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“TRYING” TO BE AN ENTREPRENEUR? A “GOAL-SPECIFIC” CHALLENGE TO THE INTENTIONS MODEL

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ABSTRACT

If we are to understand how entrepreneurial intentions evolve, we must embrace theories reflecting the inherent dynamics of human decision making. While the dominant model of entrepreneurial intentions remains invaluable, capturing the dynamics is necessary to advance our understanding of how intent becomes action. To this end, we offer Bagozzi's Theory of Trying (TT) as a theory-driven model that assumes a dynamic pathway to intent. Rather than focusing on intentions toward a static target behavior, TT focuses on intentions toward a dynamic goal. To support this perspective, we offer striking new evidence that the emergent intentions process is indeed dynamic.

INTRODUCTION

The late Sumantra Ghoshal (2005) stated that what made social sciences distinct from science, arts and humanities was that its *basic unit of explanation was (and is) that intentions guide action* (see also Dennett, 1989, Malle & Knobe, 1997). Early entrepreneurship research recognized that understanding the link between ideas and action was critical for understanding the entrepreneurial process (Bird, 1989, Krueger, 1993). Studies of entrepreneurial intent have been dominated by variations on Ajzen's (1991) theory of planned behavior (TPB). Krueger (1993) offered a complementary model; the entrepreneurial event (Shapiro, 1982) and studies have shown show no significant difference in predicting behavior between the two models (Krueger et al, 2000). TPB was an extension of the theory of reasoned action (TRA) (Ajzen and Fishbein, 1980). Both models assume that intentions are driven by attitudes and social norms. TPB adds a new antecedent, perceived behavioral control, to TRA. In subsequent entrepreneurial intentionality studies, perceived behavioral control has often been replaced by Bandura's concept of self-efficacy (Bandura, 1982).

These linear, unidirectional models have proven robust across remarkably different implementations. Path analysis confirmed that correlations between attitudes and behavior are fully explained by the attitude-intention and intention-behavior links (Kim & Hunter, 1993). Formal intentions models have been successfully applied to entrepreneurial behavior (e.g., Davidsson, 1991, Krueger, 1993, Krueger & Brazeal, 1994, Krueger et al, 2000). However, social psychological research has shown that attitudes cause behavior, but behavior also causes attitudes, i.e., reciprocal causation exists (Kelman, 1974), that the two are unrelated or that the two are caused by something else (McBroom & Reed, 1992).

Yet our dominant models are static in nature, “snapshots” of a highly dynamic, multi-stage process of new venture emergence. Does it make sense to regard identically two individuals with the same intent (and same antecedents) if one is a novice and the other an expert? Presumably, a more “informed” intent would seem more credible and more informative. In the dynamic process of how intentions evolve, we would expect that intentions process can – and perhaps must – differ over time. The reality is that not only can the targets of our intentions change, so too can the pathways to those goals. In fact, we should expect the goals and paths to change, often abruptly. Our models must begin to embrace that reality.

We are all familiar with those who are always thinking about starting a business, but never taking action. In the most recent PSED data, we now see more than a few nascent entrepreneurs who have now remained nascent for 9 years. They report still trying, not just thinking about it and yet not actually launching. This suggests there are stages to the process that might even require differing models of entrepreneurial intention.

Despite the proven strength of TPB in entrepreneurship research and elsewhere, TRA and TPB have been highly criticized (Bagozzi & Warshaw, 1990, Bagozzi, 1992). It has been argued that TRA applies only to volitional behavior, i.e. behavior is assumed to be under one’s control while TPB applies to behavior under partial volitional control. Liska (1984) questioned whether action can be partially volitional and partially non-volitional. Bagozzi & Warshaw (1990) instead claimed action should be viewed as a process of trying to achieve a goal. Such an action is a desired action but the individual finds it problematic to perform. In TRA and TPB, action is viewed as a single and final performance and action is the dependent variable.

