

WHERE DO WE LEARN THAT ENTREPRENEURSHIP IS FEASIBLE, DESIRABLE AND/OR PROFITABLE? - a look at the processes leading to entrepreneurial potential

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ABSTRACT

Examinations of new venture creation in a prospective fashion are rather new. In this paper, the processes leading to *entrepreneurial potential* are investigated. The key argument is that behavioral potential, which is at the cognitive level, is influenced by the individuals perceptions or key attitudes toward venturing. Four key attitudes are of particular importance in this process; *perceived feasibility, perceived desirability, perceived social norms, and perceived profitability*. Personal, sociological and environmental variables are linked to decision making through these perceptions. In the empirical part of the paper, it is tested to what extent *direct and indirect experiences, role modelling and education* influence these perceptions or key attitudes toward venturing. The results indicate that different kinds of learning influence the key attitudes differently, and that it is easier to learn that entrepreneurship is feasible than to learn that it is desirable or profitable. Implications for future research are discussed.

INTRODUCTION

In the early research into entrepreneurship, interest was often focused on the psychological characteristics of the entrepreneurs, even though this research was not closely linked to contemporary developments in psychology. A trait approach was often employed, and long lists of entrepreneurial traits were produced. But in the end this research was unable to provide more than a small part of the answer to the question "What *really* makes people found new firms?". During the last decade the entire psychological perspective on entrepreneurship has come under heavy criticism (Carsrud and Krueger 1995). Some authors suggest psychology has been either badly utilized or has no utility at all in the study of entrepreneurship (Carsrud et al. 1986; Carsrud and Johnson 1989). Others have been more positive in their views (Shaver and Scott 1991). A response to the limited success of the trait approach has been to view firm creation in context, for example by applying an aggregate level of analysis and looking for regional or national level variables that can explain variations in the rate of new firm formation. This approach have been relatively successful, and strong and generalisable relationships have been established (cf. Reynolds et al. 1994; Spilling, 1996).

But there is still a need for disaggregate level understanding of the processes leading to new firm formation. Researchers have tried to develop integrated explanatory models that take into account domain-specific attitudes, personal background and situational variables (Bird 1993; Shapero and Sokol 1982; Shaver and Scott 1991). A particular branch of this approach focuses on the pre-decision stage (i.e. interest, entrepreneurial career preference, characteristics of nascent entrepreneurs, cf. Bullvåg, 1996; Carter et al. 1996; Knudsen and McTavish 1988; Kolvereid, 1996a,b; Krueger 1993, 1995; Krueger and Brazeal 1994; Krueger and Carsrud 1993; Krueger et al. 1995; Matthews and Moser 1996; Scherer et al. 1989; 1990, 1991). Examinations of new venture creation in a *prospective* fashion are rather new. Recent theoretical pieces provide further impetus to move ahead with research in this area (Krueger and Carsrud 1993; Carsrud and Krueger 1995). The purpose of this paper is to develop this line of research further, by looking at processes leading to entrepreneurial potential. Since the sample is based solely on young people (16-31 yrs.), it will provide some suggestions on how to stimulate the long-term entrepreneurial potential of young people. Few research studies have conceptualized or measured entrepreneurial potential. Although this has been suggested as a direction for future research (cf., Learned 1992; Gartner et al. 1992), empirical evidence is still minimal.

THEORETICAL BACKGROUND

Entrepreneurship and the entrepreneur defined

While there are many different ways that entrepreneurship might be defined (cf. Gartner 1990), one plausible view of the nature of entrepreneurship is to see it as an organizational phenomenon: the process of organization creation. Gartner (1989) pictured entrepreneurship as the creation of organizations, and recently, Gartner *et al.* (1992) suggested that entrepreneurship *is* the process of emergence. Organization creation separates entrepreneurship from other disciplines. A definition that fits into this framework is the following: “an entrepreneurial event involves the creation of a new organization to pursue an opportunity”. As a consequence, it is possible to define an entrepreneur as the creator and founder of a new organization. In Gartner’s (1989) words: “what differentiates entrepreneurs from non-entrepreneurs is that entrepreneurs create organizations, while non-entrepreneurs do not”. Thus in this paper the following definition is given: “an entrepreneur is someone who has created an organization to pursue a venture opportunity”.¹

Entrepreneurial potential

Not all individuals have the potential to form an organization (Learned 1992). Shapero (1981) introduced the notion of entrepreneurial potential. According to him, potential entrepreneurs surface and take the initiative when an attractive opportunity presents itself. Individuals perceive opportunities. For an opportunity to be seized, someone must first recognize

¹ It is acknowledged that this definition is certainly not unquestionable. Gartner (1990) provides an overview of some dimensions often included in definitions of entrepreneurs and entrepreneurship, including innovativeness and growth.

it as a personally viable opportunity. When potential entrepreneurs and opportunities coincide, entrepreneurial behavior *may* take place, and a new firm *can* be founded. Thus, the joint occurrence of two events is critical for the creation of a new firm. The first is the presence of an opportunity suited for a new firm, the second is a person who is able and willing to take advantage of an entrepreneurial opportunity. Hence, before there can be entrepreneurship, there must be the potential for entrepreneurship, whether in a community seeking to develop or in a large organization seeking to innovate (Krueger and Brazeal 1994).

