

STRESS IN THE WORKPLACE: THE PHENOMENON, SOME KEY CORRELATES AND PROBLEM SOLVING APPROACHES

by

FERGUS RURIC VOGEL

Submitted in partial fulfilment of the requirements for the degree of Philosophiae Doctor in the Faculty of Humanities, University of Pretoria

MAY 2006



This thesis is dedicated to my son Ruric Colm who amazes me every day with his joy and love of life

The real voyage of discovery consists not in seeking new lands but seeking with new eyes.

Marcel Proust



ACKNOWLEDGEMENTS

I wish to express my sincere appreciation to the following people for their contribution to this study:

- Prof R P de la Rey, my promoter, for his guidance, valued suggestions, and encouragement throughout the study.
- Dr Mike van der Linde of the Department of Statistics for processing the data.
- Dr Susan Nel for her liaison with a number of the organizations.
- My lovely wife Salomé for her consistent support and belief in me throughout the study.
- Lourett Visser for being very helpful and supportive at different stages in the completion of the thesis.
- Mrs Ria Holman for much appreciated e-mail support during my stay in Antwerp, Belgium.
- The respondents who voluntarily completed the questionnaires.



SUMMARY

Stress in the workplace: the phenomenon, some key correlates and problem solving approaches

by

Student: Fergus Ruric Vogel Supervisor: Prof RP de la Rey

Departement: Psychology

Degree: Philosophiae Doctor

In this study the researcher set out to determine the levels and the causes of workplace stress, as well as the consequences of stress in terms of witnessed and experienced aggression in the workplace, anxiety, depression, and worry for a sample of 205 subjects. To achieve this, the following tests were used: 1) Experience of Work and Life Circumstances Questionnaire, 2) the Aggression in the Workplace Questionnaire, 3) the IPAT Anxiety Scale, 4) the Beck Depression Inventory, and 5) the Penn State Worry Questionnaire. The subjects' ability to cope with experienced stressors in relation to social problem solving was examined with the Social Problem-Solving Inventory-Revised. The raw data were analysed by means of the usual descriptive statistics. In addition, inferential statistics including *z*-tests, *t*-tests, analysis of variance and post-hoc analyses (Scheffé) were conducted for the following groups: total group, gender, marital status, age, organizational type, qualification and position level.

Results indicate that most of the subjects in the sample experienced normal levels of stress, indicating that the participants generally experienced their circumstances within or outside the workplace as satisfactory. Generally, the results also indicated that their expectations regarding their work situation were met. With reference to the consequences of stress, the total sample reported low levels of witnessing and experiencing workplace aggression, normal levels of anxiety, low levels of depression and worry. Good overall social problem solving suggests the ability to cope with demands and stressors within and outside the workplace. Generally, Pearson correlations indicated significant relationships between a) levels of stress as experienced by subjects and b) witnessed and experienced workplace aggression, c) anxiety, d) depression, e) worry and f) social problem solving.



That most of the subjects in this sample were able to deal effectively with the demands and stressors placed on them, from within and outside the workplace suggests the ability to use effective problem-focused coping involving social problem solving which for most participants, was due to a positive problem orientation and effective rational problem solving skills. These findings may be useful as part of a stress management programme to help employees deal with stress proactively by becoming more effective problem-solvers. In terms of a salutogenic paradigm, and consistent with recent developments in positive psychology, the findings indicate that more attention should be paid to possible reasons why some employees appear to cope with stress more effectively than others.

Key terms: stress, workplace, wellbeing, workplace aggression, anxiety, depression, worry, problem-focused coping, social problem solving; quantitative analysis

