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Evolving border theory and self-regulation theory for a mobile phone generation

by

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Submitted in fulfilment of the requirements for the degree

Philosophiae Doctor

in the

Department of Psychology

at the

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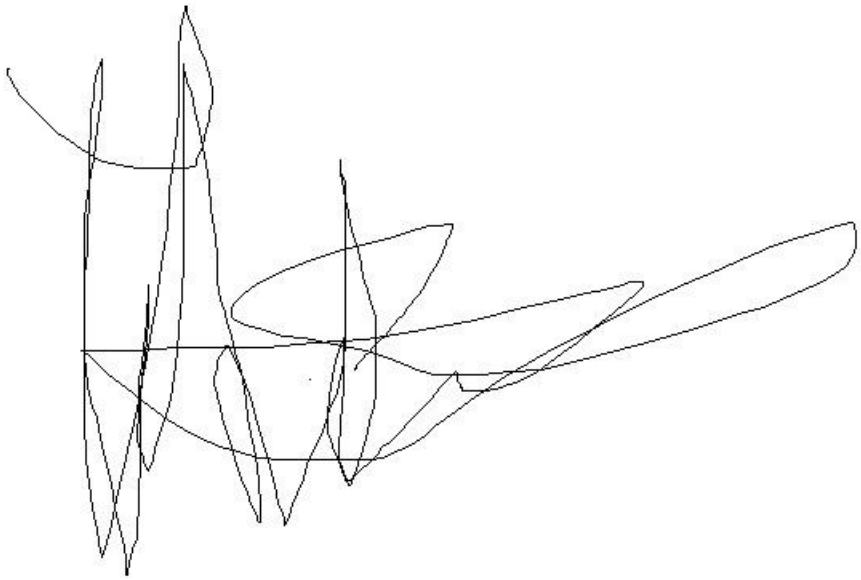
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A thesis submitted to the Faculty of Humanities, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of Doctor of Philosophy

Johannesburg, South Africa, 2018

DECLARATION

I hereby declare that this thesis is my own work and has not been submitted to any other university.



Edward Peter Greenwood White

22nd day of February, 2018

DEDICATION

In the first year of my PhD write up based in Uppsala, Sweden, I lost a very close friend and family member, Abdool Kader Jadwat. AK you will never be forgotten.

ACKNOWLEDGMENTS

To the love of my life, partner friend and soul mate Julia thank you for staying with me through this arduous time (even though you are; Weird!). With the close of this chapter, I hope a new happier chapter will unveil itself soon. To my Uriel, Big Poof, and Little Poof thanks for your unwavering unconditional support, demands for cuddles, purrs, yells for treats, each one of your little paws have touched my heart.

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ABSTRACT

The global adoption of mobile phones has fundamentally changed life as we know it. This study hopes to understand if mobile- and/or smartphones have changed the way in which work and home domains are constructed and what the consequences are on the individual's work-family balance. More importantly, are individuals able to self-regulate the flow of communication from the work into the home domain via a mobile- and/or smartphone in order to maintain the intricate work-family balance. To determine the plausibility/feasibility of this hypothesis, the study builds on Clark's (2000) Border theory with respect to work-life balance and border violations, bearing recent technological advances in mind, through the incorporation of Bandura's (1986) self-regulation mechanism to explain the border management mechanism. To determine the validity of this hypothesis, a mixed-methods study was conducted which utilised a managerial participant sample recruited from South Africa in three phases; a pilot study (N = 30); a primary sample of a further 227 managers; and in-depth follow-up interviews with 27 managers and their partners. To determine the relationship between self-regulation and mobile phone usage for after-hours work in the home domain, Pearson's correlation coefficients were used. The relationship between self-regulation and work-family balance was further explored through moderated multiple linear regressions, using a model from Baron and Kenny (1986), which created further explorative points which were investigated in the 27 interviews. The interviews were conducted to determine if individuals understand their after-hours mobile phone usage for work purposes and this was analysed via thematic content analysis (TCA).

There was evidence for relationships between self-regulation and the time spent on organisational work within the work day and at home (after hours), which results in an impact on the development of work-family conflict. The relationship between the mobile phone use for work can be attributed to self-regulation, which implies that self-regulation is an intermediary mechanism. Moderated multilinear regression, unexpectedly, showed that individuals with low (deficient) self-regulatory ability, facilitated work ubiquitously with their mobile phones while simultaneously increasing their own self-esteem, as it supported their own work-family balance. The interviews uncovered three different border-keeper groups (border-expanders, border-adapters, and border-enforcers). The outcomes of this research indicates that mobile- and/or smartphones have the ability to alter the border construction between the work and home domains as well as the intricate balance between them.

Keywords: Work-family balance, Border theory, Mobile phones, Smartphones, Self-regulation, Self-esteem, South African managers

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION 1
1.1 Setting the scene 2
1.2 Explicit thesis statement 3
1.3 Aims and objectives 3
1.4 Objectives of this study 4
1.5 Thesis layout 4
CHAPTER 2: LITERATURE REVIEW 6
2.1 Introduction 6
2.2 Time 8
2.2.1 Taylor and scientific management 8
2.2.2 Webb and minimum wage 10
2.2.3 The concept of a working day 11
2.3 Work-family balance 13
2.3.1 Boundary management styles 18
2.4 Defining border theory 20
2.4.1 Kurt Lewin and field theory 20
2.4.2 Field theory 22
2.4.3 Defining border theory 24
2.4.4 Border theory propositions 28
2.4.5 Enactment 30
2.4.6 Balance 32
2.4.7 Borders: Permeation, flexibility and blending 33
2.4.8 Segmentation and integration 34
2.4.9 Enaction, proaction and inaction 35
2.4.10 Border-crossers 37
2.4.11 Crossing the border 37
2.4.12 Border-keepers 37
2.4.13 Boundary theory 38
2.5 Previous studies investigating border theory 39
2.5.1 Bulger, Matthews and Hoffman (2007) 42
2.5.2 Cecchinato, Cox and Bird (2014)/ Capra, Khanova and Ramdeen (2013) 43
2.5.3 Cousins and Varshney (2009) 44
2.5.4 Derks, Duin, Tims and Bakker (2015) 45
2.5.5 Demerouti and Geurts (2004) 45

2.5.6 Donald and Linington (2008) 46
2.5.7 Kossek and Lautsch (2012) 47
2.5.8 Kossek, Lautsch and Eaton (2006) 48
2.5.9 Kossek, Lautsch and Eaton (2009a) 48
2.5.10 Kossek, Ruderman, Braddy and Hannum (2012) 49
2.5.11 Mellner, Aronsson and Kecklund (2015) 50
2.5.12 Montgomery, Panagopoulou, Peeters and Schaufeli (2005) 51
2.6 Limitations of Clark's border theory 52
2.6.1 Negative aspects of border theory 52
2.6.2 Positive aspects of border theory 55
2.7 Urgency versus importance 56
2.8 Self-regulation / Social cognitive theory 60
2.8.1 Introduction 60
2.8.2 Self-regulation as a border-keeper 61
2.8.3 Efficient self-regulation, deficient self-regulation and the overlap with enactive and inactive domain controls 64
2.9 Outcomes 65
2.9.1 Work-family conflict and work-home interference 65
2.9.2 Self-esteem 69
2.10 Mobile phones 70
2.10.1 Technological self-regulation 70
2.10.2 Mobile phones, their pervasive reach and the "inability" to disconnect 71
2.10.3 Border theory before mobile technology 74
2.10.4 Mobile technology and the need for a psychological border 76
2.10.5 Outcomes of mobile phone ringing 78
2.11 Literature contributions 80
2.12 Research questions 81
2.12.1 Research question 1: Does self-regulation help to regulate after-hours work-related mobile phone usage in the home domain? 81
2.12.2 Research question 2: Does self-regulation moderate the relationship between mobile phone use and work/life balance? 81
2.12.3 Research question 3: How do mobile phone users understand their mobile phone usage for work purposes after hours? 81
2.13 Chapter summary 83
CHAPTER 3: METHODS 84
3.1 Introduction 84
3.2 Philosophical approach 84
3.3 Study design 85

3.4 Quantitative procedure and sample....86
3.5 Quantitative measures....88
3.5.1 Questionnaire measures....88
3.5.1.1 Biographical and mobile phone use measures....88
3.5.1.2 Mobile phone use after hours....88
3.5.1.3 Self-regulation....90
3.5.1.4 Work-family balance....91
3.5.1.5 Self-esteem....92
3.6 Quantitative analyses....92
3.6.1 Moderation and mediation....92
3.6.2 Mediator....93
3.6.3 Moderator....93
3.7 Quantitative sample description....94
3.7.1 Age....95
3.7.2 Education level....95
3.7.3 Gender....95
3.7.4 Children....96
3.7.5 Number of children....96
3.7.6 Race of participants....96
3.7.7 Management level....97
3.7.8 Days worked in a week....97
3.7.9 Relationship status....98
3.7.9.1 Partner's gender....98
3.7.9.2 Partnership status of participants....98
3.7.10 Income earning status....99
3.7.11 Number of phones owned....99
3.7.12 Communications received on mobile phone after hours....99
3.7.13 Smartphone ownership....100
3.7.14 Standard location of phone calls received....100
3.7.15 Specific multiple phone usage....100
3.8 Qualitative procedure and sample....101
3.8.1 Interview recruitment, transcription and coding procedures....101
3.8.2 Thematic Content Analysis (TCA)....102
3.8.2.1 The TCA procedure....102
3.8.3 Interview procedure....103
3.8.4 Interview measures....104
3.8.5 Demographics of the qualitative sample....105

3.9 Ethical issues....106
CHAPTER 4: QUANTITATIVE STUDY RESULTS....108
4.1 Independent variables of the study....108
4.1.1 Typical working day....108
4.1.2 Typical day at home....109
4.1.3 Communications after hours....111
4.1.3.1 Calls after hours....111
4.1.3.2 Emails after hours....111
4.1.3.3 Text and SMS messages after hours....112
4.2 Moderator variables....112
4.2.1 Self-regulation....112
4.3 Dependent variables....113
4.3.1 Work-family balance....113
4.3.2 Satisfaction with work....113
4.3.3 Satisfaction with home life....114
4.3.4 Good functioning at work....114
4.3.5 Family Cohesion Scale....115
4.3.6 Work-family conflict....116
4.4 Exploratory variable: Self-esteem....116
4.5 Summary of dependent variables....117
4.6 Intercorrelations between the moderator variables and dependent variables....118
4.6.1 Self-regulation....118
4.6.2 Satisfaction with work....118
4.6.3 Satisfaction with home life....119
4.6.4 Good functioning at work....119
4.6.5 Family Cohesion Scale....119
4.6.6 Work-family conflict....119
4.6.7 Self-esteem....120
4.7 Intercorrelations between the independent variables and the moderating variable....121
4.7.1 Amount of emails received after hours....122
4.7.2 Mobile phone usage at work....122
4.7.3 Mobile phone usage at home....122
4.7.4 Time....123
4.7.5 Percentage of phone calls received....123
A. For work....123
B. For home and family....123
C. For other purposes....124

4.7.6 Percentage of emails received....124
A. For work....124
B. For home and family....124
C. For other purposes....125
4.7.7 Percentage of SMSs received....125
A. For work....125
B. For home and family....126
C. For other purposes....126
4.7.8 Self-regulation....126
4.8 Intercorrelations between the independent variables and the dependent variables....128
4.9 Research question 1....129
4.9.1 RQ1: Does self-regulation help to regulate after-hours work-related mobile phone usage in the home domain?....129
4.9.2 Relationship between independent and moderating variable (self-regulation)....129
4.9.2.1 Mobile phone usage for work at work per day....129
Typical working day usage....129
Typical working day usage....131
1. Hours worked in a typical day....131
2. Hours spent on Internet usage....131
3. Hours spent on mobile phone Internet usage....131
4. Hours spent to send and receive mobile phone text messages/SMS....132
5. Hours spent sending mobile phone emails....132
6. Hours spent receiving mobile phone calls....132
7. Hours spent making mobile phone calls....132
'Mobile phone usage for work at home per day' sub-scale....132
4.9.2.2 Mobile phone usage for work at home per day....133
Typical day at home usage....133
1. Hours worked in a typical day at home....133
2. Hours spent on Internet usage for work, in a day at home....133
3. Hours spent on mobile phone Internet usage for work, in a day at home....133
4. Hours spent to send and receive mobile phone text messages/SMS for work, in a day at home....133
5. Hours spent to send mobile phone emails for work, in a day at home....133
6. Hours spent when mobile phone calls are received, in a day at home....134
7. Hours spent when mobile phone calls are made, in a day at home....134
'Mobile phone usage for work at home per day' sub-scale....134
4.9.3 Correlation between independent variables and mediating variable (self-regulation)....134