Measures of entrepreneurial potential appear to remain wedded to various ad-hoc profiles of personality and demographic characteristics with minimal predictive validity (e.g. Carsrud et al. 1993). It is surprisingly difficult to distinguish entrepreneurs from non-entrepreneurs. It is even more difficult to differentiate the potential entrepreneur, if we rely on personality or demographic data. Recently, it has been argued that we can identify the potential entrepreneur through the examination of key attitudes and intentions (Carsrud and Krueger 1995; Krueger and Brazeal 1994; Krueger 1995). Empirical studies show that intentions is the single best predictor of human behavior (Ajzen 1991; Kim and Hunter 1993), and some argue that launching a new venture should be regarded as intentional as well (Katz and Gartner 1988; Krueger and Carsrud 1993). Because intentions and the attitudes behind them appear consistent across cultures (McGrath and MacMillan 1992), formal models of intentions should be applicable to the study of how people come to see themselves as entrepreneurs.

However, while intentions certainly seems to play an important role in some emerging ventures, it is clear that many highly motivated individuals living in favorable entrepreneurial environments will not initiate an entrepreneurial career unless they find a viable venture opportunity, and then are able to take the necessary steps regarding venture start-up. Bhawe (1994) distinguishes between externally and internally stimulated opportunity recognition. In the case of external stimulation the intention to start a new venture precedes opportunity recognition, while in the case of internal stimulation opportunity recognition precedes the intention. Hence, both entrepreneurial intentions and opportunity recognition appear important in the emerging process. Reitan (1997) has shown empirically that while some might intend to venture without any clear perception of a venture opportunity, others might perceive one or several opportunities without a high intention-level. Still others may both aspire and perceive a viable venture opportunity, but have not taken any steps regarding venture start-up (yet).

An entrepreneur is someone who perceives an opportunity and creates an organization to pursue it. A potential entrepreneur should therefore be a person with the potential to create a new organization. Thus, this person perceives one or several opportunities, but has not yet started an effort of creating an organization. Moreover, this person might intend to start a new venture, but have not yet found a viable new venture opportunity. Hence in this paper the following definition is given: “a potential entrepreneur is a person that perceives a venture opportunity and/or intends to start a new venture, but has not (yet) taken any steps regarding venture start-up”. The argument is that opportunity recognition and entrepreneurial intentions are key characteristics of potential entrepreneurs, separating them from the general population.

Processes leading to entrepreneurial potential

We know that entrepreneurial potential have critical antecedents. The next task is to examine how these antecedents arise and how we might apply our knowledge to help communities promote entrepreneurial behavior. In other words; what are the processes leading to entrepreneurial potential? Generally, decisions (such as the decision to attempt to start a new venture), are made through the perception or “cognitive map” of the person and therefore intimately linked to sense making (Weick 1979). The forming of preferences, identities, expectations, etc. all involve the making of sense out of a confusing world (March 1996), and individuals make sense of their pasts, their natures, and their futures (Fiske and Taylor 1984).

Moreover, conceptual models such as Ajzen’s theory of planned behavior (1991) and Shapero’s model of the entrepreneurial event (Shapero 1981, 1984) and subsequent empirical work utilizing these models (Krueger and Carsrud 1993; Kolvereid 1996a; Reitan 1996) argue that there are at least three perceptions critical in the forming of entrepreneurial potential: a) “Can I make it?”, b) “Do I want to make it?”, and c) “Will others approve of it?” In Ajzen’s theory of planned behavior (TPB), "attitude toward the act", "social norms", and "perceived behavioral control" explain up to 60% of the variance in intentions. Intentions successfully predict 30% or more of variance in the target behavior (e.g. Ajzen 1991). Krueger (1993), based on Shapero’s model of the entrepreneurial event (MEE), found that perceived credibility (desirability and feasibility) and propensity to act explain well over 50% of the variance in intentions toward entrepreneurship, with perceptions of new venture feasibility explaining the most. Krueger et al. (1995) tested both these models on the same sample, and arrived at the conclusion that Shapero’s model explained most of the variation in entrepreneurial aspirations. Reitan (1996) *combined* these two models and added situational factors as proposed by for example Bird (1993) and Davidsson (1995). His model accounted for 63% of the variations in entrepreneurial intentions. The most important antecedents were perceived personal desirability, perceived social desirability and perceived feasibility.

