

**DETERMINANTS OF INNOVATIVE WORK
BEHAVIOR: ROLE OF EUSTRESS AND WORK
ENGAGEMENT AS SIMULTANEOUS MEDIATORS
IN THE RELATIONSHIP BETWEEN JD-R AND
INNOVATIVE WORK BEHAVIOR**



AHMED RAZA KHAN
02-280152-001

DEPARTMENT OF MANAGEMENT STUDIES
BAHRIA UNIVERSITY KARACHI CAMPUS

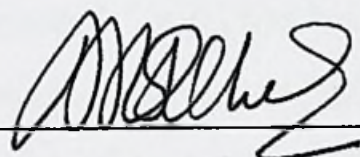
AUGUST 2023

**SUBMISSION FORM FOR THE EVALUATION OF THESIS FOR HIGHER
RESEARCH DEGREE BAHRIA UNIVERSITY, KARACHI**

Candidate Name: **Ahmed Raza Khan**

I submit three copies of thesis for examination for the degree of PhD thesis titled:
"Determinants of Innovative Work Behavior: Role of Eustress and Work Engagement as Simultaneous Mediators in the Relationship between JD-R and Innovative Work Behavior"

Candidate's Signature: _____

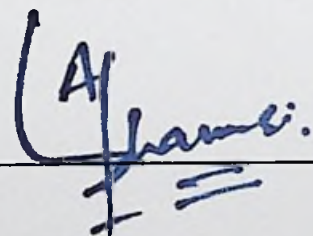


Date: 25 08-2023

Certificate of Principal Supervisor

I, **Dr. Aamir Firoz Shamsi**, being the principal supervisor for the above student certifies that thesis is in a form suitable for examination and that the candidate has pursued her course in accordance with the rules of the University.

Signature: _____

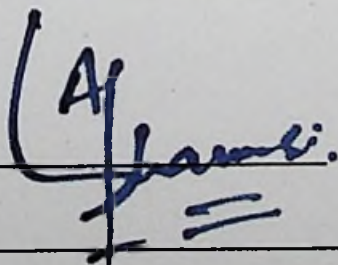


Date: 25-08-2023

Recommendation for Examination

I recommend that the thesis be examined.

Principal supervisor: _____



Date: 25-08-2023

Co- Supervisor: _____

Date: _____

Not Recommended for Examination

I recommend that the thesis be not examined.

Principal supervisor: _____

Date: _____

Co- Supervisor: _____

Date: _____

APPROVAL FOR EXAMINATION

Scholar's Name: **Ahmed Raza Khan** Registration No: **29944**, Program of Study: **PhD (MS)** Thesis Title: **“Determinants of Innovative Work Behavior: Role of Eustress and Work Engagement as Simultaneous Mediators in the Relationship between JD-R and Innovative Work Behavior”**.

It is to certify that the above scholar's thesis has been completed to my satisfaction and, to my belief, its standard is appropriate for submission for examination. I have also conducted plagiarism test of this thesis using HEC prescribed software and found similarity index 12% that is within the permissible limit set by the HEC for the PhD degree thesis. I have also found the thesis in a format recognized by the BU for the PhD thesis.

Principal Supervisor's

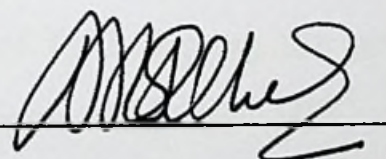
Signature: _____

Name: **Dr. Aamir Firoz Shamsi**

Date: **25-08-2023**

AUTHOR'S DECLARATION

I, **Ahmed Raza Khan PhD (MS) Scholar (Reg. No. 29944)** hereby state that my PhD thesis titled **“Determinants of Innovative Work Behavior: Role of Eustress and Work Engagement as Simultaneous Mediators in the Relationship between JD-R and Innovative Work Behavior”** is my own work and has not been submitted previously by me for taking any degree from **Bahria University, Pakistan** or anywhere else in the country/world. At any time if my statement is found to be incorrect even after my graduation, the University has the right to withdraw/cancel my PhD degree.

