dimensions that have been identified in the existing literature as characteristic of both entrepreneurs and sales representatives. A total of 257 subjects consisting of 156 entrepreneurs and 101 sales representatives in Germany and the United States completed a survey consisting of previously published instruments addressing targeted dimensions that include the Big-Five personality factors, emotional intelligence, risk propensity, conceptual ability, and innovativeness. The survey results suggested that entrepreneurs and sales representatives in both countries do differ with respect to personality characteristics, skills, and abilities; although not all differentiating characteristics were the same in both countries.

Key Words: entrepreneurship, sales representatives, personal characteristics

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INTRODUCTION

All around the globe, there are people with visions of executing innovative ideas, of opening their own businesses, and of operating those businesses successfully in the long term. Turning such visions into reality requires a host of personal characteristics, skills, and abilities.

One of the skills that entrepreneurs find helpful is the capability to sell an idea to potential partners and investors (i.e., to convince them to invest their capital or time and expertise). Eventually, entrepreneurs will need to sell their product or service in the marketplace. One might thus expect to see a number of shared characteristics, skills, and abilities across entrepreneurs and professional field sales representatives. Examples of such characteristics include such things as risk taking propensity, innovativeness, conceptual ability, emotional intelligence, and the “Big 5” personality factors: extraversion, conscientiousness, openness, emotional stability, and agreeableness. When reviewing the research literature, it might seem that entrepreneurs and sales representatives have these attributes in common. However, to identify the characteristics, skills, and abilities of entrepreneurs and sales representatives, researchers primarily have used “non-sales representatives” as a comparison group with sales representatives, and “non-entrepreneurs” as a comparison group with entrepreneurs. To our knowledge, there are no studies that examine similarities and differences across samples of entrepreneurs and sales representatives, thus leaving the question open as to whether or not these two groups have largely overlapping characteristics and skill sets. The purpose of this study is to address this perceived gap in the literature by comparing directly these two groups and determining whether the two groups have the targeted set of dimensions in common, as well as examining whether or not the findings are similar across two different national cultures.

ENTREPRENEURS

Entrepreneurs, who innovatively develop new products and services, explore new markets, improve technology, and generate new jobs; play a significant role in growing economies and even in helping economies to move out of recessions. (U.S. Small Business Administration, 2009). Thus, research related to entrepreneurial endeavors is common. In the international literature, however, few studies describe the personal characteristics of entrepreneurs (Brockhaus, 1980; Buttner & Gryskevicz, 1993; Carland et al., 1984; Carland & Carland, 1991; Cross & Travaglione, 2003; D’Intino et al, 2007; Herbig et al., 1994; Hull et al., 1980; Hyrsky & Tuunanen, 1999; Littunen, 2000; Masters & Meier, 1988; Winslow & Solomon, 1993Zhao & Seibert, 2006).

Our work with entrepreneurs highlights their need to sell their visions, concepts and products. Without suitable personality traits and selling ability, long-time survival may be difficult. Entrepreneurs need to know how to present their
innovative ideas and visions to potential investors in a way that induces capital investment; to potential clients in a way that leads to successful relationships and loyalty; and even to potential employees in a way that attracts the best people with whom to work.

SALES REPRESENTATIVES

There are two kinds of marketing communications between businesses and their customers. The first is one-way communication that includes advertising and sales promotion. The second is two-way interaction between clients and sales representatives, especially in business-to-business markets (Gillis et al., 1998). In order to have successful interactions with customers, salespersons’ roles are to identify customer needs and to provide the product/service that best fulfills those needs.

Much research has been done regarding personality predictors of sales performance (Barrick et al., 2002; Barrick & Mount, 1991; Furnham & Fudge, 2008; Lamont & Lundstrom, 1977; Reday et al., 2008; Rich & Smith, 2000; Verbeke, 1993; Widmier, 2002). The work done by Reday et al. (2008) indicated that the role of the modern salesperson has remained largely unchanged given their traditional role of identifying and analyzing needs, and of producing solutions for customers. However, the salesperson’s environment is both technologically-dependent and constantly changing. Therefore, in order to become a successful salesperson one needs to have not only traditional selling skills, but also technology-based skills that foster innovativeness, accountability and the ability to work with different cultures, regions and races (Reday et al., 2008). In addition, research by Baldauf and Cravens (1999) has suggested that drivers of sales representatives’ performances tend to be similar across different cultures, which would include what House et al. (2004) have labeled “Anglo” cultures (e.g., United States) and “Germanic European” cultures (e.g., Germany).