In his later work, based on a factor-analytic approach, Reitan (1997) has found a fourth key attitude: perceived profitability of venturing. While this factor is less important than the three others in explaining entrepreneurial potential in the overall model, it appear to be very important when differentiating between short- and long-term intentions to venture, between genders, and between types of intended ventures. Generally, perceptions of profitability increases in importance as the behavior comes closer, is more important for understanding the entrepreneurial potential of women than men, and more important for understanding intentions to start innovative businesses than other kinds of businesses. Moreover, Reitan (1997) has found that opportunity recognition has some of the same antecedents as entrepreneurial intentions. Perceptions of desirability and feasibility are strong predictors of both, while perceived social norms and perceived profitability are important for understanding entrepreneurial intentions only. Hence, to stimulate the entrepreneurial potential it is vital to stimulate favorable perceptions of new venture desirability (including social norms), feasibility, and profitability. The key argument here is that is the way in which the potential founder thinks about reality, not the external reality itself, that determines the outcome. Thus, it is the perceptions of the reality, or the individual’s subjective reality, that is of importance.

The role of entrepreneurial learning

Nonetheless, the question remains: where do we learn that entrepreneurship is feasible, desirable and/or profitable? Generally, life experiences are strong predictors of vocational preference (Smart 1989). By examining the individual learning process we can come closer to understanding how people generate from their experience the attitudes that guide their behavior in new situations. This process is both active and passive, concrete and abstract. It can be conceived of as a four-stage cycle (Kolb et al. 1995): 1) concrete experience is followed by 2) observation and reflection, which lead to 3) the formation of abstract concepts and generalizations, which lead to 4) hypotheses to be tested in future action, which in turn lead to new experiences.

There are many ways of learning. It is a widely held, but untested, consensus that past work experience is a better predictor of decisions, performance, and behavior than education (Bird 1993). The popular opinion is based on a common-sense notion that the “school of hard knocks” prepares one better than colleges, universities, seminars, and books. Thus, the most powerful way of learning should be through direct experience of the subject matter (Kolb et al. 1995). Apparently, venture creation becomes easier with experience, and presumably from learning from that experience (Ronstadt 1984). Typically, one out of five entrepreneurs has had direct venture experience prior to the current enterprise (Hornaday and Aboud 1971). Carroll and Mosakowski (1987) found that the probability of a person entering into self-employment at any stage in the life cycle is heavily dependent upon prior engagement in self- or family employment. It is therefore proposed that one might learn that entrepreneurship is desirable, feasible and profitable from the concrete experience of working in one's own firm. On the other hand, negative experiences from new venture start-ups, such as unsuccessful *attempts* at venturing, might influence the perceptions of venturing negatively. Negative or disconfirming information from the environment has in general proven to act as a detriment (Learned 1992). However, some studies have suggested that failures of previous attempts of venturing need not be an impediment to starting again (Shapero and Sokol 1982).

Proposition 1a Work experience from one's own firm will influence an individuals' perception of new venture feasibility, desirability and profitability.

Proposition 1b Unsuccessful venture attempts will influence an individuals' perception of new venture feasibility, desirability and profitability.

Another way of learning is through indirect experience, for example through work experience from other businesses than one's own. Previous work experiences are described as formative by Goss (1991) and may encourage entrepreneurial behavior. The skills gained through formative experience may be managerial, financial, attitudinal or a combination of these, and may build business competence - highlighting opportunities for the individual.

Proposition 2a: General work experience will influence an individuals' perception of new venture feasibility, desirability and profitability.

Small businesses have been suggested as incubators for future entrepreneurs. Donckels and Dupont (1987) and Cromie (1987) found that individuals having worked for a firm employing less than 10 personnel are overrepresented as entrepreneurs. Although small business experience can be viewed as formative, it can also be viewed as a reactive experience, due to the fact that the organizational environment may be unstable and job prospects are limited, as are rewards. Stanworth and Curran (1979) suggested that people who begin their working life within small businesses will tend to be relatively poorly qualified and therefore are unlikely to be employed by larger organizations. They are therefore “trapped in the secondary labour market” with few alternative career options than to start up their own businesses.

Proposition 2b: Work experience from an SME will influence an individuals' perception of new venture feasibility, desirability and profitability.