4.9.3.1 Times....134
Minutes spent on mobile phone....134
Hours spent on mobile phone....134
Work days a week....135
4.9.3.2 After-hours....135
Calls after hours....135
Email after hours....135
SMS after hours....135
4.9.3.3 Percentage of calls....135
4.9.3.4 Percentage of emails....136
Received on mobile phone for work....136
4.9.3.5 Percentage of texts/SMSs....136
4.9.4 Correlations between dependent variables and the moderating variable (self-regulation)....136
Work-family balance scale....136
Work-family balance....136
Satisfaction with work, satisfaction with home life, good functioning at work and the Family Cohesion Scale....136
No significant correlations were found between....136
Work-family conflict....136
4.9.5 Exploratory variable: Self-esteem....137
4.10 Research question 2....137
4.10.1 RQ2: Does self-regulation moderate the relationship between mobile phone use and work/life balance?....138
4.10.2 General findings of the moderated multiple linear regression....138
4.10.3 Independent variables....140
4.10.3.1 Phone calls for other purposes....140
Self-regulation mediating between phone calls for other purposes and self-esteem....140
4.10.3.2 Emails for work....142
Self-regulation moderating between emails for work and self-esteem....142
4.10.3.3 Emails for other purposes....144
Self-regulation moderating between emails for other purposes and good functioning at work....144
4.10.3.4 Text/SMS messages for work....147
Self-regulation mediating between text/SMS messages for home and family purposes and satisfaction with work....147
4.10.3.5 Text/SMS messages for other purposes....149

Self-regulation mediating between text/SMS messages for other purposes and work-family balance 149
Self-regulation mediating between text/SMS messages for other purposes and satisfaction with work 151
4.10.4 Summary 153
CHAPTER 5: QUALITATIVE STUDY RESULTS 154
5.1 Introduction 154
5.2 After-hours mobile phone usage 155
5.3 Introduction to border-keeper types 156
5.3.1 Introduction to border-expanders 156
5.3.2 Introduction to border-adapters 161
5.3.3 Introduction to border-enforcers 164
5.3.4 Summary of the characteristics of the three border-keeping types 166
5.4 Domain construction by border-keepers 166
5.4.1 Defining the home domain 167
5.4.2 Defining the work domain 170
5.4.3 Separation of the home and work domains 173
5.4.4 Temporal domain construction 176
5.4.5 Importance and urgency 183
5.4.6 Self-regulation 185
5.4.7 The origin of control 190
5.5 Summary 192
5.5.1 Border-expander 192
5.5.2 Border-adapters 194
5.5.3 Border-enforcers 197
CHAPTER 6: DISCUSSION 199
6.1 Introduction 199
6.2 Research question 1: Self-regulation as the psychological mechanism to regulate after-hours work-related mobile phone usage 200
6.2.1 Independent variables and self-regulation 200
6.2.1.1 Mobile phone usage for work at work per day 200
6.2.1.3 Mobile phone usage for work at home (after hours) per day 201
6.2.1.4 Hours spent on the mobile phone for work while at home (i.e. after hours) and self-regulation 201
6.2.2 Dependent variables and self-regulation 202
6.2.2.1 Work-family conflict 202
6.2.3 Exploratory variables and self-regulation 202
6.2.3.1 Self-esteem 202

6.2.4 Research question 1 Synthesis 203
6.3 Research question 2: Self-regulation as the moderator between mobile phone use and work/life balance 205
6.3.1 Mediators 206
6.3.1.1 Mediation of work-family balance 206
6.3.1.2 Mediation of satisfaction with work 206
6.3.1.3 Mediation of self-esteem 207
6.3.1.4 Research question 2: Synthesis of the mediating relationships 208
6.3.2 Moderators 210
6.3.2.1 Moderator of good functioning at work 210
6.3.2.2 Moderator of self-esteem 211
6.3.2.3 Research question 2: Synthesis of the moderating relationships 212
6.4 Combined discussion of the mediation and moderation results 212
6.4.1 Testing of hypothesis 2.1 213
6.4.2 Testing of hypothesis 2.2 213
6.5 Research question 3 215
6.5.1 Introduction 215
6.5.2 Border formation 217
6.5.3 How do mobile phone users understand their use of their mobile phone(s) for work purposes after hours? 223
6.6 Contribution to theory 225
6.7 Limitations and direction for future research 232
6.7.1 Demographics 232
6.7.2 Limitation of study design 233
6.7.3 Border theory 233
6.7.4 Border 234
6.7.5 Mobile phone usage and self-regulation 234
6.7.6 Self-esteem 235
6.7.7 Technology 235
CHAPTER 7: CONCLUSION 236
REFERENCES 239
APPENDIX A: HCII ARTICLE 249
APPENDIX B: ETHICS CLEARANCE 257
APPENDIX C: QUESTIONNAIRE 258
Demographics 258
Mobile phone usage 259
Working day hours in a typical day: 259

At home in a typical day: 260
Mobile phone usage and deficient self-regulation 262
Work-family balance 263
Self-Esteem 267
APPENDIX D: INTERVIEW SCHEDULE 269
Mobile phone calls 269
Emails 269
Text/SMS messages 270
APPENDIX E: MODERATOR VARIABLE 272
Self-regulation index 272
APPENDIX F: DEPENDENT VARIABLES 273
Satisfaction with work index 273
Satisfaction with home life scale 273
Good functioning at work scale 274
Family Cohesion Scale 275
Work-family conflict scale 276
APPENDIX G: EXPLORATORY VARIABLE 277
Self-esteem scale 277
APPENDIX H: EMAIL INVITATION 278
APPENDIX I: ORIGINAL AND ADAPTED SELF-REGULATION SCALE 279
The original 7 questions used by LaRose et al. (2003) are as follows: 279
The adapted 6 questions used for this study: 279

TABLE OF FIGURES

Figure 1: Work-family border theory: a pictorial representation and list of central concepts and their characteristics (Clark, 2000, p. 754) 27
Figure 2: The use of phone within work-family border theory (Clark, 2000, p. 754) 54
Figure 3: Mediation process 93
Figure 4: Moderation process 94
Figure 5: Self-regulation mediating between phone calls for other purposes and self-esteem 141
Figure 6: Self-regulation moderating between emails for work and self-esteem 143
Figure 7: Self-regulation moderating between emails for other purposes and good functioning at work 146
Figure 8: Self-regulation mediating between texts/SMSs for home/family purposes and satisfaction with work 148
Figure 9: Self-regulation mediating between texts/SMSs for other purposes and work-family balance 150
Figure 10: Self-regulation mediating between texts/SMSs for other purposes and satisfaction with work 152
Figure 11: Proposed theoretical model 231

LIST OF TABLES

Table 1: Clark's border theory in literature 39
Table 2: The demographics and measurements of each article citing Clark's work 40
Table 3: Urgent and importance (Covey, 2014, p. 151) 58
Table 4: Border-keepers 61
Table 5: Border-crossing versus the self-regulation model 82
Table 6: Descriptive statistics of calls/emails/texts for purposes of home and family, work, or other 90
Table 7: Age of quantitative sample participants 95
Table 8: Educational demographics of the quantitative sample 95
Table 9: Gender demographics of the quantitative sample 96
Table 10: Parental status of the participants 96
Table 11: Participants' number of children 96
Table 12: Racial demographics of the quantitative sample 97
Table 13: Managerial demographics of the quantitative sample 97
Table 14: Average number of days worked per week 97
Table 15: Percentage of participants with a partner 98
Table 16: Gender of partner 98
Table 17: Partnership status of the quantitative sample 98
Table 18: Income earning status of the quantitative sample? 99
Table 19: Number of phones owned 99
Table 20: After-hours communications received by type 99
Table 21: Standard location of phone calls received 100
Table 22: Typical working day 108
Table 23: Typical working day distribution 109
Table 24: Typical day at home 110
Table 25: Typical day at home distribution 111
Table 26: Calls after hours 111
Table 27: Number of phone calls received after hours 111
Table 28: Emails after hours 111
Table 29: Number of emails received after hours 112
Table 30**:** Text/SMS messages after hours 112
Table 31: Distribution of after-hours text/SMS messages 112
Table 32: Self-regulation distribution 113
Table 33: Satisfaction with work distribution 114
Table 34: Satisfaction with home life distribution 114
Table 35: Good functioning at work distribution 115
Table 36: Family Cohesion Scale distribution 115
Table 37: Work-family conflict distribution 116
Table 38: Self-esteem distribution 117
Table 39: Summary of dependent variables 117
Table 40: Intercorrelations between the moderating variables and dependent variables 118
Table 41: Intercorrelations between the independent variables and the moderating variable 121
Table 42: Intercorrelations between the independent variables and the dependent variables 128
Table 43: Pearson's regressions of Independent Variable/ Dependant Variable and Moderating Variable 129
Table 44: Summarised legend 139
Table 45: Part A: Summary of multiple regression analyses 140

Table 46: Part B: Summary of multiple regression analyses (continued) 140
Table 47: Self-regulation mediating between phone calls for other purposes and self-esteem 141
Table 48: Levels of self-regulation with phone calls for other purposes and self-esteem..... 142
Table 49: Self-regulation moderating between emails for work and self-esteem 143
Table 50: Levels of self-regulation with emails for work and self-esteem..... 144
Table 51:Self-regulation moderating between emails for other purposes and good functioning at work 145
Table 52: Levels of self-regulation with emails for other purposes and good functioning at work 146
Table 53: Self-regulation mediating between texts/SMSs for home/family purposes and satisfaction with work 147
Table 54: Levels of self-regulation with texts/SMSs for home/family purposes and satisfaction with work 148
Table 55: Self-regulation mediating between texts/SMSs for other purposes and work-family balance 149
Table 56: Levels of self-regulation with texts/SMSs for other purposes and work-family balance 150
Table 57: Self-regulation mediating between texts/SMSs for other purposes and satisfaction with work 151
Table 58: Levels of self-regulation with texts/SMSs for other purposes and satisfaction with work 152
Table 59: Demographics of border-expanders group 156
Table 60: Demographics of border-adapters group 161
Table 61: Demographics of border-enforcers group..... 164
Table 62: Group definitions of the home domain..... 168
Table 63: Individual definitions of the home domain..... 169
Table 64: Group definitions of the work domain..... 171
Table 65: Individual definitions of the work domain 172
Table 66: Separation of home and work domains 174
Table 67: Percentage of time available for after-hours work 179
Table 68: Times considered to be “after hours” 180
Table 69: Importance and urgency of after-hours communications 183
Table 70: Motivations behind the facilitation of after-hours phone calls that were urgent or important 184
Table 71: Predominant mobile phone usage after hours..... 185
Table 72: Self-regulation of mobile phone use..... 187
Table 73: Significant mediation results 205
Table 74: Significant moderation results 210
Table 75: Border construction 227
Table 76: Self-regulation index result..... 272
Table 77: Satisfaction with work results..... 273
Table 78: Satisfaction with home life results..... 273
Table 79: Good functioning at work results 274
Table 80: Family Cohesion Scale results..... 275
Table 81: Work-family conflict scale results..... 276
Table 82: Self-esteem results..... 277

CHAPTER 1: INTRODUCTION

"It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair…, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way…" Charles Dickens' novel "A Tale of Two Cities."