BIG FIVE PERSONALITY DIMENSIONS

The “Big Five” personality dimensions can be seen as a construct of personality that was derived from analyses of natural language terms that people used to describe themselves and others. This model consists of five broadly different personality dimensions with each dimension representing and summarizing specific personality trait groupings (Oliver & Sanjay, 1999). The “Big Five” dimensions include conscientiousness, openness to experience, extraversion, agreeableness, and emotional stability. Those dimensions are relatively independent of cognitive ability (McCrae & Costa, 1987), and unlike emotional intelligence (EI), which can be learned (Goleman, 1998), personality characteristics remain fairly stable over time (D’Intino et al., 2007). As will be described below, several recent studies investigated the relationship between personality traits and sales performance, as well as the relationship between personality and entrepreneurial status.
Conscientiousness

According to McCrae and Costa (1987) a conscientious individual is characterized by the following descriptors: organized, hard-working, business-like, self-reliant, ambitious, and persevering. Conscientiousness has been found to have not only a strong positive relationship with sales performance (Adler, 1994; Barrick et al., 2002; Barrick & Mount, 1991; Furnham & Fudge, 2008; Yilmaz & Hunt, 2001), but also to be a strong, consistent, and valid predictor of job performance across all studied occupational groups (Barrick & Mount, 1991). Zhao and Seibert (2006) showed in their study that entrepreneurs scored significantly higher than managers on conscientiousness. They also noted in their research that the two primary facets of conscientiousness are achievement motivation and dependability, and demonstrated that entrepreneurs scored significantly higher on achievement motivation than managers. The two groups, however, had the same level of dependability. Based on this evidence, we hypothesize that there is no significant difference with regard to levels of conscientiousness between sales representatives and entrepreneurs. This is due to each of their occupations occurring in self-oriented environments which demand persistence and hard work.

Hypothesis 1: In both country samples, entrepreneurs and sales representative will have the same level of conscientiousness.

Openness to Experience

According to McCrae and Costa (1987), people who are high in openness to experience (openness) typically are curious, imaginative, excitable, artistic, being unconventional, and have wide interests. The meta-analysis of Barrick and Mount (1991) did not find any significant relationship between openness and sales performance. However, a later study by Furnham and Fudge (2008) found this dimension, along with conscientiousness, to be positively correlated with sales performance. Yilmaz and Hunt (2001) and Adler (1994) also found openness to experience to be related to success in sales representatives.

In Zhao and Seibert’s (2006) study, entrepreneurs scored significantly higher than managers on openness to experience. Entrepreneurs are creative, innovative, explore new ideas and solve existing problems, whereas managers often follow existing policies and procedures in their organization. Based on these studies, we hypothesize that entrepreneurs will score significantly higher than sales representatives on openness to experience.

Hypothesis 2: In both country samples, entrepreneurs will have a higher level of openness to experience than will sales representatives.
Extraversion

According to McCrae and Costa (1987), extraverted people are energetic, forceful, adventurous, enthusiastic, outgoing and sociable. Extraversion was found to be a valid predictor for sales representatives and managers, with both occupational groups having high interpersonal skills (Barrick & Mount, 1991). Barrick et al. (2002), Yilmaz and Hunt (2001), and Adler (1994) also found extraversion to be strongly related to sales performance, and Vinchur et al. (1998) found extraversion to predict both sales performance and ratings, although Furnham and Fudge (2008) found no relation between extraversion and sales performance, with the explanation that extraversion and performance have a curvilinear relationship. Zhao and Seibert (2006) found no difference between entrepreneurs and business managers with regard to extraversion. Based on these studies, and on the observation that sales representatives' daily responsibilities are mainly characterized by interpersonal interactions with their customers, and on the observation that their success strongly depends on their high levels of excitement when performing their job (Johnston & Marshall, 2003), we hypothesize that field sales representatives will score significantly higher than entrepreneurs on this dimension.

Hypothesis 3: In both country samples, sales representatives will have a higher level of extraversion than will entrepreneurs.

Agreeableness

According to McCrae and Costa (1987), agreeable people are forgiving, undemanding, warm, sympathetic, yielding, and do not show off. Although agreeableness is a socially-based personality dimension, Barrick and Mount's (1991) study suggested that it is not an important predictor for job performance for sales representatives. Furnham and Fudge (2008), however, noted that agreeable people are cooperative and that they tend to strive for communion rather than competition. Furnham and Fudge found that agreeableness is strongly and negatively correlated with sales performance, and they suggested that performance in sales jobs (versus jobs in which teamwork is essential) requires a striving for competition with other sales representatives. However, agreeableness according to Heggestad (2007) is defined largely by the concept of “trust,” and trust is seen as an important characteristic of sales representatives (Johnston & Marshall, 2003). This suggests that sales representatives may have a high level of the personality trait “agreeableness”.

In Zhao and Seibert (2006), entrepreneurs scored lower than managers on agreeableness. This study suggested that because entrepreneurs have less access to legal protection and have limited financial support, they are more likely to suffer from the consequences of bargaining disadvantages than are business managers, potentially resulting in entrepreneurs being less agreeable than managers.
It would appear that entrepreneurs, while being tied to their goals and feeling strongly positive about their product, might be very competitive, highly demanding, unforgiving and hard on themselves and others. Sales representatives’ work, an individual effort when they are face-to-face with customers, may be seen as every bit as competitive and demanding as many of the activities of entrepreneurs. However, the very nature of daily sales activity requires sales persons to be generous, pleasant, gentle, sensitive and trusting of their customers. Therefore, we hypothesize that while both groups may be relatively high in this dimension, sales representatives will score higher than entrepreneurs.

Hypothesis 4: In both country samples, sales representatives will have a higher level of agreeableness than will entrepreneurs.