Katz (1992) argues especially that the family firm should shape children's career plans. The typical entrepreneur indeed has a self-employed parent, though not all entrepreneurial offspring choose self-employment. Parental impact may lie in the transfer of human capital related to starting or running a business (Lentz and Laband 1990). These findings are supported by Carroll and Mosakowski (1987).

Proposition 2c: Work experience from a family business will influence an individuals' perception of new venture feasibility, desirability and profitability.

A third way of learning is through the observation of behavior in others, referred to as role models (Bandura 1986). Thus, even limited experience with entrepreneurial activity could substantially influence how one thinks about entrepreneurship (Scherer et al. 1990). The inheritance of enterprise culture through role modelling has grown to become a popular field of research. Curran and Bowans (1988) research in the UK found that 35% of small business owners had come from a family background of self-employment, compared with 20% for all employees. Studies by Scherer et al. (1989, 1991), Krueger (1993), Davidsson (1995) and Kolvereid (1996a) all support these findings. Peers in general can also be very important in the decision to form a company. An area with an entrepreneurially pool and meeting place where entrepreneurs and potential entrepreneurs can discuss ideas, problems, and solutions spawns more new companies than an area where these are not available (Johannisson, 1993).

Proposition 3: The observation of a role model will influence an individuals' perception of new venture feasibility, desirability and profitability.

A final way of learning is through formal education. Prior mental programming in the form of formal education repeatedly appears as correlated in generally positive ways with success in studies of start-ups (Vesper 1990). There are conflicting evidence however on this point. Curran and Burrows (1988) found that proportionally few business owners had formal qualifications to degree level and these findings were supported by Campbell (1992). In the latter study this was explained by opportunity cost arguments for more highly educated individuals, relating to increased chances of success as employees by those who possess higher qualifications. On the other hand, samples from business schools find that this kind of education enhances the entrepreneurial interest of the students (Vesper 1990). Therefore, it is assumed that different types of education might influence entrepreneurial attitudes differently.

Proposition 4a: Education will influence an individuals' perception of new venture feasibility, desirability and profitability.

Proposition 4b: Different types of education will influence an individuals' perception of new venture feasibility, desirability and profitability differently.

The focus of this study is the extent to which ways of “entrepreneurial learning” are associated with key entrepreneurial attitudes. If measures of entrepreneurial learning explain significant amounts of variance of entrepreneurial attitudes, then entrepreneurial learning may be of some incremental value in understanding entrepreneurial attitudes and entrepreneurial potential. Thus:

Proposition 5: Entrepreneurial learning will explain a significant amount of the variation in entrepreneurial attitudes.

METHODS

Sample and procedure

A sample of 3,600 people in three Norwegian counties was selected from the National Register of Norway. Each person was mailed an eight-page questionnaire concerning attitudes and intentions toward entrepreneurship. 1,633 people responded to the survey, yielding a response rate of 45.3%. In the analysis reported here all individuals already self-employed were excluded, leaving us with 1,562 cases. All respondents are between 16 and 31 years of age, with an average of 23.6 years. 46.2% are men, 62.3% are singles. 41.5% of the subjects are active workers, 41.4% are students, 5.1% unemployed, 3.3% homemakers, and 1.8% in the military services. The rest (6.8%) have other occupational statuses.

Measures

21 seven-point rating scales measuring the individuals key attitudes toward venturing were included in the questionnaire. The 21 variables were derived from earlier studies in the same area (Krueger 1993; Krueger and Brazeal 1994; Davidsson 1995; Kolvereid 1996a; Bullvåg 1996). As in Kolvereid's (1996a) study, perceived social norms were computed as a product of 1) the individuals belief of whether others would approve of venturing or not, and 2) motivation to comply with their approval or not. The first question may serve as an illustration of the format used:

I believe that my closest friends think that I should start my own firm	<table style="border: none; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </table>	1	2	3	4	5	6	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I believe that my closest friends think that I should be an employee
1	2	3	4	5	6	7										
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										

The two other items concerned the respondent's belief of "my closest family" and "important others". Motivation to comply was measured by three items referring to each of the belief questions. For example, the first of these questions was: "To what extent do you care about what your closest friends think when you are to decide whether to start a new firm or not?" The

responses were given on a 7-point scale from 1="I do not care at all" to 7="I care very much". The belief items were recoded into a bipolar scale (1=+3 to 7=-3), multiplied by the respective motivation-to-comply item. The resulting three items were entered into the factor analysis along with the others.