The quotation above provides an introduction to one of Charles Dickens (1859) most famous novels, *A Tale of Two Cities*, where he contrasts the cities of London and Paris before the French Revolution. The introduction provides a synopsis of the contradictions between the ideals and realities of the time. These same contradictions can be seen in the construct of work-family balance in its being wrought with the conflictions and antitheses which Sue Campbell Clark (2000) utilises as a central premise of her *Work-Family Border Theory: A New Theory of Work-Family Balance* article. This is further complicated by Clark's failure to acknowledge the influence of technology, such as mobile phone usage, in the original construction of her work. This leads to doubt being cast on the applicability of Clark's border theory in a modern context, especially with the recent global adoption of mobile and smartphones which has brought with it a fundamental reconstruction in the way in which home, work and the border between them are constructed. Clark, in her border theory advocates that the process of balance is achievable through the usage of proactive and enactive controls, but as already mentioned, she failed to include technologies as a component of her theory. This furthers the belief that mobile technologies are able to disturb the attainment of work-family balance. Thus, to counter these inherent problems, this study advocates that Bandura's self-regulation mechanism can be utilised as a cognitive border between the work and home domains, especially when technology is being used, and thus provides greater insight into how the domains will be constructed. In order to determine this, a mixed-method study was conducted whereby the participants of this study explained their various different approaches to mobile phone usage and how it influences their commitment to conduct work in the home domain after hours, whether they are able to arbitrate the usage, how usage affects their work-family balance, and finally how they understand their usage of mobile phones.

1.1 Setting the scene

After an arduous day at work James returns to the tranquillity of his suburban home, hoping for some quiet and for time to recuperate. He greets his wife, kids and dog, and then heads for the couch to laze in front of the television with an ice-cold beer. He picks up the remote control for his large flat-screen television and is pressing the "on" button, when the hum of his smartphone alerts him to an incoming email from work. He spontaneously hits the off button on the remote and takes out the smartphone from his trouser pocket and starts typing a response to the received email. By responding to the email via his phone, James has done the following: he has crossed the border between home and work, allowing for the home-work border to become porous and allowing work to blend into the home domain. If this blending becomes frequent, it may result in an imbalance between work and home.

First smartphones and more recently tablets with phone capabilities have irrevocably changed life as we know it; they provide a device which facilitates the development of a communication channel able to send and receive messages ubiquitously as and when the individual pleases. This development offers a double-edged sword; on the one hand it provides its users with the ability to communicate as and when they choose, but on the other it enables organisations to place work demands upon employees in localities previously unavailable to them. This of course shifts the structure of work roles as we know them to that of a more boundary-less construct (Davis, 2002; Perry, O'hara, Sellen, Brown, & Harper, 2001). The results however do not take into account the ever-increasing mobile phone subscription rate, where in South Africa it is reported to be 76 653 42, while the population of the country equates to roughly 55.9 million, it is thus unsurprising to find an over-penetration rate of 147.13 mobile phones per 100 inhabitants (World Bank, 2016). In comparison to the World average penetration rate of 101.551 (World Bank, 2016), South Africa is considerably higher. The ownership of a mobile phone doesn't necessarily equate to the actual usage of the device. The Pew Internet Group found that 94% of their American sample carried their smartphones with them frequently, while a further 47% never and 36% rarely turned their phones off (Rainie & Zickuhr, 2015). Similar statistics are not available for the South African population. Predictably there is also the belief that phone use in social gatherings hurts conversation and the atmosphere (Rainie & Zickuhr, 2015). Regrettably the theory fails to explain these behaviours as users have been left in the lurch as they are unable to keep pace with the rapid technological developments that mobile phones have provided. This study, therefore, hopes to

counter this limitation.

In this regard, this study will focus on relevant theoretical contributions in an attempt to elucidate how middle and senior management arbitrate the flow of after-hours communication from work into the home domain. To assist in this development the study will utilise a combination of work-family border theory, created by Clark (2000), to explain the movements between the work and home domain with the individual's mobile phone usage, supplemented by Bandura's social cognitive theory (SCT; 1986) to explain how the communications are arbitrated.

1.2 Explicit thesis statement

This study proposes to explore how after-hours mobile phone usage has the potential to alter the way in which the border between the home and work domain is understood by the mobile phone user. This requires the user to self-regulate their usage so as to alleviate an imbalance between the two domains.

Prior to the prevalence of mobile phones, border theory had utilised enactment as the key mechanism for users to shape their domains and the border between them. However, enactment fails to detail what occurs in a mobile phone environment because the flow of communication has been altered by people and technology other than the user to, permit such intrusion and in doing so the border location becomes shifted. The mobile phone user is therefore cognitively constrained in their ability to shape the domains and the border between them. This study therefore proposes that self-regulation replaces (or augments) enactment in shaping the domains and border. Self-regulation proposes an internal mechanism rather than an external mechanism for border control.

1.3 Aims and objectives

The aim of this study is to determine if self-regulation is an effective mechanism for understanding the moderation of mobile phone usage to effect work-family balance. This means expanding border theory to include the concept of self-regulation from SCT.

1.4 Objectives of this study

- To understand how users use their mobile phones after hours.
- To understand if self-regulation can help us understand how mobile phone users use their phones after hours.
- To determine if mobile phone usage is self-regulated, and if effectively self-regulated, whether this results in work-family balance.

1.5 Thesis layout

The chapters in this thesis are set out as follows. Chapter 2 takes a reflective view of literature around the structure of home and work domains which starts with a philosophical perspective of time and leads into an historical theoretical perspective of work by Taylor (1914) and Webb (1912). Thereafter a brief perspective of the traditional work day is provided and the way in which technology has altered its construction, which further leads into a reflective view of work-family balance. This begins with Clark's perspective and the contribution she made to the area with the addition of work-family border theory and its position in the body of literature. Work-family border theory's theoretical development, how border theory is defined, and the way in which Kurt Lewin's (1939) work underpins Clark's border theory is elucidated. A more in-depth analysis of border theory and its integral characteristics is then provided which culminates in a theoretical critique of the theory, discussing its limitations and contributions.

The literature review continues with Covey (2014) theoretical perspective of urgency and importance, which then moves on to Bandura's (1986) social cognitive theory which is the origin of self-regulation theory. Thereafter the study posits the linkage between self-regulation and the process of border-keeping which explains the mechanistic overlap between the two which is believed to be exemplified through mobile phone usage. The literature review concludes with the literature contributions and the study's research questions.

Chapter 3 details the underlying philosophical approach for the study, explaining why a mixed-method approach was chosen. Thereafter, the quantitative and qualitative designs, procedures and measures are described and the chapter culminates with the ethical considerations pertinent to the study.

Chapter 4 provides the results of the quantitative analysis. It commences with descriptive statistics for the independent, dependent and moderated variables. Thereafter, the results of the Pearson correlation coefficients are described, including an interpretation of the correlation results. This is followed by a description of the moderated multiple linear regression results, performed only on the significant correlations, where mediators and moderators are identified.

Chapter 5 describes the results of the thematic content analysis, three border-keeper groups of smartphone participants were identified; namely border-expanders, the border-adapters, and the border-enforcers. The chapter begins with an introduction to the three border-keeper groups, including their demographics. Following this, the groups are compared with one another under 7 themed subheadings which are pertinent to understand the relationship between work and home and the transition between the two. The chapter ends with a summary of each border-keeper type.

Chapter 6 synthesises the results of the study and speaks to its significance; one of the main contributions of which indicates that mobile phone use has altered the way that communications synchronicity is perceived (such as emails and SMSs, originally viewed as asynchronous but now synchronous). This modification therefore impacts the perceived importance and/or urgency of facilitating the communication and, as a result, relies heavily on the individual's own self-regulation to determine when and how such facilitation takes place. The chapter concludes with the limitations of the study and recommends directions for future research. Chapter 7 draws the study to a conclusion.

CHAPTER 2: LITERATURE REVIEW

"*We are too prone to make technological instruments the scapegoat for the sins of those who wield them. The products of modern science are not in themselves good or bad; it is the way they are used that determines their value*" (General David Sarnoff as cited in McLuhan & Fiore, 1967, p. 109).

2.1 Introduction

A vast component of the literature is deterministic in its development, with the individual being the creator of the domains, the borders between them, and the roles they will exhibit in each domain (Bulger, Matthews, & Hoffman, 2007; Capra, Khanova, & Ramdeen, 2013; Clark, 2000, 2002; Cousins & Varshney, 2009; Demerouti & Geurts, 2004; Derks, Duin, Tims, & Bakker, 2015; Edwards & Rothbard, 2000; Kossek & Lautsch, 2012; Kossek, Lautsch, & Eaton, 2006; Kossek, Ruderman, Braddy, & Hannum, 2012; Montgomery, Panagopoulou, Peeters, & Schaufeli, 2005; Nippert-Eng, 1996). Traditionally the individual could be viewed as a continent on a planet, with each component of their lives being a country where they exhibit a role such as employee, employer, father, mother, child, or sports fan, etc. The countries are divided by natural borders, lakes, streams or ravines, therefore making a relatively clear indication where one domain and its associate role begins and ends, as well as where the next one starts. This premise therefore proposes that each continent has many roles within it, each of which is controlled by an individual. This is difficult as it requires the individual to sever their connection with those around them in order to master their continent without outside interference. This is further complicated by the fact that individuals who exist without external influence exist not on a continent but on an island, which may contain varying roles but is disjointed from society as a whole.

Therefore, this individualistic approach to the development of the continent needs to be rethought, as there are numerous continents which coalesce to form a planet. The process whereby there is interplay between the continents is where the borders and their associated roles become opaque, e.g. an individual who predominantly dwells in the home domain but ventures into the work domain is influenced by other individuals who operate concurrently in the work domain (to extend the metaphor, exhibiting the behaviours of a supranational union such as the European Union).

Through this outside influence, the individual no longer operates in an individualistic approach but as part of the collective and, by doing so, they no longer exist in a single continental "individualistic" approach. Therefore, the problem with the construction of the individualistic approach to border-, domain- and role construction is that it exists without outside influence and that this would be a normal scenario, which it is not.

Individuals are only one component of a larger societal structure which has a significant influence on the individual and vice versa. In this thesis it is argued that the relationship between society and the individual is a symbiotic one, achieved through the process of coupling and uncoupling domains and the associated roles, through the usage of a self-regulation mechanism. Self-regulation differs from a merely individualistic approach as it provides the individual with the opportunity to determine the construct of how and when they will avail themselves to other continents around them through a self-controlled drawbridge.

The analogy above frames the complex task that individuals face daily to manage the domain-based demands that originate from work and home in the attempt to develop a sense of homogeneity. Every individual has a unique construction of their own lives, and thus the way in which they will deal with the domain-based demands, adopting either a segmentation or integration approach. Segmentation is whereby, for instance, work-based demands get delineated to the work domain. This, it is argued, is usually achieved by the individual creating a border between the domains. The individual uses a self-defined combination of physical, psychological, or temporal cues to construct the borders in such a way as to delineate the domains. Integration is where the domains are coalesced into a construction which makes sense to the individual, merging family and work domains into a workable self-determined solution. However, this does not explain the influence that external elements such as people or organisations or smartphones have to alter the way in which individuals delineate or deconstruct border development. This study therefore proposes that self-regulation helps the individual to master the complexities surrounding border construction to help them find their own balance.

2.2 Time

Time, as we know it, is an abstract construct used by humanity in the hope to create order to help measure an allotted period (Lindley, Corish, Vaara, Ferreira, & Simbelis, 2013). A time period can be utilised to fulfil a certain task(s) and/or function(s) within a sphere of time. This of course helps society determine where they should be and what they should be achieving within that sphere. For instance, taking your children to school will take place predominantly in the morning although there is a chance that it may occur at a later time in the day too. The issue with the construct of time is that it occurs cyclically, which needs to be segmented into smaller spheres so that each task takes place within its own sphere while still being part of the larger process and its continuum. Due to the cyclic nature of the day and the pushes and pulls of the spheres within it, an ongoing battle emerges between segmentation and integration of the spheres and how to find a sustainable balance between the two; the basis of which Nippert-Eng deals with in great detail in Home and Work (1996). Parts of this book are discussed in greater detail in the sections to follow.

