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Entrepreneurial Intentions towards Individual vs. Corporate Entrepreneurship

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ABSTRACT

An individual's intention to behave entrepreneurially will have attitudinal and self-efficacy antecedents. Nascent entrepreneurs also have the choice to behave entrepreneurially in their own new business or to behave entrepreneurially in an existing business (as an intrapreneur). When faced with choice, intentions are driven by attitudes towards elements of the outcomes associated with the choice items. Since the outcomes of self-employment and employment as an intrapreneur typically differ in terms of level of decision-making autonomy, degree of ownership and degree of risk exposure, we might expect the choice between these alternative career paths to depend on the individual's attitudes to autonomy, ownership and risk. We also expect self-efficacy to moderate the effect of attitudes on intentions, since self-employment involves considerable risk and greater personal decision responsibility. Our empirical tests confirm these expectations, with the intention to engage in individual entrepreneurship or corporate entrepreneurship having different attitudinal antecedents, with one of the attitude variables interacting with entrepreneurial self-efficacy.

INTRODUCTION

The intention to behave entrepreneurially has been examined from three main viewpoints, which focus, respectively, on the individual's human capital, individual cognitions and motivations, and perceived self-efficacy. Human capital is characterised as general or specific (to the intention under review). General human capital is commonly measured by age, experience, education, and gender. (see, for example, Becker, 1964; Gifford, 1993; Gimeno, Folta, Cooper, & Woo, 1997; Shane, 2000; Davidsson & Honig, 2003). Specific human capital, such as prior business experience, prior self-employment, and having relatives who have been self-employed, is also argued to be a determinant of the intention to behave entrepreneurially (see, for example, Shane, 2000; Davidsson & Honig, 2003; Dimov & Shepherd, 2005). Social capital, such as networks of people and membership of organisations, is also associated with individuals forming a predilection for entrepreneurship. (see for example, Coleman, 1990; Birley, 1985; Greene & Brown, 1997; Aldrich, 1999; Shane, 2000).

The underlying premise is that some individuals possess the knowledge, skills, and contacts that should allow them to be 'good' at entrepreneurship, and recognising this they form the intention to become an entrepreneur. In effect they form the impression that they possess the human resources and can gain access to the other resources needed to behave entrepreneurially. In general there are three necessary conditions for entrepreneurship, and having access to resources is only one of them. The other two are the innate desire to be an entrepreneur rather than to be employed as an ordinary employee, and access to what appears to be a viable market opportunity.

Shane (2003) suggests that psychological factors influence the likelihood that people will exploit new venture opportunities. These factors may be categorised into three general areas, viz: motivational factors, core self-evaluation, and cognitions. Motivational factors include

need for achievement, risk taking propensity and desire for independence. Core self evaluation factors include locus of control and self-efficacy. Cognitions are beliefs and attitudes that influence how a person thinks and makes decisions, and are largely situational specific and much less stable over time than are motives or core self-evaluation (Shane, 2003: 97). In specific situations, the causation runs from beliefs to attitudes, to intentions, to behaviour. (Fishbein & Ajzen, 1975; Bird, 1994). Conversely, behaviour can be predicted by intentions, which in turn is predictable by attitudes and beliefs (Drnovsek & Erikson, 2005).

A stream of research incorporating individual cognitions and motivating factors has examined entrepreneurship as a utility-maximizing response (Eisenhauer 1995, Douglas & Shepherd, 2000). This literature argues that an individual will form an intention to become an entrepreneur based on his/her 'entrepreneurial attitudes' these being the attitudes held towards the greater decision-making autonomy, firm ownership, risk, hard work, and perquisites that tend to be associated with entrepreneurship (as compared to employment within a firm). Empirical studies have demonstrated that some entrepreneurial attitudes (preference for autonomy and tolerance for risk) are related to entrepreneurial intentions but that other supposed entrepreneurial attitudes (preference for income, perquisites, and tolerance for hard work) are not significant determinants of entrepreneurial intentions, also being possessed by those who intend a corporate career (Douglas & Shepherd, 2002; Fitzsimmons & Douglas, 2005).

Finally, entrepreneurial intentions have been shown to depend on perceived self-efficacy (Boyd & Vozikis, 1994; Crick, Greene & Chen, 1998; de Noble, Jung & Erlich, 1999; Markman, Balkin & Baron, 2002). Self-efficacy is measured by the strength of an individual's belief that he/she can accomplish a specific task or series of related tasks. It is related to self-confidence and individual capabilities, and these are dependent on prior experience, vicarious learning, social encouragement, and physiological issues (Bandura, 1982; Bandura & Wood, 1989). The stronger a person's self-efficacy in relation to a specific task or series of tasks, such as those involved in starting a new venture, the greater the probability that the individual will subsequently engage in that specified behaviour (Crick, Greene & Chen, 1998).

Entrepreneurial behaviour can, of course, occur within the confines of a corporate career. Corporate entrepreneurship requires individuals within the firm to behave entrepreneurially and to steer the firm towards entrepreneurial behaviour, such as innovation of new products, services and business processes. Thus top management, and/or individual intrapreneurs at lower levels within the organisation, must behave entrepreneurially if the firm is to behave entrepreneurially. Individuals contemplating their future careers have a choice of four broad options, viz: behave entrepreneurially by starting one's own business, behave entrepreneurially as a franchisee, behave entrepreneurially as a manager within a firm, or seek an employment position that requires little or no entrepreneurial behaviour.

