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**THE ROLES OF WORK MOTIVATION AND JOB
INVOLVEMENT ON THE RELATIONSHIP BETWEEN
CONTEXTUAL FACTORS AND CREATIVE BEHAVIOR**

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Thesis submitted to the

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in Fulfillment of the Requirement for the degree of Doctor of Philosophy

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ABSTRACT

The main purpose of this study was to investigate the factors that influence creative behavior among Malaysian researchers. Specifically, it investigated the mediating effect of work motivation on the relationships between the contextual factors, namely stressors, autonomy, culture, reward and supervisory style on creative behavior; the effect of work motivation on creative behavior; and the moderating effect of job involvement on the relationships between stressors, autonomy, culture, reward and supervisory style, and work motivation. Creativity is considered as the seed of innovation, where innovativeness has been considered as one of the fundamentals for organizational competitiveness. Acknowledging the importance of creative behavior on innovation, this study was carried out to investigate its predictors, and to include work motivation as the mediating factor and job involvement as the moderating variable between the contextual factors and work motivation. Accordingly, this study was based on the self-determination theory (SDT) and the organizational support theory (OST) to position the possible relationships between the variables in the research framework. A total of 201 researchers, representing a response rate of 40.8%, participated in this study. Data were collected via questionnaires. PLS-SEM was used to analyze the data and test the hypotheses. This study found that the level of creative behavior among the researchers was high. Statistical results showed that the relationship between stressors, work motivation, creative behavior as well as the relationship between autonomy, work motivation and creative behavior were supported. Work motivation was also found to be positively related to creative behavior. Empirical support was also found for the moderating effect of job involvement on the relationships between stressors and supervisory styles and work motivation. The theoretical and practical implications alongside recommendations for future research are discussed.

Keywords: creative behavior, work motivation, job involvement, contextual factors and self-determination theory

ABSTRAK

Tujuan utama kajian ini adalah untuk mengkaji faktor-faktor yang mempengaruhi tingkah laku kreatif dalam kalangan penyelidik di Malaysia. Secara khususnya, ia bertujuan untuk mengkaji kesan pengantara motivasi kerja pada hubungan antara faktor-faktor kontekstual iaitu stressor, autonomi, budaya, ganjaran dan gaya penyeliaan dengan tingkah laku kreatif; kesan motivasi kerja terhadap tingkah laku kreatif; dan kesan penyederhana penglibatan kerja pada hubungan antara stressor, autonomi, budaya, ganjaran dan gaya penyeliaan dengan motivasi kerja. Kreativiti dianggap sebagai asas kepada inovasi yang mana inovasi dianggap sebagai salah satu perkara yang penting bagi daya saing organisasi. Menyadari akan kepentingan tingkah laku kreatif ke atas inovasi, kajian ini dijalankan untuk mengkaji faktor-faktor yang menyumbang kepada tingkah laku kreatif; dan motivasi kerja sebagai faktor pengantara, serta penglibatan kerja sebagai faktor penyederhana antara faktor-faktor kontekstual dan motivasi kerja. Oleh itu, kajian ini dilaksanakan berdasarkan kepada teori penentuan diri dan teori sokongan organisasi untuk memeta dan meletakkan hubungan antara pemboleh ubah dalam rangka kerja penyelidikan. Seramai 201 orang penyelidik telah terlibat dalam kajian ini dan ianewakili kadar respons sebanyak 40.8%. Data kajian telah dikumpul melalui kaedah soal selidik, manakalaperisian PLS-SEM telah digunakan untuk menganalisis data dan menguji hipotesis. Dalam kajian ini, didapati bahawa tahap tingkah laku kreatif dalam kalangan para penyelidik adalah tinggi. Keputusan statistik menunjukkan bahawa hubungan antara stressor, motivasi kerja, tingkah laku kreatif serta hubungan antara autonomi, motivasi kerja dan tingkah laku kreatif adalah disokong. Motivasi kerja juga didapati mempunyai hubungan yang positif dengan tingkah laku kreatif. Manakala sokongan empirikal juga memberi kesan penyederhana terhadap penglibatan kerja pada hubungan antara stressor dan gaya penyeliaan dengan motivasi kerja. Implikasi teoretikal dan praktikal serta cadangan kajian pada masa hadapan turut dibincangkan dalam kajian ini.

