

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

**Psychological and Workplace Attributes that Influence
Personal Web Use (PWU)**

A dissertation presented in partial fulfilment of the requirements
for the degree of

Doctor of Philosophy
in
Industrial/Organisational Psychology

Massey University, Albany
New Zealand

Andrea M. Polzer-Debruyne
2008

Acknowledgements

There are a number of people, within and outside Massey University, who have contributed immensely to my efforts. I wish to thank Dr. Steve Atkins, whose enthusiasm and knowledge started me off on the PhD path with the first versions of this research project focusing on electronic monitoring and personal web use. I also wish to thank Dr. Stuart Carr, who over the years unwaveringly continued as principal supervisor, and patiently steered the research into the theoretical direction it has eventually taken. 'Thank yous' also go to Dr. Helena Cooper-Thomas at Auckland University for her encouragement and support during the times when 'giving up' looked like a good option, and to Dr. Suchi Mouly for her help with the qualitative data analysis. Finally, I wish to acknowledge the invaluable support Dr. John Spicer has given me and the research project by drawing together the many strands it contained when he joined the supervisory committee. With his critical questions, extensive explanations and nearly infinite patience he helped me to focus and complete this research project.

My personally largest 'thank yous', however, go to my husband Luc and our son Julian. Their support, understanding, patience, love and encouragement carried me through the years of working on the research project; without their belief in me this work would not have been possible.

Approval for this research project has been given by the Massey University Human Ethics Committee ALB Protocol No: MUHEC 03/074.

Abstract

Using the Internet during work time for personal interest is defined as personal web use (PWU), yet only limited knowledge is available on why people engage in varying degrees in this activity. To address this shortcoming, this research project tested a heavily moderated theoretical model of thirteen psychological and workplace attributes expected to influence differences in individuals' PWU: moral norms, boredom, workgroup norms, workload, use of the 'ledger neutralisation strategy', certainty about PWU rules, attitude towards work, reactance, supervisor treatment, attitude towards PWU control, status, tenure and social loafing risk. Five facets of PWU were measured as separate criterion variables: past frequency, habitual PWU, duration, and two PWU activity types.

Data for the model testing was gathered through an extensive on-line questionnaire. The responses of 267 participants with varying demographics and work situations were used to test the theoretical model, using moderated regression analyses. Significant interactions were explored further through the Modgraph procedure.

The model testing results showed that PWU was more common in respondents who morally approved of PWU and who were bored at their work. How often people engaged in PWU (either out of habit or in general), for how long and in what types of activities, was influenced by specific combinations of the remaining attributes. Only four of the hypothesised twelve interactions played statistically significant roles, only habitual PWU was influenced by workload; and only information-seeking activities were influenced by workgroup norms. Attributes with 'revenge' connotations were noticeably absent as significant influences. The findings are discussed in some detail.

To further explore the context of PWU, thematic analysis was undertaken of answers to two open-response questions provided by a sub-sample of 119 participants. Results supported the role of workplace boredom in PWU situations, specified the moral issues of PWU approval, and suggested that PWU is best understood and examined in the wider context of organisational culture.

The thesis concludes with synthesis and discussion of statistical and qualitative analyses results, identifying the contributions the research has made to the field of study. Suggested practical applications of the findings, limitations of the research project and suggestions for future studies conclude the documentation.

Table of Contents

List of Figures	xi
List of Tables	xiv
Chapter 1	
Introduction	17
1.1 CURRENT PWU RESEARCH DIRECTIONS	17
1.2 THIS RESEARCH PROJECT	21
1.3 THESIS STRUCTURE	22
Chapter 2	
The current state of research into personal web use (PWU)	25
2.1 FACTORS INFLUENCING INDIVIDUALS' PERSONAL WEB USE	25
2.1.1 <i>Personal and organisational characteristics as influences on PWU</i>	25
2.1.2 <i>Personal ethics and social norms as influences on PWU</i>	28
2.1.3 <i>Questioning the influence of ethical norms on PWU</i>	34
2.1.4 <i>Cyberloafing - the IT way to slack off at work?</i>	40
2.1.5 <i>Different influences for different types of cyberloafing?</i>	46
2.2 PERSONALITY TRAITS AS INFLUENCES ON INTERNET USE AND INTERNET MOTIVATION	48
2.3 CONCLUSIONS DRAWN FROM THE REVIEWED RESEARCH	50
Chapter 3	
Conceptual exploration of PWU and attributes that can influence the behaviour and explain why individuals vary in their personal web use (PWU)	53
3.1 THE CRITERION VARIABLE: PERSONAL WEB USE (PWU)	54
3.1.1 <i>Defining PWU</i>	54
3.1.2 <i>Quantifying PWU in terms of time</i>	56
3.2 THE PREDICTOR VARIABLES: PSYCHOLOGICAL AND WORKPLACE ATTRIBUTES INFLUENCING PWU	57
3.2.1 <i>Navigating the 'rights' and 'wrongs' of PWU</i>	60
3.2.2 <i>Characteristics of the job and workplace</i>	71
3.2.3 <i>The employee's status and history with the organisation</i>	78
3.3 SUMMARY	82