Previous studies have examined the individual's choice between self-employment and employment (Douglas & Shepherd, 2002; Fitzsimmons & Douglas, 2005). In this paper we go beyond this simple dichotomy to recognise intermediate cases where the individual, although not fully independent as a decision maker, nonetheless is able to have some degree of 'ownership' of a new venture and is permitted to behave entrepreneurially to some degree. We speculate that the lesser decision-making autonomy and lesser risk exposure of franchises and intrapreneurship might appeal to individuals with intermediate preference for autonomy and intermediate tolerance for risk, while employment in a non-entrepreneurial role may appeal more to a person with lesser preference (or aversion) to autonomy and greater aversion to risk bearing. In the following we first outline the prior literature on entrepreneurial intentions and then outline our research method and present the results of this study. This is followed by a discussion of the results and implications for further research.

LITERATURE SURVEY AND THEORY DEVELOPMENT

Previous research has investigated the various economic and psychological motivations of individuals to seek self-employment. (Baumol, 1990; Eisenhauer, 1995; Douglas & Shepherd, 2000). The motivation to engage in entrepreneurial behaviour has generally been investigated in terms of entrepreneurial intentions, with intentions conceptualised as being a function of beliefs that in turn can lead to subsequent behaviour (Fishbein & Ajzen, 1975). In general, the greater the intention, the stronger is the motivation to engage in entrepreneurial behaviour (Ajzen, 1991).

A number of models have been proposed to explain the relationship between an individual's personal characteristics and subsequent intentions (eg. Ajzen, 1987; Shapero, 1982; Bird, 1988; Krueger & Brazeal, 1994; Boyd & Vozikis, 1994). Ajzen's theory of planned behaviour (Ajzen, 1991) suggests three key attitudes that predict intentions being attitudes towards the act, social norms and perceived behavioural control. Krueger & Brazeal (1994) suggest that the perceived behavioural control construct overlaps with the self-efficacy construct of Bandura (1986), and outlined a model of potential entrepreneurship that incorporated entrepreneurial intentions. Basing their model on Ajzen's theory of planned behaviour and Shapero's model of the entrepreneurial event (Shapero, 1982), their model included potential for both enterprise development and corporate ventures and was comprised of three constructs being: perceived desirability, perceived feasibility and propensity to act. Perceived desirability was seen to be related to intrinsic rewards associated with entrepreneurship and includes the 'attitude towards the act' and 'social norms' (Krueger & Brazeal, 1994). Perceived desirability is related to the motivational factors to engage in entrepreneurial behaviour and can therefore be considered a function of entrepreneurial attitudes held by the individual. Perceived feasibility on the other hand, is related individuals perceptions of their ability to implement the required behaviour and is seen by Krueger & Brazeal (1994) to overlap with Bandura's construct of self-efficacy. Krueger (1993) cites persuasive evidence that perceived credibility, perceived desirability and propensity to act explain over half the variance in intentions towards entrepreneurship, with feasibility perceptions being the most influential.

An alternative model of entrepreneurial intentions was proposed by Bird (1988). Based on established theory in cognitive psychology, the model suggests that an individual's entrepreneurial intention is based on a combination of personal and contextual factors. Personal factors include prior experience as an entrepreneur, personality characteristics and abilities while contextual factors consist of social, political and economic variables (Bird, 1988). An individual's intention is further structured by both rational or analytic thinking (goal-directed behaviour) and intuitive or holistic thinking (vision). Boyd and Vozikis (1994) expand on this model to incorporate the perceived behavioural control aspect of Ajzen's theory of planned behaviour through the inclusion of the concept of self-efficacy. Perceived behavioural control describes the perceived ease or difficulty of performing a behaviour and as pointed out by Ajzen (1991) is closely related to the concept of self-efficacy. Boyd and Vozikis (1994) proposed self-efficacy as an important explanatory variable in determining the strength of entrepreneurial intentions and the likelihood that those intentions will result in entrepreneurial actions. The revised model of Boyd and Vozikis (1994) based on Bird's (1998) model suggests that intentions are a function of self-efficacy in addition to attitudes and perceptions regarding the creation of a new venture through rational and intuitive thought processes.

Entrepreneurial Attitudes

The motivation to behave entrepreneurially is related to the perceived desirability of behaving entrepreneurially and can be explained by the utility-maximizing theory of entrepreneurial behaviour where an individual is motivated to become self-employed (or otherwise behave entrepreneurially) because that course of action promises the greatest psychic utility

(Eisenhauer, 1995; Douglas & Shepherd, 2000). Underlying this motivation is the strength of the individual's abilities (human capital) and his/her attitudes to elements provided by entrepreneurship, which include autonomy, risk, work effort, income, and net perquisites. In general, individuals desiring more income, more independence, and more net perquisites are more likely to want to engage in entrepreneurial behaviour. Likewise, an individual with a higher tolerance for risk and less aversion to work effort should be expected to be more likely to want to engage in entrepreneurial behaviour (Douglas & Shepherd, 2000). Fitzsimmons and Douglas (2005) distinguish between an individual's attitude towards decision-making autonomy (reflecting need for independence) and the individual's attitude toward ownership (reflecting need for achievement and/or need for recognition) and find that attitude to ownership is a better predictor of entrepreneurial intentions than is independence.

Empirical evidence has shown that the above mentioned attitudes impact to varying extents when individuals form the intention to be self-employed. Substantial research indicates that entrepreneurial individuals are generally more risk tolerant and desire more independence than less entrepreneurial individuals (e.g. Caird, 1991; Begley, 1995; Sexton and Bowman, 1984). Douglas and Shepherd (2002) found that attitudes to independence, risk and income are related to the individual's intention to be self-employed. Similarly, Fitzsimmons and Douglas (2005) found evidence that attitudes to ownership, independence and income were related to the individual's intention to engage in entrepreneurial behaviour. Some evidence was found that suggested more-risk-tolerant individuals are more likely to form the intention to be self-employed, while no evidence was found to suggest that more-work-tolerant individuals have greater intentions to be self-employed.