2.2.1 Taylor and scientific management

In 1911 Fredrick Winslow Taylor published The Principles of Scientific Management, where he puts forth the usage of scientific methods rather than the previously used "rule of thumb" management style prevalent in the late nineteenth century (Sandrone & Engineer, 1997; Taylor, 1914). The book details Taylor's scientific management approach to the increase and optimisation of manual labour, achieved through the provision of time studies where the duration for each task is calculated. These calculations were then used in the development of enhanced processes to improve task performance, such as bigger shovels to move coal and more ergonomic techniques exerting less strain on the body, thus enabling improved worker efficiency and greater productivity in a shorter time. The direct result of the scientific management approach was increased organisational profitability as fewer workers were required since they operated at an optimum level. This means they could accomplish more tasks in the shortest amount of time (Sandrone & Engineer, 1997; Taylor, 1914).

The irony of this approach is that it has generated a substantial body of literature which portrays Taylor as an uncaring authoritarian, preoccupied with profits over the wellbeing of employees (Levin-Waldman, 2015; Littler, 1978). This is in stark contrast to the ideas he put forth to provide workers with greater opportunities for career development, increased decision-making in the workplace, career promotion and higher wages. These beliefs were supported by Stigler (1946) as well as Shapiro and Stiglitz (1984) who found that employees, when well paid, will fulfil their roles and duties efficiently to ensure their continued employment (Levin-Waldman, 2015; Shapiro & Stiglitz, 1984). A frequent opposition launched against these claims is the increased organisational costs associated with the pay that employees of this calibre require. This argument is easily quelled when the organisation is able to reduce management costs while increasing their profits and retaining the best staff (Levin-Waldman, 2015; Shapiro & Stiglitz, 1984). To that effect, Taylor believed that through the adoption of his scientific management techniques they will be able to mitigate the incompatibility between industry's demands of low labour costs and high efficiency, which increases production, while being able to reduce the work force needed, and to ensure the maintenance of the highest salaries (Levin-Waldman, 2015; Littler, 1978). Thus, it is understandable that Taylor posited that scientific management will require a mental revolution for both management and workers alike when he was asked to explain the essence of this approach to the United States House of Representatives in 1912 (Maier, 1970). The irony is that many of the same issues still prevail today.

Taylor's theory predominantly originates from looking at the physical conduct of work in factories or similar environments where the work is largely manual and occurs during the course of the day. The work was predominantly physical in nature, meaning that people's bodies would meet a point of physical saturation beyond which they could not go. A good example of this can be seen where an automobile factory worker is physically unable to mould car doors for more than eight hours a day (or 40 hours a week) with little to no intermissions. In order for the worker to be able to return to work each day they require recovery time, such as time spent at home. Without this provision they will be unable to do work the following day and thus both their sustainability and that of their organisation of employment becomes jeopardised. It is important to add that Taylor's ideas of the structure of work centres on physical work in a physical location, and thus takes place on the physical plane.

But work today, as we know it, has become predominantly knowledge-based in its structure because it operates primarily within the mental plane, with fewer physical and time-based constraints (borders) that were previously used to restrict its reach. This has only become more complicated with the rapid and ever increasing adoption of smartphones in society in that the location of work has changed such that the "factory" now exists in the palm of one's hand (e.g. smartphones). This is because the smartphone can be seen as a virtual "factory" as it allows work to take place whenever and wherever the individual provides the opportunity and since it is no longer bound to a physical location and contains most of the necessary equipment to do work.

The amalgamation of smartphones and "factories" into a single construct can be explained as follows. In the past organisations required their workers to be at certain places in order to use equipment provided to them in order to perform their job. Most, if not all of the equipment previously used to perform knowledge-based work is now located in a single device (e.g. a smartphone) which enables the worker to be reached ubiquitously. This provides organisations with the ability to cross the physical and mental planes at the same time via communications sent and received by the device. One of the major differences between a factory and smartphone of course, is that smartphones, unlike traditional work, have the ability to ring, blip and flash until the individual responds to the notification. Previously it could be argued that an office worker could take work home in a briefcase. However, a briefcase filled with work does not have the same intrusive "push" effect on the worker.

A final point to note is that a conventional work week of 40 hours was designed for factory workers to perform manual (physical) tasks in a factory after which they were provided with time to recuperate at home. The same durations are however, still expected from modern knowledge-based workers since organisations do not recognise that physical and mental incursions weigh differently upon their employees. This of course is before smartphones were added to the equation, with their capability to lengthen the work day even further and reach into the home domain. This will undoubtedly impact on the individual's ability to recover and recuperate.

2.2.2 Webb and minimum wage

Sidney Webb's *Economic Theory of a Legal Minimum Wage*, developed in 1912 advocates for the

invention and adoption of new manufacturing processes achieved through the implementation of definitive minimum conditions of employment. However, this is not the case if employers have absolute freedom over conditions of employment (Webb, 1912). For an organisation to continue to exist it needs to provide employees with the ability to effectively/adequately recuperate from a day's labour while providing them with a fair day's wages. Without the provision of these conditions of employment, the organisation diminishes the workers' motivation and desire to remain employed which in turn limits the sustainability of the organisation and becomes parasitic on employees. Simply put, "if the employers were paid more, the labour would be worth more" (Levin-Waldman, 2015; Webb, 1912). Workers therefore need to be provided with time and space to recover or else they will become lifeless societal members only able to facilitate work and not the society around them. Over a 100 years later not much has changed and this study hopes to reignite the reestablishment of this convention.

2.2.3 The concept of a working day

Traditionally, in order to attempt to climb the corporate ladder professional men and women had to be inextricably bound to their careers, which frequently meant putting their work needs before their own private lives. With a new generation of (modern professional) workers who have entered the workplace, a change in guard has taken place, and with it they have brought the demand for a more balanced life. Organisations who do not heed this call are now more than ever severely less likely to attract and/or retain the best talent (Kossek & Lee, 2008; Kossek, Lee, & Hall, 2007).

Technological innovation has altered the way in which people work. Previously people attempted to live in close proximity to their workplaces to ensure a seamless commute to and from work every day (Gant & Kiesler, 2002). It was therefore commonplace to find employees who lived on the farms that they worked, or above or below the stores that they ran (or the fields that they farmed). Consequently their family members, neighbours and friends were also their work colleagues. From this we can conclude that in eras gone by the work and home domains were fused together out of necessity (Gant & Kiesler, 2002) and through technology this maybe become the case once again.

Technology has afforded the individual the ability to more clearly divide the domains physically, as the daily commute can be achieved with relative ease (Clark, 2000). The advent of modern high-speed transportation systems has provided individuals with the ability to travel great distances with little to no effort (Nippert-Eng, 1996). As a result, our colleagues are no longer necessarily our

neighbours and family members. A further delineation has arisen through organisational bureaucracy which was originally used to delineate family interference in the workplace and which has now been replicated by individuals in other domains and has culminated in a stronger demand for greater separation of these domains from some other quarters (Gant & Kiesler, 2002). Therefore, the concept of time can assist the individual to compartmentalise (separate) their tasks, emotions and behaviours that need to be performed in a certain place. The "average" individual, as dictated by social convention, spends Monday to Friday between 8am to 5pm (for example) at work and commutes before and after work each day. Naturally the standard convention does not apply in all workers' cases, as many work far more unconventional hours (e.g. part-time workers, shift workers, managerial staff, or surgical staff). "After hours" and weekends are used predominantly for family, friends and for recuperation from the work week. To assist with knowing the appropriate behaviour to exhibit in the relevant domain, employees utilise temporal cues (e.g. the way natural light falls in the room or the time on the wall clock can help employees to know what time of day it is and what tasks they should be doing or in which domain they are expected to perform tasks) to determine the appropriate mental model or behaviour in a physical location and to transition into the appropriate domain behaviour. The usage of cues is integral to the process as it indicates to their users when and how to delineate their time and space for themselves and for those around them (Clark, 2000; Gant & Kiesler, 2002; Nippert-Eng, 1996).

With the technological advancement brought on through the rapid adoption of the mobile phone revolution, the need for these cues is now more pertinent than ever, as they provide employees with the ability to limit the ubiquitous reach created via the plethora of wireless and mobile technologies requested by employers. Employers can now reach their employees anywhere and at any time through these technological advancements. Whenever this happens the work and home domains amalgamate into a single construct which thrusts the worker back into a fused work-home domain as seen in bygone times (Clark, 2000; Gant & Kiesler, 2002). The transition from a location-based cable-wired phone to the mobile phone offers the most recent and pertinent evidence of this technological proliferation. This development has irrevocably changed the flow of communication from a location-based single-channel facilitator to that of a ubiquitous multi-channel provider, and with it has ushered in a new way to construct domains of functioning.

For instance, an individual who embraces their new personal mobile phone is more likely to

facilitate communications with employers, family and friends in more locations than before. As a result the individual determines how and when they will facilitate the flow of communication between work and home. Employees, while at work, can and will receive communications from their family and friends. The opposite is also true, in that employers can contact their employees in non-work settings. The relationship between employee and employer has thus changed. For example, an employee may be contacted by their supervisor for a standard question and not an emergency on their mobile phone, but would be less likely to do so on their home phone (Gant & Kiesler, 2002).

2.3 Work-family balance

In Clark's (2000, p. 751) seminal work she defined balance as "satisfaction and good functioning at work and at home, with a minimum of role conflict", by which she infers that individuals manage the constraints of both home and work in the quest to obtain a balance between them. To date the work/life literature offers up a largely myopic view of the construct of general "life" activities. This view is predominantly focused on the domains of family (non-work) and work, which are only two components of a multi-tiered construct of work-life balance. The current constructs fail to encompass the complexities of life as we know it, but instead offer only the binary options of either family (non-work) or work, while in fact many domains can exist in parallel or even within individual domains (Bourne, Wilson, Lester, & Kickul, 2009; Clark, 2001). An example of such a parallel existence is when driving to work from home (transitioning), or while talking to a client (work) with interruptions from the children (home/non-work) being dropped off at school. Additional examples of non-work domains are time spent on recreation, sport, being with friends, time spent alone, going to the doctor/dentist/psychologist/hairdresser, transitioning between domains, and attending social functions, amongst many other tasks.

Work-life balance is attained when the individual establishes a sense of accomplishment with both work and non-work demands. Balance is a key component of the work-life paradigm and is concerned with roles that are fulfilled optimally when no role conflict occurs in their enactment. In order to "attain" a work-life balance it is required of individuals to determine what their core values are and how to achieve these through the available resources at their disposal, thereby balancing the demands from work and other life domains (Kossek et al., 2012; Kossek, Valcour, Lirio, & Cooper, 2014).

The way in which individuals decide on how or where to divide their time is an individualistic approach for making sense of "life" (Grawitch, Barber, & Justice, 2010). It must be emphasised that an individualistic solution is highlighted in numerous pieces of literature although it could be argued that it can only possibly exist without role conflict, i.e. if the individual existed in a vacuum without any push or pull factors exerting their undue influence on the opposing domain (Cecchinato, Cox, & Bird, 2014; Fenner & Renn, 2009; Kossek, Lautsch, & Eaton, 2009a; Kossek & Lee, 2008; Kossek, Lewis, & Hammer, 2009b; Lautsch, Kossek, & Eaton, 2009; Montgomery et al., 2005). Since we don't live in a vacuum, what is the more likely scenario? Is it still individualistic or is it something else?