V



OPSOMMING

Druktespanning in die werkplek: die fenomeen, enkele kernkorrelate en benaderings tot probleemoplossing

deur

Student: Fergus Ruric Vogel Promotor: Prof RP de la Rey

Departement: Sielkunde

Graad: Philosophiae Doctor

In hierdie studie poog die navorser om die vlakke en oorsake van stres in die werkplek, sowel as die gevolge daarvan in terme van waargenome en beleefde aggressie in die werkplek, angs, depressie en kommer vir 'n steekproef van 205 deelnemers vas te stel. Vir hierdie doel is die volgende vraelyste gebruik: 1) Ervaring van Werk- en Lewensomstandighedevraelys, 2) Aggressie in die Werkplekvraelys, 3) IPAT Angsskaal, 4) Beck Depressie-inventaris, en 5) Penn State Kommervraelys. Die deelnemers se vermoë om stres te hanteer soos weerspieël in hulle sosiale probleemoplossingvaardighede is ondersoek met die Sosiale probleemoplossingsinventaris-Hersien. Die onverwerkte data is ontleed deur gebruik te maak van beskrywende statistiek asook inferensiële statistieke soos z-toetse, t-toetse, variansieontleding en post-hoc analises (Scheffé) vir die volgende groepe: totale groep, geslag, huwelikstatus, ouderdom, tipe organisasie, kwalifikasieen posvlak.

Resultate toon dat die meeste deelnemers normale stresvlakke ervaar wat aandui dat respondente hulle omstandighede binne en buite die werkomgewing as bevredigend beleef. Oor die algemeen toon die resultate ook dat deelnemers voel dat daar aan hulle verwagtinge betreffende die werksituasie voldoen word. Met betrekking tot die gevolge van stres, rapporteer die totale groep lae vlakke van waargenome en beleefde aggressie in die werkplek, asook normale angsvlakke, en lae vlakke van depressie en kommer. Deelenemers se goeie algemene sosiale probleemoplossing suggereer hul vermoë om stressors binne en buite die werkplek toereikend te hanteer. Pearsonkorrelasies toon oor die algemeen aan dat statisties beduidende verbande bestaan tussen deelnemers se beleefde a) stresvlakke en b) waargenome en beleefde agressie in die werkplek, c) angs, d) depressie, e) kommer en f) sosiale probleemoplossing.



Dat meeste van die deelnemers in hierdie steekproef die vermoë het om eise en stressors binne en buite die werkplek effektief te hanteer suggereer die effektiewe gebruik van probleemgesentreerde hantering wat sosiale probleemoplossing insluit wat vir die meeste deelnemers geassosieer was met 'n positiewe probleemoriëntasie and effektiewe rasionele probleemoplossingvaardighede. Die bevindings van hierdie studie kan nuttig wees as deel van 'n streshanteringprogram wat werknemers help om meer proaktief in hulle hantering van stres te wees deur meer effektiewe probleemoplossing. Vanuit 'n salutogeniese paradigma en in ooreenstemming met resente verwikkelinge in positiewe sielkunde, suggereer die bevindings ook dat meer aandag geskenk moet word aan redes waarom sommige werknemers stres meer effektief as ander hanteer.

Sleutelterme: Stres, werkplek, algemene welstand, gedrag, werkplekaggressie, angs, depressie, bekommernis, probleemgefokusde handhawing, sosiale probleemoplossing, kwantitatiewe analise



TABLE OF CONTENTS

Summary			
Opso	Opsomming		
	CHAPTER 1		
	WORK STRESS		
1.1	Introduction	1	
1.2	Occupational health psychology	2	
1.3	The nature of stress	2	
1.3.1	Definition of stress and work stress	2	
1.3.2	Burnout	3	
1.4	Major causes of stress	4	
1.4.1	Job insecurity	5	
1.4.2	Work hours	5	
1.4.3	Control at work	6	
1.4.4	Managerial style	6	
1.5	Consequences of stress	7	
1.5.1	Physical consequences	7	
1.5.2	Psychological problems	8	
1.5.3	Behavioural problems	8	
1.6	Stress in South Africa	9	
1.7	Conclusion	10	