CHAPTER 4	
A theoretical model of psychological and workplace attributes influencing PWU	83
4.1 DESCRIPTION OF THE THEORETICAL MODEL	83
4.2 THE HYPOTHESISED INTERACTIONS	88
4.2.1 <i>Personal moral norms and acceptance of the ledger strategy (C1)</i>	88
4.2.2 <i>Work group norms and certainty about organisational PWU regulations (C2)</i>	91
4.2.3 <i>Workload, attitude towards work, reactance, and attitudes towards treatment by the supervisor and PWU control by the organisation (C3)</i>	94
4.2.4 <i>Boredom, attitudes towards work, job status, job tenure, and social loafing risk (C4)</i>	102
4.3 SUMMARY OF THE HYPOTHESISED INTERACTIONS	110
Chapter 5	
Research Method	112
5.1 RESEARCH DESIGN - AN INTERNET-BASED SURVEY	112
5.2 PARTICIPANTS – RECRUITMENT AND CHARACTERISTICS	115
5.2.1 <i>Desired sample</i>	115
5.2.2 <i>Recruitment of participants</i>	115
5.2.3 <i>Characteristics of participants</i>	116
5.3 THE MEASURES	119
5.3.1 <i>The Criterion variables</i>	121
5.3.2 <i>The Predictor variables</i>	125
5.3.3 <i>The additional items</i>	141
5.4 DATA ANALYSIS	142
5.5 RESEARCH ETHICS	143
5.5.1 <i>Enticement to engage in PWU</i>	143
5.5.2 <i>Anonymity and confidentiality</i>	144
5.5.3 <i>The use of incentives</i>	145
Chapter 6	
The PWU patterns of the research participants	146
6.2 PWU FREQUENCIES AND DURATION	146
6.3 SPECIFIC PWU ACTIVITIES	150
6.4 EXAMINING PATTERNS OF THE RESEARCH PARTICIPANTS' PWU	152
6.4.1 <i>Habitual PWU and PWU Frequency</i>	154
6.4.2 <i>PWU Frequency and PWU duration</i>	155
6.4.3 <i>Habitual PWU and PWU Duration</i>	156

6.4.4 <i>Patterns of specific PWU activities</i>	157
6.5 SUMMARY	158
CHAPTER 7	
Model Testing Results and Discussion	160
7.1 Uni-variate statistics	160
7.2 BI-VARIATE STATISTICS	164
7.3 REGRESSION ANALYSES AND ASSUMPTION CHECKING	168
7.4 TESTING THE THEORETICAL MODEL	170
7.4.1 <i>PWU frequency as the criterion variable</i>	170
7.4.2 <i>Habitual PWU frequencies as the criterion variable</i>	174
7.4.3 <i>Average weekly PWU duration as the criterion variable</i>	179
7.4.4 <i>Frequency of companionship-related PWU (CPWU) activities as the criterion variable</i>	181
7.4.5 <i>Frequency of information-seeking PWU (IPWU) activities as the criterion variable</i>	183
7.5 SUMMARY OF THE RESULTS	190
7.6 DISCUSSION OF THE MODEL TESTING RESULTS	194
Chapter 8	
Thematic analysis of PWU	200
8.1 METHOD	201
8.1.1 <i>The participants</i>	201
8.1.2 <i>Critical incident technique to collect data</i>	202
8.1.3 <i>Thematic analysis to interpret the data</i>	204
8.1.4. <i>Procedure of data analysis</i>	205
8.2 RESULTS	208
8.2.1 <i>PWU control strategies</i>	208
8.2.2 <i>Themes</i>	210
8.3 ADDITIONAL FINDINGS	220
8.3.1 <i>Supervisors' role in PWU</i>	220
8.3.2 <i>Entitlement to PWU</i>	222
8.4. SUMMARY	223
Chapter 9	
Synthesis	226
9.1 MORAL APPROVAL OF PWU AND WORKPLACE BOREDOM	226
9.2 WORK GROUP NORMS REGARDING PWU	229
9.3 WORKLOAD AND PWU	230
9.4 FAIRNESS AND PWU	232