Bagozzi and Warshaw (1990) offered an extension known as the *theory of trying* (TT) where action is viewed as goal directed behavior, a series of attempts to realize a goal. However, studies in social psychology have shown that the link between attitude and action is anything but consistent. Kelman (1974) claimed that inconsistencies occur because studies do not account for the social constraints of the situations in which the action is observed and the attitudes are assessed. Bay and Daniel (2003) argued that models predicting volitional behavior have to be adjusted to apply to goal-directed behavior. That is, there may be different pathways toward one’s intentions (Krueger & Kickul, 2006). Intentions may be content and context dependent in that there are attitudes toward the object and attitudes toward the situation, which may be in conflict and not supportive (Kelman, 1974, Bagozzi & Yi, 1989). It becomes clear that the relatively static modeling of entrepreneurial intentions must yield to more dynamic modeling. Any process of emergence is necessarily dynamic. Applying the notion of goal directed behavior may help us explain why some intentions get enacted and other do not.

In this paper we build on the notion of TT and use the hierarchy of goals concept to determine types of intentions. We assume that not all intentions will be acted upon and this is dependent on the level of the goal. Moreover, this paper challenges the unidirectional characteristic of entrepreneurial intention models. We analyze the sequencing of goals and deploy competing models to test for reciprocal relationships along the pathways to intent using structural equation modelling.

CONTEMPORARY MODELS OF INTENTIONS AND ACTION

Understanding why and when attitudes affect intentions in a way that intentions transfer into behavior has been the focal interest of researchers in many different areas such as consumer research (Ajzen & Driver, 1992, Bagozzi, 2000a,b, Bagozzi et al, 2003), health care (Bagozzi & Warshaw, 1990), organization behavior, everyday decision making (Mathur, 1998), adoption of new technologies (Davis et al, 1989 Bagozzi, 1992) career choice and entrepreneurship (Davidsson, 1991, Krueger, 1993, 2000, Krueger & Brazeal, 1994, Krueger et al, 2000), and above all in psychology (Liska, 1984, Fazio & Williams, 1986, McBroom & Reed, 1992, Taylor & Gollwitzer, 1995, Brunstein & Gollwitzer, 1996,

Gollwitzer & Brandstätter, 1997, Gollwitzer & Schaal, 1998, Scheeran et al, 2005).

Common to all studies is that they draw on a theoretical framework explaining social action, presented by Ajzen and Fishbein (1980). The initial model, *theory of reasoned action* (TRA), assumed that attitudes and subjective or social norms predicted intentions (Fishbein & Ajzen, 1975, Ajzen & Fishbein, 1980) and later enhanced by the addition of variables with moderating effects (Fazio & Williams, 1986) and ultimately augmented by Ajzen (1991) including a variable with a direct predicting effect of intentions; *perceived behavioral control*. The new model, the *theory of planned behavior* (TPB) (Figure 1) has dominated attitude research for the past fifteen years. The fundamental thesis here is that attitudes impact behavior, attitudes impact intentions, which then are the strongest predictors of behavior.

Despite the dominance of TPB, both TRA and TPB were criticized on the grounds that intentions were a necessary but insufficient impetus for action (Bagozzi & Warshaw, 1990, Bagozzi, 1992, McBroom & Reed, 1992). Thus, they failed to adequately predict *actual* behavior, i.e. when intentions get enacted. TRA best applies to volitional behavior where nothing prevents action from taking place (Bagozzi, 1992). TPB was less limited and suitable for action under partial volitional control, incorporating possible impediments from personal deficiencies. To deal with the possibility of changing circumstances, Bagozzi and Warshaw (1990) presented a refinement, their *theory of trying* (TT), where final performance was assumed to be preceded by a series of attempts – trials. That is, it is also a theory of goal persistence. However, TT need not assume a fixed goal; the effectual thinking that characterizes entrepreneurial activity assumes a goal flexibility that TPB does not. Thus, TT offers an immediate advantage.