Emotional Stability

According to McCrae and Costa (1987), emotional stability (the opposite pole is “neurotic”) includes traits such as calm and relaxed, self-confident, comfortable, unemotional, and not impulse-ridden. Emotional stability was found to be unrelated to performance in sales jobs (Barrick & Mount, 1991; Furnham & Fudge, 2008). These studies suggest that individuals who are neurotic (very low emotional maturity) are not able to function effectively and therefore are selected out or self-selected out of the labor force. In the study of Zhao and Seibert (2006) entrepreneurs score significantly higher than managers in emotional stability. The study indicated that self-confidence and resilience are more critical for entrepreneurs than for managers, in spite of entrepreneurs’ stress in running businesses. The same might also be said of field sales representatives. In another study, one of the key characteristics of sales representatives, and especially more experienced sales representatives, was found to be emotional maturity (Kaplan, 2001). Because emotional stability is a characteristic of sales representatives, and because successful sales representatives need the self confidence to often face rejection multiple times daily, we hypothesize that sales representatives will score higher than entrepreneurs on this dimension.

Hypothesis 5: In both country samples, sales representatives will have a higher level of emotional stability than will entrepreneurs.

EMOTIONAL INTELLIGENCE

Salovey and Mayer (1990) defined emotional intelligence (EI) as “a type of social intelligence that involves the ability to monitor one’s own and others’ emotions, to discriminate among them, and to use the information to guide one’s thinking and actions.” In Salovey and Mayer’s model of EI, there are three primary dimensions: appraisal and expression of emotion in the self and others that includes the verbal and nonverbal appraisal, the expression of one’s own emotions and the awareness of others’ emotional reactions, and their empathic responses toward them; regulation of emotions in self and in others that relates to the ability to
regulate one’s own emotions and to regulate and alter the emotional reaction of others; and utilizing emotions that relates to the individual’s ability to use one’s own emotions in order to solve problems.

Using Salovey and Mayer’s (1990) definition of EI, Wong and Law (2002) developed a “trait-based” four-dimension model and instrument for EI consisting of: appraisal of emotion in the self, which is related to the individual’s ability to understand and express his own emotions; appraisal of emotion in others, which is related to people’s ability to perceive and understand the emotions of others around them; self-regulation of emotion, which is related to people’s ability to regulate their emotions; and the use of emotion to facilitate performance, which is related to people’s ability to make use of their emotions by directing them to personal performance. It was this classification that was used in this study.

EI has been identified as an important skill among effective leaders (Goleman, 1998; Wong & Law, 2002), and Deeter-Schmelz and Sojka (2007) suggested that EI might be a critical characteristic for sales success. To maintain productive relationships with customers, salespeople need to be able to understand customers’ feelings, empathize with customers, and perceive customers’ emotions. Widmier (2002) also confirmed that empathy was an important contributor to sales performance.

In order to maintain focus on their jobs, sales representatives also need to be able to control their own feelings and emotions. Manna and Smith (2004) showed that EI training was necessary for sales success and that it is as important for sales representatives as communication skills, negotiation skills, and presentation skills. As Manna and Smith (2004) suggested, effective sales people must be able to work with the “head” and the “heart,” both are needed to be most effective. This simple concept indicates that emotions play an important role in the decisions we make throughout a career in business with regard to clients and employees.

EI has also been found to be an important personal factor that relates to entrepreneurship and self-leadership. An individual who has a high level of EI is likely to be more effective in leading her/himself. At the same time, self-leadership skills, such as self-observation and self-goal setting, may improve the individual’s EI (D’Intino et al., 2007). Cross and Travaglione (2007) found that entrepreneurs exhibit a high level of overall EI and also high levels of all the sub-dimensions in both Salovey and Mayer’s (1990) and Goleman’s (1998) EI models. These studies seem to suggest entrepreneurs tend to understand their own weaknesses and strengths, and their verbal and non-verbal expression of emotions. Self control is highly evidenced with respect to their workplace stress. Control of others’ emotions is exhibited by their success in creating commitment and motivation in others. Reactions to rejection or criticism are utilized by
entrepreneurs to achieve better results and to solve problems. Cross and Travaglione (2007) also found that entrepreneurs have high levels of empathy, strong social skills, and passion to achieve. This study suggests that EI may be the main factor behind the entrepreneurial success.

These studies suggest that both successful entrepreneurs and sales representatives must have high levels of emotional intelligence. As might be expected, research in emotional intelligence within the business setting has not been limited to the U.S., but has received global attention (Engle & Elahee, 2006; Rahim & Psenicka, 2002; Schulze & Roberts, 2005) and has been found to be an important contributor to individual performance. Given what appears to be a need for equally high levels of emotional intelligence in both groups, we therefore hypothesize that sales representatives and entrepreneurs do not have a significant difference in their EI levels.

Hypothesis 6: In both country samples, entrepreneurs and sales representatives have the same EI level.

**RISK TAKING PROPENSITY**

Reday et al. (2008) have argued that the sales representatives of today are “technology linkers” (people who facilitate and transfer technology) and as such are characterized by a number of characteristics, including some degree of risk taking. Making sales calls on customers that a sales representative has never met or seen, and not knowing if they will immediately reject “them” and their products, would seem to require a willingness to take some degree of risk. In fact, willingness to take risks was found to be one of the top ten traits of field sales representatives (Rasmussen, 1999), and Vinchur et al. (1998) found achievement orientation (which has a strong risk taking propensity component) to be a significant predictor of sales performance.