The foregoing suggests the following hypotheses:

- H1: Entrepreneurial attitudes are positively related to entrepreneurial intentions:*
- a. The stronger the preference for income, the stronger the intention;*
 - b. The stronger the preference for independence, the stronger the intention;*
 - c. The stronger the preference for ownership, the stronger the intention;*
 - d. The greater the tolerance for risk, the stronger the intention;*
 - e. The greater the tolerance for work, the stronger the intention;*
- H2: Entrepreneurial attitudes will be more strongly related to individual entrepreneurial intentions (self-employment) than corporate entrepreneurial intentions.*

Entrepreneurial Self-Efficacy (ESE)

The perceived feasibility is related to an individual's self-efficacy. Bandura (1997) suggests that self-efficacy is the belief in one's own ability to perform a given task and that individuals having higher self-efficacy are more likely to exploit an opportunity. A number of studies have shown that entrepreneurs have greater self-efficacy than other managers (eg. Baron and Markman, 1999; Hull et al, 1980; Chen, Green & Crick, 1998). Chen et al (1998) developed a scale to measure tasks specific to entrepreneurship and found that their entrepreneurial self-efficacy scale was positively correlated with a scale measuring the person's intention to set up their own business. Accordingly we suggest the following hypothesis:

- H3: Entrepreneurial self-efficacy is positively related to entrepreneurial intentions.*
- H4: Entrepreneurial self-efficacy is more strongly related to individual entrepreneurship than to corporate entrepreneurship.*

Interaction Effects

Prior research has suggested a positive relationship between entrepreneurial self-efficacy and entrepreneurial intentions. Similarly, previous research has found evidence that individuals with favourable entrepreneurial attitudes to income, ownership, independence, and perhaps risk are more likely to form the intention to engage in entrepreneurial behaviour. These have been considered as separate determinants of intentions but we believe it is important to consider the extent to which these determinants influence, or interact with each other in determining the individual's intention to behave entrepreneurially.

Starting with the individual's attitude towards income, we expect that individuals with higher self-efficacy to have greater entrepreneurial intentions (than people with lower self-efficacy) although the strength of this relationship will be influenced by the individual's attitude to income. We expect individuals with a higher attitude to income to have higher entrepreneurial intentions regardless of their entrepreneurial self-efficacy. In contrast, we expect the relationship between self-efficacy and entrepreneurial intentions to be more positive for individuals with lower attitudes to income. That is, we expect individuals with lower attitudes to income to have low entrepreneurial intentions at low levels of self-efficacy, but much stronger entrepreneurial intentions to if they perceive themselves capable of performing entrepreneurial tasks (higher levels of entrepreneurial self-efficacy). This interaction is expected to be stronger for the case of individual entrepreneurship than for corporate entrepreneurship, since the self-employed entrepreneur will be the residual claimant of the firm's profits.

With regard to risk tolerance, we expect that people with greater entrepreneurial self-efficacy to have higher entrepreneurial intentions, although we expect this relationship to be more positive for individuals with lower risk tolerance (i.e. risk averse). While less risk tolerant individuals are expected to have lower entrepreneurial intentions at low levels of self-efficacy we expect these intentions to increase more rapidly as self-efficacy increases. In contrast, we expect that individuals with a higher attitude to risk (more risk tolerant individuals) to have strong entrepreneurial intentions regardless of their entrepreneurial self-efficacy. We base this on our expectation that more risk tolerant individuals will have the confidence that the consequences of lower self-efficacy can be mitigated or overcome. This interaction is expected to be stronger for individual entrepreneurship than for corporate entrepreneurship, since the exposure to risk will typically be lower in the corporate setting.

Thirdly, in considering attitudes to independence, we again expect that entrepreneurial intentions will rise as entrepreneurial self-efficacy increases, although we expect the relationship to be more positive for individuals with lower attitudes to independence. The more an individual believes that they can handle the decision making that comes with independence, the more they will intend to behave entrepreneurially, regardless of their perceived abilities. This interaction is expected to be stronger for individual entrepreneurship than for corporate entrepreneurship, since the scope of decision autonomy will typically be lower in the corporate setting.

Fourth, we consider the attitude to ownership. While individuals with greater self-efficacy are considered more likely to form the intention to engage in entrepreneurial behaviour, we might expect that individuals with a high attitude to ownership (i.e. strong desires for equity in a venture) might be more likely to form the intention to engage in entrepreneurial behaviour regardless of their perceived abilities. On the other hand, individuals with a low attitude to ownership (i.e. indifferent to equity in a venture) may have lower entrepreneurial intentions when they perceive their entrepreneurial abilities to be low, but their intentions may rise sharply if they perceive they are capable of performing the tasks required to engage in entrepreneurial behaviour. With regard to corporate employment intentions, it is expected that individuals will again have higher corporate entrepreneurship intentions as self-efficacy increases. While it is expected that 'low-ownership' individuals will have lower corporate employment intentions, the moderating effect of ownership is expected to have less impact on

this relationship, given the much smaller share of ownership (or profit share) that is likely in the corporate employment context.

Finally, although previous studies (Douglas and Shepherd, 2002; Fitzsimmons and Douglas, 2005) have shown no relationship, we offer the hypothesis that the individual's attitude to work effort is positively related to intentions, and that the lower the attitude to work effort the more positive the relationship between self-efficacy and entrepreneurial intentions. A person who is highly tolerant of work effort, and who has high self-efficacy, is expected to be more confident that he/she can work through problems associated with behaving entrepreneurially and thus form stronger intentions to behave entrepreneurially. This interaction is expected to be stronger for individual entrepreneurship than for corporate entrepreneurship, since the individual might expect to work harder (or have less assistance) in self-employed entrepreneurship as compared to entrepreneurship in the corporate setting.