Insert Figure 1 about here

Entrepreneurial intentionality studies have primarily been based on two theories (i) the theory of planned behavior (Ajzen, 1987), and (ii) Shapero's entrepreneurial event (Shapero, 1982). The models have been shown to be equally powerful in *predicting* entrepreneurial activity (Krueger et al, 2000). The model draws on TPB with some modifications. Accordingly, intentions toward pursuing an opportunity are best predicted by three critical perceptions: that the entrepreneurial activity is perceived as **(a)** personally desirable, **(b)** supported by social norms, and **(c)** feasible (feasibility presumably impacted by perceived self-efficacy). These linear, unidirectional models have not considered the issue of action being volitional or even partially volitional. Despite Shapero's caution, barriers or facilitators have rarely been included in specifying intentions models (Shapero 1982; Krueger 2003; Krueger, Schulte & Stamp 2007). Previous studies in entrepreneurship recognized that there may be a difference in entrepreneurial intensity but these studies have not explicitly applied the notion of intentions as goal-directed behavior. For example, Baum (1995) has looked at personality traits and entrepreneurial intensity with reference to entrepreneurial growth. Pistrucci et al. (1998) showed a relationship between entrepreneurial intensity and intentions. Krueger and Kickul (2006) explored the relationship of cognitive style, self-efficacy, entrepreneurial intentionality, and entrepreneurial intensity. Entrepreneurial intensity is defined as the degree to which entrepreneurs are willing to exert maximum motivation and effort towards the success of their venture. Krueger & Kickul (2006) implicitly look at goal directed behavior or at least at intentions towards success, however they do not deal with the option that intentions do not get enacted. Instead, they assume an entrepreneurial intention model where success is taken as an outcome.

HIERARCHY OF GOALS

The notion of goal directed behavior explicitly acknowledges that the outcome may be affected by actions of others or circumstances beyond one's control (Bagozzi & Warshaw, 1990, Bay & Daniel, 2003). Therefore, Bay and Daniel argues that models predicting volitional action must be adjusted to apply to goal-directed behavior. Bagozzi and Yi (1989) suggested that degrees of intentions indeed existed, that intentions may vary with respect to how well they are formed (see also Liska, 1984). Poorly

formed intentions have a greater likelihood of changing than well-formed intentions and thus their ability to predict behavior. Their study found strong evidence for that the degree of intentions moderated the attitude-behavior relationship. Bagozzi and Yi (1989) concluded that individuals may not have formed real intentions until a certain point but may feel obliged to respond. Individuals who do not possess an intention may respond if a clear non-response alternative is not provided. More recently, studies have analyzed the relationship between goal intentions and implementation intentions (Gollwitzer & Brandstätter, 1997, Bagozzi et al 2003, Scheeran & Gollwitzer, 2005). Bay and Daniel (2003) assumed differences in type among goal-directed behaviors and used the hierarchy of goals concept to determine types of behavior that may change the importance of the antecedent variables.

Lawson's (1997) hierarchy of goals concept offers a vehicle for assuming a dynamic nature of intentions, a continuum of lower-level goals up to higher-level goals, as befits the process of emergence such as in a new venture. Lawson proposed how to organize behavior hierarchically. Decisions are made at a level as a response to criteria at a higher level. Lawson identified three levels: the *system* level, the *principle* level, and the *program* level, where the system level is highest and the program level is lowest. The highest level (*system*) is highly abstract and reflects the idealized self. This level does not lead directly to action, but generates the principles of the next lower level. With respect to intentions this implies low levels or poorly formed intentions. The *principle* level reflects a unified or harmonious life view. This level does not lead to direct action but an understanding is formed of what that action might be. In other words, intentions are still ill-formed but more so than the previous level. The *program* level results in action with well-formed intentions. Each level should involve different knowledge structures (maps, scripts and/or schemas) again suggesting the intentions process itself should vary as intentions evolve.

RESEARCH DESIGN

Participants

A diverse samples of 421 students facing career decisions participated in the study: 173 undergraduate students from a university in southwest Finland (68 female, 105 male), 48 undergraduates who were in their final year in a polytechnic college in southwest Finland (8 female, 40 male), and 200 high-school students from southwest Finland and Ostrobothnia (123 female, 75 male, 2 N/R).