Kata kunci: tingkah laku kreatif, motivasi kerja, penglibatan kerja, faktor-faktor

Kontekstual dan teori penentuan diri

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LIST OF ABBREVIATIONS

STD	Self-determination Theory
OST	Organizational Support Theory
S & T	Science and Technology
R & D	Research and Development
AVE	Average Variance Extract
CFA	Confirmatory Factor Analysis
CR	Composite Reliability
EFA	Exploratory Factor Analysis
PLS	Partial Least Square
PLS-SEM	Partial Least Square Structural Equation Modelling
SD	Standard Deviation
SE	Standard Error
SPSS	Statistical Package for Social Science
VIF	Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Organizations worldwide depend on their ability to create, improve, and sustain their competitive advantage to ensure their long-term survival (Ford & Gioia, 1995; Lopez-Claros, Altinger, Blanke, Drezniek & Mia, 2007). It can be argued that one of the ways companies can achieve their competitive advantage is through the acts of innovation (Chen & Kaufmann, 2008; Mumford, 2000), which include introducing new technologies and new ways of doing things, new product designs and also new production processes, new marketing approaches as well as a new way of conducting training.

Although the extent to which an organization is able to innovate and sustain its competitive advantage is determined by multiple factors, innovation is often rooted in the creative ideas of individual employees (George & Zhou, 2001; Mumford, 2000). The agenda of creating, sustaining, and improving competitive advantage through people motivates organizations to discover various alternatives to employ the full potential of their employees. One of the alternatives is through enhancing employees' creativity. Enhancing employees' creativity is considered a necessity for any organization to succeed (Amabile, 1988; Kanter, 1983; Kim, 2000; Shalley, 1995). Employees who are highly creative and innovative are the most invaluable resources that can help organizations generate new ideas and produce useful

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APPENDIX A



UUM
Universiti Utara Malaysia

Dear Respondent,

RESEARCH ON THE CONTEXTUAL FACTORS, WORK MOTIVATION AND CREATIVE BEHAVIOR OF MALAYSIAN RESEARCHERS

Referring to the above matter, I would like to obtain your invaluable response and support in affiliation with my study. I am a lecturer from Universiti Utara Malaysia and my area of interest is human resource management/organizational behavior.

As part of my study, I am conducting a survey to examine how factors such as supervisory style, job design, stressors, and culture of the organization influence work motivation of the researchers, as well as creative behavior at work. I have undertaken this study because of the belief that the selected contextual factors play important role in determining work motivation and later influence the expression of creative behavior.

Your help in completing and returning this questionnaire is most appreciated! Completing the questionnaire would take about **20 minutes** of your time. All responses to this questionnaire will be kept confidential. Results will be used only for academic purposes with no specific individuals identified. I am most grateful if you could complete the attached questionnaire at your earliest, hopefully, within the next seven days. Please return the questionnaire in the self-addressed envelope provided or return it to the designated contact person in your organization.

When the study has been completed, a copy of the report can be made available to you. If you would like a copy, please provide your name and address on the last page of the questionnaire.

Thank you very much for your time and assistance.

Yours sincerely,

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APPENDIX B

SECTION A

Please answer the following questions by circling or putting (/) mark on the number that best represents your opinion of the following statements.

Q1	How accurately each of the following statements describe how you perform your work:	Strongly Disagree (1) _____ Strongly Agree (5)				
		1	2	3	4	5
1	I try to find out new ideas about technologies, work processes, and products.	1	2	3	4	5
2	I suggest creative ideas.	1	2	3	4	5
3	I am the first person among my coworkers to try new ideas and methods.	1	2	3	4	5
4	I do my job with very creative and practical ways.	1	2	3	4	5
5	I try to approach solving a certain problem with new ideas or methods.	1	2	3	4	5

SECTION B

Please answer the following questions by circling or putting (/) mark on the number that best represents your opinion of the following statements.