Much of the literature thematises the construction of domains and their associated roles vying for the individual's time as a battle between good and evil (Bourne et al., 2009; Geurts et al., 2005). The "demonic" work is a required state which steals all the individual's time and family (non-work) as an "angelic" state viewed as the place where the individual prefers to spend their time and from which they get their recuperation and rejuvenation. Individuals have reported greater wellbeing and health benefits when provided with recovery time in a non-work domain after a hard day's labour as this has enabled them to impede spill-over from work (Brown, Ling, Bradley, Lingard, & Townsend, 2009; Geurts et al., 2005; Hobfoll, 1989; Sanz-Vergel, Demerouti, Mayo, & Moreno-Jiménez, 2011). Without the provisions of recovery time, job demands accumulate, e.g. through working overtime via "border-crossing" a person experiences negative effects of work spilling over into the home environment, culminating in potential psychological damage and health problems (Demerouti, Bakker, & Schaufeli, 2005; Demerouti & Geurts, 2004; Eby, Maher, & Butts, 2010; Geurts et al., 2005; Glezer & Wolcott, 1999; Majomi, Brown, & Crawford, 2003 ; Montgomery et al., 2005; Peeters, Montgomery, Bakker, & Schaufeli, 2005; Van Hooff, Geurts, Kompier, & Taris, 2006). Logically, the higher the strain of the job (high job demands, low job resources) the greater the potential for a negative interaction and increased spill-over between the domains (Demerouti et al., 2005; Demerouti & Geurts, 2004). It is important to add that spill-over can be bidirectional which increases the potential prevalence of positive or negative effects feeding across domains. An example of a negative spill-over with negative effects could be where an individual who is going through a bad divorce, financial difficulties or substance abuse problems while at "home", has a greater propensity to let the negative effects overflow into their work and consequently they become erratic and unreasonable to deal with which may in turn lead to

redeployment, demotion, job loss or in some extremes, the end of their career altogether. A person provided with sufficient time to recuperate after a day's work or indeed a week, is more likely to perform adequately or above average than their peer who is also going through a divorce but is working a 60-hour work week. The individual who is given adequate recuperation time by their employer is thus more likely to experience career promotion and/or salary increases which, in turn, flows over to the home. Consequently they may now be able to move to a better neighbourhood and place their children in better schools, meaning that this positivity can flow back into the work domain as they are now less likely to leave and are more dedicated to the institution. These are fairly idyllic examples which neglect to demonstrate the constant interplay between the domains. However, the examples above do not factor into account the existence of a smartphone or its usage, which has the ability to facilitate bidirectional spill-over which culminates in ubiquitous positive and negative effects to the individual and society as a whole (Demerouti et al., 2005; Demerouti & Geurts, 2004).

This is obviously in stark contrast to the individualistic approach put forward by Grawitch et al. (2010). The same literature proposes that time management is a simple solution to ensure that all domains' objectives are achievable within a day (Grawitch et al., 2010). However, this cannot be true when one cannot extend the day and make time for everything. For this to happen the individual must juggle the demands of both domains (work and home) and find a "happy" medium between the two. Mobile phones and other push technologies have further complicated this scenario. Each day is comprised of a finite number of hours, minutes and seconds. The constraint of a 24-hour day restricts what can be accomplished, requiring the individual to structure their day in order to fit everything in. This further complicates the matter as it requires people to determine when to fulfil their desires for career advancement and work commitment, while still ensuring that there is enough time to fulfil home demands such as collecting the kids from school and taking them home. Time helps individuals and society at large to make sense of the world. It is used to define the relationship between people and their domains as a descriptor, moderator, expander and a delineator of borders. The description of each will be explained in greater detail below.

Professionals, for instance, are no longer able to only work the standard 40-hour work week, and nowadays are expected to work 50, 60 and even 70 hours a week to show their organisational commitment (Kossek & Lee, 2008). However, this expectation is no longer confined to

professionals only as even teleworkers (labourers who spent most of their time working from outside a fixed organisational space) have indicated that they are only viewed as being overworked if they had worked at least several hours more than their traditionally office-based peers despite having informed their superiors about their unhappiness with the situation (Kossek et al., 2009a). The increase in this occurrence may understandably be attributed to "the growing lack of clarity in the psychological employment contract" between teleworkers and their employers (Kossek et al., 2009a, p. 22). Due to scenarios such as these, teleworkers have become more rigid with time that they view as their own and are consequently reluctant to assist their non-teleworking peers with their after-hours work. This is further complicated by the lack of the same provisional usage of time by conventional workers (in this case non-teleworkers), which unsurprisingly culminates in them experiencing an increase in work-family conflict while simultaneously being unable to separate their domain roles (Kossek et al., 2009a). The outcome of this situation is predictable, as the strength of technologically-assisted supplemental work and work-family conflict is strongly dependent on the individual's ability to set their own goals and priorities (i.e. effective time management) (Fenner & Renn, 2009). It was therefore of little surprise to find that work-family conflict can be predicted on the basis of how much influence a person has to determine their own working conditions, which they have acquired through the development process of a boundary management strategy (Kossek et al., 2009a).

External and internal motivators can therefore be useful in assisting individuals with when and where to enact a role, thereby minimising the occurrence and effects of work-family conflict. Through this individualistic process individuals can decide how they would like to segment or integrate their role, thereby structuring their life to best suit their needs (Boswell & Olson-Buchanan, 2007; Kossek, Baltes, & Matthews, 2011a). To better understand this requires additional insight into how work-family conflict occurs. Kossek et al. (2011a) believe that work-family conflict occurs when multiple roles are enacted simultaneously, with individuals becoming internally conflicted and agitated about which role should be given precedence (Kossek et al., 2011a). Thus, in the case of domain and role development, a "one size fits all solution" does not work as each person has an internal construction of which elements belong or don't belong, based on their desired outcomes (Kossek et al., 2011a). On the other hand, the constraints that an environment enforces on the individual assist them with the enactment of a boundary management strategy (Kossek et al., 2009a; Mellner, Aronsson, & Kecklund, 2015; Nippert-Eng, 1996). An

example of this can be seen when an individual reaches their place of employment for the start of their day at work. The structure of the physical building structure and its components emphasise and indicate to the individual that they are now entering a work domain and suggest the behaviour they should now exhibit and that all other domains need to receive less emphasis.

This does not, however, take into account that both boundaries and boundary management strategies are socially constructed, which relies heavily on the individual's determination to define the construction of the domains and the border between them (Kossek et al., 2009a). An instance of this can be seen in the way individuals determine how to utilise their border management strategy to segment or integrate work and family boundaries. This can result in varied approaches to border management which might be unique to each individual and their personal circumstances. Those who use integrated boundary management strategies (e.g. the process whereby the individual integrates work and family boundaries) were found to experience an increase in family-to-work conflict (Kossek et al., 2009a). This provides further evidence that integration facilitates the transference of both positive and negative emotions. It therefore comes as little surprise to find that individuals without a solidified delineator to indicate where one domain begins or ends experience greater family-to-work conflict (Ashforth, Kreiner, & Fugate, 2000; Kossek et al., 2006).

The amount of individual control that a teleworker has over their domain construction in turn affects the level of work-to-family conflict, turnover intentions and career movements (Kossek & Lautsch, 2012; Kossek et al., 2009a). The attainment of individual boundary control will result in lower turnover intentions, fewer career movements, and ultimately work-family balance (Kossek & Lautsch, 2012; Kossek et al., 2009a). Therefore, a significant predictor of psychological wellbeing can be found in the individual's ability to exhibit a high level of control and boundary management strategy favouring separation of work and family boundaries (Kossek et al., 2006). Thus, when employees are provided support by their employers to access their vacation time how and when they choose, this has been found to simultaneously improve their wellbeing and work-life balance (Kossek et al., 2014).

Yet, in somewhat of a juxtaposition, some employers still advocated that it is through the cohesion of the two domains that teleworkers will be able to "have it all". In reality cohesion between the two domains was found to increase the prevalence of social dilemmas in the family domain (Kossek et al., 2009a). Thus, in an attempt to assist teleworkers with their domain separation, supervisors

have been found to coach their employees on how to separate their roles between work and home, thereby reducing their work-family conflict (Kossek, Pichler, Bodner, & Hammer, 2011c; Lautsch et al., 2009). There has been a call, supported by a large percentage of professionals (working in telecommuting and flexitime positions) who enjoy the ability to define their own boundary management strategy, to demarcate domains as well as the boundaries between them to "regulate attending to work and family roles" (Kossek & Lautsch, 2012; Kossek et al., 2009a). It is pertinent to add, however, that Kossek and Lautsch (2012); Kossek et al. (2009a) did not define the term "regulation". This lack of clarification further validates the need for this study to determine if self-regulation, as defined by Bandura (1986), is equivalent to Kossek's (2009; 2012) concept of "regulation" and if it assists in the demarcation of domain construction and the reduction of role conflict.

Boundary management utilises permeability and flexibility mechanisms to assist the individual with the complex task of how to deal with the construction of domains and the roles associated with each. To better understand this process, each individual process will be discussed and defined. Permeability explains the process of how the roles of one domain, such as behaviours or emotions, spill over into another domain on three different planes – the physical, psychological and temporal planes (Clark, 2000; Kossek & Lautsch, 2012). Flexibility, within the context of boundary management, is the way in which the individual responds to role demands within a certain timeframe and location. In contrast, psychological flexibility differs as it centres around the individual's perception of their ability to shape when, how and where they work (Edwards & Rothbard, 2000; Kossek et al., 2006; Nippert-Eng, 1996).

2.3.1 Boundary management styles

Boundary management styles affect the way in which organisations and individuals enact work-life boundaries from integration to separation, culminating in the follow styles: "(a) separating work and life, (b) integrating work and life, and (c) a hybrid approach that involves alternating between the two prior approaches" (Kossek & Lautsch, 2012, p. 157). This implies that there is a plausible solution for finding a happy medium between organisational and individual goals. However, this is rarely the case as the two domains are infrequently in harmony, which means that a boundary management style is usually implemented that will suit one or the other domain but

seldom both (Kossek & Lautsch, 2007, 2012; Kossek et al., 2006). When individuals were provided with the option to be able to enact their chosen boundary management style with no punitive measure levelled against them by their employer, work-family conflict was found to decrease (Kossek & Lautsch, 2012). In stark contrast, Mellner et al. (2015) found no differences between integrator or segmenter employees (who exhibited high boundary control) because a boundary management strategy was obtainable.

To achieve work-life balance the individual requires the ability to utilise boundary-crossing preferences, a process whereby they are able to structure their role-cycling to more accurately suit their individual domain. Regrettably the importance of this skill is largely overlooked and validates the need for further literature exploration and inquiry into the area (Kossek & Lautsch, 2012). To that effect the process of role-cycling and this studies' hypothesised solution of self-regulation in border development processes, closely resemble each other.

It thus comes as little surprise to find that employees, to ensure their ability to equally divide their time between domains, have resorted to seek out employment which best facilitates it (Kossek & Lee, 2008). Organisations who were found to support both domains and their associated roles, through the provision of an effective work design, benefited both employees and their employers equally (Fletcher & Bailyn, 2005; Hammer, Kossek, Yragui, Bodner, & Hanson, 2008). For this to happen, however, will require that organisations revise their current policies and practices to better support their employees' demands and through this provision they are more likely to be able to retain their best talent (Hammer et al., 2008; Kossek & Lee, 2008). The provision of family-friendly support programmes by organisations for their employees, for instance, will result in their increased commitment and acceptance of work-family conflict (Kossek, Colquitt, & Noe, 2001; Wang, Lawler, & Shi, 2011).

To resolve these situations it has been suggested that supervisors should provide clarity about their expectations of access and availability to their employees via smartphones after hours, but that they should not assume the provision of ubiquitous reach (Derks et al., 2015). In contrast, some employees had the perception that without such a commitment (of the provision of ubiquitous reach), their peers, line managers, employers, work colleagues and customers would view them negatively if they chose to refuse communications after work hours. Instead the employee witnesses their peers receive rewards and punishments (through vicarious reinforcement), therefore

learning to adopt the organisation's socially acceptable behaviours in order to excel in their careers. This learned or conditioned behaviour fits squarely within the social learning theory developed by Bandura and McClelland (1977). It is important to add that employees conditioned by their peers to accept ubiquitous smartphone access have reported an increased work-home interference (WHI) (Derks et al., 2015).

2.4 Defining border theory

Boundaries are a tool used by society to make better sense of the world (Barth, 2000). Therefore, to define what is theirs and what is not, individuals use boundaries (i.e. tools) to show a sense of ownership over items and domains. Once defined, the tool becomes an extension of themselves and embodiment occurs, which further emphasises their ownership. Through the construct of ownership an individual exerts their ability to easily distinguish their piece of the pie from the collective, thereby staking their claim to a certain object/item/domain by which they define the boundaries of what is theirs and what is not. Thus, the act of boundary construction relies on individuals to stipulate the constraints of how they would like the world around them to be constructed (Barth, 2000).

Clark (2000), on the other hand, utilised Kurt Lewin's Field Theory (1939) in the theoretical development of border theory. For this study it is therefore natural to commence the journey into border theory with an examination of field theory.