Signatures: 

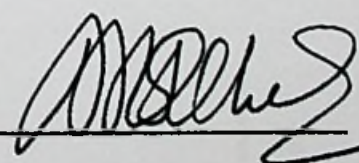
Name of Scholar: **Ahmed Raza Khan**

Date: **25-08-2023**

PLAGIARISM UNDERTAKING

I, **Ahmed Raza Khan PhD (MS) Scholar (Reg No. 29944)** solemnly declare that research work presented in the thesis titled **“Determinants of Innovative Work Behavior: Role of Eustress and Work Engagement as Simultaneous Mediators in the Relationship between JD-R and Innovative Work Behavior”** is solely my research work with no significant contribution from any other person. Small contribution / help wherever taken has been duly acknowledged and that complete thesis has been written by me. I understand the zero tolerance policy of the HEC and Bahria University towards plagiarism. Therefore I as an Author of the above titled thesis declare that no portion of my thesis has been plagiarized and any material used as reference is properly referred / cited. I undertake that if I am found guilty of any formal plagiarism in the above titled thesis even after award of PhD degree, the university reserves the right to withdraw / revoke my PhD degree and that HEC and the University has the right to publish my name on the HEC / University website on which names of scholars are placed who submitted plagiarized thesis.

Scholar/Author's Sign: _____

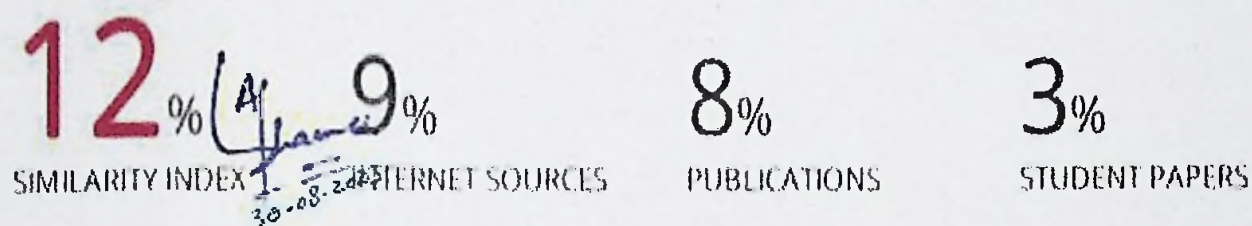


Name of the Scholar: Ahmed Raza Khan

SIMILARITY REPORT

DETERMINANTS OF INNOVATIVE WORK BEHAVIOR: ROLE OF
EUSTRESS AND WORK ENGAGEMENT AS SIMULTANEOUS
MEDIATORS IN THE RELATIONSHIP BETWEEN JD-R AND
INNOVATIVE WORK BEHAVIOR

ORIGINALITY REPORT



PRIMARY SOURCES

1	www.researchgate.net Internet Source	1%
2	digitalcommons.odu.edu Internet Source	1%
3	Submitted to Higher Education Commission Pakistan Student Paper	1%
4	digitalscholarship.unlv.edu Internet Source	1%
5	prer.hec.gov.pk Internet Source	1%
6	hdl.handle.net Internet Source	<1%
7	publikasi.mercubuana.ac.id Internet Source	<1%
8	eprints.nottingham.ac.uk Internet Source	<1%

DEDICATION

I dedicate my PhD research thesis to my beloved late father and mother, who were very loving and kind to me and always gave me confidence and guidance to better live and perform in the life and always prayed for my success.