In considering these arguments, the following hypotheses are suggested:

H5: Entrepreneurial attitudes moderate the relationship between entrepreneurial self-efficacy and entrepreneurial intentions.

- a. This relationship will be more positive for individuals with a lower preference for income.*
- b. This relationship will be more positive for individuals with a lower tolerance for risk.*
- c. This relationship will be more positive for individuals with a lower preference for independence.*
- d. This relationship will be more positive for individuals with a lower preference for ownership.*
- e. This relationship will be more positive for individuals with a lower attitude to work effort.*

H6: The interaction effects will be stronger for individual entrepreneurial intentions than for corporate entrepreneurial intentions.

In addition to the attitudes and perceived abilities in explaining entrepreneurial intentions, other individual level characteristics have also been shown to be associated with the decision to engage in entrepreneurial behaviour. An individual's human capital for example has been shown to be associated with the decision to exploit an entrepreneurial opportunity with individuals having greater human capital being more likely to have the intention and to exploit an entrepreneurial opportunity (Becker 1964; Davidsson & Honig 1993; Dimov & Shepherd, 2005). At an individual level, human capital factors such as age, education and career experience have been shown to be associated with the decision to exploit an opportunity (Shane, 2003). Studies have shown that individuals with more education than the general population are more likely to exploit entrepreneurial opportunities (Story, 1994; Reynolds, 1997). Education, for example, can increase the individuals' stock of knowledge and can improve entrepreneurial judgement given the increased understanding of the entrepreneurial process (Casson, 1995). Faced with a new venture opportunity this can lead to less uncertainty in evaluating the value of an opportunity and hence lead to increased likelihood that the individual will have the intention to pursue self-employment. Accordingly, human capital measures need to be utilised as control variable in the analysis.

H7: Human capital will be positively associated with entrepreneurial intentions;

H8: The relationship between human capital and intentions will be stronger for individual entrepreneurship than for corporate entrepreneurship.

METHOD

Sample

The sample consists of 414 students surveyed at the beginning of their first entrepreneurship class in MBA programs in Australia, China, India and Thailand (46, 39, 204 and 125 students respectively). These individuals may be considered potential entrepreneurs, since they are approaching a career decision point at which they might either enter into employment or seek self-employment. In the latter three countries the entrepreneurship course was ostensibly an elective, but the elective choice was narrow and almost all students elected for this course. The surveys were undertaken between late 2003 and late 2004 by one of the co-authors who taught virtually the same entrepreneurship course at all four institutions. In each case the survey was completed during the first hour of the first class before any 'instruction' in entrepreneurship was undertaken, although in all cases the students had access to the Study Materials and some may have completed the assigned pre-reading materials. The sample for each country was generally similar in characteristics such as age, work experience and prior educational background which allowed us to focus on other aspects relating to their motivation, perceived entrepreneurial abilities and their entrepreneurial intentions.

Variables and Measures

Entrepreneurial Intentions. We measured entrepreneurial intentions of the students in the sample using a 7-point scale ranging from very unlikely ("1") to very likely ("7") over eight items measuring intentions to engage in a range of entrepreneurial behaviour. The range of intentions included those related to self-employment intentions to entrepreneurial behaviour within an existing firm. In addition to asking how likely it was that they would start their own firm within two years or at any time in the future, several items related to entrepreneurial and intrapreneurial intentions involving the exploitation of a radical innovation or the exploitation of a incremental innovation. While the items in the survey to some extent mirrored the Stevenson's (1983) spectrum of management behaviour from 'Promoter' to 'Trustee', we employed factor analysis to investigate the underlying structure of the items in the survey. Using principal components analysis with varimax rotation resulted in three factors with eigenvalues above 1.00 and accounting for 73.3% of the cumulative variance. The three factors were found to related to individual entrepreneurial intentions (four items), corporate entrepreneurial intentions (three items) and franchising intentions (one item). For the present study we used the averages of the items for individual entrepreneurial intentions ($\alpha = 0.79$) and corporate entrepreneurial intentions ($\alpha = 0.77$). Subsequent analysis found that the attitude to ownership was the only variable related to the franchising intention (a positive relationship), and therefore for the purposes of the present study we concentrated on relationships to the individual and corporate entrepreneurial intentions. Individual items used in the study and factor analysis results are shown in Table 1.

Entrepreneurial Attitudes. Conjoint analysis was used to obtain measures for the entrepreneurial attitudes of individuals in the sample. The individuals were asked to evaluate a series of hypothetical career profiles and decide on the attractiveness of each profile presented. Based on a career scenario provided, respondents were asked to rate the attractiveness of that career alternative (assumed to be available within two years of graduation) on a seven point Likert scale anchored by very low attractiveness ('1') to very high attractiveness ('7'). The hypothetical scenarios presented were based on five attributes, these being income, risk, work effort, independence and ownership. Further details on the experimental method can be found in Douglas and Shepherd (2002).

Entrepreneurial Self-Efficacy. The entrepreneurial self-efficacy scale developed by Chen, Greene and Crick (1998) was used for the present study. This scale consists of 22 items measuring an individual's abilities in performing entrepreneurial tasks with each item measured on a 5 point Likert scale ranging from completely unsure ('1') to completely sure

(‘5’). Following Chen et. al. (1998), we calculated the total entrepreneurial self-efficacy score by taking the average of the 22 items.

Control Variables. As individual-level characteristics have previously been shown to impact on entrepreneurial intentions we included demographic characteristics such as age and gender as well as general human capital variables measuring education and business experience as control variables. A dummy variable was also included for those individuals who were currently self-employed.