CHAPTER 2

RESEARCH PROBLEM AND PURPOSE OF STUDY

2.1	Introduction	11
2.2	Research problem	11
2.2.1	Causes of stress	12
2.2.2	Consequences of stress	13
2.3	Aim of the study	13
2.4	Research objectives	14
	CHAPTER 3	
	STRESS IN THE WORKPLACE	
3.1	Introduction	16
3.2	Models of stress	16
3.2.1	Response-based model	16
3.2.2	The general adaptation syndrome	17
3.2.2.	1 Physiological processes	20
3.2.3	Stimulus-based model	21
3.2.4	Psychological-based approaches	23
3.2.4.	1 Transactional models of stress	23
	1) Lazarus's transactional model of stress	23
	2) Cox and MacKay's transactional model of stress	24
3.2.4.2	2 Cybernetic theory of organizational stress	25
3.3	Main causes and sources of workplace stress	26
3.3.1	Extraorganizational causes and sources of stress	26
3.3.1.	1 Rate of social and technological change	26
3.3.1.2	2 Family	27
3.3.1.3	3 Relocation	27
3.3.1.4	4 Life changes	28
3.3.1.5	5 Race, sex, and social class	28



3.3.2	Organizational stressors	29			
3.3.2.	1 Task demands	29			
3.3.2.2	3.3.2.2 Physical demands				
3.3.2.3	3.3.2.3 Role demands				
	1) Role conflict and ambiguity	32			
	2) Responsibility for others	33			
3.3.2.4	1 Interpersonal demands	33			
	1) Group pressures	33			
	2) Relationships at work	33			
3.3.2.5	5 Career stress	34			
3.3.3	Group stressors	35			
3.3.4	Individual stressors	35			
3.3.4.	1 Type A and B personalities	35			
3.3.4.2	2 Learned helplessness	36			
3.3.4.3	3 Self-efficacy	36			
3.3.4.4	4 Psychological hardiness	37			
3.3.4.5	5 Optimism	37			
3.4	Conclusion	37			
	CHAPTER 4				
	AGGRESSION IN THE WORKPLACE				
4.1	Introduction	40			
4.2	Aggression	41			
4.2.1	Instinct theories	42			
4.2.2	Biological theories	43			
4.2.3	Drive theories	44			
4.2.4	Social learning theory	45			
4.2.5	Cognitive theories	45			
4.2.6	Personal causes of aggression	47			
	1 Type A personality	47			
	2 Hostile attribution bias	47			
	3 Antecedents of aggressive behaviour	47			
	2.6.4 "Big Five" dimensions of personality 48				



4.2.6.	5 Gender differences	49
4.2.7	Anger	49
4.2.8	Violence	50
4.3	Aggression in the workplace	51
4.3.1	Causes of workplace aggression	53
4.3.1.	1 Social determinants of workplace aggression	54
4.3.1.	2 Situational factors	54
4.3.1.	3 Individual differences	55
4.3.1.	4 Models of workplace aggression	56
4.4	Conclusion	59
	CHAPTER 5	
	ANXIETY, DEPRESSION, AND WORRY	
5.1	Introduction	62
5.2	Anxiety	62
5.2.1	Normal anxiety	63
5.2.2	Pathological anxiety	63
5.2.3	Theories of anxiety	64
<i>5.2.3.</i>	1 Psychoanalytical theories	64
5.2.3.	2 Learning theories	64
5.2.3.	3 Existential theories	65
5.2.3.	4 Biological theories	65
5.2.4	Stress and anxiety	66
5.3	Depression	67
5.3.1	Causal factors of depression	68
5.3.1.	1 Biological and genetic factors	68
	Genetic and constitutional factors	68
	2) Neurophysiological and neuroendocrinological factors	69
	3) Biochemical factors	70
5.3.1.2	2 Psychosocial factors	70



5.3.2	Theor	ies of	f depression	71
5.3.2.	1 Psych	odyna	amic theories	71
5.3.2.2	2 Cogni	tive th	neory	71
5.3.2.	3 Learne	ed hel	lplessness	72
5.3.2.	4 Interp	ersona	al effects of mood disorders	72
5.4	Worry			73
5.5	Work-	relate	ed stress, anxiety, depression and worry	74
5.6	Concl	usion	1	75
			CHAPTER 6	
			COPING	
6.1	Introd	uctio	n	77
6.2	Copin	g defi	ined	77
6.3	Copin	g stra	ategies	78
6.3.1	Key c	oping	g strategies	80
6.3.1.	1 Individ	lual co	oping strategies	80
	1)	Exer	rcise	80
	2)	Rela	xation	81
	3)	Time	e management	82
	4)	Socia	al support	83
	5)	Cogr	nitive therapy techniques	84
		a)	Stress inoculation	85
		b)	Problem solving	86
6.3.1.	2 Organ	izatior	nal strategies	87
	1)	Instit	tutional programmes	87
	2)	Colla	ateral programmmes	89
6.4	Concl	usion	1	90