Bird (1989) divides risks that entrepreneurs face into five types: financial, social and familial, emotional and physical, career or future employability, and organizational (whether the organization will prosper). Shaver and Scott (1991) noted that while founding a new business obviously involves risk, there was less research data connecting entrepreneurial success and risk-taking propensity than would be expected. However, Caliendo, Fossen, and Kritikos (in press) found that attitudes about risk influence the complete life cycle of entrepreneurs and that entrepreneurs with risk attitudes that are in the medium range survive significantly longer than those with particularly high or low risk attitudes. Carland and Carland (1991) found that male and female entrepreneurs both have significant differences in risk taking when compared to managers, and that there were no significant differences between female and male entrepreneurs. Hyrsky and Tuunanen (1999) found that in both Finnish and American groups of business owners, respondents whose primary objective was profit and growth had significantly higher levels of
risk taking propensity than those oriented towards providing family income. They also found that male business owners scored significantly higher on risk-taking than females. The importance of risk orientation in entrepreneurs has been established (Mueller, 2004; Stewart et al, 2003), with Segal and Borgia (2005) concluding that tolerance for risk was one of three key factors in predicting entrepreneurial intent. Thomas and Mueller (2000) also considered risk taking propensity as a key entrepreneurial trait and found that risk taking propensity varied systematically with cultural distance from the U.S., with larger cultural distances increasing the likelihood of lower moderate risk taking propensity.

Another construct that has been identified with entrepreneurship is known as “achievement motivation” or “achievement orientation.” This construct can be described as the need, or value, one places on being successful (McClelland, 1987). McClelland (1987) saw the need for achievement as being the degree to which one sets and strives to reach goals, the degree to which one works hard and is satisfied with the results of the work, and the preference to take moderate risks. While there is some evidence to the contrary (De Pillis & Reardon, 2007; Hansemann, 2003), achievement motivation has been consistently connected with entrepreneurship (McClelland, 1987; Shaver & Scott, 1991; Vinchur et al., 1998) while Fayolle (2004) suggested it is the second most important key motivator of entrepreneurial activity. In our view, this association or overlap of risk taking with achievement motivation further strengthens the role of risk taking propensity in entrepreneurs. It is also felt that while Germany is a different regional cultural cluster, the cultural distance would not be enough to result in a difference with the U.S. sample. Therefore, the next hypothesis is:

Hypothesis 7: In both country samples, entrepreneurs will have a higher level of risk taking propensity than will sales representatives.

INNOVATIVENESS

Reday et al. (2008) found that innovativeness is a common trait of sales representatives and that it is strongly associated with sales performance. As indicated previously, the Big Five personality trait of “openness” is considered an important characteristic of the sales representative (Yillmatz & Hunt, 2001) and this trait has been largely defined by innovativeness (Heggestad, 2007). Therefore, we would expect innovativeness also to be a potentially important characteristic of the sales representative.

In the literature, innovative activity is explicitly related to descriptions of entrepreneurs. Carland et al. (1984) defined an entrepreneur as an “individual who establishes and manages a business for the principle purpose of profit and growth. The entrepreneur is characterized principally by innovative behavior and will employ strategic management practices in the business”. Littunen (2000) noted that “Innovativeness means the entrepreneur must have the ability to produce
solutions in new situation.” Winslow and Solomon (1993) indicated that entrepreneurs are both architects of innovation and paradigm pioneers, and they also play a critical role as the introducer of change. Entrepreneurs offer “five new combinations” that lead to development: introduction of new goods; introduction of new methods of production; opening new markets; conquest of new sources of supply; and carrying out a novel organization of any industry. Herbig et al. (1994) regarded entrepreneurs as the linchpin of innovation and noted that if society wishes to generate innovation, it needs to create the right environment for the entry and maintenance of small new ventures. The relationship between innovation and entrepreneurial activity crosses country boundaries (Aidis & Welter, 2008). Thomas and Mueller (2000) also found that “innovativeness, often considered to be one of the most crucial characteristics of entrepreneurs, does not vary systematically with cultural distance from the United States, perhaps attesting to its universality.”

We can find in the literature strong evidence that entrepreneurs are more innovative than non-entrepreneurs. Carland and Carland (1991) found in their study that both male and female entrepreneurs have significantly higher levels of preference for innovation than their management counterparts. They also found no significant difference in innovation preference between female entrepreneurs and male entrepreneurs. Buttner and Gryskiewicz (1993) found that entrepreneurs are more innovative than managers in large organizations. Hyrsky and Tuunanen (1999) found that in both Finnish and American groups of business owners, respondents whose primary objective was profit and growth had significantly higher levels of innovation than respondents whose main objective was to provide family income. They also found that female business owners had higher levels of innovation preference and that American respondents who were founders of businesses had higher levels of innovation than the respondents who inherited or bought their businesses.