ANALYSIS AND RESULTS

The descriptive statistics and inter-correlations for the sample are given in Table 2. The mean level of individual entrepreneurial intentions was 5.38 (s.d. 1.26) while the mean level of the corporate intentions was 5.58 (s.d. 1.12). The mean score for entrepreneurial self-efficacy was 3.79 (s.d. 0.53). The inter-correlation matrix indicates several interesting observations between entrepreneurial attitudes and the individual entrepreneurship and corporate entrepreneurship intentions. A positive correlation was found between the attitude to independence and both individual and corporate employment intentions, indicating that individuals with greater individual and also corporate employment intentions prefer greater independence. In contrast, opposite effects were noted in the correlations between individual and corporate intentions and the entrepreneurial attitudes to ownership and risk tolerance differed. A positive correlation was found between individual entrepreneurial intentions and the attitude to ownership whereas a negative relationship was found between corporate entrepreneurial intentions and this attitude. Similarly a positive relationship was found between individual entrepreneurial intentions and their attitude to risk (more risk tolerant) while a negative relationship was found between corporate entrepreneurial intentions and their attitude to risk (more risk averse). Positive correlations were found between entrepreneurial self-efficacy and both measures of intentions.

Independent Effects Models

We used hierarchical regression analysis to investigate the relationships between the dependent variables of individual and corporate entrepreneurial intentions and entrepreneurial attitudes and entrepreneurial self-efficacy. The control variables of age, gender, education, total experience and self-employment were first entered into the base model. In the following step we added the independent effects variables of attitudes and entrepreneurial self-efficacy. Finally, the full model using interaction effects of attitudes and entrepreneurial self-efficacy was tested.

Model 1: Individual Entrepreneurial Intentions

The Independent (main) effects model using individual entrepreneurial intentions as the dependent variable is shown in Table 3. The main effects model made a significant contribution over and above the base model ($\Delta R^2 = 0.21$). We found the human capital variables of age, education, total experience and currently self-employed to be significant, with age and currently self-employed being positively related to their self-employment intentions while individuals with greater education and more experience being less likely to have the intention to be self-employed. Significant positive relationships were also found between entrepreneurial attitudes to income, independence and ownership and self-employment intentions. Risk and work effort were not found to be significant. In addition, the measure of entrepreneurial self-efficacy was found to be positive and significantly related to an individual’s self-employment intention.

Model 2: Corporate Entrepreneurial Intentions

The independent (main) effects model using corporate entrepreneurship intention as the dependent variable is shown in Table 4. The main effects model made a modest contribution over and above the base model ($\Delta R^2 = 0.05$). The human capital variable of age was found to be significantly related to an individual's corporate entrepreneurship intention, with older individuals being less likely to have a corporate entrepreneurship intention. In comparison with the individual entrepreneurial intentions model, where we found older individuals to be more likely adopt a preference for self-employment, for corporate entrepreneurship intentions we found older individuals to be less likely to have corporate entrepreneurship intentions.

Similar to individual entrepreneurial intentions, a significant positive relationship was found between an individual's attitude to independence and their corporate entrepreneurship intentions. In contrast, we find significant negative relationships between attitudes to ownership and risk and corporate entrepreneurial intentions. Interestingly, while a more risk averse individual was found to have greater corporate entrepreneurial intentions, an individual's attitude to risk was not found to impact on individual entrepreneurial intentions. As such, it might be that an individual's risk tolerance is a better predictor of corporate entrepreneurial intentions than it is for individual entrepreneurial intentions.

Full Models including Interaction Effects

The full models including interaction effects are shown in the last two columns of Table 3 and 4. The continuous variables of entrepreneurial self-efficacy and ownership were first centred on their mean in order to facilitate the interpretation of their interaction (Aiken and West, 1991). Of the five interaction terms (one for each entrepreneurial attitude) introduced into the models, only the interaction term for attitude to ownership and entrepreneurial self-efficacy was found to be significant and consequently only this interaction term was retained in the final models. In the individual entrepreneurial intentions model (Table 3), the interaction term is significant ($p=0.002$) suggesting that interaction effects are present, although the contribution over and above the main effects model is modest ($\Delta R^2 = 0.02$). The nature of the interaction term indicates that individual entrepreneurial intentions increase with increasing entrepreneurial self-efficacy, but at a lower rate for individuals with higher attitudes to ownership. Thus, hypothesis 5d was supported while no support was found for hypothesis 5a, 5b, 5c, 5e. In comparison, the corporate entrepreneurship intentions model including the interaction term does not demonstrate significant evidence of interaction effects between the attitude to ownership and entrepreneurial self-efficacy present ($p=0.08$) and the contribution of the model over and above the main effects model is again modest ($\Delta R^2 = 0.01$). Again, this provides some support for hypothesis 6.

In order to illustrate the nature of the interactions, graphs showing the relationship between entrepreneurial self-efficacy and both individual and corporate employment intentions were plotted for both high attitude for ownership (one standard deviation above the mean) and low attitude to ownership (one standard deviation below the mean). The resulting graphs are shown in Figures 1 and 2. The nature of the interaction for individual entrepreneurial intentions is shown in Figure 1 and demonstrates that individual entrepreneurial intentions increase as entrepreneurial self-efficacy increases but at a greater rate for those with lower attitudes to ownership. The figure also illustrates that individuals with low entrepreneurial self-efficacy and low attitudes to ownership have lower individual entrepreneurial intentions, although entrepreneurial intentions rise sharply as self-efficacy increases. Moreover, the graph illustrates that individuals with low entrepreneurial self-efficacy and high attitudes to ownership have high entrepreneurial intentions which would indicate that individuals with higher attitudes to ownership are likely to form the intention to engage in individual entrepreneurial behaviour regardless of their perceived entrepreneurial abilities.