CHAPTER 7

METHODOLOGY

7.1	Introduction	91				
7.2	Research hypotheses	92				
7.2.1	First set	92				
7.2.2	Second set	92				
7.2.3	Third set	93				
7.2.4	Fourth set	94				
7.3	Research Design	95				
7.3.1	Data collection	95				
7.3.1.	.1 Psychometric instruments	95				
7.3.1.	.2 Biographical questionnaire	96				
7.3.1.	.3 Experience of Work and Life Circumstances Questionnaire	96				
7.3.1.	.4 Aggression in the Workplace Questionnaire	97				
7.3.1.	.5 IPAT Anxiety Scale	97				
7.3.1.	7.3.1.6 Beck Depression Inventory 9					
7.3.1.	.7 Penn State Worry Questionnaire	99				
7.3.1.	.8 Social Problem-Solving Inventory-Revised	99				
7.4	Quantitative analysis of test data	101				
7.4.1	Descriptive and other statistics	101				
7.4.1.	.1 The z-test	101				
7.4.1.	.2 The t-test	101				
7.4.1.	.3 Correlation coefficient	102				
7.4.1.	.4 Analysis of variance	102				
7.4.1.	.5 Post hoc comparisons (Scheffé)	102				
7.4.1.	.6 Reliability coefficient	103				
7.5	Impact of response patterns	103				
7.6	Effect size	104				
77	Conclusion	105				



CHAPTER 8

DESCRIPTION OF SAMPLE

8.1	Introd	luction	1	106
8.2	Subje	ects		106
8.2.1	Desci	ription	of the total survey group	107
8.2.1.	1 Gend	er		107
8.2.1.	2 Age			107
8.2.1.	3 Ethnic	city		108
8.2.1.	4 Marita	al statu	s	108
8.2.1.	5 Home	langua	age	108
8.2.1.	6 Orgar	nization	ns	109
8.2.1.	7 Qualit	ication	ns .	109
8.2.1.	8 Positi	on leve	el	110
8.2.1.	9 Work	experie	ence	110
8.3	Conc	lusion		111
			CHAPTER 9	
			RESULTS	
9.1	Introd	luctior	1	113
9.2	Desci	riptive	statistics	113
9.3	Cront	oach a	lpha reliability coefficients	113
9.4	Infere	ntial s	statistics	114
9.4.1	Z-tes	t statis	stic	114
9.4.1.	1 Total	sample	e	115
	1)	Expe	rience of Work and Life Circumstances Questionnaire	115
		a)	Level of stress	115
		b)	Causes outside the work situation	115
		c)	Organizational functioning	116
		d)	Task characteristics	116



		e)	Physical working conditions and job equipment	116
		f)	Career matters	117
		g)	Social matters	117
		h)	Remuneration, fringe benefits and personnel policy	118
	2)	Aggres	ssion in the Workplace Questionnaire	118
		a)	Aggression in the workplace-witnessed	118
		b)	Aggression in the workplace-experienced	119
	3)	IPAT A	Anxiety Scale	119
		a)	Factor -C	119
		b)	Factor L	120
		c)	Factor O	120
		d)	Factor -Q ₃	121
		e)	Factor Q ₄	121
		f)	Score A	121
		g)	Score B	122
		h)	Total anxiety	122
	4)	Beck [Depression Inventory	122
	5)	Penn S	State Worry Questionnaire	123
	6)	Social	Problem-Solving Inventory-Revised	123
		a)	Positive problem orientation	124
		b)	Negative problem orientation	124
		c)	Rational problem solving	124
		d)	Problem definition and formulation	125
		e)	Generation of alternatives	125
		f)	Decision making	125
		g)	Solution implementation and verification	126
		h)	Impulsivity/carelessness style	126
		i)	Avoidance style	126
		j)	Total social problem solving	127
9.4.2	T -:	test sta	tistic	127
9.4.2.1	Gende	er comp	parison	128
	1)	Experi	ence of Work and Life Circumstances Questionnaire	128
	2)	Aggres	ssion in the Workplace Questionnaire	129
		a)	Aggression in the workplace-witnessed	129
		b)	Aggression in the Workplace-experienced	129
	3)	IPAT A	Anxiety Scale	130