ACKNOWLEDGEMENT

First of all I am very thankful to Almighty Allah SWT, Who blessed me with the opportunity and ability to complete my PhD study successfully. Then I would like to mention here that during the conduct of this research study and in preparing the thesis, I was in contact with many people, researchers, academicians, and practitioners. They have contributed towards my understanding and thoughts to substantial extent. Particularly, I wish to express my sincere appreciation to my principal supervisor, Senior Professor Dr. Aamir Firoz Shamsi for enriched guidance, encouragement, constructive criticism, moral support and friendship as well during the entire research period. I am also very thankful to Dr. Mutaghis Ur Rehman for kind guidance, advices and motivation. I am too much thankful to Senior Professor Dr. Liaquat Ali HOD (MS) for valuable guidance, regular advice, encouragement and social support throughout the research work. I also oblige PGP Coordinator Dr. Rao Muhammad Rashid for utmost cooperation, guidance and support bestowed during entire research period. I pay gratitude to Dr. Syma Zia and all faculty members of Bahria University who provided me support and guidance at various occasions. I would say special thanks to PGP staff, PGP Lab staff and BUKC librarians as well for their assistance in providing access to relevant literatures and maintaining effective communication to fulfill distinct mandatory research formalities. I pay special gratitude to all research participants and their managements for valuable participation in the conduct of research study. I also extend my sincere appreciation to all my PhD fellows, colleagues, especially Mr. Muhammad Umar Afridi, Mr. Azmat Ullah and Mr. Zeeshan Shamim Khan who supported me and provided assistance at various occasions. I am grateful to all my family members, brothers and especially my sister who always prayed for successful completion of my PhD study. I also pay special gratitude to my wife, son and daughter for prayers, social support as well as helping and encouraging me throughout the PhD tenure. Indeed without the sincere help, prayers and moral support of my wife it was hard for me to successfully complete the long journey of PhD study.

ABSTRACT

Purpose: The study is concerned with the determinants of innovative work behavior and examines pluralistic impact of job demands, job resources and personal resources on employees' innovative work behavior directly and through the simultaneous mediating role of eustress and work engagement.

Design/ Methodology/ Approach: The study is explanatory in nature and uses triangulation approach for data collection and integration. 436 knowledge workers and 40 managers of IT sector of Pakistan are respondents of quantitative and qualitative parts of research respectively. Quantitative data have been collected through survey approach using a well-structured questionnaire. Whereas, semi-structured in depth face to face interviews have been conducted for qualitative data collection and analyzed using thematic analysis technique with the help of NVivo software application.

Findings: The study findings confirmed the distinctiveness of variables used in the research. The results of statistical analysis and interview contents confirmed that job demands (creativity role expectations & workload), job resources (autonomy & intellectual stimulation) and personal resources (creative self-efficacy & resilience) promote innovative work behavior while eustress and work engagement mediate the relationship between JD-R and IWB of employees working in IT sector of Pakistan.

Originality/ Value: The research study contributes to innovation and JD-R theories with novel empirical knowledge through delineating the linking mechanism between job demands, job resources and personal resources and innovative work behavior. The main novel contribution of the study is exploration of knowledge pertaining to simultaneous mediating role of eustress and work engagement between JD-R and innovative work behavior. Moreover, in contrary to previously highlighted negative impacts of job demands, this study has explored the positive spiral of job demands which has potential to stimulate eustress, work engagement and innovative work behavior of employees. The newly explored knowledge is helpful in strengthening the innovative work behavior of employees to promote creativity and innovation and uplift the IT sector of Pakistan to substantial extent.

Keywords: Autonomy, creative self-efficacy, creativity role expectations, eustress, innovative work behavior, intellectual stimulation, job demands-resources, resilience, work engagement, workload.

TABLE OF CONTENTS

Title Page.....	i
Submission Form for the Evaluation of Thesis for Higher Research Degree Bahria University, Karachi.....	ii
Approval for Examination.....	iii
Author's Declaration.....	iv
Plagiarism Undertaking.....	v
Similarity Report.....	vi
Dedication.....	vii
Acknowledgement.....	viii
Abstract.....	ix
Table of Contents.....	x
List of Tables	xix
List of Figures	xx
List of Appendices.....	xxi
List of Abbreviations.....	xxii
CHAPTER 1.....	1
INTRODUCTION.....	1
1.1 Background of Study.....	1
1.2 Theories Relevant to Innovative Work Behavior	6
1.3 Theoretical Lens Opted for Current Study.....	9
1.4 Prior Research Work in Relation to JD-R and Innovative Work Behavior..	12
1.5 Research Gap Analysis.....	17
1.5.1 Gaps Identification: JD-R and IWB Theoretical Frameworks	17
1.5.2 Theoretical Gaps Identification: Casual Mechanism between	