2.4.1 Kurt Lewin and field theory

When Lewin developed his social-psychological version of field theory, he used the theoretical physics version of the theory as a guideline. In a body of work which spans 25 years, field analysis was originally created to understand the behaviour of an individual, but developed into an examination to modify that of the group. Lewin, in his theoretical paradigm of field theory, proposed that there are areas of "life space" where the facilitation of force upon individuals and groups takes places and, in turn, alters their behaviours.

"Life space" is a holistic view which describes the numerous psychological forces which shape an

individual's life. Each psychological force is envisioned as its own independent segment, but changes in one segment will lead to changes in all other related segments as their relationship is symbiotic and this affects the whole. The development of field theory was heavily influenced by Gestalt psychology which rose in popularity in the early part of the 20th century in Germany to counter the, then dominant, structuralist and behaviourist theories (Burnes & Cooke, 2013). This, in part, related to Lewin's disdain of the categorical "Linnean system of botany", which was prominent at the time in social psychology. Instead Lewin advocated for the usage of constructs in the observation of properties. Lewin therefore posited that through field theory, social psychology can evolve to answer questions of causation and become a "real" science through the observable physical characteristics being collected and classified (Burnes & Cooke, 2013).

Psychology, for instance, has evolved as the properties of the dynamic whole differ from the sum of their parts, which can lead to additional benefits in both group and social interactions. Thus, the Gestalt psychological perspective proposed that "the whole is more than the sum of its parts" is no longer considered feasible. This is because each and every interaction is unique. Lewin therefore acknowledges that "the whole is different from the sum of its parts", through which a more equal relationship to the whole and its components is shown, as the whole is no longer considered as superior. The environment, for instance, has the ability to create a point of reflection within the individual, thus altering their behaviour (Burnes & Cooke, 2013).

The process above, developed by Lewin, closely resembles the step that the individual takes in the development of their self-regulation as described by Bandura (1989); the step of self-observation, judgement and self-response. Therefore, this study advocates the use of a self-regulation mechanism in the development of border enactment, all of which will be discussed in greater detail later on this literature review. The individuals should also have the ability to shape their domain construction in border theory if a Gestalt psychology lens was properly applied to the theoretical design perspective. The inclusion of the concept of self-shaping would have provided a pertinent theoretical contribution to the development of Clark's (2000) border theory work. Regrettably, she did not utilise the developments of either Lewin or the Gestalt perspective fully into her theoretical construction, as will be shown in greater detail later on in this section.

Lewin goes on to posit that only the present substantially affects individuals and not the past or future. This is because behaviour and time are interwoven. Individuals are cognitively and

consciously aware of their surroundings, consequently resulting in behavioural changes. Accordingly, when individuals and organisations exhibit behavioural changes they become more insightful about their inward and outward perspectives of active forces operating on their "life space". It is important to add that behavioural change is a gradual process but can be accelerated depending on the severity of the situation. In such a situation, and to further limit any potential impacts, it is best to utilise scenario mapping. This process is iterative; the behaviours will degrade and new ones will be created in their place, meaning that balance of the "life force" will take place. This push and pull will, in turn, create psychological forces that oppose each other. Lewin attributes this to the development of inner personal conflict (Lewin, 1939, 1947).

2.4.2 Field theory

Lewin's (1939) article on field theory helps the reader come to grips with the complexities of his work on force-field analysis. Lewin uses the analogy of a child coming to terms with their progression towards adulthood, to better understand this theoretical paradigm and demystify its complexity. The transition from childhood to adulthood can occur rapidly or gradually if the groups are clearly separated; similar to how one moves from a known to an unknown state (Burnes & Cooke, 2013). This of course moves the individual into a new unknown environment with which they are unfamiliar. This causes them to become disorientated as they do not know how to determine the direction to move in in order to achieve their goals. The move is even further complicated by the fact that the individual does not know where anything is or how it functions; this creates a perpetual state of instability within themselves and they are uncertain about how to ascertain their tasks or goals. Individuals who are well "established", however, have a greater knowledge of their surrounding environment and therefore are more capable of achieving goals or tasks with little effort. In this case their thought patterns are closely aligned to the environment which surrounds them and this closely mirrors the psychological plane construct defined by Clark for explaining how individuals reflect on their home and work domains (Clark's definition will be addressed later in this section).

One of the many ways in which adults and children differ relates to the way they respond to time, which changes their perception and structuralisation of their environment. This corresponds to Lewin's notions of "reality" and "irreality." Reality is the propensity for a goal or task to occur within a timeframe, while in contrast irreality is when an individual holds the beliefs that the

attainment of a goal occurrence is higher than it really is as the time allotted is insufficient or unrealistic. As an example, children exhibit expectations and tendencies towards irreality and adults towards reality. For example, a child's expectation for the future may be to become a Nobel laureate in physics by the age of 21. Although this is hypothetically feasible, an individual would probably require a long and illustrious career in physics before this is achievable. Reality, however, is the potential for something to occur, like the person graduating from their Bachelor of Science degree with a speciality in physics by the age of 21. The fundamental difference between the two is that irreality is a fantasy expectation of the future and reality is more likely to realise.

When children define their life space, for instance, they struggle to distinguish between wishes and realistic expectations and thus they have the tendency to allot insufficient time to task completion when compared to an adult. This provides an extension of Lewin's work mentioned above which relates to the way an individual moves between childhood and adulthood and the effects on their surrounding environment. The paragraph above has shown, through the incorporation of time, that it will help to further define the individual's life space construct. This of course links to the usage of the temporal plane (again, this will be explained later in this section).

The transition process can become additionally complicated through the addition of politics, religion and relationships. Each of these aspects can cause a deep sense of turmoil within the child, thus scuppering their transitions to adulthood because each offers a new philosophical paradigm which requires time to reflect on so that they can determine their own position and belief system. This change in perspective of values and time is more commonly seen in the transition from childhood into adolescence. In some cases the child becomes overwhelmed by the transition into adolescence and in fact rejects the well-trodden path, choosing instead to fortify themselves in the "safety" of their known childhood and displaying reluctance to transition to adulthood.

However, there is the potential for an alternative pathway to develop, when an individual no longer identifies themselves as a child (childhood) but is not yet mature enough to be accepted as an adult (adulthood). This is partly related to their difficulties as an adolescent, which is also referred to sociologically as the state of being a "marginal man." This is because a marginal man does not belong to either group as they feel unsettled in their self-categorisation as either adult or child, which is further complicated by their connection to both groups. To further elucidate the marginal man construct Lewin utilises the analogy of an underprivileged individual who dissociates

themselves from their previous group in the hope that they can transition in order to be accepted as privileged. However, these individuals may get stuck in a state of purgatory as a marginal man, because there is the potential that the privileged group might reject them as they do not fit in and because they abandoned their underprivileged peers they are now no longer accepted as either. To put this into the context of this study, this process closely resembles when an individual answers a work call after hours, at home from work. This culminates in uncertainty as the individual is physically located at home, while psychologically and temporally they are "located" at work, mirroring the state of the "marginal man".

The origins of Clark's (2000) border construction can be attributed to Lewin's (1939, 1947) work on field theory. Although Clark acknowledges that border theory relies heavily on Lewin's field theory, she fails to provide the theoretical background and connection between the two, and instead secondarily cites his work through Rychlak, 1981 cited in Clark (2000, p. 752). An example can be seen where Clark acknowledges that the development of the enactive control mechanism is created psychologically, a notion which she borrowed from Kurt Lewin's "life space" idea and which she uses in the development of psychologically separate family and work domains. The interaction between the two domains depends on the border strength. The process of enactment involved in how psychological borders are achieved (Weick, 1979) is described by Clark (2000, p. 756) as the "process in which individuals take elements given in their environments and organises them in a way that makes sense". This study will therefore offer a more solidified theoretical construction and development for Clark's work.

The concept of enactment and its relationship to border theory will be explored in greater detail in the next section.

2.4.3 Defining border theory

Border theory is a theoretical paradigm which explains how individuals manage, negotiate and control their movements between home and work in order to maintain a sense of balance (Clark, 2000). The crux of border theory acknowledges that work creates a form of interference for the individual while they are at home (work-home interference; WHI), while the opposite is also true, namely that family and friends can create an interference for an employee while they are at work (home-work interference, HWI). This ties in well with the Survey Work-home Interaction-

NijmeGen developed by Geurts et al. (2005) (Frone, 2003). When WHI occurs, the effects are predominantly felt to operate on disruptions to time, spill-over and behaviour. An individual, for example, receives an after-hours work communication through their smartphone while at home. This has the ability to extend their work hours but that depends if they decide to accept or reject the communication. If accepted the communication facilitates work's reach beyond their conventional work border into the home domain (thus, spilled over). This leads to disruptions to the individual's personal time which is largely used for recovery, but now instead is used for the facilitation of work. This of course diminishes the individual's time for recovery. They therefore have a greater propensity to develop stress and become burned out, invariably affecting those around them. Because the individual acknowledges the negative effects that the facilitation of after-hours work communication can exert on themselves as well those around them, they become conflicted about what they should do (Derks et al., 2015).

Consequently it is of little surprise to find that the literature illustrates that when there are no visible cues for where the one domain begins and the other ends, the domains integrate. The consequences of this limit the individual's ability to recover from a day's labour as there is no longer a clearly marked separation between the domains. Without the provisions of a clear structure of where one domain begins and the other ends, roles converge, resulting in the individual experiencing increased work-family conflict at home. Because of this they become trapped within a "marginal man" state with little ability to regain their original domain control (Lewin, 1939, p. 881).

Clark offers border theory to explain how "border-crosser" individuals move between the home and work domain over the course of the day while they simultaneously attempt to minimise role conflict and ensure that balance is maintained (Clark, 2000). A central tenet of border theory is that the work and family domains are separate entities that are divided by a "border" which is determined by its "border strength". For the domains to remain separate the border needs to be hardened or strengthened, while the opposite is also true in that a weak domain border causes one domain to unduly influence the other. The borders are believed to operate in three planes of existence, namely physical (e.g. the actual walls of work or home), temporal (e.g. set working time), and psychological (e.g. thinking patterns which are suitable for that domain, usually created through enactment) (Clark, 2000).

An example of the ability to permeate the domain border on all three planes mentioned above was illustrated by Clark through the act of receiving a simple landline phone call in the development of border theory. Clark, as seen below in figure 1 (Clark, 2000, p. 754), provided two instances of landline phone call permeation: (1) the work domain activities are interrupted when the employee receives calls from home; and (2) the individual ability to recover from a day's work is halted through an important client's phone call. Although Clark raises the issue of border permeations created through landline calls, she fails to mention mobile phones or indeed any other technologies which could create similar effects.

This inherent limitation of Clark's work is thought to be related to the mobile phone adoption and functionality in 2000, which at that point in time had far less capabilities when compared to today's modern smartphone (Borhanuddin & Iqbal, 2016). Although, it is acknowledged that some of the mobile phones of that time period had both email and Internet capabilities, this functionality was not as common as it is today (Borhanuddin & Iqbal, 2016). This can be attributed to the cost of owning a device with such capabilities, which at that point was far more expensive than the cost of purchasing a medium ranged mobile phone which may have not had the same or similar capabilities (Borhanuddin & Iqbal, 2016; Gustke, 2017) . This of course fails to acknowledge the cost of both mobile Internet and data at the time needed to enable such capabilities nor the prohibitively slow speed of mobile connectivity at that time, which would make such tasks both taxing and arduous (Datta, Dutta, Thomas, & VanderMeer, 2003; Hodge, 2005). Combined, the limitations thus created a border between the home and work domain. This of course is thought to have resulted in Clark's limited scope in her theoretical development. This technical and monetary limitation however, no longer exists and thus the technological reach of either domains has been expanded and with it the definitive need to better understand what the cost of integration of the domains are.

An additional constraint in the theoretical development of border theory is highlighted through the lacking substantiation of how landline-based phone calls received from "Clients of Work" result in border permeation and its effects.

The points above highlight that Clark failed to account for border theory's explanation of the following two points:

1. Technology is an aspect, but Clark (2000) fails to mention how.

2. Only home and client phone calls are mentioned although other technologies such as mobile phones, email, Skype, etc. can also permeate the border.