Q2	Based on the perception you have about your organization and the way employees (your boss, teammates, other managers, CEO, etc.) interact with you and among themselves, indicate to what extent you agree with each of the following statements:	Strongly Disagree (1) _____ Strongly Agree (5)				
		1	2	3	4	5
1.	This organization is always moving towards the development of new answers.	1	2	3	4	5
2	Proposing new ideas is NOT the best strategy to succeed in this organization.	1	2	3	4	5
3	This organization is open and responsive to change.	1	2	3	4	5
4	I understand the rules for the distribution of rewards.	1	2	3	4	5
5	People on this team are always searching for fresh, new ways of looking at problems.	1	2	3	4	5
6	This organization will continue its path of success by strictly adhering to standards and current procedures.	1	2	3	4	5
7	This organization encourages people to behave creatively.	1	2	3	4	5
8	The rewards system is unfair.	1	2	3	4	5
9	Someone who suggests a new method will probably be heard and supported by managers.	1	2	3	4	5
10	This organization provides resources to help in the application of new ideas	1	2	3	4	5
11	Members are encouraged to share resources.	1	2	3	4	5
12	The rewards system of this firm encourages teamwork.	1	2	3	4	5
13	People in this organization should always check with a superior before introducing a change to an existing procedure.	1	2	3	4	5
14	Members are encouraged to cooperate with each other in order to innovate.	1	2	3	4	5
15	Assistance in developing new ideas is generally available.	1	2	3	4	5
16	This organization is always moving toward the development of new methods.	1	2	3	4	5
17	The rewards system of this organization encourages trust among team members.	1	2	3	4	5
18	In general, this organization is a very innovative organization.	1	2	3	4	5

19	In general, this organization rewards risk taking.	1	2	3	4	5
20	There seems to be a high level of conflict in this organization.	1	2	3	4	5
21	Proposing new methodologies is NOT the best strategy to succeed in this organization.	1	2	3	4	5
22	This organization rewards creative people.	1	2	3	4	5
23	Someone who brings a new idea is likely to be heard and supported by superiors.	1	2	3	4	5
24	This organization gives its employees freedom to execute their work.	1	2	3	4	5
25	The "tone" of the working environment contains humor/ playfulness.	1	2	3	4	5
Q3	How strongly do you agree or disagree with each of the following statements about the rewards system utilized in your organization ?	Strongly Disagree (1)		Strongly Agree (5)		
1	The opportunity to receive a reward for performing my work played a significant role in directing my efforts.	1	2	3	4	5
2	I am motivated by the opportunity to receive monetary reward.	1	2	3	4	5
3	While performing my work, I felt pressured to meet someone else's specifications on how to do my work.	1	2	3	4	5
4	The reward offered was reasonable for this job.	1	2	3	4	5
5	I felt compelled to perform well because of the incentives I was guaranteed to receive.	1	2	3	4	5
Q4	How strongly do you agree or disagree with each of the following statements about your motivation to perform your work?	Never/Almost Always True of Me (1)		Almost Always True of Me (5)		
1	I am not that concerned about what other people think of my work.	1	2	3	4	5
2	I prefer having someone set clear goals for me in my work.	1	2	3	4	5
3	The more difficult the problem, the more I enjoy trying to solve it.	1	2	3	4	5
4	I am keenly aware of the income goals I have for myself.	1	2	3	4	5
5	I want my work to provide me with opportunities for increasing my knowledge and skills.	1	2	3	4	5
6	To me, success means doing better than other people.	1	2	3	4	5
7	I prefer to figure things out for myself.	1	2	3	4	5
8	No matter what the outcome of a project, I am satisfied if I feel I gained a new experience.	1	2	3	4	5
9	I enjoy relatively simple, straightforward tasks.	1	2	3	4	5
10	I am keenly aware of the goals I have for myself.	1	2	3	4	5
11	Curiosity is the driving force behind much of what I do.	1	2	3	4	5
12	I'm less concerned with what work I do than what I get for it.	1	2	3	4	5
13	I enjoy tackling problems that are completely new to me.	1	2	3	4	5
14	I prefer work I know I can do well over work that stretches my abilities.	1	2	3	4	5
15	I'm concerned about how other people are going to react to my ideas.	1	2	3	4	5
16	I seldom think about salary and promotions.	1	2	3	4	5
17	I'm more comfortable when I can set my own goals.	1	2	3	4	5
18	I believe that there is no point in doing a good job if nobody else knows about it.	1	2	3	4	5
19	I am strongly motivated by the money I can earn.	1	2	3	4	5
20	It is important for me to be able to do what I most enjoy.	1	2	3	4	5