Measures

Following the Krueger et al (2000) study entrepreneurial intentions, perceived desirability, and feasibility participants

were asked to indicate on a scale from 0 to 100 "how likely it was for them to start a firm within the next 5 years", "how attractive starting a firm for the average person was", "how attractive it was for them", "how feasible for the average person it was to start a firm", and "how feasible it was for them". That is, 0 indicated the non-response alternative. Additionally, an 18-item measure on intentions and attitudes of what drove their potentially positive or negative perceptions of desirability and feasibility by using a 5-point Likert scale where 1 represents "completely agree" and 5 "completely disagree" was used. Items included measures like: "I have enough industry knowledge", "Entrepreneurship as a lifestyle appeals", "Role model by friends encourages", "Family role-model encourages". Cronbach's alpha for this scale was 0.89.

Perceived social norms were measured with two 5-point Likert scale items (as above) “the model set by my family or relatives encourages entrepreneurship”; “the model set by my friends encourages entrepreneurship.”

For self-efficacy,

we used a 21-item measure (adapted from DeNoble, et al. (1999). Each scale item is a 5-point Likert scales where 1 represents “completely agree” and 5 “completely disagree” was used. Items included measures like: “I am exactly the type of person who would be a successful entrepreneur”, “I know that I am an entrepreneur at heart”, “As an entrepreneur I would reach my goals in life”, “I am convinced I would succeed if I would start my own business”. Cronbach’s alpha for this scale was 0.73.

RESULTS

Lisrel VIII (Jöreskog & Sörbom, 1993) was utilized to compare the fit of the proposed research questions and structural models. A covariance matrix was used as input for estimation of the structural models. Each construct was aggregated in order to have uni-dimensional composite scales for the structural models (Anderson & Gerbing, 1988). In order to adjust for measurement error in the scale scores, the path from the latent variable to its indicator was set equal to the product of the square root of the scale’s internal reliability. The error variance was set equal to the variance of the scale score multiplied by 1 minus the reliability. This approach has been explained by Williams and Hazer (1986), Jöreskog and Sörbom (1993), and has been demonstrated as a reasonable approximation in determining error variance (Netemeyer, Johnston, & Burton 1990).

Using our structural equation modeling, a series of nested models revealed that social norms and self-efficacy had a direct relationship on desirability and feasibility, respectively. We also found that desirability and feasibility, consistent with theory of planned behavior, were associated with entrepreneurial intentions (Figure 2).

However, through our analyses and modeling, we found both linear and non-linear preferences along the intentions process. That is, the initial modification indices from the structural model indicated that those with strong intentions also had a strong desirability toward the new venture (reciprocal relationship). In fact, including this bi-directional relationship actually improved the overall fit.

Insert Figure 2 about here

Post-Hoc Analyses: Hierarchical Regression Analysis

Given previous findings, we also wanted to test other assumptions related to the linearity of the intentions model. Using hierarchical regression analysis on our sample, our follow-up findings suggest a curvilinear link between desirability and intentions as well as between feasibility and intentions (see Tables 1 and 2, displaying the significance of the curvilinear relationship and their quadratic equations).

Insert Tables 1 and 2 about here

TPB and its variants assume a linear relationship between intent and its antecedents. Many cognitive phenomena demonstrate a threshold effect; that is, that there is a tipping point where perceived feasibility (or desirability) will reach a point where the impact increases. We should see threshold effects but they

are likely to be subtle, masked by measurement error and other noise. However, while we may not observe a step change in intent, we should see at least an inflection point. If there are multiple stages, we should observe multiple inflection points.

Insert Figure 3 about here

Figure 3 offers a stylized representation of a linear relationship and a relationship with two inflection points. Note that Figures 4 and 5 appear to suggest exactly that, two inflection points. Curvilinearity is a clear signal of inflection points, however there is a further test. A key mechanism for identifying an inflection point is a steep decrease in the variance above the inflection point. Figure 5 shows exactly that.

Interestingly, Figure 4 depicts a U-shape relationship such that as desirability is between the levels of 25 to 80 (scale 0 to 100), intentions actually decrease. A comparable pattern holds true for overall feasibility (see Figure 5).