Four factors were derived from the factor analysis (cf. Reitan 1997), which explained 58.2% of the variance. The first factor was named *perceived feasibility of venturing*. It consists of seven items and taps perceptions of whether it would be possible and easy to start a new firm, whether the chances of success are high, whether the person has sufficient knowledge and resources to start a new firm and whether the person has "the right qualities" to start a new firm. The scores on the seven items were averaged to obtain an overall measure of perceived feasibility (Cronbach's alpha = 0.83). The second factor - *perceived social norms* - consists of three items tapping the norms toward venturing of family, friends, and significant others. The scores on the three items were averaged to obtain an overall measure of perceived social norms (Cronbach's alpha = 0.88). The third factor resulting from the analysis was named *perceived desirability of venturing*, and taps perceptions of whether the individual would prefer venturing to employment, whether venturing is perceived as desirable, and whether the individual would like the situation of being self-employed. The scores on the three items were averaged to obtain an overall measure of perceived desirability (Cronbach's alpha = 0.83).

A fourth factor, consisting of four items, was derived tapping perceptions of whether venturing is of economic advantage, a suitable alternative for supporting oneself, risky, and if it will require a lot of effort or not to achieve it. It was named *perceived profitability of venturing*. The four items were averaged to obtain an overall measure of perceived profitability (Cronbach's alpha = 0.57). Although the reliability of this index is not as high as the other three, it is satisfactory and included in the analysis due to its theoretical importance.

Work experience was measured by the number of years the subject had worked in the relevant type of business. The data are used in two ways. First, they are used to create dichotomous variables, indicating whether the individual has the relevant work experience or not. Second, three-point ordinal-scale variables are created, indicating the amount of work experience in question, divided into 1) none, 2) 0.5-2 years, and 3) more than 2 years. *Education* was measured as the number of years of post-secondary education. It has been differentiated between different kinds of education. The subsequent data is used to create dichotomous variables indicating whether the subject has the relevant type of education or not, as well as ordinal-scale variables indicating the amount of education in question. For total amount of post-secondary education, the scale is divided into 1) below 3 years, 2) 3-6 years, and 3) over 6 years. For the different kinds of education, the scale is divided into 1) none, 2) 0.5-2 years, and 3) more than 2 years. *Role model* was measured by a dichotomous variable indicating whether the subject had a parent, other relatives or a friend currently self-employed.

Test procedures

Two kinds of analysis are performed in this paper: one-way analysis of variance (ANOVA) and multiple linear regression. When performing the ANOVAs based on the dichotomous

variables, the F-ratio is reported, while the the Sheffe test is chosen when performing ANOVAs based on the ordinal-scale variables. The Scheffe test is the most conservative in the sense that it is least likely to find significant differences between groups. A significance level of .05 is chosen for all ANOVAs. In the regression analysis, the stepwise procedure has been used. The final models are all checked for multicollinearity and heteroskedasticity. No serious problems were detected.

RESULTS

Descriptives for the four key attitudes are given in Table 1a. A score of 1 indicates a very unfavorable perception of venturing, while a score of 7 indicates a very favorable perception of venturing. Overall, entrepreneurship is perceived as more desirable than feasible, while the perception of profitability of venturing is more unfavorable than both perceptions of desirability and feasibility. The social norms toward entrepreneurship are perceived as more negative than positive. Importantly, none of the measures seem to be heavily skewed, and no efforts are made to transform them in the analysis.

Table 1a
Descriptive statistics for dependent variables

	Mean	SD	Range	Skewness	N
Perceived desirability	4.19	1.62	1.00-7.00	-0.08	1499
Perceived feasibility	3.67	1.13	1.00-7.00	0.14	1506
Perceived social norms	-2.10	5.37	-21.00-21.00	-0.32	1548
Perceived profitability	3.38	0.99	1.00-7.00	-0.08	1528

Means and standard deviations for the independent variables are reported in Table 1b. From table 1b we see that 62% of the subjects have got a role model and 2% have experienced unsuccessful attempts at venturing. The average amount of work experience is 3.38 years, and the average amount of post-secondary education is 3.67 years.

Table 1b
Descriptive statistics for independent variables

	Mean	SD	Range
Experience own business (yrs.)	0.09	0.73	0-15
Unsuccessful attempt at venturing	0.02	0.15	0-1
Experience overall (yrs.)	3.38	3.68	0-16
Experience family business (yrs.)	0.36	1.54	0-16
Experience SME (yrs.)	1.10	2.29	0-14
Role model	0.62	0.49	0-1
Education overall (yrs.)	3.67	2.30	0-11.5
Agricultural education (yrs.)	0.12	0.53	0-7
Higher education, other (yrs.)	0.58	1.31	0-8.5
Higher technical education (yrs.)	0.12	0.62	0-5.5
Higher business education (yrs.)	0.13	0.62	0-5

To further examine the effects of experiences and education on key entrepreneurial attitudes, a series of one-way ANOVAs were performed and the cell means examined to determine the direction of the effects. See Table 2 for the results of the dichotomous variables, and Table 3 for the ordinal variables. It is evident that subjects with direct experience from venturing perceive it as more feasible and desirable, both personally and socially, than subjects without such experience. The strongest relations is shown for perceptions of feasibility. For perceptions of profitability the effect is minimal. As seen from Table 3, it is not evident that the more direct experience a subject has from venturing, the more feasible and desirable it is perceived. Rather, a curvilinear effect is suggested, but not supported statistically. For perceptions of profitability, there is a significant difference between those with some venture experience (up to 2 years) and those without. However, those with more than 2 years of venture experience perceive venturing as less profitable than those without.