9.5 PWU AND SOCIAL LOAFING	234
9.6 ORGANISATIONAL CULTURE AND PWU	236
9.7 LIMITATIONS OF THIS STUDY	237
9.8 IMPLICATIONS	240
9.9 A CONTEXTUAL MODEL OF PWU	242
9.10 FUTURE RESEARCH DIRECTIONS	247
9.10.1 <i>Combining quantitative and qualitative methods</i>	247
9.10.2 <i>The moral issue</i>	248
9.10.3 <i>Boredom and PWU</i>	249
9.10.4 <i>PWU and workload</i>	251
9.10.5 <i>PWU, stress and work-life balance</i>	252
9.6 CONCLUSION	253
Appendix A: Models of influences on PWU used in previous studies (reviewed in chapter 2)	256
Appendix B: Investigating attitudes towards personal web use at work and electronic monitoring	259
Appendix C: Print-out of the on-line questionnaire	263
Appendix D: Print-out of the on-line follow-up questionnaire	275
Appendix E: Results of Principal Component Analyses examining the measures in the on-line questionnaire (Ch 5)	279
Appendix F: Cross-tabulations and box plots of participants' PWU patterns (Ch6)	285
Appendix G: Trimmed model regression results and summary of supported hypotheses (Ch 7)	289
Appendix H: Demographics and t-test results (Ch 8)	293
References	296

List of Figures

Figure		Page
4.1	Model of psychological and workplace attributes, including moderator relationships, which are expected to explain individuals' differences in personal web use (PWU). The four interaction clusters (C1 – C4) are colour-coded for ease of recognition	85
4.2	Depicting how acceptance of the ledger strategy of neutralisation is hypothesised to moderate the relationship between moral norms regarding PWU and PWU levels	89
4.3	Depicting how certainty about organisational PWU rules is hypothesised to moderate the relationship between work group norms and PWU levels	92
4.4	Depicting how level of equity sensitivity is hypothesised to moderate the relationship between workload and PWU levels	95
4.5	Depicting how level of trait reactance is hypothesised to moderate the relationship between workload and PWU levels	98
4.6	Depicting how the attitude towards organisational PWU control efforts is hypothesised to moderate the relationship between workload and PWU levels	99
4.7	Depicting how the attitude towards treatment received from the supervisor is hypothesised to moderate the relationship between workload and PWU levels	101
4.8	Depicting the two ways (1, 2) job status within the organisation is hypothesised to moderate the relationship between workplace boredom and PWU levels	103
4.9	Depicting how equity sensitivity is hypothesised to moderate the relationship between workplace boredom and PWU levels	105
4.10	Depicting the two ways (1, 2) job tenure is hypothesised to moderate the relationship between workplace boredom and PWU levels	106
4.11	Depicting how social loafing (SL) risk in the workplace is hypothesised to moderate the relationship between workplace boredom and PWU levels	108

Figure	Page
5.1 Depicting how level of giver attitude is hypothesised to moderate the relationship between workload and PWU levels	132
5.2 Depicting how level of taker attitude is hypothesised to moderate the relationship between workload and PWU levels	132
5.3 Depicting how giver attitude towards work effort is hypothesised to moderate the relationship between workplace boredom and PWU levels	133
5.4 Depicting how taker attitude towards work effort is hypothesised to moderate the relationship between workplace boredom and PWU levels	133
7.1 A Giver attitude as moderator of the boredom–PWU relationship as expressed in Hypothesis 4a1	172
7.1.B Showing the giver attitude as moderator of the boredom–PWU frequency relationship (n = 259) and the associated simple slope statistics	173
7.2.A Giver attitude as moderator of the workload–PWU relationship as expressed in Hypothesis 3a1	176
7.2.B Showing the giver attitude as moderator of the workload–PWU habit relationship (n = 276) and the associated simple slope statistics	177
7.3.A Showing acceptance of the ledger strategy of neutralization as moderator of the relationship between moral norms and PWU, as expressed in Hypothesis 1	185
7.3.B Graphically showing acceptance of the Ledger strategy as moderator of the moral norm–IPWU frequency relationship, including the associated simple slope statistics (N = 257)	186
7.4.A Job tenure as moderator of the relationship between boredom and PWU, as expressed in Hypothesis 4c	187
7.4.B Graphically showing job status as moderator of the boredom - IPWU frequency relationship, including the associated simple slope statistics (N = 257)	188
7.5 A model of psychological and workplace attributes that influence differences in individuals' PWU frequency	190
7.6 A model of psychological and workplace attributes that influence differences in individuals' habitual PWU	191
7.7 A model of psychological and workplace attributes that influence differences in individuals' PWU duration	191
7.8 A model of psychological and workplace attributes that influence differences in individuals' companionship-related PWU (CPWU)	192