21	I prefer working on projects with clearly specified procedures.	1	2	3	4	5
22	As long as I can do I enjoy, I'm not that concerned about exactly what I'm paid.	1	2	3	4	5
23	I enjoy doing work that is so absorbing that I forget about anything else.	1	2	3	4	5
24	I am strongly motivated by the recognition I can earn from other people.	1	2	3	4	5
26	I have to feel that I am earning something for what I do.	1	2	3	4	5
27	I enjoy trying to solve complex problems.	1	2	3	4	5
28	It is important for me to have a platform for self-expression.	1	2	3	4	5
29	I want to find out how good I really can be at my work.	1	2	3	4	5
30	I want other people to find out how good I really can be at my work.	1	2	3	4	5

SECTION C

Please answer the following questions by circling (/) mark on the number that best represents your opinion of the following statements.

Q5	How strongly do you agree or disagree with each of the following statements about your supervisor/ immediate boss?	Strongly Disagree (1)		Strongly Agree(7)				
1	My supervisor helps me solve work-related problems.	1	2	3	4	5	6	7
2	My supervisor encourages me to develop new skills.	1	2	3	4	5	6	7
3	My supervisor keeps informed about how employees think and feel about things.	1	2	3	4	5	6	7
4	My supervisor encourages employees to participate in important decisions.	1	2	3	4	5	6	7
5	My supervisor praises good work.	1	2	3	4	5	6	7
6	My supervisor encourages employees to speak up when they disagree with a decision.	1	2	3	4	5	6	7
7	My supervisor refuses to explain his or her actions.	1	2	3	4	5	6	7
8	My supervisor rewards me for good performance.	1	2	3	4	5	6	7
9	My supervisor always seems to be around checking on my work.	1	2	3	4	5	6	7
10	My supervisor tells me what shall be done and how it shall be done.	1	2	3	4	5	6	7
11	My supervisor never gives me a chance to make important decisions on my own.	1	2	3	4	5	6	7
12	My supervisor leaves it up to me to decide how to go about doing my job.	1	2	3	4	5	6	7
Q6	How strongly do you agree or disagree with each of the following statements about your job ?	Strongly Disagree (1)		Strongly Agree(7)				
1	My job permits me to decide on how I go about doing it.	1	2	3	4	5	6	7
2	The job denies me any chance to use my personal initiatives or judgment in carrying out the work.	1	2	3	4	5	6	7
3	The job gives me considerable opportunity for independence and freedom in how I do the work.	1	2	3	4	5	6	7
4	The actual work itself provides me with clues about how well I am doing aside from "feedback" from my supervisors or peers.	1	2	3	4	5	6	7
5	Just doing the work required by the job provides many chances for me to figure out how well I am doing.	1	2	3	4	5	6	7
6	The job itself provides very few clues about whether or not I am performing well.	1	2	3	4	5	6	7

Q7	How strongly do you agree or disagree with each of the following statements about your job ?	Very False (1)					Very True(7)	
		1	2	3	4	5	6	7
1	At work, my responsibilities seem to change from day to day and I have little control of the changes.	1	2	3	4	5	6	7
2	The explanation of what has to be done is not always very clear.	1	2	3	4	5	6	7
3	There are no specific evaluation criteria set up and I just don't know what is expected of me.	1	2	3	4	5	6	7
4	I may report to two or more supervisors who are as different as night and day. They may each desire 100 percent of my time. What is acceptable for one is inappropriate for the other.	1	2	3	4	5	6	7
5	The rigorous demand of work, especially overtime, sometimes requires me to cancel activities with my family and friends. The demands may also infringe upon my basic responsibilities in the home.	1	2	3	4	5	6	7
6	Deadlines, deadlines, and always deadlines.	1	2	3	4	5	6	7
7	I may find myself with a pile of work on my desk and everything was due yesterday.	1	2	3	4	5	6	7
8	Simply put, I am always given either too much work or too little time to finish it!	1	2	3	4	5	6	7

SECTION D

Please answer the following questions by circling or putting (/) mark on the number that best represents your opinion of the following statements.