Table 2
Average scores on key entrepreneurial attitudes for dichotomous variables

	Perceived desirability			Perceived social norms			Perceived feasibility			Perceived profitability		
	Yes	No	p	Yes	No	p	Yes	No	p	Yes	No	po
Experience own business	4.67	4.17	a	-0.27	-2.16	a	4.45	3.64	c	3.61	3.37	
Unsuccessful venture attempt	5.07	4.16	c	-0.69	-2.14		4.52	3.64	c	3.76	3.37	a
Experience overall	4.18	4.20		-2.14	-2.02		3.79	3.41	c	3.39	3.36	
Experience family business	4.82	4.12	c	-0.13	-2.31	c	4.30	3.60	c	3.65	3.35	c
Experience SME	4.33	4.12	a	-1.46	-2.39	b	3.92	3.55	c	3.47	3.34	a
Role model	4.33	3.96	c	-1.48	-3.07	c	3.80	3.46	c	3.42	3.31	a
Agricultural education	5.00	4.14	c	0.08	-2.22	c	4.43	3.62	c	3.76	3.35	c
Higher business education	4.54	4.17	a	-2.22	-2.07		4.13	3.64	c	3.35	3.38	
Higher technical education	4.42	4.18		-0.96	-2.13		4.12	3.65	c	3.38	3.38	
Higher education, other	4.12	4.21		-2.61	-1.93	a	3.81	3.63	a	3.34	3.39	

a p<.05 b p<.01 c p<.001

Further, unsuccessful venture attempts do not give more negative perceptions of new venture feasibility, desirability or profitability. Rather, those having made unsuccessful venture attempts clearly perceive venturing as more feasible, profitable and personally desirable than those who have not. Moreover, the effects are stronger than for previous venture experience. Overall, while direct experience appear to be related to key entrepreneurial attitudes, the causality is hard to determine. We do not know whether previous experience or unsuccessful attempt at venturing has affected the attitudes in a favorable or unfavorable manner. Further research is needed to ascertain whether propositions 1a and 1b can be supported. On the other hand, the results reported do indeed suggest that the key attitudes are related to entrepreneurial behavior.

Subjects with work experience perceive venturing as more feasible, but not more desirable or profitable than subjects without such experience. Thus, proposition 2a is supported for feasibility only. Furthermore, the more general work experience a subject has, the more feasible venturing is perceived. In fact, this is the variable showing the clearest linear relationship with any of the key attitudes (cf. Table 3). Work experience from an SME positively influences all four key attitudes, but there is no evidence that the amount of work experience from an SME has any influence. Thus, proposition 2b is supported. Proposition 2c is clearly supported: work experience from a family business positively influences perceptions of new venture feasibility, desirability and profitability. However, there is no evidence that the more work experience from a family business a subject has, the more feasible, desirable and profitable venturing is perceived. Overall, experience from a family business has a stronger influence than general experience and experience from SMEs. Vicarious learning clearly has a strong effect on perceptions of new venture feasibility and desirability, but only moderate effects on perceptions of profitability. Proposition 3 is supported.

The amount of education an individual has clearly influences perceptions of new venture feasibility ($F=21.8$, $p<.001$). Support is given by the Scheffe-test. The amount of education do not influence any of the other key attitudes however. Thus, proposition 4a is supported for feasibility only. Moreover, as seen in Table 2, individuals with higher education perceive venturing as more feasible than subjects without higher education, and the more higher education a subject has, the more feasible venturing is perceived. In the long run higher education appears to have a negative effect on perceptions of the social and personal desirability and profitability of venturing. This is not supported statistically however. Business education makes the subjects perceive venturing as more feasible and personally desirable. However, business education does not affect perceptions of social desirability or profitability. Consistent with these findings, we also find that the more business education a subject has, the more feasible venturing is perceived. However, there is no evidence suggesting that venturing is perceived as more desirable or profitable with more business education.

Also technical education is related to higher perceptions of feasibility, but none of the other key attitudes. Regarding the amount of technical education, we find a curvilinear relation: subjects with no technical education or more than two years of technical education find venturing less feasible than those with only some technical education (0.5 - 2 years).