	4)	Beck D	epression Inventory	132	
	5)	Penn S	state Worry Questionnaire	132	
	6)	Social I	Problem-Solving Inventory-Revised	133	
9.4.2.2 Marital status					
	1)	Experie	ence of Work and Life Circumstances Questionnaire	134	
	2)	Aggres	sion in the Workplace Questionnaire	135	
		a)	Aggression in the workplace-witnessed	135	
		b)	Aggression in the workplace-experienced	136	
	3)	IPAT A	nxiety Scale	137	
	4)	Beck D	epression Inventory	138	
	5)	Penn S	state Worry Questionnaire	139	
	6)	Social I	Problem-Solving Inventory-Revised	139	
9.4.3	Analys	sis of va	ariance	142	
9.4.3.1 Experience of Work and Life Circumstances Questionnaire				142	
	1)	Level o	f stress	142	
	2)	Causes	s outside the work situation	143	
	3)	Organiz	zational functioning	143	
	4)	Task ch	naracteristics	146	
	5)	Physica	al working conditions and job equipment	151	
	6)	Career	matters	152	
	7)	Social	matters	156	
	8)	Remun	eration, fringe benefits and personnel policy	157	
9.4.3.2	? Aggres	ssion in	the Workplace Questionnaire	164	
	1)	Aggres	sion in the workplace -witnessed	164	
		a)	Witnessed overall aggression	164	
		b)	Witnessed expressions of hostility	165	
		c)	Witnessed obstructionism	165	
		d)	Witnessed overt aggression	166	
	2)	Aggres	sion in the workplace-experienced	169	
		a)	Experienced overall aggression	169	
		b)	Experienced expressions of hostility	170	
		c)	Experienced obstructionism	170	
		d)	Experienced overt aggression	171	
9.4.3.3	BIPAT A	Anxiety S	Scale	177	
	1)	Factor	_C	177	
	2) Factor L				



	3)	Factor O	179
	4)	Factor -Q ₃	179
	5)	Factor Q ₄	180
	6)	Score A	181
	7)	Score B	181
	8)	Total anxiety	182
9.4.3.4	4 Beck	Depression Inventory	183
9.4.3.	5 Penn	State Worry Questionnaire	183
9.4.3.6	6 Socia	Problem-Solving Inventory-Revised	184
	1)	Positive problem orientation	184
	2)	Negative problem orientation	185
	3)	Rational problem solving	186
	4)	Problem definition and formulation	186
	5)	Generation of alternatives	187
	6)	Decision making	190
	7)	Solution implementation and verification	190
	8)	Impulsivity/carelessness style	191
	9)	Avoidance style	192
	10)	Total social problem solving	192
9.5	Co-re	lationships	193
9.5.1	Total	Group	193
9.5.1.	1 Exper	ience of Work and Life Circumstances Questionnaire with the Aggression	
	in the	Workplace Questionnaire	193
	1)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-witnessed	194
	2)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-experienced	194
9.5.1.2	2 Exper	ience of Work and Life Circumstances Questionnaire with the	
	IPAT .	Anxiety Scale	195
9.5.1.3	3 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Beck	Depression Inventory	195
9.5.1.4	4 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Penn	State Worry Questionnaire	196
9.5.1.	5 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Social	Problem-Solving Inventory-Revised	197