Insert Figures 4 and 5 about here

Finally, using our quadratic equations, we were able to determine the predicted values of intentions for desirability and feasibility. This final set of analyses, as shown in Figure 5, yet again displays an interesting interplay and variation between desirability and feasibility on intentions. By plotting the residuals on the x-axis and predicted intentions on the y-axis, we find that desirability's variability is highest when intentionality is low (Figure 6). However, at a certain point (close to 50 on intentionality scale), this variance starts to decrease. There seems to be a "commitment threshold" effect in that when one has a certain level of intentions, the desirability surrounding the decision to start a venture becomes more preset and unwavering in the minds of the aspiring entrepreneur.

Insert Figure 6 about here

However, this is not the case with overall feasibility, as also shown in Figure 6. The variance of feasibility is lower in the beginning as intentions are low, then actually increases as intentions also increase. The more feasible the individual believes in the venture succeeding, the more hesitant they are in actually implementing and following through with the launch of the new business. However, as shown earlier in our structural equation results, it is higher levels of perceived feasibility that drives overall intentionality (not the bi-directional relationship seen between desirability and intentions). Note that even though many researchers find a correlation between perceptions of desirability and feasibility, the interrelationship with intent over time can differ remarkably.

DISCUSSION – TRYING TO INTEND, INTENDING TO TRY

Studies in entrepreneurial intentionality have shown that modeling intentions is indeed important as they show the highest accuracy in predicting behavior (Ajzen and Fishbein, 1980, Shapero, 1982, Krueger et al, 2000). However, as we peel back each layer of entrepreneurial intent, we find more complexity and more evidence that we ignore the dynamics at our peril. If we are to accommodate the dynamism inherent in how intentions evolve, we must turn to theories and formal models that address the implications of that dynamism. Dynamic processes are unavoidably nonlinear. One highly promising candidate is Bagozzi's Theory of Trying (TT).

Using TT we can address the goals that the 'trying' is directed toward. At minimum, these goals should differ as the venture evolves from goal intentions to implementation intentions. McMullen and

Shepherd (2006) in their look at entrepreneurial action describe persuasively how the nature of the uncertainty faced by entrepreneurs varies across the stage of the new venture's emergence. We could also consider a beginning stage where the potential entrepreneur becomes aware of entrepreneurial options. Regardless, if intentions evolve by stages, we will see clear evidence that the process is nonlinear.

In this research, we began by using the TPB framework but looking for evidence that dynamism does indeed have important effects. For example, we saw evidence for reciprocal causation in the TPB model, confirming recent findings (Krueger, Brannback & Carsrud 2007). Perceived feasibility and perceived desirability remain significantly correlated with intent, but we now see that the "snapshot" provided by the TPB class of models can mask bi-directional relationships.

Many intentions studies suggest that future research should look closely at how intentions change, yet only a handful have done so. Perhaps analyzing differences between two static 'snapshots' is fundamentally insufficient; we need an inherently dynamic model such as TT. This is of great practical importance. One author has long argued that changing perceptions of feasibility and/or desirability should lead to changes in intentions (Krueger & Brazeal 1994; Krueger 2000; Krueger, et al. 2000). Evidence here suggests this "obvious" conclusion –and ensuing prescription – to be naïve at best.

There is evidence from the strategic management literature that when managers categorize a strategic issue as "opportunity" or "threat", the known "antecedents" need not be temporally or causally prior (Dutton & Jackson 1987). In this setting, changing perceptions of desirability and feasibility may drive changes in intentions. However, change in intent can also drive changes in desirability and feasibility. While we can infer that the decision maker is rationalizing the change in intent, we would also argue that intent is changing. Regardless, if we are to understand how intentions change, the process now appears more complex than simply a matter of changes in antecedents driving changes in intent.