JD-R and IWB.....	20
1.5.3 Contextual and Methodological Gaps.....	29
1.6 Problem Background.....	30
1.7 Research Questions	32
1.8 Objective of the Study.....	32
1.9 Scope of Research Study.....	33
1.10 Significance of Study.....	34
1.11 Definitions of Key Terms.....	37
1.11.1 Job Demands.....	37
1.11.2 Workload.....	37
1.11.3 Creativity Role Expectations.....	37
1.11.4 Job Resources.....	37
1.11.5 Autonomy.....	38
1.11.6 Intellectual Stimulation.....	38
1.11.7 Personal Resources.....	38
1.11.8 Creative Self-Efficacy.....	38
1.11.9 Resilience.....	38
1.11.10 Work Engagement.....	38
1.11.11 Eustress.....	39
1.11.12 Innovative Work Behavior.....	39
1.12 Organization of the Thesis.....	39
CHAPTER 2.....	41
LITERATURE REVIEW.....	41
2.1 Background of Research Variables.....	41
2.1.1 Innovative Work Behavior.....	41

2.1.2	Critical Review and Summary of Literature Review-IWB.....	57
2.2	JD-R Theory.....	59
2.2.1	Job Demands.....	66
2.2.2	Job Resources.....	72
2.2.3	Personal Resources.....	78
2.2.4	Critical Analysis and Summary of Literature Review-JD-R.....	85
2.3	Work Engagement.....	89
2.3.1	Critical Analysis and Summary of Literature Review – Work Engagement.....	93
2.4	Eustress	95
2.4.1	Critical Analysis and Summary of Literature Review-Eustress....	103
2.5	JD-R and Innovative Work Behavior.....	105
2.6.	Hypotheses Development.....	110
2.6.1	Job Demands: Creativity Role Expectations & Workload and Work Engagement.....	110
2.6.2	Job Resources: Autonomy & Intellectual Stimulation and Work Engagement.....	117
2.6.3	Personal Resources: Creative Self-efficacy & Resilience and Work Engagement.....	126
2.6.4	Job Demands: Workload, Creativity Role Expectations & Eustress.....	132
2.6.5	Job Resources: Autonomy, Intellectual Stimulation & Eustress.....	137
2.6.6	Personal Resources: Creative Self-efficacy, Resilience & Eustress.....	142

2.6.7	Job Demands: Creativity Role Expectations, Workload and IWB.....	145
2.6.8	Job Resources: Autonomy, Intellectual Stimulation and IWB.....	150
2.6.9	Personal Resources: Creative Self-Efficacy, Resilience and IWB.....	155
2.6.10	Work Engagement and Innovative Work Behavior.....	159
2.6.11	Eustress and Innovative Work Behavior.....	163
2.6.12	Eustress and Work Engagement as Simultaneous Mediators between JD-R and IWB.....	166
2.7	Theoretical Analysis.....	174
2.8	Conceptual Framework	176
2.9	Critical Analysis and Summary of Literature Review....	177
CHAPTER 3.....		178
RESEARCH METHODOLOGY.....		178
3.1	Research Design	178
3.2	Philosophical Stance.....	181
3.3	Quantitative Research.....	186
3.3.1	The Nature and Approach to Study	186
3.3.2	Type of Data.....	188
3.3.3	Population.....	188
3.3.4	Sampling.....	189
3.3.5	Unit of Analysis.....	192
3.3.6	Data Collection and Protocol.....	192
3.3.7	Survey Instrument.....	194

3.3.7.1	Workload.....	194
3.3.7.2	Creativity Role Expectations	194
3.3.7.3	Autonomy	194
3.3.7.4	Intellectual Stimulation	195
3.3.7.5	Creative Self-Efficacy.....	195
3.3.7.6	Resilience.....	195
3.3.7.7	Eustress.....	195
3.3.7.8	Work Engagement.....	195
3.3.7.9	Innovative Work Behavior.....	196
3.3.8	Reliability & Validity Confirmation (Quantitative).....	197
3.3.9	Dealing with Incomplete & Missing Responses	197
3.3.10	Data Integration & Analyses Strategy	198
3.3.11	Assessment of Measurement Model.....	200
3.3.12	Assessment of the Structural Model.....	200
3.3.13	Pilot Study	201
3.4	Qualitative Research.....	202
3.4.1	Conceptualization and Operationalization.....	203
3.4.2	Interview Participants' Selection	204
3.4.3	Naive Assumption Model.....	205
3.4.4	Reliability and Validity Confirmation (Qualitative).....	206
3.4.5	Qualitative Data Analysis and Results Interpretation.....	207
3.5	Ethical Consideration.....	210
3.6	Summary of Research Methodology.....	211
CHAPTER 4.....		212
RESULTS		212