9.5.2	G	ender	197
9.5.2.	1 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Aggre	ssion in the Workplace Questionnaire	197
	1)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-witnessed	198
	2)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-experienced	198
9.5.2.2	2 Exper	ience of Work and Life Circumstances Questionnaire with the	
	IPAT .	Anxiety Scale	199
9.5.2.	3 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Beck	Depression Inventory	199
9.5.2.	4 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Penn	State Worry Questionnaire	200
9.5.2.	5 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Social	Problem-Solving Inventory-Revised	201
9.5.3	Marita	al status	202
9.5.3.	1 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Aggre	ssion in the Workplace Questionnaire	202
	1)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-witnessed	202
	2)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-experienced	203
9.5.3.2	2 Exper	ience of Work and Life Circumstances Questionnaire with the	
	IPAT .	Anxiety Scale	203
9.5.3.	3 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Beck	Depression Inventory	204
9.5.3.	4 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Penn	State Worry Questionnaire	205
9.5.3.	5 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Social	Problem-Solving Inventory-Revised	205
9.5.4	Age g	roups	206
9.5.4.	1 Exper	ience of Work and Life Circumstances Questionnaire with the	
	Aggre	ssion in the Workplace Questionnaire	206
	1)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-witnessed	206



	2)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-experienced	207
9.5.4.	2 Expe	rience of Work and Life Circumstances Questionnaire with the	
	IPAT	Anxiety Scale	208
9.5.4.	3 Ехре	rience of Work and Life Circumstances Questionnaire with the	
	Beck	Depression Inventory	208
9.5.4.	4 Expe	rience of Work and Life Circumstances Questionnaire with the	
	Penn	State Worry Questionnaire	209
9.5.4.	5 Expe	rience of Work and Life Circumstances Questionnaire with the	
	Socia	al Problem-Solving Inventory-Revised	210
9.5.5	Orga	nization groupings	211
9.5.5.	1 Expe	rience of Work and Life Circumstances Questionnaire with the	
	Aggre	ession in the Workplace Questionnaire	211
	1)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-witnessed	211
	2)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-experienced	212
9.5.5.	2 Expe	rience of Work and Life Circumstances Questionnaire with the	
	IPAT	Anxiety Scale	212
9.5.5.	3 Expe	rience of Work and Life Circumstances Questionnaire with the	
	Beck	Depression Inventory	213
9.5.5.	4 Expe	rience of Work and Life Circumstances Questionnaire with the	
	Penn	State Worry Questionnaire	214
9.5.5.	5 Expe	rience of Work and Life Circumstances Questionnaire with the	
	Socia	al Problem-Solving Inventory-Revised	214
9.5.6	Qual	ification groupings	215
9.5.6.	1Exper	rience of Work and Life Circumstances Questionnaire with the	
	Aggre	ession in the Workplace Questionnaire	215
	1)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-witnessed	216
	2)	Experience of Work and Life Circumstances Questionnaire with the	
		Aggression in the Workplace Questionnaire-experienced	217
9.5.6.	2 Expe	rience of Work and Life Circumstances Questionnaire with the	
	IPAT	Anxiety Scale	217
9.5.6.	3 Expe	rience of Work and Life Circumstances Questionnaire with the	
	Beck	Depression Inventory	218



9.5.6.	4 Experience of Work and Life Circumstances Questionnaire with the		
	Penn State Worry Questionnaire	219	
9.5.6.	5 Experience of Work and Life Circumstances Questionnaire with the		
	Social Problem-Solving Inventory-Revised	220	
9.5.7	Position levels	221	
9.5.7.	1 Experience of Work and Life Circumstances Questionnaire with the		
	Aggression in the Workplace Questionnaire	221	
	1) Experience of Work and Life Circumstances Questionnaire with the		
	Aggression in the Workplace Questionnaire-witnessed	221	
	2) Experience of Work and Life Circumstances Questionnaire with the		
	Aggression in the Workplace Questionnaire-experienced	222	
9.5.7.2 Experience of Work and Life Circumstances Questionnaire with the			
	IPAT Anxiety Scale	222	
9.5.7.	3 Experience of Work and Life Circumstances Questionnaire with the		
	Beck Depression Inventory	223	
9.5.7.	4 Experience of Work and Life Circumstances Questionnaire with the		
	Penn State Worry Questionnaire	224	
9.5.7.	5 Experience of Work and Life Circumstances Questionnaire with the		
	Social Problem-Solving Inventory-Revised	224	
9.6	Effect size, d	225	
9.7	Conclusion	226	
	CHAPTER 10		
	CHAPTER 10		
	DISCUSSION		
10.1	Introduction	227	
10.2	Cronbach alpha reliability coefficients	227	
10.2.1	1 Experience of Work and Life Circumstances Questionnaire	227	
10.2.2	2 Aggression in the Workplace Questionnaire	227	
10.2.3	3 IPAT Anxiety Scale	228	
10.2.4	4 Beck Depression Inventory	228	
10.2.5	5 Penn State Worry Questionnaire	229	
10.2.6	Social Problem-Solving Inventory–Revised	229	