Figure	Page
7.9 A model of psychological and workplace attributes that influence differences in individuals' information-seeking PWU (IPWU)	192
9.1 A contextual model of PWU	242
A2.1 Theoretical model proposed by Anandarajan, Simmers and Igbaria (2000) picturing the factors and processes leading to Internet usage, including personal web use (seen as the accessing of personal interest types of web pages at work) and its impact on organisational and individual outcomes	254
A2.2 Theoretical model by Anandarajan and Simmers (2002) picturing the hypothesised direct antecedents' relationship with web use (PWU) at work as well as work-related web use, and the hypothesised relationship between the antecedents and web use mediated by perceptual factors	255
A2.3 Lee, Lee and Kim's (2004) theoretical model of hypothesised direct influences on PWU	256
A2.4 Lim's (2002) theoretical model of the relationship between organisational justice and cyberloafing, mediated by the use of the metaphor-of-the-ledger neutralization technique	256
F6.1 Boxplot of the PWU frequency–PWU habit relationship	285
F6.2 Boxplot of the PWU Frequency–PWU average duration relationship	286
F6.3 Box plot of the PWU average habitual frequency-PWU average duration relationship	287
F6.4 Scatterplot of the non-manipulated PWU frequency and online duration (in minutes) data	288

List of Tables

Table	Page
2.1 Summarising the statistically significant regression results of variables directly influencing PWU and work-related Internet use reported by Anandarajan and Simmers (2002)	31
2.2 Statistically significant regression results of influences on personal web use intentions (non-PWU group), PWU frequency and PWU duration (PWU group) as reported by Lee, Lee and Kim (2004)	37
3.1 Summarising psychological and workplace attributes influencing PWU and chosen for the current research's investigation	58
3.2 Summarising previously identified influences on PWU, and indicating where, on theoretical grounds, these influences are seen to be reflected in currently investigated attributes	59
5.1 Demographics of respondents	117
5.2 Variables, measures and corresponding survey questions	119
6.1 PWU frequencies, means and standard deviations PWU (N = 220)	147
6.2 Percentages, means and standard deviations of specific PWU activities (N = 200)	150
6.3 Pearson r-correlation coefficients of the PWU variables	152
7.1 Summary statistics of the study's variables (n = 220)	160
7.2 Pearson r-correlation coefficients for the study's variables	164
7.3 Summary of the moderated hierarchical regression analysis results for variables predicting PWU frequencies in the preceding fortnight (N = 227)	170
7.4 Summary of the moderated hierarchical regression analysis results for variables predicting average habitual PWU frequency (N = 227)	174
7.5 Summary of the moderated hierarchical regression analysis results for variables predicting average weekly PWU duration (N = 224)	179
7.6 Summary of moderated hierarchical regression analysis for variables predicting frequencies of companionship-related PWU (CPWU) activities (N = 225)	181
7.7 Summary of moderated hierarchical regression analysis for variables predicting frequencies of information-seeking PWU (IPWU) activities (N = 225)	183

Table	Page
8.1 Themes of the critical incidents with associated positive and negative outcomes and frequencies of associated comments made by respondents	206
E5.2.1 PCA result for activity type while engaging in PWU in the two weeks prior to completion of the survey (Questions 4-14; Q 8, browsing sexually explicit web sites, is excluded)	280
E5.2.2 PCA result for moral norms regarding PWU (Questions 34, 35, 36)	281
E5.2.3 PCA result for acceptance of ledger neutralization strategy (Questions 79-84)	281
E5.2.4 PCA results for work group norm regarding PWU (Questions 39-42)	281
E5.2.5 PCA results for perceived workload (Questions 69-73)	282
E5.2.6 PCA results for attitude towards work effort in general (Q's 91-106)	282
E5.2.7 PCA results for trait reactance (Questions 107-123)	283
E5.2.8 PCA results for perception of supervisor treatment (Questions 85-88)	283
E5.2.9 PCA results for attitude towards the PWU management (Questions 51, 52, 57, 58)	284
E5.2.10 PCA results for boredom at work (Questions 59-66)	284
F6.1 PWU Frequency*PWU habit frequency cross-tabulation	285
F6.2 PWU Frequency*PWU average duration cross-tabulation	286
F6.3 PWU average duration*PWU average habit cross-tabulation	287
G7.1 Summarising the results of the trimmed model regression examining the Boredom*Giver interaction for PWU frequency (N=259)	289
G7.2 Summary of the multiple regression analysis results for the trimmed model of variables predicting average habitual PWU frequency (N=259)	289
G7.3 Summarising the results of the trimmed model regression examining the interactions of Moral norms*Ledger acceptance, and Boredom*Job status for IPWU frequency (N=257)	290
G7.4 Summarising the hypotheses and showing which were supported by the study's data	291
H8.1 Demographics of respondents who commented in Q's 135 and / or 136 (N=119)	293
H8.2 Means, standard deviations and t-tests of variables relevant to the thematic analysis for respondents and non-respondents	294