This literature strongly suggests that innovativeness is an essential and almost “universal” entrepreneurial quality. We, therefore, hypothesize that entrepreneurs’ level of innovativeness is higher than that of sales representatives.

Hypothesis 8: In both country samples, entrepreneurs will have a higher level of innovativeness than will sales representatives.

CONCEPTUAL ABILITY

It has been argued that General Mental Ability (GMA) is a better predictor of both occupational level attained and performance within one’s chosen occupation than any other ability, trait, or disposition—including job experience (Schmidt & Hunter, 2004). Schmidt and Hunter (2004) found that in addition to having a direct impact on job performance, GMA is a major antecedent of relevant job knowledge and information, which in turn contributes a great deal to
the overall job performance of an individual. In order to explain how individuals react and use information, psychologists depend on the “deeply held” premise of conceptual ability (Kagan, 1984). Conceptual ability allows an individual to generalize from observations and experiences as well as to develop abstract thought (White, 1971). Conceptual ability is also considered a “higher order” cognitive function (Dise & Lohr, 1998) that is so significant that it has led some researchers to find it closely connected with what is generally known as IQ or GMA (Scarr, 1981). For the purposes of this study, conceptual ability is defined as the ability to generalize from observations and experience as well as the ability to develop and work with abstract ideas. As such, Mumford et al. (2000) considered conceptual ability to be an antecedent of effective problem solving, social judgment skills, and knowledge, and to be different than, but contributing to, general cognitive ability.

Entrepreneurs face many novel problems and hurdles in the process of setting up their businesses. The ability to generalize from their experiences and observations as well as to develop and work with abstract ideas (conceptual ability) can assist them in this entrepreneurial process, as well as give them sufficient confidence in their own skills to do so (Segal, Borgia & Schoenfeld, 2005). As discussed above, an important aspect of entrepreneurship is the ability to see how a creative idea can be turned into an innovation though its implementation. Once again, conceptual and cognitive abilities can easily be seen as assets in the innovative process and may be seen to contribute to an individual’s ability to quickly solve complex problems (Sternberg, 1985).

Researchers believe that tests of conceptual ability are a “relatively good indicator of likely success in selling” and that they account for a significant percentage of the variance in sales performance (Johnston & Marshall, 2007). Field sales representatives are acknowledged to be in a boundary-spanning role, cutting across different roles and challenges and operating in ever-changing economic and technological environments and therefore needing the ability to learn how to deal with these changes (Johnston & Marshall, 2007), as well as often operating in situations in which role conflict and role ambiguity are often an issue (Engle & Laird, 2005).

Entrepreneurs as well as sales representatives should benefit from having a high level of conceptual ability. Obrecht (2004) suggests that entrepreneurs operate in complex environments requiring problem solving skills, knowledge, information, experience, expertise and a variety of transactional, personal, institutional, and cooperative networks that require them to be proactive and to “learn by doing.” All of these areas benefit from being able to generalize from observations and to see the broader picture. Because both sales representatives and entrepreneurs, regardless of nationality, appear to require a significant level of conceptual ability, our final hypothesis is:
Hypothesis 9: In both country samples, entrepreneurs and sales representatives will have the same level of conceptual abilities.

**Methodology**

In both the United States and in Germany, subjects identified themselves in the survey either as having started a new business venture (entrepreneur) or as being a field sales representative (sales representative). From the United States, there were a total of 113 subjects consisting of 71 entrepreneurs and 42 sales representatives. The entrepreneur sample data in both countries were gathered using two methods. The first was to approach individuals who either currently were, or recently had been, entrepreneurs through personal networks of the author (convenience sample). In the U.S., this group consisted of 31 entrepreneurs and represented an 89% response rate. In addition, a U.S. mail survey to 219 potential entrepreneurs identified from a university alumni database and two Chambers of Commerce mailing lists (cities in Maryland and Connecticut) resulted in a group of 40 subjects (19% response rate) for a total of 71 respondents who self-identified as having started their own small businesses and were U.S. citizens. These 71 entrepreneurial subjects represented a broad range of businesses including but not limited to retail, financial, information technology, healthcare, and distribution businesses. While recognizing the potential limitations of such a sample, a broad range of businesses was used in the study as the authors felt that such a sample would represent a range of personal backgrounds and characteristics and therefore be a more accurate representation of “entrepreneurs” across industries. The same approach was used in both countries.

The Chambers of Commerce in three cities located in what were the former East and West Germany were contacted and agreed to send out mailings to their local members who were listed as small business owners. In addition, small business owners were identified from a university alumni directory, and mailings were sent to them as well. In total, 186 potential entrepreneurs were contacted resulting in 80 usable questionnaires (43% response rate) from Germany. All questionnaires used in both the U.S. and in Germany were complete and screened for citizenship as well as for appropriateness of their inclusion in the two subject groups (self-identified entrepreneurs and sales representatives).

The majority of the field sales representative subjects from the U.S. resulted from the research questionnaire being distributed by three district sales managers at local sales meetings that took place in the same geographical areas from which the entrepreneur data were obtained. By administering these surveys at a local sales meeting, a high level of response would be assured. One set of such questionnaires (9 sales representatives) represented the computer hardware
industry and the other two sets of questionnaires (25 sales representatives) were from the pharmaceutical industry. The response from these local meetings was 100%. The remaining 8 field sales representatives were solicited by mail based on local Chamber of Commerce mailing lists and represented a mix of high technology “B to B” industries (89% response rate) resulting in 42 usable sales representative surveys in the U.S.