Q8	Below are a number of statements each of which you may agree or disagree with depending on your own personal evaluation of your present job. Please indicate the degree of your agreement or disagreement with each statement:	Strongly Disagree (1)					Strongly Agree (6)	
		1	2	3	4	5	6	
1	The most important things that happen to me involve my present job.	1	2	3	4	5	6	
2	I'll stay overtime to finish my job, even if I'm not paid for it.	1	2	3	4	5	6	
3	To me, my job is only a small part of who I am.	1	2	3	4	5	6	
4	I am very much involved personally in my job.	1	2	3	4	5	6	
5	Generally, I avoid taking on extra duties and responsibilities in my job.	1	2	3	4	5	6	
6	I live, eat, and breathe my job.	1	2	3	4	5	6	
7	Sometimes I'd like to kick myself for the mistakes I make in my job.	1	2	3	4	5	6	
8	Most of my interests are centered around my job.	1	2	3	4	5	6	
9	I have very strong ties with my present job which would be very difficult to break.	1	2	3	4	5	6	
10	Usually I feel detached from my job.	1	2	3	4	5	6	
11	Most of my personal life goals are job-oriented.	1	2	3	4	5	6	
12	I feel depressed when I fail at something connected with my job.	1	2	3	4	5	6	
13	I consider my job to be very central to my existence.	1	2	3	4	5	6	
14	I have other activities which are more satisfying than my job.	1	2	3	4	5	6	
15	I like to be absorbed in my job most of the time.	1	2	3	4	5	6	

SECTION E

Please fill in the blank.

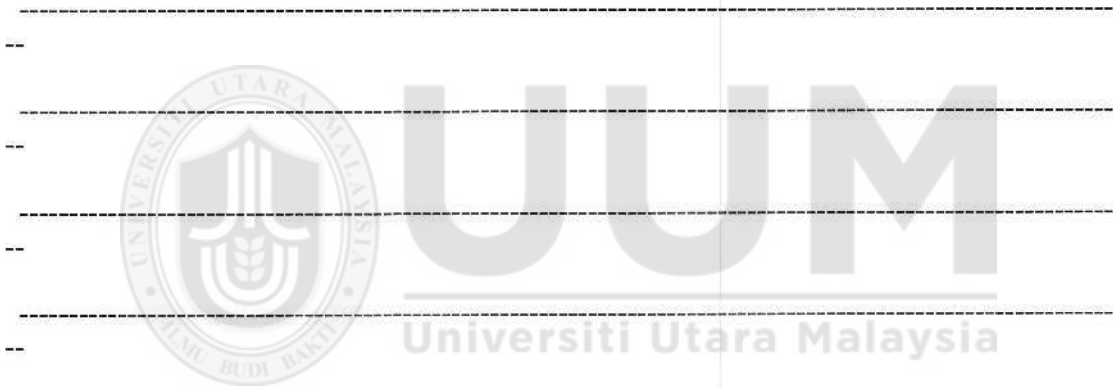
1	What is your current position in the company?		
2	How long have you been in the current position ?		Years
3	How long have you been with the company ?		Years
4	Your gender: Male (M) or Female (F)		(Please state M or F)
5	Your age is:		Years
6	Your highest level of education is:		Doctorate
			Masters
			Degree
			SPM/STPM/Diploma
7	Experience in R & D.	Year	Organization
			Position
8	State your achievement throughout your career as a researcher:	Year	Achievement/Patent / Medal



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Please use this space to write any comment you wish to make.



THANK YOU VERY MUCH FOR YOUR KIND COOPERATION

APPENDIX C

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.721	16.042	16.042	15.721	16.042	16.042
2	8.238	8.407	24.449			
3	5.804	5.923	30.371			
4	4.230	4.317	34.688			
5	3.934	4.014	38.702			
6	3.288	3.355	42.057			
7	2.843	2.901	44.958			
8	2.502	2.553	47.511			
9	2.364	2.413	49.924			
10	2.069	2.111	52.035			
11	1.863	1.901	53.936			
12	1.833	1.870	55.806			
13	1.709	1.744	57.551			
14	1.649	1.683	59.234			
15	1.505	1.536	60.770			
16	1.424	1.454	62.223			
17	1.382	1.410	63.634			
18	1.313	1.340	64.973			
19	1.262	1.288	66.261			
20	1.196	1.221	67.482			
21	1.145	1.168	68.650			
22	1.137	1.160	69.811			
23	1.061	1.082	70.893			
24	1.040	1.061	71.954			
25	1.001	1.021	72.975			
26	.960	.980	73.955			
27	.950	.969	74.924			
28	.923	.942	75.866			
29	.895	.914	76.780			
30	.866	.884	77.664			
31	.853	.870	78.534			
32	.789	.805	79.339			
33	.772	.788	80.127			
34	.749	.764	80.891			
35	.733	.748	81.639			
36	.716	.731	82.370			
37	.709	.724	83.094			