10.3 Experience of stress and its consequences	229
10.3.1 Total sample, gender, marital status, and age	229
10.3.2 Type of organization grouping	236
10.3.2.1 Organization grouping with qualification level	238
10.3.2.2 Organization grouping with position level	241
10.3.2.3 Organization grouping with age	242
10.3.3 Qualification level	243
10.3.3.1 Qualification level with age	244
10.3.3.2 Qualification level with position level	245
10.3.4 Position level	245
10.3.4.1 Position level with age	246
10.4 Coping	247
10.5 Overall assessment of effect size	249
10.6 Some limitations of the present research	249
10.7 Further research	250
10.7 Conclusion	250
LIST OF REFERENCES	252
APPENDIX A	
APPENDIX B	
LIST OF FIGURES	
Figure 2.1: Causes and consequences of workplace stress	15
Figure 3.1: A response model of stress	
Figure 3.2: The General Adaptation Syndrome	
Figure 3.3: Cox's stimulus-based model of stress	22
Figure 3.4: A psychological model of stress with the emphasis on pe	rceptual and
cognitive processes	23



Figure 3.5: Macrolevel stressors of an organization	30
Figure 4.1: Cognitive theories of aggression	46
Figure 4.2: The General Affective Aggression Model	46
Figure 4.3: Neuman and Baron's theoretical model of workplace aggression	57
Figure 4.4: Baron's General Workplace Affective Aggression Model	58
Figure 4.5: A cognitive appraisal model of workplace aggression	60
Figure 6.1: Appraisal model of stress and coping	78
LIST OF TABLES	
Table 3.1: Examples of the effects of the autonomic (sympathetic) arousal on organs	18
Table 4.1: Factors that characterize different forms of aggression	42
Table 4.2: Types of aggression in the workplace	52
Table 8.1: Balance of questionnaires	106
Table 8.2: Gender distribution	107
Table 8.3: Mean age (\bar{x}), standard deviation (s), and variance (s²) for age of respondents	107
Table 8.4: Age distribution of respondents	108
Table 8.5: Ethnicity	108
Table 8.6: Marital status	108
Table 8.7: Home language distribution	109
Table 8.8: Type of institution	109
Table 8.9: Qualifications of the survey group	110
Table 8.10: Position level	110
Table 8.11: Mean work experience (\bar{x}), standard deviation (s), and variance (s²) for	
work experience of respondents	111
Table 8.12: Work experience distribution	111
Table 9.1: Calculations of z-values for aggression in the workplace-witnessed	119
Table 9.2: Calculations of z-values for aggression in the workplace-experienced	119
Table 9.3: T-test statistics for the Experience of Work and Life Circumstances	
Questionnaire for gender	128
Table 9.4: T-test statistics for aggression in the workplace-witnessed for gender	129
Table 9.5: <i>T</i> -test statistics for aggression in the workplace-experienced for gender	130
Table 9.6: <i>T</i> -test statistics for the IPAT Anxiety Scale for gender	131
Table 9.7: T-test statistics for the Beck Depression Inventory for gender	132
Table 9.8: <i>T</i> -test statistics for the Penn State Worry Questionnaire for gender	132
Table 9.9: <i>T</i> -test statistics for the Social Problem-Solving Inventory-Revised for gender	133