All the field sales representatives in the German sample were gathered by district field sales managers in the same pharmaceutical company at four district sales meetings in the former East and West Germany. The response rate was 100%. Thus, it may be said that all field sales representatives used in this sample represented high technology industries with the majority coming from the pharmaceutical industry.

Within the questionnaire, there were a total of 42 Likert-Scale self-perception questions related to the constructs addressed in this study. Emotional intelligence was measured using the 16 question “trait-based” instrument of Wong and Law (2002). Conceptual ability was measured by the 6 question instrument developed by Northouse (2004). For innovation, the 8 question instrument by Mueller and Thomas (2001) was used, while risk was measured with two questions (I am always willing to take a moderate risk to get ahead. I am very comfortable not knowing what the outcome will be of an action I have taken.) adapted from Segal et al. (2005). The “Big 5” personality domains were measured using the instrument tested and validated by Gosling, Rentfrow, and Swann (2003). All the above instruments were found by their authors to be both reliable and valid with the exception of Northouse’s (2004) instrument on conceptual ability (no support data given). In this case, satisfactory reliability and validity data were found by Engle and Nehrt (2010). In addition, basic demographic questions were included.

The questionnaire was developed in English, and administrated in its original language in the U.S. The English questionnaire was translated into German and back-translated into English to ensure linguistic as well as conceptual equivalence (Brinlin, 1980). While most of the variables used in the questionnaire met the general threshold value of 0.7 for Cronbach’s alpha recommended by Nunnally (1978), some reliabilities were less than 0.7 (e.g., openness) but above 0.49 which may also be seen as acceptable (Cortina, 1993; Schmitt, 1996).

**RESULTS**

The 113 U.S. subjects in this study consisted of 71 entrepreneurs and 42 sales representatives. The 71 entrepreneurs consisted of 53 men and 18 women with an average age of 41 years. The 42 sales representatives consisted of 19 men and 23 women with an average age of 36 years. The German samples had similar statistics with 85 entrepreneurs consisting of 63 men and 22 women with an
average age of 42, and the 59 sales representative sample consisted of 29 men and 30 women with an average age of 37 (see Table 1). Correlations for the 9 main factors used in this study (cognitive ability, emotional intelligence, risk-taking propensity, innovativeness, extraversion, agreeableness, conscientiousness, emotional stability, and openness) are summarized in Tables 2 & 3.

**Table 1. Sample Description**

<table>
<thead>
<tr>
<th></th>
<th>U.S. Entrepreneurs</th>
<th>U.S. Sales Reps</th>
<th>German Entrepreneurs</th>
<th>German Sales Reps</th>
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<tr>
<td>Total</td>
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<td>42</td>
<td>85</td>
<td>59</td>
</tr>
<tr>
<td>Men</td>
<td>53</td>
<td>19</td>
<td>63</td>
<td>29</td>
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<tr>
<td>Women</td>
<td>18</td>
<td>23</td>
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<td>30</td>
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<td>Mean Age</td>
<td>41</td>
<td>36</td>
<td>42</td>
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A *t*-test using two independent samples and Levene’s Test for Equality of Variances was used to examine the differences between the entrepreneur and sales representative group means in both countries. Using SPSS, the appropriate test based on the equality or inequality of variances was used to evaluate if the significance value of the test was less than .05, in which case one can conclude that there is only a 5% probability that a difference in means is due to chance (PASW 18 Statistics Manual). Table 4 lists the significance values for means of each variable. We can than conclude that U.S. hypotheses 1, 6, and 9, suggesting that entrepreneurs and sales representatives will not have a significant difference in the level of conscientiousness, emotional intelligence, and cognitive abilities, were each supported with all means showing no statistically significant difference as hypothesized. Hypotheses 2, 7, and 8, suggesting that entrepreneurs would have statistically significantly higher scores in openness to experience, risk-taking propensity, and innovativeness, were each supported. Hypotheses 3, 4, and 5, suggesting that sales representatives would have statistically higher scores in extraversion, agreeableness, and emotional stability, were also each supported (see Table 4).

For the German samples, H1 was supported, suggesting that entrepreneurs and sales representatives have no difference in their level of conscientiousness. H2, H5, and H6 were supported, suggesting that entrepreneurs have a higher level of openness, risk taking propensity, and innovativeness. The remaining hypotheses were not supported in the German samples.

In addition, the differences in gender were examined within and between entrepreneurs and sales representatives. For the U.S. sample, some significant statistical differences (*p* < .05) were found, suggesting that female entrepreneurs
may be higher than male entrepreneurs with regard to conceptual ability (4.0 vs. 3.6), emotional intelligence (4.3 vs. 3.9), and agreeableness (5.7 vs. 4.7). The other 6 variables tested suggested no significant differences between entrepreneurial men and women. Between male and female sales representatives, only one of the nine variables tested, emotional stability, suggested a statistically significant difference ($p = .05$) with men being higher.