We also did see evidence that the intentions process has three stages. Recall from above that there seems to be essentially a "phase change" in intent at about 25, then another around 80. This might reflect an pre-intentions stage, a goal-intentions stage and an implantation-intentions stage. We would propose testing more specifically whether we indeed have stages and assessing how the intentions process differs in each stage. That is, across this process entrepreneurs are likely to exhibit different cognitive regimes (different cognitive maps, scripts and/or schemas).

One practical implication for researchers is that if there is more than one cognitive regime, our results may be confounded if we mix data from more than one stage. Beyond the potential "apples and oranges" issue, if there is a pre-intent stage, that data may be particularly messy. That is, intentions researchers may wish to re-analyze data excluding cases/subjects with very low or even zero levels of reported intent. This prescription should apply to any study of intent, not just entrepreneurial intentions.

A second implication for researchers and practitioners alike is that the reality of how a new venture evolves is not that of a linear, direct path from idea to launch. The reality is that the process is halting, course-changing, even course-reversing. As such, we should re-assess intent along the lifespan of the venture using the Theory of Trying; as its course changes, those changes should be reflected in changing goals and thus goal intentions and implementation intentions.

As such, we propose to launch a longitudinal analysis, following early-stage ventures and their founders from initial ideation to launch, re-assessing intent and other cognitive phenomena whenever circumstances change significantly. Tracking incubator tenants might be ideal and could afford a rigorous cross-sectional analysis. Regardless, such analysis would be the acid test for TT.

Another research consideration might be to follow the initial prescription of Bandura (e.g., 1982), who argued that self-efficacy has two components: **(a)** the level of expected performance and **(b)** one's confidence in that level. We tend to measure the former, but Bandura argued that this measure can be misleading without the latter information. As such, we propose that future research on intentions continue to assess the level of intent but add a measure of the respondent's confidence in that judgment. We would expect that a composite measure of the two would improve our ability to predict intent and action.

We would also urge researchers to begin looking more closely at barriers to (and facilitators of) action. Following Bagozzi, understanding the real and perceived barriers strengthen our grasp of goal intent and implementation intent. Finally, if feasible, we would particularly urge assessment of individuals who have remained in nascency (i.e., still trying) in light of the theory of trying.

The emergence of new ventures is a complex, messy, often circuitous process. We have learned much by deploying well-established models of behavioral intentions, yet to fully understand the dynamics of emergence we need to begin looking for those dynamics. We also need to embrace theories and models that themselves embrace the dynamics of emergent processes. We invite the reader to join the journey.

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Table 1

First Step in Hierarchical Regression Analysis - Test of Linearity					
Dependent variable.. INTENT			Method.. LINEAR		
Listwise Deletion of Missing Data					
Multiple R	.65275				
R Square	.42608				
Adjusted R Square	.42336				
Standard Error	20.21528				
	DF	Sum of Squares	Mean Square		
Regression	1	64015.150	64015.150		
Residuals	211	86226.774	408.658		
F =	156.64736	Signif F = .0000			
----- Variables in the Equation -----					
Variable	B	SE B	Beta	T	Sig T
DESIR	.670601	.053580	.652748	12.516	.0000
(Constant)	-10.195013	3.301565		-3.088	.0023
Second Step in Hierarchical Regression Analysis - Test of curvilinear Relationships (Augmenting Linear Relationship Tests)					
Dependent variable.. INTENT			Method.. QUADRATI		
Multiple R	.67891				
R Square	.46092				
Adjusted R Square	.45579				
Standard Error	19.63861				
	DF	Sum of Squares	Mean Square		
Regression	2	69250.201	34625.100		
Residuals	210	80991.724	385.675		
F =	89.77795	Signif F = .0000			
----- Variables in the Equation -----					
Variable	B	SE B	Beta	T	Sig T
DESIR	-.105140	.216894	-.102341	-.485	.6284
DESIR**2	.007537	.002046	.777820	3.684	.0003
(Constant)	4.578191	5.134779		.892	.3736