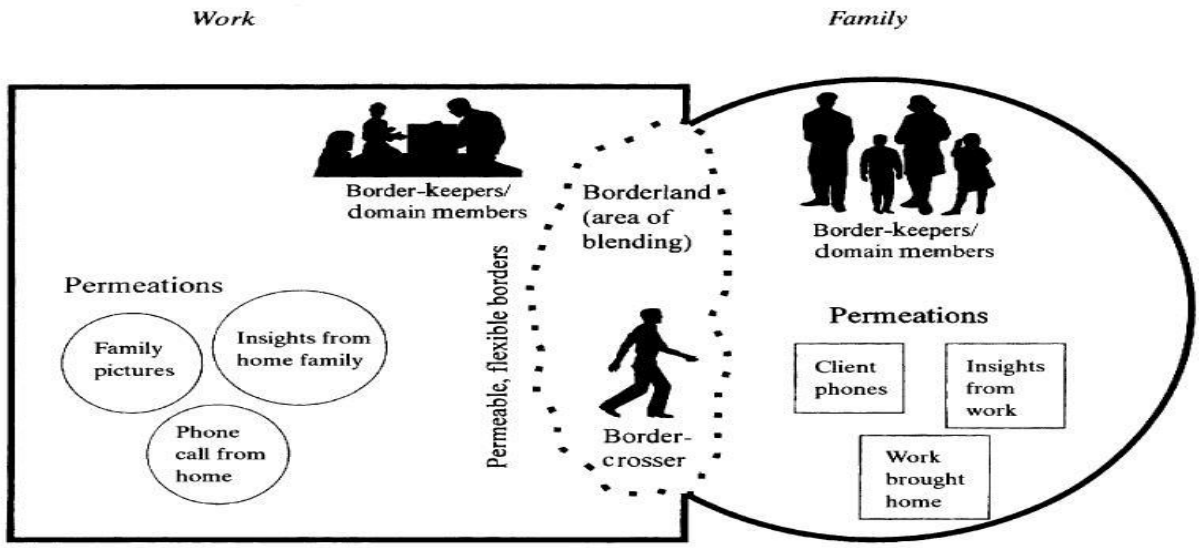


Figure 1: Work-family border theory: a pictorial representation and list of central concepts and their characteristics (Clark, 2000, p. 754)

Clark (2000) introduced the idea of work-family border theory to suggest that individuals are daily border-crossers between the domains of work and home, managing and negotiating the work and non-work spheres and the borders between them to attain balance (Montgomery et al., 2005). "Border-crossers make daily transitions between these two settings (domains)", suiting the relevant domain they are in, as they adapt to the domain constraints and rules resulting in an applicable work or family persona (Clark, 2000, p. 751). The problem arises when the persona needs to be shifted or exchanged when reverting to the alternative domain, unless there is a symbiotic relationship between the borders and domains. Border theory differs from previous theories in that it recognises that individuals have the ability to shape their environments, while previous studies viewed individuals as merely reactive entities (Clark, 2000). An integrative arrangement can help attain a positive work-family balance, by allowing for more family/work time and minimal role conflict (Clark, 2000). However, if the integration starts to blur the work-family border excessively, it can lead to work-family conflict, stress, depression and dissatisfaction across both borders. This can be correlated to individuals internalising domain values and making them part of their identification, further resulting in conflict due to an imbalance (Clark, 2000).

To minimise the impacts of blurring in a home environment, employees can discourage "family

members and visitors from interrupting one's work, working only in a particular room of the home, and keeping work-related materials separate from non-work materials" (Desrochers & Sargent, 2004, p. 45). Domain members who help determine the domains and their borders are referred to by Clark (2000) as border-keepers. Examples include supervisors and managers in the work domain and spouses and children in the home domain. Workers who want segmentation are more satisfied when provided with segmentation policies (e.g. flexitime), which results in work commitment. Likewise, the same workers are less satisfied and committed to the organisation when provided with integration policies (e.g. onsite childcare at place of work) (Edwards & Rothbard, 2000; Rothbard, Phillips, & Dumas, 2005). Flexitime helps to minimise the overlap between work and non-work responsibilities, accordingly reinforcing boundaries between roles and helping to achieve better segmentation (Rothbard et al., 2005).

According to Clark (2000), border-crossers have a healthier work-home balance. This does not always seem to be the case in telework where there are multiple reports of stress, burnout, marriage breakdowns, social problems and ill health (Hill, Ferris, & Martinson, 2003; Hill, Hawkins, & Miller, 1996). Ashforth et al.'s (2000) proposition is that the difference or contrast between roles is part of what determines how clear or how thick the boundary is between one domain and another, which in turn influences the likelihood of work-family conflict (Desrochers & Sargent, 2004). Desrochers and Sargent (2004, pp. 40-41) propose that the integration or segmentation of work and home influences employee characteristics, "'family friendly' workplace norms and policies, long or irregular work hours, or social support from supervisors, co-workers and family", as well as the employees' personal relationship with work and home.

2.4.4 Border theory propositions

Border theory, developed by Clark (2000), is governed by eight propositions based around five criteria: (1) the border, (2) domain awareness, (3) domains, (4) participants, as well as (5) work and family balance. For this study, in order to provide greater elucidation and insight into Clark's (2000) propositions, the original propositions were used as a guide in the development and construction of the research questions developed for this study. The propositions are listed as follows:

1) Work-family balance will more frequently occur when the domains;
   a) are similar and there is a weak border between them; and
   b) are different and there is a strong border between them.
2) When the border is strong to protect one domain, but weak for another domain, individuals will experience:
   a) an increase in work-family balance when they primarily identify with the strongly bordered domain; and
   b) a reduction in work-family balance when they primarily identify with the weakly bordered domain.
3) Central (border-crosser) participants within a single domain hold greater identification and influence and thus greater control over the border attached to it, than a peripheral participant would have.
4) Central (border-crosser) participants who hold greater identification and influence within both domains experience greater work-family balance, and therefore hold greater control over the border than a non-central participant would have in both domains.
5) Border-crossers who recognise the existence of other surrounding domains have greater work-family balance than those with low cognisance of their presence.
6) Border-crossers who exhibit a high level of commitment to a domain in turn experience higher levels of work-family balance against those who show little to no commitment.
7) When there is a large disparity between the two domains (family and work), border-crossers are less likely to engage in across-the-border communications than would occur if the domains are similar.
8) To prevent imbalance and instead maintain work-family balance, it is advised that an open communication channel be established between the border-crossers and the border-keepers about the occurrence of other-domain activities. This in turn will moderate the negative effects.

In 2002 Clark re-tested her border theory hypotheses, from which she concluded that a flexible home border and permeable work border predicted an increase in communication about work at home (Clark, 2002; Desrochers, Hilton, & Larwood, 2005). This result was found when the work-family balance metric developed for Clark's (2000) border theory was tested against flexibility, permeability and communication metrics developed for her 2002 study (Clark, 2000, 2002; Desrochers et al., 2005). Furthermore, and counter to her original hypotheses, Clark proposed that

increased permeability of the home border predicted "less communication at work about family, and the flexibility of the work border did not predict communication in either domain" (Desrochers et al., 2005, p. 447). She fails, however, to examine the effects of the blurring when home and work domains can no longer can be identified as either space (Desrochers et al., 2005). When an individual, for example, becomes conditioned by their peers to accept work communications while they are at home, the border is crossed through the provision, the domains blur, and they form a new state. However, most, if not all members of society are border-crossers. Individuals move between domains and the borders between them, cycling their roles and behaviours to suit these respective needs. Because of the constant cycling, individuals can lose track of the appropriate roles and behaviours and therefore rely on border-keepers to assist them to delineate the domains and the borders between them. The mechanisms through which this takes place are explained in greater detail below.

2.4.5 Enactment

To ensure balance, Clark's (2000) border theory proposes that domain members must construct a border through the utilisation of proactive or enactive (to be explained later) controls. However, the usage of a proactive domain mechanism construct is vastly problematic as she only mentions it once in her theory (Clark (2000) and fails to extrapolate its operationalisation or explain how it differs from an enactive control. This has thus created an inherent weakness in the proactive control mechanism and its impact on border formation, which has led to the decision to omit it from this study. The enactive control mechanism does not befall the same fate since Clark (2000) defines the process of enactment using Weick's (1979) work, which will be discussed in greater detail below. She then leans on Kurt Lewin's "life space" work as the philosophical basis for border theory, which she describes as a psychological environment where individuals reside. Individuals then utilise the same enactive controls (psychologically) to craft the domains (life space) around them to best suit their needs. Following this, Clark offers deeper insight into the process of psychological border formation through the provision of Weick's (1979 cited in Clark, 2000, p. 756) definition of enactment as a "process in which individuals take elements given in their environments and organise them in a way that makes sense". This definition shows a clear continuity and development of theoretical constructs.

The actual origins of Weick's work, as found in *Social Psychology of Organizing*, relates to sense-

making and reads “managers construct, rearrange, single out, and demolish many objective features of their surroundings. When people act they unrandomize variables, insert vestiges of orderliness, and literally create their own constraints” (1979, p. 243). Ironically the process of enactment is better described by Weick (1988, pp. 306-307) when he says that “people who act in organizations often produce structures, constraints and opportunities that were not there before they took action. Enactment involves both a process, enactment, and a product, an enacted environment”. Clark, however, fails to establish a real connection between her own work and that of Weick. Her theoretical foundations are thus unstable at best. The evidence of this can be seen in Clark’s own brief and vague synopsis of Weick’s work on sense-making. As shown in the paragraph above she equates it to the “process in which individuals take elements given in their environments and organise them in a way that makes sense” (Clark, 2000, p. 756). Thus from Clark’s perspective individuals are only able to manage the environments and the elements contained in them, while Weick, in the original construction, assigned individuals a far more central (godlike) role in their surrounding environments and thus their ability to construct or demolish them as they choose.
To counter these inherent theoretical failures and to rectify the limitations these create, this study believes that enactment should rather be attributed to Weick’s (1988, p. 307) definition of enactment as both a process, enactment and a product, i.e. an enacted environment. The process therefore requires that the environments in which the individual operates are “fenced” in order to allow for deeper introspection on the basis of the held preconceptions. The individuals, under the guidance of these preconceptions, shape their environment in relation to their own preconceptions. Thus, actions are more frequently related to these preconceptions (Weick, 1979).

When the process of enactment occurs it results in changes to the immediate environment as well as the surrounding area (“residuum of changes”) (Weick, 1988, p. 307). A missile, for instance, destroys a building but the rubble also falls onto the surrounding area. Therefore a central location and the area around it are affected, as is the case with enactment. The total area which enactment (or the bomb) affects becomes known as the enacted environment (Weick, 1988, p. 307). When the process of enactment takes place, a decision is made with the acknowledgement that there is an intention to alter the current formulation of a logical, physical and social construction. The consequence of this creates an enacted environment that contains real objects; “the existence of the objects is not questionable, but their significance, meaning and content is” (Weick, 1988, p. 307).

However, the effects that objects usher in are rarely acknowledged until there is a point of reflection where they can be fully understood (this speaks to the example of the bomb above) (Weick, 1979).

Individuals create an internalised map to indicate their experiences and to get a better grip of the effects that each object and action has on their environment. The cartography of this can be further enhanced through bringing an understanding of the causation of the individual's experiences, because it is mapped in the form of if-then assertions (this is known as a cause map) (Weick & Bougon, 1986). In this way they will be able to achieve their desired objectives more easily (which can either be their own, or that of their organisation, or even both) and prevent those outcomes that they do not wish to occur (Weick & Bougon, 1986). With the knowledge that the internalised map provides of what surrounds them environmentally, the individual becomes better equipped to venture out and enact new experiences. For this reason the enacted environment has both a public and a private face, the construction of which is usually (publicly) visible to those around the individual, but not necessarily to the individuals themselves.

Consequently, when individuals use their internalised map they simultaneously enact an environment, which is publicly observable to those around (via a public face). However, the same map can be an internalised process (via a private face) where the if-then assertions provide the potential outcomes of the scenarios at hand and thus condition their behaviours. A public face occurs when an environment is enacted and those people other than the individual can observe the behaviour, which simultaneously makes them susceptible to the individual's behaviour. In contrast, a private face is an internalised map of if-then assertions (described above) where actions lead to outcomes and/or experiences. The assertions have the propensity to serve as an expectation of future events.