This also applies for perceptions of personal and social desirability, and profitability, although not significant at the .05 level. Finally, agricultural education shows consistently the strongest relation to favorable perceptions of venturing on all key attitudes.

To test proposition 5, which predicted that measures of entrepreneurial learning would explain significant amounts of variance in entrepreneurial intentions, a multiple regression analysis was performed. For the experience and education measures, the dichotomous variables have been entered into the regression rather than the ordinal variables. The results of the regression analysis are displayed in Table 4.

Table 3

Average scores on key entrepreneurial attitudes for ordinal variables

	Perceived desirability				Perceived social norms				Perceived feasibility				Perceived profitability			
	None	0.5-2	Over 2	Scheffe	None	0.5-2	Over 2	Scheffe	None	0.5-2	Over 2	Scheffe	None	0.5-2	Over 2	Scheffe
Experience own business	4.17	4.84	4.39		-2.16	0.44	-1.46	a	3.64	4.54	4.29	a,b	3.37	3.84	3.18	a
Experience overall	4.20	4.21	4.16		-2.02	-2.28	-2.08		3.41	3.62	3.86	a,b,c	3.36	3.40	3.38	
Experience family business	4.12	4.73	4.91	a,b	-2.31	-0.12	-0.14	a,b	3.60	4.27	4.34	a,b	3.35	3.73	3.57	a
Experience SME	4.12	4.33	4.33		-2.38	-1.25	-1.64	a	3.55	3.93	3.91	a,b	3.34	3.53	3.41	a
Agricultural education	4.14	4.91	5.22	a,b	-2.22	-0.20	0.88	a,b	3.62	4.38	4.55	a,b	3.35	3.81	3.63	a
Higher business education	4.17	4.38	4.75		-2.07	-2.57	-1.76		3.64	3.86	4.50	a,c	3.38	3.27	3.46	
Higher technical education	4.18	4.77	4.19		-2.13	0.22	-1.71		3.65	4.55	3.84	a,c	3.38	3.63	3.22	
Higher education, other	4.17	4.42	4.11		-1.98	-1.60	-2.81		3.58	3.79	3.94	c	3.40	3.42	3.28	

The only two variables included for all the four key attitudes are experience from a family business and agricultural education. Role modelling is included in all but for perceived profitability, while unsuccessful venture attempt is included in all but for perceived social norms. The only negative relation included in any model is between total amount of work experience and perceived social norms. Overall, education (apart from agricultural education) appear to influence perceptions of feasibility only. One minor exception is a positive relation between business education and perceived personal desirability. Summing up, the learning measures employed in this study explain much more of the variance in feasibility than desirability and profitability. The model is significant for all four attitude measures, thus supporting proposition 5.

Table 4

Multiple regression analysis of the influence of entrepreneurial learning on entrepreneurial attitudes

	Perceived desirability	Perceived social norms	Perceived feasibility	Perceived profitability
<i>Learning from direct experience</i>				
Experience own business	.025	.042	.070**	.018
Unsuccessful venture attempt	.072**	.024	.082***	.055*
<i>Learning from indirect experience</i>				
Experience family business	.092***	.079**	.119***	.074**
Experience SME	.033	.090**	.103***	.037
Experience overall	-.036	-.064*	.044	-.010
<i>Vicarious learning</i>				
Role model	.077**	.113***	.099***	.031
<i>Learning from education</i>				
Education, overall	.010	.003	.125***	-.019
Education, other higher	-.010	-.038	.037	-.012
Education, agricultural	.107***	.094***	.136***	.086***
Education, business	.051*	-.009	.067**	-.006
Education, technical	.035	.048	.059*	-.001
R-square	.04	.04	.13	.02
Adj. R-square	.04	.04	.12	.02
F-value	13.14***	13.82***	23.54***	9.32***
n	1475	1517	1480	1499

*p<.05

**p<.01

***p<.001

Overall, the measures of entrepreneurial learning account for from only 2% of the variance in perceived profitability of venturing to 12% of the variance in perceived feasibility of venturing. For perceived personal desirability and social norms 4% of the variance is explained by the model.

DISCUSSION

Recently, a large amount of research has shown that to provide a reasonable supply of entrepreneurs there must be environment congenial to creating potential entrepreneurs. If we want more potential entrepreneurs, we need to identify and establish policies that increase both their perceived feasibility, their perceived desirability (both personally and socially), and their perceived profitability (Krueger 1993; Krueger and Carsrud 1993; Krueger and Brazeal 1994; Krueger et al. 1995; Kolvereid 1996a; Reitan 1996, 1997). The questions that need to be answered to enable this are: "Who are these potential entrepreneurs?" and "How do we increase their perceived feasibility, profitability and/or desirability?" This paper has shedded more light on the second of these questions. Later research must look further into both questions.