Table 2

First Step in Hierarchical Regression Analysis - Test of Linearity					
Dependent variable.. INTENT			Method.. LINEAR		
Multiple R	.48317				
R Square	.23345				
Adjusted R Square	.22980				
Standard Error	23.41792				
	DF	Sum of Squares	Mean Square		
Regression	1	35072.78	35072.780		
Residuals	210	115163.76	548.399		
F =	63.95487	Signif F = .0000			
----- Variables in the Equation -----					
Variable	B	SE B	Beta	T	Sig T
FEAS	.516857	.064630	.483167	7.997	.0000
(Constant)	2.896654	3.452224		.839	.4024
Second Step in Hierarchical Regression Analysis - Test of curvilinear Relationships (Augmenting Linear Relationship Tests)					
Dependent variable.. INTENT			Method.. QUADRATIC		
Multiple R	.49755				
R Square	.24756				
Adjusted R Square	.24035				
Standard Error	23.25690				
	DF	Sum of Squares	Mean Square		
Regression	2	37191.87	18595.935		

Residuals	209	113044.67	540.884		
F =	34.38066	Signif F =	.0000		
----- Variables in the Equation -----					
Variable	B	SE B	Beta	T	Sig T
FEAS	.069220	.235086	.064708	.294	.7687
FEAS**2	.004716	.002382	.434987	1.979	.0491
(Constant)	10.599003	5.186244		2.044	.0422