Table 9.10: <i>T</i> -test statistics for the Experience of Work and Life Circumstances	
Questionnaire for marital status	135
Table 9.11: <i>T</i> -test statistics for Aggression in the workplace-witnessed for marital status	136
Table 9.12: <i>T</i> -test statistics for Aggression in the workplace-experienced for marital status	136
Table 9.13: T-test statistics for the IPAT Anxiety Scale for marital status	138
Table 9.14: T-test statistics for the Beck Depression Inventory for marital status	139
Table 9.15: T-test statistics for the Penn State Worry Questionnaire for marital status	139
Table 9.16: T-test statistics for the Social Problem-Solving Inventory-Revised for	
marital status	141
Table 9.17: Analysis of variance for level of stress	142
Table 9.18: Analysis of variance for causes outside the work situation	143
Table 9.19: Analysis of variance for organizational functioning	144
Table 9.20: Mean values for organizational functioning by organization and qualification	
grouping	146
Table 9.21: Analysis of variance for task characteristics	146
Table 9.22: Mean values for task characteristics by organization and qualification grouping	148
Table 9.23: Mean values for task characteristics by organization grouping and position level	149
Table 9.24: Mean values for task characteristics by organization grouping and age group	151
Table 9.25: Analysis of variance for physical working conditions	151
Table 9.26: Analysis of variance for career matters	153
Table 9.27: Mean values for career matters by organization and qualification grouping	156
Table 9.28: Analysis of variance for social matters	156
Table 9.29: Analysis of variance for remuneration, fringe benefits and personnel policy	157
Table 9.30: Mean values for remuneration, fringe benefits and personnel policy by	
organization and qualification grouping	160
Table 9.31: Mean values for remuneration, fringe benefits and personnel policy by	
organization grouping and age group	163
Table 9.32: Mean values for remuneration, fringe benefits and personnel policy by	
qualification grouping and age group	163
Table 9.33: Analysis of variance for witnessed overall aggression	164
Table 9.34: Analysis of variance for witnessed expressions of hostility	165
Table 9.35: Analysis of variance for witnessed obstructionism	166
Table 9.36: Analysis of variance for witnessed overt aggression	166
Table 9.37: Mean values for witnessed overt aggression by organization and	
qualification grouping	169
Table 9.38: Analysis of variance for experienced overall aggression	169



Table 9.39: Analysis of variance for experienced expressions of hostility	170
Table 9.40: Analysis of variance for experienced obstructionism	171
Table 9.41: Analysis of variance for experienced overt aggression	171
Table 9.42: Mean values for experienced overt aggression by organization and	
qualification grouping	174
Table 9.43: Mean values for experienced overt aggression by qualification grouping and	
age grouping	176
Table 9.44: Mean values for experienced overt aggression by age group and	
position level	177
Table 9.45: Analysis of variance for ego weakness or lack of ego strength	178
Table 9.46: Analysis of variance for suspiciousness	178
Table 9.47: Analysis of variance for guilt proneness	179
Table 9.48: Analysis of variance for defective integration and lack of self-sentiment	180
Table 9.49: Analysis of variance for frustrative tension or id pressure	180
Table 9.50: Analysis of variance for covert anxiety	181
Table 9.51: Analysis of variance for overt anxiety	182
Table 9.52: Analysis of variance for the total anxiety score	182
Table 9.53: Analysis of variance for depression	183
Table 9.54: Analysis of variance for worry	184
Table 9.55: Analysis of variance for positive problem orientation	185
Table 9.56: Analysis of variance for negative problem orientation	185
Table 9.57: Analysis of variance for rational problem solving	186
Table 9.58: Analysis of variance for problem definition and formulation	187
Table 9.59: Analysis of variance for the generation of alternatives	187
Table 9.60: Mean values for generation of alternatives by organization grouping and	
position level	189
Table 9.61: Analysis of variance for decision making	190
Table 9.62: Analysis of variance for solution implementation and verification	191
Table 9.63: Analysis of variance for impulsivity/carelessness style	191
Table 9.64: Analysis of variance for avoidance style	192
Table 9.65: Analysis of variance for total problem solving	193