Entrepreneurial Self-Efficacy, Intrinsic Motivation, and Entrepreneurial Intention as Antecedents of Nascent Necessity-Entrepreneur Business Start-Up Behaviour in South Africa: A Longitudinal Study

by

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Preliminaries

Glossary of Select Terms

Term	Definition/description
AMOS	**A**nalysis of **Mo**ment **S**tructures
B-BBEE	Broad-Based Black Economic Empowerment. The legislation, known as Broad-Based Black Economic Empowerment (B-BBEE) was introduced in 2003 and was followed by the introduction of B-BBEE Codes of Good Practice
Bollen-Stine p bootstrap	AMOS calculates the Bollen-Stine p bootstrap to address multivariate non-normality. The Bollen-Stine p bootstrap produces standard errors through repetitive bootstrap sampling routines.
Bootstrapping	Bootstrapping is a procedure where same sample sizes are repeatedly drawn from the original database sample, allowing for replacement after each draw (Hair et al., 2010).
CET	Cognitive Evaluation Theory (CET) as a sub-theory to their original Self-Determination Theory (SDT). CET specifies factors in social contexts that will produce variability in levels of intrinsic motivation (Deci & Ryan, 1985).
CFA	Confirmatory Factor Analysis (CFA) is a confirmatory technique of measurement theory applied within the SEM framework.
Chi-square	A non-parametric test that establishes the independence or otherwise between two nominal variables (Cavana, Delahaye, & Sekaran, 2001).
Comparative Fit Index (CFI).	The CFI is an improvement on the NFI (normed fit index). The value measures the level of improvement in the fit of the model proposed by the researcher against a baseline model (i.e. the independence model).
Congeneric	A set of tests is said to be congeneric if the tests measure the same trait except for errors of measurement (Jöreskog, 1971).
Congeneric measurement model	Tests that will be conducted prior to testing of the full model are one-factor congeneric measurement model tests. Congeneric essentially means that indicator variables or items measure the same trait and these items are not necessarily equally weighted.
Cronbach Alpha	The Cronbach alpha reliability coefficient is the diagnostic measure traditionally used to assess internal consistency of responses across a set of items (Schumacker & Lomax, 2004), and is the most widely used measure of internal consistency (Robinson, Shaver, & Wrightsman, 1991).
Dependent variable	A variable of primary interest to the researcher; with a view to explain its variability or predict it.
Discriminant validity	Discriminant validity is the degree to which constructs/concepts are not correlated and are truly different from each other (Cavana, Delahaye, & Sekaran, 2001).
Entrepreneurship education	The term entrepreneurship education can be considered as having two meanings: either learning about entrepreneurship as a phenomenon or learning the requisite skills in order to become an entrepreneur.
GEM	Global Entrepreneurship Monitor

Term	Definition/description
Goodness-of-Fit index (GFI)	The goodness-of-fit index is an absolute index, and results from initial attempts to establish a fit statistic that would be more robust for different sample sizes.
HDI	Historically Disadvantaged Individuals is the legal definition to describe individuals who, due to the apartheid policy that had been in place, had no franchise in national elections, prior to the introduction of the Constitution of the Republic of South Africa, 1983 (Act No 110 of 1983).
Invariance testing	Measurement invariance (also referred to as equivalence) considers whether construct generated scores retain their same meaning given different conditions.
Longitudinal repeated measures design	With a longitudinal repeated-measures design, measurements are taken over time on each participant in the study. Longitudinal designs are suggested to be "mandatory" design issues where there is an interest in the prevailing trend over time and where conducting a cross-sectional study will not provide the requisite predictive ability (Weiss, 2005).
Mahalanobis distances	Mahalanobis distances refer to the Mahalanobis distance statistic used for measuring outliers, and "indicates the distance in standard deviation units between a set of scores (vector) for an individual case and the sample means for all variables (centroid), correcting for inter-correlations" (Kline, 2011).
Maximum Likelihood (ML)	Maximum Likelihood (ML) is the most commonly used approach in SEM. ML assumes joint distribution of the variables to be a multivariate normal distribution (Bollen, 1989).
Nascent	With nascent-entrepreneurs being at the heart of this study, the term "nascent" justifies some clarification. The Oxford dictionary defines nascent as "budding, emerging or embryonic". In entrepreneurial parlance, nascent refers to "would-be entrepreneurs."
Necessity-entrepreneurs	Those entrepreneurs who seek to establish businesses out of need are referred to as "necessity" or "survivalist" entrepreneurs (Reynolds, Bygrave, Autio, Cox, & Hay, 2002).
NQF	National Qualifications Framework
Opportunity-entrepreneurs	Those entrepreneurs who establish businesses - not necessarily because they "have to" but because they have identified a perceived (viable) market opportunity that they believe can be exploited. The entrepreneurs in the latter category are referred to as "opportunity entrepreneurs" (Reynolds et al., 2002).
Parcelling	Parcelling is a suggested approach when a model has too many parameters to estimate given its sample size, resulting in weak statistical power to detect key parameters (Yang, Nay, & Hoyle, 2010).
PASW	**P**redictive **A**nalytics **S**oft**W**are
Root Mean-Square Error of Approximation (RMSEA)	An absolute goodness-of-fit index resulting from initial attempts to establish a fit statistic that would be more robust for different sample sizes.
Root-Mean-square Residual (RMR)	RMR is a measure of the square root of the mean of these squared residuals (i.e. the residual is stated in terms of the covariances).