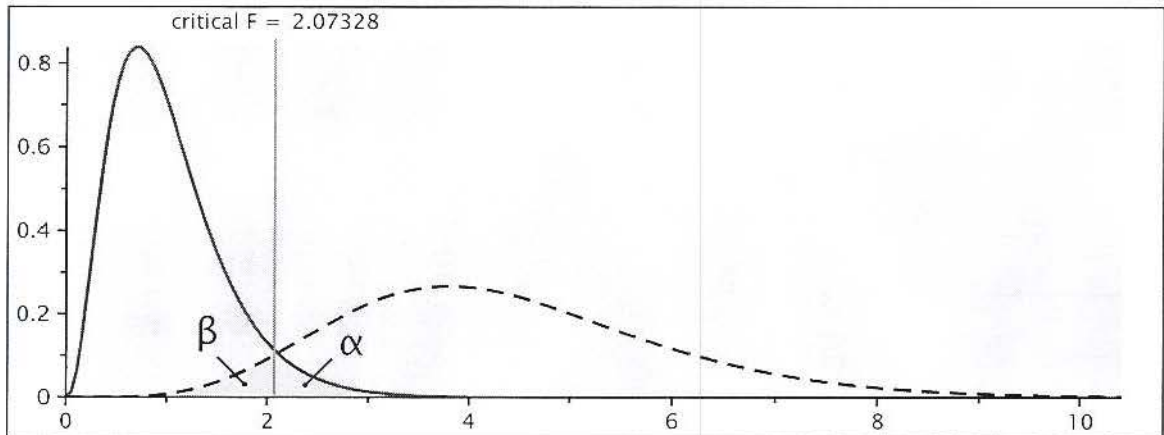
38	.692	.706	83.800
39	.636	.649	84.449
40	.630	.643	85.092
41	.582	.593	85.685
APPENDIX C: continued			
42	.573	.585	86.270
43	.545	.556	86.826
44	.534	.545	87.371
45	.505	.515	87.886
46	.493	.503	88.389
47	.480	.490	88.879
48	.476	.486	89.364
49	.443	.452	89.816
50	.431	.440	90.256
51	.419	.428	90.684
52	.397	.405	91.089
53	.390	.398	91.487
54	.374	.381	91.868
55	.362	.369	92.238
56	.360	.367	92.605
57	.344	.351	92.956
58	.331	.338	93.294
59	.321	.327	93.621
60	.317	.324	93.945
61	.293	.299	94.243
62	.285	.291	94.534
63	.277	.283	94.817
64	.268	.273	95.090
65	.261	.267	95.357
66	.250	.255	95.612
67	.244	.249	95.861
68	.239	.244	96.104
69	.225	.230	96.334
70	.223	.227	96.562
71	.212	.217	96.778
72	.205	.209	96.987
73	.200	.204	97.191
74	.185	.188	97.379
75	.177	.180	97.560
76	.174	.178	97.737
77	.166	.170	97.907
78	.154	.157	98.064
79	.150	.153	98.217
80	.142	.145	98.362
81	.139	.142	98.504
82	.133	.136	98.640

83	.125	.128	98.767		
84	.123	.125	98.892		
85	.113	.115	99.008		
86	.106	.108	99.116		
APPENDIX C: continued					
87	.105	.108	99.223		
88	.097	.099	99.322		
89	.093	.094	99.416		
90	.092	.093	99.509		
91	.086	.088	99.597		
92	.081	.082	99.680		
93	.069	.070	99.750		
94	.059	.060	99.811		
95	.053	.054	99.864		
96	.048	.049	99.913		
97	.045	.046	99.959		
98	.040	.041	100.000		



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APPENDIX D



F tests – Linear multiple regression: Fixed model, R^2 deviation from zero

Analysis: A priori: Compute required sample size

Input:	Effect size f^2	=	0.15
	α err prob	=	0.05
	Power ($1 - \beta$ err prob)	=	0.95
	Number of predictors	=	7
Output:	Noncentrality parameter λ	=	22.9500000
	Critical F	=	2.0732820
	Numerator df	=	7
	Denominator df	=	145
	Total sample size	=	153
	Actual power	=	0.9503254