### Table 2. U.S. Correlations

<table>
<thead>
<tr>
<th>Concept</th>
<th>EI</th>
<th>Risk</th>
<th>Innov</th>
<th>Extra</th>
<th>Agree</th>
<th>Consci</th>
<th>EmStab</th>
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* all correlations over .19 are significant at $p < .05$; EI – emotional intelligence

### Table 3. Germany Correlations

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<th>Agree</th>
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<tr>
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</tbody>
</table>

* all correlations over .16 are significant at $p < .05$; EI – emotional intelligence

In the German sample, female entrepreneurs had higher means than did male entrepreneurs in extraversion, conscientiousness, and emotional intelligence (with significance of $p = .03$; $p = .001$; $p = .10$ respectively), while male entrepreneurs had a higher mean for innovativeness ($p = .10$). For all other
variables in the entrepreneur sample, there were no significant differences found. For the German sales representatives, only the data for one variable, extraversion, suggested a significant difference with women having a higher mean than men ($p = .001$). No significant differences were found between men and women with regard to the other variables.

Table 4. Means and $t$-test Significance

<table>
<thead>
<tr>
<th></th>
<th>U.S. Entrepreneur Mean</th>
<th>U.S. Sales Rep Mean</th>
<th>U.S. Sig.</th>
<th>German Entrepreneur Mean</th>
<th>German Sales Rep Mean</th>
<th>German. Sig.</th>
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</thead>
<tbody>
<tr>
<td>Risk-taking</td>
<td>3.67</td>
<td>3.15</td>
<td>.000</td>
<td>3.41</td>
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<tr>
<td>Innovativeness</td>
<td>3.73</td>
<td>3.36</td>
<td>.000</td>
<td>3.28</td>
<td>3.12</td>
<td>.04</td>
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<tr>
<td>Conceptual Ability</td>
<td>3.71</td>
<td>3.75</td>
<td>ns</td>
<td>3.95</td>
<td>3.73</td>
<td>.02</td>
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<td>EI</td>
<td>4.03</td>
<td>4.09</td>
<td>ns</td>
<td>3.83</td>
<td>3.63</td>
<td>.01</td>
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<tr>
<td>Extraversion</td>
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<td>5.54</td>
<td>.000</td>
<td>4.93</td>
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<td>.01</td>
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<tr>
<td>Agreeableness</td>
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<td>5.75</td>
<td>.000</td>
<td>5.11</td>
<td>4.94</td>
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<td>Emotional Stability</td>
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<td>5.74</td>
<td>.03</td>
<td>5.42</td>
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<td>.05</td>
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<tr>
<td>Openness</td>
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<td>5.24</td>
<td>.001</td>
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<td>.07</td>
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<td>ns</td>
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<td>ns</td>
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</table>

*bold* = sig. higher within-country mean; ns = not significant; EI = emotional intelligence

Finally, in order to examine the ability of the variables chosen to predict the sales and entrepreneur groups within each country, binary logistic regression was used. As can be seen in Table 5, the model using all variables correctly predicted 67% of German entrepreneur and sales representative groups ($p = .048$) and 74% of the U.S. entrepreneur and sales representative groups ($p < .001$) with $R^2$ values of .15 and .41 respectively. These results suggest that the variables tested have a significant but somewhat low level of explanatory power for the differences between sales representatives and entrepreneurs for the German sample, and a significant and moderate level of explanatory power for the U.S. sample.

Table 5. Binary Logistic Regression

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
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<th>R-sq</th>
<th>Chi-sq</th>
<th>Sig.</th>
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<tbody>
<tr>
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<td>144</td>
<td>67%</td>
<td>.15</td>
<td>17.1</td>
<td>.048</td>
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<tr>
<td>United States</td>
<td>113</td>
<td>74%</td>
<td>.41</td>
<td>40.8</td>
<td>.000</td>
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DISCUSSION

The present study focuses on comparing the characteristics, skills, and abilities of entrepreneurs with those of professional field sales representatives in the U.S. and Germany. The comparison includes the dimensions: risk taking propensity, innovativeness, cognitive ability, EI, and the “Big 5” personality factors of extraversion, conscientiousness, openness to experience, emotional stability, and agreeableness. The study suggests that in the U.S.: 1) there are no differences in conscientiousness, EI, and cognitive ability between entrepreneurs and sales representatives; 2) entrepreneurs have significantly higher levels in openness to experience, innovativeness, and risk taking propensity than do sales representatives; and 3) sales representatives have significantly higher levels in extraversion, agreeableness, and emotional stability dimensions than do entrepreneurs.

The German sample results differ from the U.S. sample results, despite the suggestion by Baldauf and Cravens (1999) that such characteristics would be similar across countries. The current study finds the variables risk taking propensity, innovativeness, openness, and conscientiousness to be the same between the U.S. and German samples. With the variables extraversion and emotional stability, the findings in the German sample are the opposite of the U.S., with sales representatives being significantly higher than entrepreneurs in both of these personality characteristics. There is no significant difference on agreeableness between entrepreneurs and sales representatives in Germany (in the U.S., sales representatives were higher), and in Germany emotional intelligence and conceptual ability are found to be significantly higher for the entrepreneur group (in the U.S., no differences were found between groups).