In this paper we have shown that entrepreneurial learning clearly influences perceptions of new venture feasibility, desirability, and profitability. However, different kinds of learning influence these key attitudes differently. Learning through direct experience is related to all four measures of attitudes, and explains a significant amount of the variance in entrepreneurial attitudes. The causality is difficult to determine however, and the relations are not as strong as for some of the other learning measures. Contrary to expectations, individuals with unsuccessful attempts at venturing still perceive venturing as more feasible, profitable and personally desirable than others. We can therefore conclude that the four key attitudes are clearly *related* to entrepreneurial behavior. Whether - and to what extent - they operate as causes or effects of entrepreneurial behavior can only be determined through longitudinal investigations.

Learning through indirect experience also influences all the four measures of entrepreneurial attitudes, however, this applies consistently for experience from family business only. Total amount of experience explains only a minor amount of the perceptions of social desirability of venturing, and the relation is negative. This is not surprising since work experience from SMEs, family businesses and own businesses are controlled for in the regression. The "remaining" experience is gained from large businesses and/or the public sector. While this kind of experience is positively related to perceived feasibility, it is negatively related to both measures of perceived desirability. Vicarious learning significantly explains an amount of the variance in all attitudes but

perceived profitability. While agricultural education appear to be consistently related to all forms of entrepreneurial attitudes, other kinds of education appear to influence perceptions of feasibility only.

Overall the results indicate that it is easier to learn that entrepreneurship is feasible through direct and indirect experiences, through vicarious learning and through education than to learn that it is desirable. On the one hand, this is disappointing news, especially for the education system, which appears to be unsuccessful in stimulating an entrepreneurial potential in young people. This is especially true for the stimulation of perceived desirability and profitability of venturing. On the other hand, more individuals perceive venturing as desirable than feasible (cf. Table 1a), and hence, it appears to be more important to stimulate the perceived feasibility of venturing. To some extent, this can successfully be done via experiences, role modelling and education. Moreover, the education system has a unique chance of providing all of these requirements, for example by emphasizing more action-based learning, building relations to local SMEs and entrepreneurs, and so on.

The explanatory power of the regressions show that there is still a large amount of variance to be explained. Perhaps the *nature* of the learning process is more important for the key attitudes, especially perceptions of desirability and profitability, and that the experience in itself does not matter so much? (cf. Elder et al. 1991; Erikson 1980). In other words; what do we learn from the experiences?; are the experiences negative or positive?; what are the lessons learned from them? Scherer et al. (1991) found that the performance of the role model was the influencing factor, not having a role model per se. As stated by Krueger (1995), to encourage personal desirability, we must examine rewards as potential entrepreneurs perceive them. What are these rewards? Importantly, other factors need to be incorporated into the analysis, such as personality traits, situational variables, demographics, and other background variables. Aspiring or intending to start a new firm is only a first step in the emerging process (Katz 1990); but it is an important one. While key attitudes might be the most important variables to understand why someone jumps the first hurdle, other variables need to be included to understand why they jump (or do not jump) the second hurdle (attempt to start a new firm) and the third (successful start-up).

This present research suggests many avenues of future research. Future studies should look more closely at the determinants of key entrepreneurial attitudes and incorporate other groups of variables as suggested above. Moreover, the moderating effect of age and gender deserves investigation. Future studies should examine the different ways of learning and especially *what* the individuals are learning and how this influence entrepreneurial attitudes. Another interesting research avenue is how our experiences influence preferences for types of new businesses, i.e. a progressive

business, an innovative business, a part-time business etc. Longitudinal research is needed to ascertain to what extent entrepreneurial attitudes and intentions influence subsequent behavior, and what other variables that must be included to fully understand new venture creation. Finally, other methodological approaches are welcome, including longitudinal casestudies.

This present research has some limitations. The snapshot survey methodology is not without its limitations and its critics. Despite attempts to provide a logical and thorough survey of entrepreneurial interest and potential, the methodology can be questioned on several counts. First, the survey sample only comprises persons ranging from 16 to 31 years of age. It remains to be seen if the results are robust among the general population. Second, the survey has been carried out in three Norwegian counties only. It remains to be seen if the results show variations among counties and countries. Third, a better response rate could have been achieved had a direct face-to-face personal survey approach been adopted. This would, however, only have been feasible with a smaller sample. Finally, the reliability of the perceived profitability measure is below a satisfactory level. A better measure should be developed in future studies.

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