Figure 1

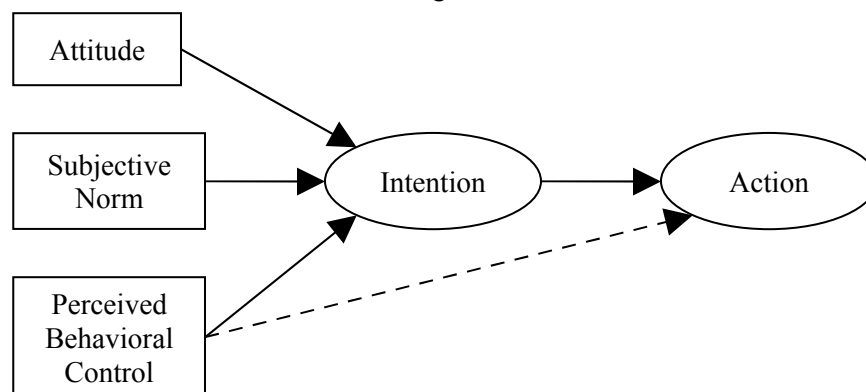


Figure 2

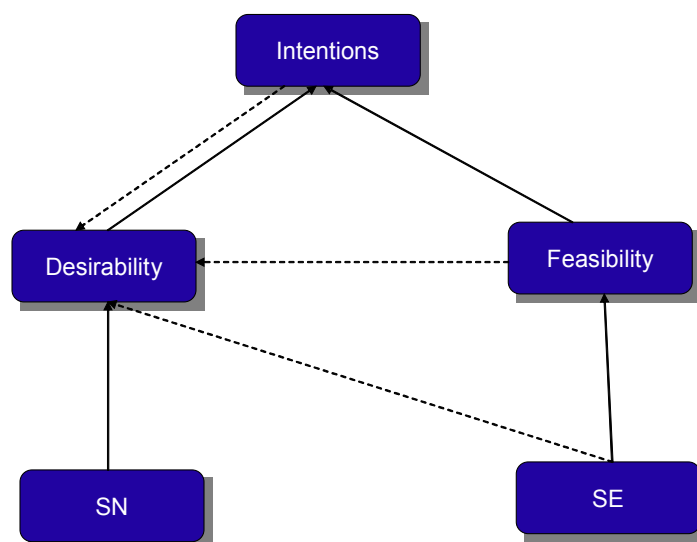


Figure 3

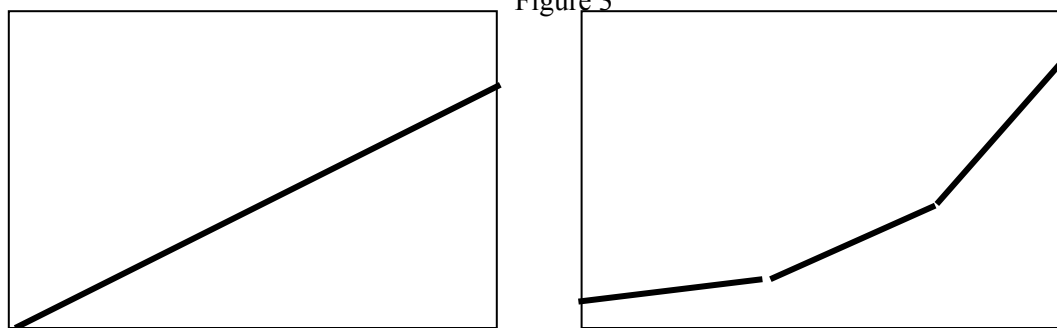


Figure 4

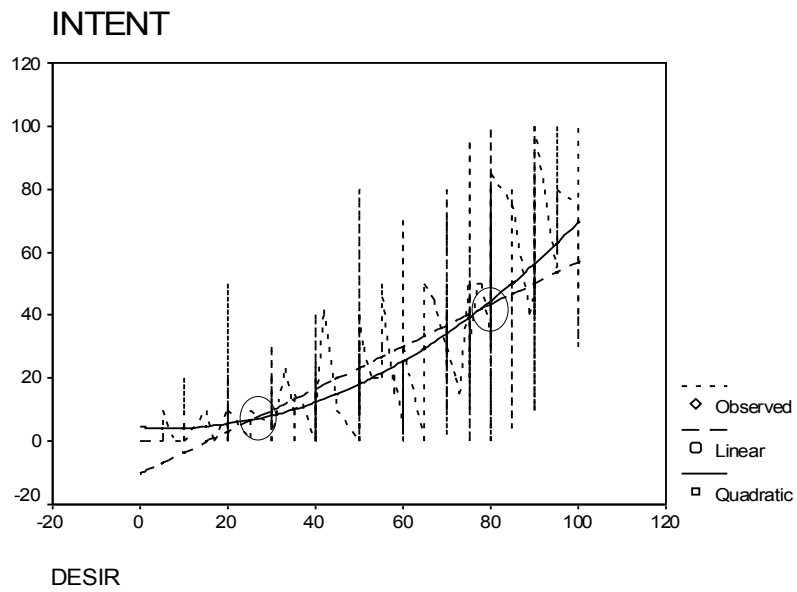


Figure 5

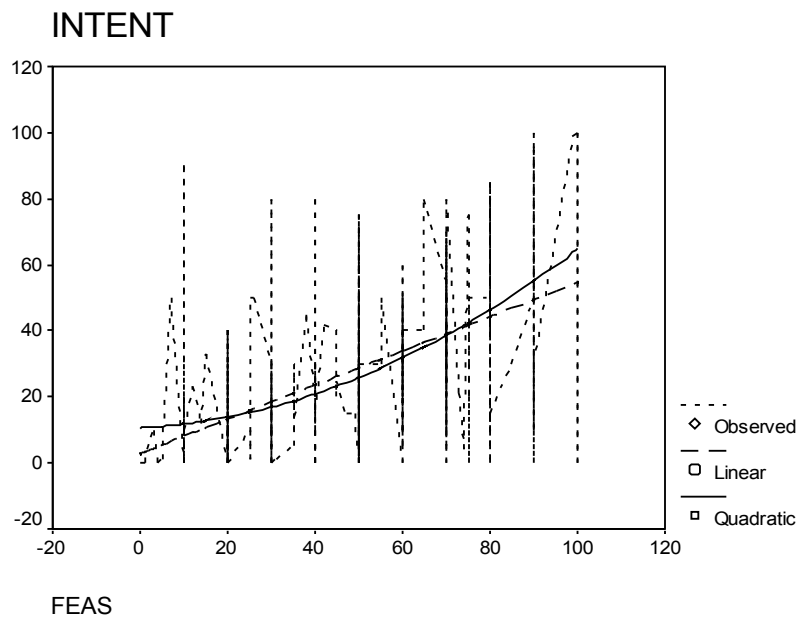


Figure 6