The nature of the interaction for corporate employment intentions is shown in Figure 2 and illustrates the limited interaction between the attitude to ownership and entrepreneurial self-efficacy. While corporate entrepreneurial intentions are higher for those with lower attitudes to ownership, there does not appear to be any interaction present. In addition, while corporate entrepreneurship intentions increase with entrepreneurial self-efficacy, individuals with low self-efficacy can still have relatively high corporate entrepreneurship intentions.

DISCUSSION AND IMPLICATIONS FOR FURTHER RESEARCH

This study investigated the role of entrepreneurial attitudes and perceived abilities on an individual's intention to engage in entrepreneurial behaviour. Basing our arguments on existing models of entrepreneurship intentions we find evidence that the relationship between attitudes and abilities may be more complex than independent effects models might indicate. Some evidence was found that suggests that the interaction between attitudes and perceived abilities might contribute to a better understanding of an individual's intention to engage in entrepreneurial behaviour. In addition, by investigating the intention to engage in both individual entrepreneurial behaviour as well as corporate entrepreneurial behaviour we have uncovered unique relationships between motivations and abilities and entrepreneurial intentions across a range of entrepreneurial behaviour.

We also find evidence of main effect relationships between entrepreneurial attitudes and entrepreneurial intentions for both self-employment and corporate employment contexts. Positive relationships between entrepreneurial attitudes to income, independence and ownership and individual entrepreneurial intentions were found. This is consistent with previous work by Douglas and Shepherd (2002) and Fitzsimmons and Douglas (2005). In general we found that individuals preferring more income, more independence and more ownership having higher individual entrepreneurial intentions. However, in contrast to Douglas and Shepherd (2002), Douglas (1999), we find no evidence that more risk tolerant individuals having higher individual entrepreneurial intentions. In considering corporate entrepreneurial intentions we find that attitudes to independence, ownership and risk to be significant, with individuals requiring more independence, less ownership and those that are more risk averse having higher entrepreneurial intentions. The results suggest that entrepreneurial attitudes might be significant predictors of an individual's preference for self-employment versus corporate environment.

A positive relationship was found between the attitude to independence and both individual and corporate entrepreneurial intentions which suggests that individuals derive utility from independence in both of these environments. On the other hand, while a positive relationship was found between attitudes to ownership and individual entrepreneurial intentions, a negative relationship was found between attitudes to ownership and corporate entrepreneurial intentions. This suggests that attitude to ownership is an important determinant of entrepreneurial intentions and provides further evidence for independence and ownership as distinctly separate entrepreneurial attitudes as suggested by Fitzsimmons and Douglas (2005). Lastly, the finding that attitudes to risk were significant in the relationship between corporate entrepreneurial intentions but not for the individual entrepreneurial intentions has practical implications for entrepreneurship research. It also provides some evidence that entrepreneurs (in this case self-employed entrepreneurs) may be no more risk tolerant than non-entrepreneurs. In contrast however, more risk averse individuals may well prefer a corporate entrepreneurial environment.

Significant positive main effect relationships were also found between entrepreneurial self-efficacy and both individual and corporate entrepreneurial intentions which provides further evidence for the importance of self-efficacy and its relationship to intentions as suggested in the entrepreneurial intentions models and as found by Chen et al. (1998). Our findings suggest that while self-efficacy may not indicate whether an individual will choose self -

employment over corporate employment we did find that it is an important consideration in determining the strength of an individual's intention to engage in either individual or corporate entrepreneurship. In other words, individuals who perceive themselves as having greater entrepreneurial self-efficacy are more likely to form the intention to engage in entrepreneurial endeavours whether through self-employment or corporate employment.

We also found that for individual entrepreneurial intentions (ie self-employment intentions) that attitudes can impact on the relationship between entrepreneurial self-efficacy and intentions with individuals having greater self-efficacy having greater individual entrepreneurial intentions but a more positive relationship for those with lower attitudes to ownership. The results suggested that individuals with lower attitudes to ownership may have strong individual entrepreneurial intentions when they perceive they are capable of performing entrepreneurial tasks. In addition, we find that individuals with greater attitudes to ownership have high entrepreneurial intentions even when they perceive themselves as not being capable of performing the tasks required in entrepreneurial endeavours. In both cases, if as we suspect, more favourable entrepreneurial attitudes and greater entrepreneurial self-efficacy are predictors of successful entrepreneurship then these inconsistencies may lead to poorer entrepreneurial performance than might otherwise be the case. Given the recent literature related to the 'overconfidence' of entrepreneurs we also suggest that further studies investigate whether this can be related to the interaction of attitudes and abilities.

Consistent with previous studies we found human capital variables to be significant in explaining variance across differing types of entrepreneurial behaviour. By considering individual versus corporate entrepreneurial behaviour we have uncovered several interesting features in the relationships between human capital and entrepreneurial intentions, although several of these relationships may be due to the characteristics of the sample (MBA students). We find age influences both individual and corporate entrepreneurial intentions with older individuals having greater self-employment intentions and lower corporate employment intentions. While in general a curvilinear relationship is suggested (Shane, 2003: 89), we suspect that in the current sample, younger individuals starting out on a career path may have a preference for corporate entrepreneurship in comparison to older individuals who may be returning to study in order to ready themselves for self-employment after substantial experience in corporate employment. In addition, we find negative relationships in education level and total business experience with respect to individual entrepreneurial intentions. Similar to the arguments for age, we suspect this is also a characteristic of the particular sample being used.