4.1	Respondents Profile	212
4.2	Reliability and Validity Test.....	217
4.2.1	Indicator Reliability.....	217
4.2.2	Composite Reliability.....	217
4.2.3	Convergent Validity.....	217
4.2.4	Discriminant Validity	220
4.3	Model Fitness - Blindfolding and Coefficient of Determination.....	222
4.4	Evaluation of Structural Model	223
4.4.1	Structural Path Significance and Multicollinearity Assessment Test.....	223
4.4.2	Explanation of Target Endogenous Variable (Model's f^2 Effect Size).....	225
4.4.3	Hypotheses Testing Results-Direct Relationship.....	227
4.4.4	Hypotheses Testing-Indirect Relationship.....	232
4.5	Qualitative Study Results.....	235
4.6	Demographic Information of Respondents	236
4.7	Qualitative Data Analysis and Results Interpretation.....	239
4.8	Qualitative Data Analysis- Research Question # 1.....	239
4.9	Quotations of Interview Participants Research Q # 1.....	247
4.9.1	Creativity Role Expectations and Work Engagement.....	247
4.9.2	Workload and Work Engagement.....	248
4.9.3	Autonomy and Work Engagement.....	249
4.9.4	Intellectual Stimulation and Work Engagement.....	250
4.9.5	Creative Self-efficacy and Work Engagement.....	251
4.9.6	Resilience and Work Engagement.....	252

4.9.7	Creativity Role Expectations and Eustress.....	254
4.9.8	Workloads and Eustress.....	255
4.9.9	Autonomy and Eustress.....	256
4.9.10	Intellectual Stimulation and Eustress.....	257
4.9.11	Creative Self-Efficacy and Eustress.....	259
4.9.12	Resilience and Eustress.....	260
4.9.13	Creativity Role Expectations and Innovative Work Behavior.....	261
4.9.14	Workload and Innovative Work Behavior.....	263
4.9.15	Autonomy and Innovative Work Behavior.....	264
4.9.16	Intellectual Stimulation and Innovative Work Behavior.....	265
4.9.17	Creative Self-Efficacy and Innovative Work Behavior.....	267
4.9.18	Resilience and Innovative Work Behavior.....	268
4.9.19	Work Engagement and Innovative Work Behavior.....	269
4.9.20	Eustress and Innovative Work Behavior.....	270
4.10	Qualitative Data Analysis-Research Question # 2.....	272
4.11	Quotations of Research Participants Research Q # 2.....	277
4.11.1	Creativity Role Expectations, Work Engagement and IWB.....	277
4.11.2	Workload, Work Engagement and IWB.....	278
4.11.3	Autonomy, Work Engagement and IWB.....	279
4.11.4	Intellectual Stimulation, Work Engagement and IWB.....	281
4.11.5	Creative Self-Efficacy, Work Engagement and IWB.....	282
4.11.6	Work Engagement, Resilience and IWB.....	283
4.11.7	Creativity Role Expectations, Eustress and IWB.....	285
4.11.8	Workload, Eustress and IWB.....	286
4.11.9	Autonomy, Eustress and IWB.....	287