Because all hypotheses for the U.S. sample are supported, we would like to briefly address the differences found between the U.S. and German samples. Interestingly, none of the variables in the German sample data indicated that sales representatives are higher than entrepreneurs, with risk taking propensity, innovativeness, conceptual ability, emotional intelligence, extraversion, emotional stability, and openness all being significantly higher for the entrepreneur group. The remaining two, conscientiousness and agreeableness, are not found to be significantly different for the two German groups. Perhaps the reason for needing a stronger set of skills can be found in the need for entrepreneurs in Germany to be stronger in a greater range of skills than do entrepreneurs in the U.S. The reasons for needing a stronger set of skills may be that entrepreneurial potential or orientation is not as strong in Germany as it is in the U.S. (Raab, Stedham, & Neuner, 2005), perhaps resulting in the need for relative strengths of individuals becoming entrepreneurs in Germany to be different than in the U.S.

These German data together with the U.S. data make the important point that researchers need to be careful making assumptions when comparing a specific
group (e.g. entrepreneurs) with “non-entrepreneurs” without recognizing that other potential sample groups of “non-entrepreneurs” may well have just as strong or stronger characteristics than the specific target group (e.g., entrepreneurs). In addition, these data suggest that caution needs to be exercised when doing international studies which compare national data, even among nations with modest cultural distances such as between the U.S. and Germany. For example, perhaps just using a group such as a general “managerial” or “non-entrepreneur” groups to compare with “entrepreneurs” is not always appropriate.

There are a few differences between men and women in both countries. In the U.S., the female entrepreneur sample is higher than the male sample in conceptual ability, emotional intelligence, and agreeableness; and the male U.S. sales representatives are higher than the female sample in emotional stability. The Germany entrepreneur sample indicates that women are higher than men in conscientiousness and emotional intelligence (the latter is the same as in the U.S.) with women having higher extraversion in both sales representative and entrepreneur samples. There is some research support for the finding in this study that women (entrepreneurs) score higher in emotional intelligence than did men (e.g., Day and Carroll, 2004). However, of particular interest is the finding that German women in our sample score higher than men in both entrepreneur and sales representative groups. Once again, this might reflect the particular entrepreneurial environment in Germany and a need for women to be more assertive and outgoing than might otherwise be expected due to their need to be recognized as serious contenders with their new business ventures.

Overall, this study contributes to our understanding of the relationship between personality, skills, and abilities of an entrepreneur as compared to a sales representative, and has implications for entrepreneurship and management practice and research involving individual differences. It is important to note that when compared to broad or generic groups, entrepreneurs and sales representatives may both be seen to have relatively high or similar scores in all nine of the personality characteristics, skills, and abilities addressed in this study. However, when directly compared, this study suggests important differences between these groups within and across countries. Such findings may provide better across-country selection tools for these two groups; for example, tools that would allow a particularly in-depth assessment of potential entrepreneurs with respect to openness to experience, innovation, and risk-taking propensity. Companies that are looking to recruit individuals who have entrepreneurial characteristics for positions that demand innovation and entrepreneurial qualities may find the ability to more readily identify entrepreneurial potential among their sales force interviewees, especially in the U.S. Funding agencies, venture capitalists, and potential partners, who depend considerably on the ability to recognize whether a person has what it takes to carry an idea from concept to fruition, would use these findings to better evaluate potentially successful
entrepreneurs without being unduly influenced by a “sales personality” alone. Individuals who want to evaluate their own entrepreneurial potential, may test themselves in light of this study’s findings to better assess whether to pursue an entrepreneurial path versus other career opportunities.

When interpreting the results, some limitations should be taken into consideration. First is the relatively small size of the sales representative sample and the distributions of the samples. The majority of the sales representatives came from the pharmaceutical industry and in the case of the U.S. sample, some subjects were from computer and other high technology industries; and there are also some differences in the makeup of the German and U.S. samples. In addition, while the gender analysis suggests some interesting differences between males and females, the limitation of this study is the limited size of the gender samples. As a result, caution must be exercised when attempting to generalize from these data.

The results of this study suggest several directions for future research. First, additional research is needed with larger male and female sample sizes to better assess the gender differences of these variables between the different study groups. Second, in this study there was no differentiation made between founders of a new business and business owners who inherited or bought a business or who bought a franchise. Taking these factors into consideration might change the results for some dimensions. Third, combining these research variables with those that related to entrepreneurial success (e.g., growth rate, company age, and return on investment) might give us information about a new venture’s short run/long run success. In addition, the sales representatives in these samples came mostly from one industry, so the sample should be expanded to include a number of different industries. Fourth, research is needed to confirm and examine the reasons for individual characteristic differences between entrepreneurs and sales representatives in the U.S. and Germany, as such knowledge may give us further insights into the nature and development of these constructs. Finally, these findings should encourage researchers to expand beyond more typical comparative groups (entrepreneurs and “managers”; sales representatives and “non-sales personnel”) in order to obtain greater insight into the nature of their targeted study groups.
REFERENCES