There may also be limitations in our measures for individual and corporate intentions which may be overly simplified in being the average score of the responses to questions (each anchored on a 7-point Likert scale, about the intention to behave entrepreneurially). For individual entrepreneurship the questions related to the strength of intention to become self-employed to exploit a radical (disruptive) innovation, and secondly, and the intention to become self-employed to exploit an incremental (imitative) innovation. For corporate entrepreneurship the questions related to the strength of intention to join a company and manage the exploitation of a radical (disruptive) innovation, and secondly, and the intention to join a company and manage the exploitation of an incremental (imitative) innovation. In order to check for bias, we performed further analysis using each of these items individually and subsequently found the results to be remarkably robust in comparison to the respective dependent variables actually used in the study, with similar results being obtained in each case.

In the middle ground between self-employment and corporate employment sits the franchise. Respondents were also asked about their intention to purchase a franchise to exploit the geographic expansion of an existing business, but this issue was not pursued further since it rested on a single question. Further analysis was performed using this single item as the

dependent variable with the attitude to ownership being the only significant independent variable and positively related to the franchise intention. We suggest that further work should be done to investigate the relationship between attitudes and abilities and the intention to become a franchisee. Thus, there appears to be scope for future studies to ask a series of Likert-type questions about entrepreneurship in the context of self-employment, franchises and within corporates, such that reliable measures of intentions are obtained rather than relying on single item measures.

SUMMARY AND CONCLUSIONS

In this paper we examined the attitudinal antecedents of the intention to behave entrepreneurially, where this intention can be directed towards actuality either as self-employment or as employment within a firm as an intrapreneur. Using human capital measures as control variables, and entrepreneurial self-efficacy as a moderating variable, we demonstrated that for the sample of 414 individuals contemplating career choice upon completion of their MBA program, the drivers of intentions differ between those contemplating self-employment versus employment as an intrapreneur. Those intending to pursue self-employment generally have more favourable attitudes to income, independence and ownership whereas those with a preference towards a corporate entrepreneurial role tended to desire more independence, but had lower attitudes to ownership and were more risk averse.

We found entrepreneurial self-efficacy to be positively related to an individuals entrepreneurial intentions whether in self-employment or in a corporate environment. In addition, we find evidence of interaction effects between an individual's entrepreneurial attitudes and entrepreneurial self-efficacy in determining the strength of their intention to be self-employed.

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Table 1. Factor analysis results (Factor loadings less than 0.30 suppressed)

Item	Factor 1 (Individual Entrepreneurship Intentions)	Factor 2 (Corporate Entrepreneurship Intentions)	Factor 3 (Franchise Intentions)
How likely is it that you would want to be self-employed within two years after graduation, assuming you had a good new business opportunity and you could raise the funding necessary to start your own business?	0.83		
How likely is it that you would want to be self-employed at some later point in the future, assuming you had a good opportunity and could raise the funding necessary?	0.80		
How likely is it that you would want to start your own business to exploit a radical innovation?	0.79		
How likely is it that you would want to manage (within your employer's business) a new division (or branch) that is set up to exploit a radical innovation?		0.89	
How likely is it that you would want to start your own business to introduce a new variant of an existing product or service?	0.71		0.32
How likely is it that you would want to manage (within your employer's business) a new division set up to introduce a new variant of an existing product or service?		0.84	
How likely is it that you would want to buy a franchise (of an existing firm) to market an existing product into a defined geographic area?			0.89
How likely is it that you would want to manage (within your employer's business) a new division (or branch) set up to introduce an existing product into a new market?		0.65	0.52

Table 2. Descriptive statistics and Inter-correlation matrix (* p<0.05, ** p<0.01)

	Mean	S.d.	1	2	3	4	5	6	7
1. Individual EI	5.38	1.26							
2. Corporate EI	5.58	1.12	0.08						
3. Income	2.74	0.91	0.03	-0.02					
4. Independence	1.10	0.72	0.11*	0.14**	-0.35**				
5. Ownership	0.33	0.63	0.39**	-0.13*	-0.25**	0.00			
6. Risk Tolerance	-0.51	0.60	0.13**	-0.06	-0.17**	0.29**	0.15**		
7. Work Effort	-0.13	0.62	-0.01	0.08	-0.19**	0.23**	-0.00	0.33**	
8. ESE	3.79	0.53	0.21**	0.16**	0.04	0.12*	0.01	0.09	0.13*

Table 3. Hierarchical Regression Analysis. Dependent variable: Individual Entrepreneurial Intention. (* p<0.05, ** p<0.01, *** p<0.001, n=372)

	Base Model		Independent Effects Only		Interaction Effects	
	B	Standardised	B	Standardised	B	Standardised
Constant	4.57***		3.41***		3.39***	
Age	0.06	0.23	0.08**	0.30	0.07**	0.29
Sex	-0.09	-0.03	-0.05	-0.02	-0.04	-0.01
Education	-.29**	-0.11	-0.30*	-0.12	-0.26*	-0.10
Income	0.02	0.03	-0.01	-0.02	-0.02	-0.03
Self-Employed	0.76***	0.19	0.45*	0.12	0.47**	0.12
Total Experience	-0.05	-0.19	-0.07*	-0.27	-0.07*	-0.25
ESE			0.47***	0.20	0.56***	0.24
Income			0.24**	0.18	0.23**	0.16
Independence			0.27**	0.16	0.28**	0.16
Ownership			0.86***	0.43	0.87***	0.43
Risk Tolerance			0.14	0.07	0.12	0.06
Work Effort			-0.08	-0.04	-0.10	-0.05
ESE x Ownership					-0.44**	-0.14
R2	0.06		0.29		0.30	
Adjusted R2	0.05		0.26		0.28	
Change in R2			0.21		0.02	

Table 4. Hierarchical Regression Analysis. Dependent variable: Corporate Entrepreneurial Intention. (* p<0.05, ** p<0.01, *** p<0.001, ^a p<0.10 ; n=372).