Term	Definition/description
Satorra-Bentler chi-square (SBχ2)	The Satorra-Bentler chi-square (SBχ2) is used to correct the normal chi-square statistic when maximum likehood is used. West, Finch, and Curran (1995) recommend Satorra-Bentler when substantial departures from normality is evidenced.
SDT	Self-Determination Theory (SDT). SDT sought to determine which social and environmental factors would facilitate versus undermine intrinsic motivation (Deci & Ryan, 1985).
SEE	Shapero's (1982) "entrepreneurial event" (SEE) model. The SEE model was potentially considered as an intentions-model for this study
Self-Efficacy	Self-efficacy refers to the individual's beliefs in his/her capabilities to successfully meet the demands of specific tasks (Bandura,1977) and involves people's assessment of their own abilities and capacity to mobilise the motivations, cognitive resources, and/or courses of action needed to exercise control over life's events (Wood & Bandura, 1989).
SEM	Structural Equation Modeling. SEM is defined as a multivariate technique combining aspects of multiple regression and factor analysis allowing simultaneous examination of a series of interrelated dependence relationships among the measured variables and latent constructs as well as between several latent constructs (Hair et al., 2010).
SETA	Sector Education Training Authority in South Africa (equivalent to Industry Skills Councils in Australia).
SGB	Standards Generating Body
TPB	Theory of Planned Behaviour (Ajzen,1991).
T-Tests	A T-Test is used for two samples assuming unequal variance (Cavana, Delahaye, & Sekaran, 2001).
Tucker-Lewis Index (TLI) /Non-Normed Fit Index (NNFI)	The non-normed fit index (NNFI), also known as the Bentler-Bonnett non-normed fit index and Tucker-Lewis indices (TLI), are similar and known as *incremental indices* of fit.
UNDP	United Nations Development Program
WEIRD	Western, Educated, Industrialised, Rich, and Developed nations (Heinrich, Heine, & Norenzayan, 2010).

Thesis Abstract

This research examines the inter-relationships among entrepreneurial self-efficacy, intrinsic motivation, and entrepreneurial intention as antecedents to entrepreneurial start-up behaviour. The research participants were South African nascent necessity-entrepreneurs. Theoretical foundations for the research are derived from Ajzen's (1991) theory of planned behaviour.

The research design involved a repeated measures longitudinal study over 4.5 years that included an entrepreneurship training, mentoring, and incubation intervention program. This was introduced during the first 12-months of the study. Repeated measures of the variables of interest were collected at T_1 (baseline), T_2 (immediately at the end of the 12-month entrepreneurship intervention program), and T_3 (end-of-study). A structural model comprised of the variables of interest was developed and structural equation modelling (SEM) was used to analyse the data. The research questions addressed centred upon the extent to which entrepreneurial self-efficacy, intrinsic motivation, and entrepreneurial intention were inter-related and the extent to which they contributed toward nascent necessity-entrepreneur entrepreneurial start-up behaviour.

The longitudinal nature of the research allowed for an understanding of the dynamic nature of the variables of interest over the three points where measurements were taken. This was important since changes in the means of the three antecedent variables were observed to various degree immediately after the entrepreneurship training, mentoring, and incubation intervention program (T_2) and at the end-of-study (T_3) - compared to T_1 and T_2. These changes highlighted the shortcomings in cross-sectional studies where variables of interest are known to be unstable over time.

While previous studies have examined the inter-relationships among entrepreneurial self-efficacy, entrepreneurial intention, and entrepreneurial start-up behaviour, this research

adds to current theory by examining to what extent intrinsic motivation is an important antecedent contributor (along with entrepreneurial self-efficacy) to entrepreneurial behaviour. It also makes a contribution to theory by examining the variable inter-relationships in a South African nascent necessity-entrepreneur context (other entrepreneurial intention studies have focused on opportunity-oriented entrepreneurs).

The research makes a contribution to practice by providing insights into the design, development, and delivery of effective entrepreneurial training, mentoring, and incubation programs. The research also provides valuable insights for policy makers in the framing of policy aimed at stimulating the entrepreneurial training of nascent necessity-entrepreneurs as a means of assisting them in the new venture creation process.

Thesis Declaration

I, Anton Jordaan, certify that this work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968.

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Anton J. Jordaan
24th April 2014

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