4.11.10	Intellectual Stimulation, Eustress and IWB.....	288
4.11.11	Creative Self-Efficacy, Eustress and IWB.....	289
4.11.12	Resilience, Eustress and IWB.....	291
CHAPTER 5.....		293
DISCUSSION.....		293
5.1	Impact of Job Demands, Job Resources and Personal Resources on Work Engagement, Eustress and Innovative Work Behavior.....	293
5.1.1	Impact of Job Demands on Employees' Work Engagement	294
5.1.2	Impact of Job Resources on Employees' Work Engagement.....	298
5.1.3	Impact of Personal Resources on Employees' Work Engagement	301
5.1.4	Impact of Job Demands on Eustress.....	304
5.1.5	Impact of Job Resources on Eustress.....	307
5.1.6	Impact of Personal Resources on Eustress.....	310
5.1.7	Impact of Job Demands on Innovative Work Behavior.....	312
5.1.8	Impact of Job Resources on Innovative Work Behavior.....	314
5.1.9	Impact of Personal Resources on Innovative Work Behavior.....	315
5.1.10	Impact of Work Engagement on Innovative Work Behavior.....	317
5.1.11	Impact of Eustress on Innovative Work Behavior.....	319
5.2	Eustress and Work Engagement as Simultaneous Mediators between JD-R and IWB.....	320
5.2.1	The Mediating Role of Eustress between JD-R and IWB.....	320
5.2.2	The Mediating Role of Work Engagement between JD-R and IWB.....	326

CHAPTER 6..... 331

CONCLUSION AND RECOMMANDATIONS..... 331

6.1 Conclusion 331

6.2 Theoretical Contribution 333

6.3 Managerial Implications..... 335

6.4 Social Implications..... 339

6.5 Research Limitations and Future Directions..... 340

References.....343

Appendices.....413

LIST OF TABLES

Table 2-1	Definitions of IWB.....	46
Table 2-2	Dimensions of IWB.....	50
Table 2-3	Summary Literature-IWB.....	58
Table 2-4	Summary Literature-JD-R.....	86
Table 2-5	Summary Literature-WE.....	94
Table 2-6	Summary Literature-Eustress.....	104
Table 3-1	Selection of Research Participants.....	191
Table 3-2	Summary of Variables.....	196
Table 4-1	Response Rate.....	212
Table 4-2	Gender Information.....	213
Table 4-3	Respondents Qualifications.....	214
Table 4-4	Service Tenure.....	215
Table 4-5	Position of Respondents.....	216
Table 4-6	Loading of Indicators.....	219
Table 4-7	Discriminant Validity.....	220
Table 4-8	Item Wise Cross Loading.....	221
Table 4-9	Blindfolding and Coefficient of Determination.....	222
Table 4-10	Variance Inflation Factor Statistics.....	224
Table 4-11	Direct Effect.....	227
Table 4-12	Indirect Effect.....	232
Table 4-13	Demographics of Interview Participants.....	237
Table 4-14	Summary of Qualitative Data Analysis-Research Question # 1.....	240
Table 4-15	Summary of Qualitative Data Analysis-Research Question # 2.....	272

LIST OF FIGURES

Figure 2-1	Concept of Innovation Process.....	43
Figure 2-2	JD-R Model.....	65
Figure 2-3	Eustress Stages.....	98
Figure 2-4	Hypothesized Research Model.....	176
Figure 3-1	Qualitative Data Analysis Process.....	208
Figure 3-2	Summary of Research Methodology.....	211
Figure 4-1	PLS-SEM Model.....	226

LIST OF APPENDICES

Appendix A	Research Survey Questionnaire.....	413
Appendix B	Interview Script.....	417
Appendix C	JD-R Model.....	419
Appendix D	Conceptual Framework.....	420
Appendix E	PLS-SEM Model.....	421

LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
CRE	Creativity Role Expectations
CSE	Creative Self-efficacy
DCM	Demand Control Model
DOI	Diffusion of Innovation
ERI	Efforts Rewards Imbalance
EUS	Eustress
GDP	Gross Domestic Product
HR	Human Resource
HRD	Human Resource Development
IT	Information Technology
ITeS	Information Technology Enabled Services
IWB	Innovative Work Behavior
JDC	Job Demand Control
JDCS	Job Demand Control Support
JD-R	Job Demands-Resources
OCB	Organizational Citizenship Behavior
PLS-SEM	Partial Least Square- Structural Equation Modeling
PSEB	Pakistan Software Export Board
R & D	Research & Development
SECP	Security & Exchange Commission of Pakistan
WE	Work Engageme