	Base Model		Independent Effects Only		Interaction Effects	
	B	Standardised	B	Standardised	B	Standardised
Constant	7.23***		7.09***		7.08***	
Age	-0.06*	-0.26	-0.06*	-0.27	-0.06*	-0.28
Sex	-0.31*	-0.12	-0.24	-0.10	-0.24	-0.10
Education	-0.10	-0.04	-0.13	-0.06	-0.11	-0.05
Income	0.04	0.09	0.05*	0.11	0.05	0.11
Self-Employed	-0.10	-0.03	0.30	-0.00	0.00	0.00
Total Experience	0.04	0.18	-0.04	0.20	0.05	0.21
ESE			0.30**	0.14	0.35**	0.17
Income			-0.04	-0.04	-0.06	-0.05
Independence			0.18*	0.11	0.18*	0.12
Ownership			-0.21*	-0.12	-0.20*	-0.11
Risk Tolerance			-0.25*	-0.14	-0.26*	-0.14
Work Effort			0.12	0.06	0.11	0.06
ESE x Ownership					-0.25 ^a	-0.09
R2	0.04		0.10		0.11	
Adjusted R2	0.02		0.07		0.08	
Change in R2			0.05		0.01	

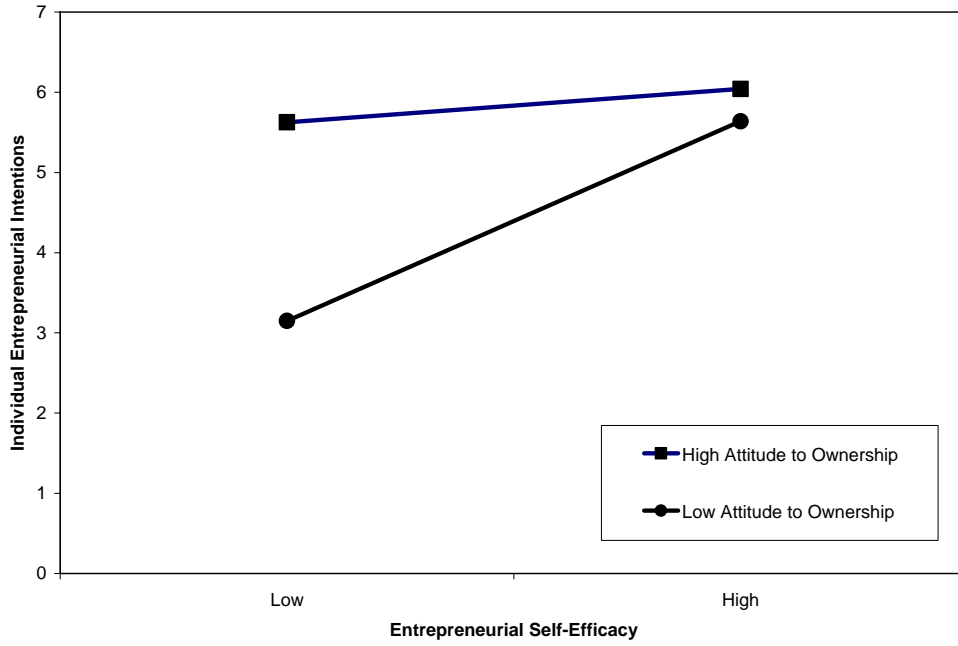


Figure 1. Attitude to Ownership X Entrepreneurial Self-Efficacy Interaction for Individual Entrepreneurial Intentions

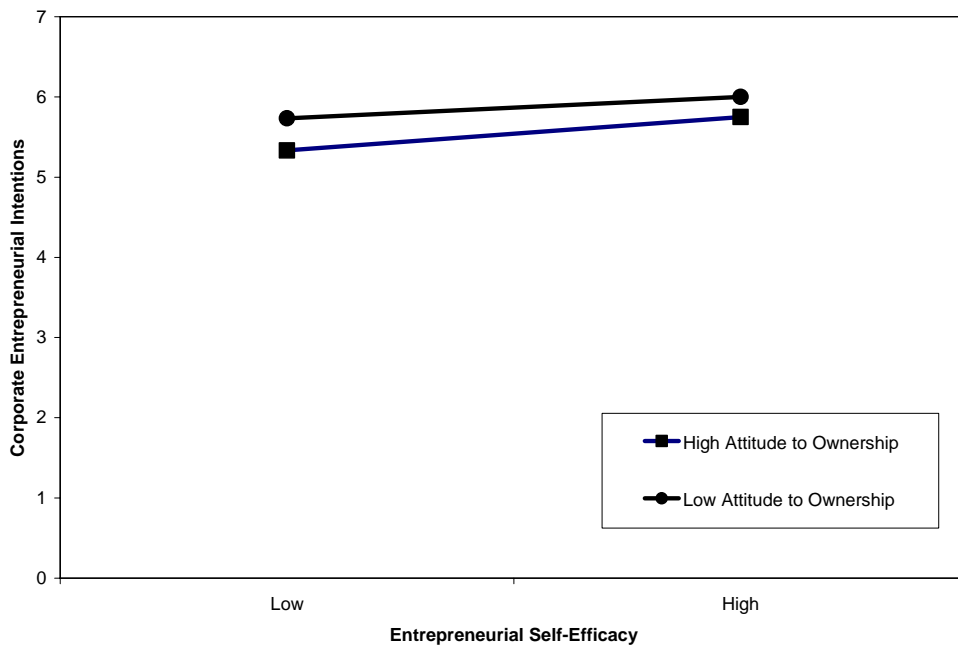


Figure 2. Attitude to Ownership X Entrepreneurial Self-Efficacy Interaction for Corporate Entrepreneurial Intentions