Finally, and most pertinently, the heart of enactment is the idea that cognition lies in the path of action (Weick, 1979).

2.4.6 Balance

Clark draws part of her theoretical development of how home and work domains were segmented into two domains from the industrial revolution period, where each domain had its own unique responsibilities, cultures, rules and purposes which existed in different times and places (Clark, 2000, p. 753). The delineated domain construction formed in the industrial revolution does indeed

share a single element: that of a "member" who is able to transition between them in order to fulfil their unique responsibilities to each side. These responsibilities are constructed through a combination of duties, rules, thought patterns and behaviours. This rigid border and domain construction was adopted by Clark in the formation of her border theory. This rigidity of the binary domain construction is strongly felt when Clark defines balance, which is a key component of the theory, as "satisfaction and good functioning at work and at home, with a minimum of role conflict" (Clark, 2000, p. 751).

However, the construct becomes further questionable as Clark fails to acknowledge the absence of balance. In particular she does not define the state of "imbalance", when the demands of the domain are unsustainable or unachievable. In order to rectify this situation an inverted version of Clark's balance is advocated to offer a solution and therefore will be defined in this study as dissatisfaction and bad functioning at work and home, with substantial role conflict. The binary domain construction utilised in her definition of balance is arguably a narrow interpretation as there are likely to be many more domains, such as domains for friends, clubs and societies, which Lewin (1947) actually puts forward in his work but is not acknowledged by Clark.

Finally, the definition of the word "balance" originates from an instrument of two small receptacles on either side, so that weights could be measured and made equal (Merriam-Webster, 2017). This definition suggests two opposite but equal sides, which plausibly explains Clark's binary domain construction. However, it is questionable if they could be made equal to one another because this would require that they could be easily measured and their demands deemed to be equivalent. This is problematised even further in that the construction of domains can exist on three planes and it is questionable whether all these planes can be accurately measured.

2.4.7 Borders: Permeation, flexibility and blending

Clark suggests that to allow for the transition between home and work domains, the domain borders should provide the capabilities to facilitate: (a) their permeation (which allows for the transition of members between domains), (b) their flexibility (the ability for one domain to expand into the alternative domain space and in turn that domain retracts to accommodate the shift of power); and (c) their blending (when permeation and flexibility occur around the border, the domains

consequently become integrated) (Clark, 2000; Kossek et al., 2012). These capabilities, when combined, define the border strength of a domain. As a result, when borders are flexible, permeable and allow the domains to blend, then they are viewed as weak borders, because they increase the prevalence of imbalance. The inverse would also be true, i.e. when the borders are inflexible, impermeable and stop the domain blending, this results in the view of a strong border with an increased propensity for balance to be achieved.

The construction of the "marginal man" mentioned above in the field theory section, closely resembles the process of blending proposed by Clark (2000) in border theory. In this case there is the merger of two domains, making it problematic to determine the one from the other. However, Clark fails to acknowledge the connection with Lewin's work. Instead she utilises Anzaldúa (1987) work on "borderlands" as the theoretical structure of blending. Anzaldúa (1987) "borderland" work documents the internal struggles of border-crossers in their attempts to meet demands from both sides of the border. Each set of demands shifts their identity between the two domains through which they become deeply conflicted about which domain to appease, thus becoming stuck in a conflicted state.

A commonality between Lewin and Anzaldúa (1987) work involves individuals stuck in a conflicted state of limbo between the demands placed on them by the domains they are conflicted between. As a result of this ambiguity, this study questions Clark's decision to select Anzaldúa (1987) construction over that of Lewin, or even the adoption of both constructions.

2.4.8 Segmentation and integration

To achieve balance between the domains of home and work, Clark posits that this can be achieved by two distinct approaches of either segmentation or integration (Clark, 2000).

In the theory, integration takes place when the individual is no longer able to make a distinction between two domains. As a result, the domains share the same thoughts, people (friends/family/peers/employers /partners), as well as intellectual and emotional approaches. An example of integration is where a manager in a large multinational information technology company, who has the day "off" because it is a public holiday in South Africa, watches his children play a soccer match while talking on his smartphone to international organisational peers (who are in different time zones) and simultaneously sending and receiving emails on his laptop. In contrast,

to ensure segmentation, the individual should use the unique intellectual and emotional aspects of each domain to ensure their separation. However, Clark fails to define what these intellectual and emotional approaches are. Thus, it is assumed that the approaches could potentially be based on enactment, but she offers no explanation or validation to establish this claim.

Later on, Clark declares that the best solution would be a mix of both segmentation and integration to effectively balance the home and work domain demands. Her proposed solution is problematic as it relies on the individual's ability to define the mix that best suits their needs without the influence of external forces or individuals. The uncertainty of the proposed construction is related to an idealistic standpoint in life that assumes the individual would, over the course of the day, be able to segment and integrate the domains as they move between them. This is cast as an "ideal", as it implies that the individual is able to connect and disconnect to the domains as and when they please, without outside influences. This is unlikely, as other individuals operating in both domains (such as family members, friends, colleagues and managers) would place their own demands on both the domains and the individuals within them. This in turn will alter the way in which the individual connects and disconnects with the domains in which they interact. Clark's idea of a segmentation/integration mix therefore requires further interrogation. Finally, it should be added that there is the potential that the individual could find a harmonious mix with all the demands placed upon them, but this be a constant battle to achieve.

2.4.9 Enaction, proaction and inaction

An individual's ability to proactively or enactively shape their domains, as posited by Clark (2000), rather than being merely reactive as argued in the spill-over and compensation literature (e.g. see Zedeck, 1992), clearly distinguishes its theoretical construction. A further distinction of border theory is provided through the establishment that domains can be shaped through the usage of enactment. Thus, the border can be "shaped" to allow for the domains to be integrated through flexibility, permeation and blending, provided that they are segmented once again to indicate the start and end of the day. Thus, it can be argued that enactment has a similar theoretical construction to that of self-regulation as proposed by Bandura (1989), and which will be explained in greater detail below.

The individual's ability to enact their domains and thereby shape their border can therefore be seen

as the mechanism used to intergrate and/or segment their domains to best suit their needs. For example, when a peer from work contacts the individual after hours in their family/home time via their personal email, they in turn can decide to reject the communication to ensure their own and family needs are met. Thus the border is enacted and the domains remain clearly seperated. If the email was accepted, the domains integrate, and the individual has the propensity to become more inclined to accept additional forms of communication at home in future (e.g. phone calls, text messages and instant messages). Their susceptibility to outside intrusion and domain integration are motivated and reinforced by their peers through social learning. Over time the intrusion becomes expected or the "norm," as the behaviour occurs more frequently and the boundary between borders starts to blur. The individual is thus no longer able to determine where their work starts and ends as the domains become integrated. The culmination of this is that the individual loses the ability to clearly define the original location of the border, thereby making it difficult to reinstate the border in its original (or psychologically suitable) location when this is psychologically or physically necessary. This has a knock-on effect for the individual's ability to develop their own enactment procedures, such as the ability to delineate their domains and shape them as they choose. The result of this might be a perpetual state of "inactivity", as the individual lacks the ability to enforce the border and/or know where the border's location should be. Without this ability to enact their preferred solution to govern their domains and the borders through the use of integration and segmentation, it becomes questionable if work-family balance is maintainable or even tenable.

The state of inactivity, posited by this study, draws on social cognitive theory (SCT) for its theoretical construction and underpinning. Individuals who are unable to meet the standards set in place (i.e. deficient self-regulation) will instead punish themselves for their failures. This might be equated to apathy, boredom or depression (Boeree, 2006). Thus, inactivity in the context of this study can be defined as the occurrence of one domain with the repetitive encroachment on another domain space, with the effect that the individual is no longer able to determine the border between them. This erodes the border and becomes a learnt or accepted state (i.e. deficient self-regulation of the border).

2.4.10 Border-crossers

Border-crossers are individuals who make frequent transitions between the work and home domains which, in turn, alters their behaviours, responsibilities, rules and thought patterns to better suit the space they find themselves in. To meet their own needs, the individual transitions between domains, using their border strength alteration which changes the structure of the domains and the border between them. This is achieved through the process of enactment (Clark, 2000).

2.4.11 Crossing the border

It is pertinent to acknowledge that both mobile- and smartphones facilitate a bidirectional relationship between the domains, allowing frequent crossing of the border between them. This implies that with the usage of smartphones the home domain can be transitioned into a work domain and vice versa. In order to limit the scope and ensure its feasibility this study will only focus on the unidirectional relationship of the work domain transitioning into the home domain via smartphones when it occurs after hours. This focus has been adopted in order to gain greater insight into the resultant permeation/blurring and blending which it facilitates and that Clark fails to acknowledge in her border theory.

Therefore, for purposes of this study the crossing of the border takes place when a smartphone allows for the work domain to transition into the home domain after “normal” work hours.

2.4.12 Border-keepers

Border-keepers are individuals who demarcate the location of the border to border-crossers to limit the occurrence of domain blurring (Clark, 2000). Therefore, border-keepers enact the border for their relevant border-crosser/s. Examples of border-keepers are supervisors (work domain) who indicate to their employees that receiving frequent calls from home is unacceptable. Another example is a spouse (home domain) who indicates their displeasure to their partner for doing work at the dinner table or in the bedroom (Clark, 2000). Border-keepers, however, are not without fault as they utilise their own personal experiences in the construction, development and implementation of the borders between ‘work’ and ‘home’ domains for the border-crossers they assist. The situation becomes vastly more complicated when a border-crosser has demands placed upon them which may not suit the domain they are in and they would utilise their border-keeper to assist them with

what needs doing but that person is not adaptable (Clark, 2000). To resolve these types of situations it has been advised that border-crossers communicate the demands placed upon them to border-keepers, who will in turn provide the need for greater domain flexibility (Anderson, Coffey, & Byerly, 2002; Clark, 2000). Thus when communications between the two groups increases, it grants border-keepers the ability to have greater insight into the border-crosser's domain responsibilities and thus helps reduce their role conflict and the unrealistic demands placed upon them (Merton cited in Clark, 2000).

Under the guidance of border-keepers, the border's location between the domains can move with the acceptance of every after-hours communication received on the individual's mobile phone (an integrative approach) or it can remain steadfast with the rejection of each application (i.e. a segmentative approach). If the integrative approach is chosen, the border-keeper might gradually guide the individual to accept all communications ubiquitously, with each encounter slightly altering the location of the border until it eventually becomes somewhat frozen into an acceptance state for all communications and the resultant merging of the domains. If the segmentation approach is guided by the border-keeper, this will assist the individual to reject all communication received after hours and consequently the work and home domains will remain constant and separated. This therefore highlights that the movement of the border is a component of the self-regulatory standard.

2.4.13 Boundary theory

Although not a critique of Clark's (2000) work as it predates border theory by four years, the pertinence of Nippert-Eng's (1996) theoretical contribution to the theory's development through her seminal work of Boundary Theory cannot be overlooked. Clark borrowed from *Boundary Theory* in her theoretical development of border theory, which Bulger et al. (2007, p. 365) describe as a "similar concept". In both theories individuals formulate boundaries of varying strengths, around both work and home, which in turn affect the interactions between these "domains". Individuals' development of work and personal life boundaries around their domains are developed in a deliberate fashion to ensure separation of domains if strong, or integration of domains if weak. The strength of a boundary around a domain is the similarity between both theories. The main difference between the theories is that Clark believes the process (of separation/integration) to be enactive. Correspondingly, both theories attribute the development of boundary structure to

permeability and flexibility.

2.5 Previous studies investigating border theory

There has been little research to support or oppose the theoretical construction of border theory or its propositions. Therefore, this study will critique and then highlight additional problematic areas of border theory. Tables 1 and 2 were developed to provide a more complete comparative overview analysis of the studies conducted and the methods, sample sizes, demographics and outcomes of each study that has specifically evaluated border theory. Table 2 highlights the predominant usage of Clark's work in the literature to explain the development of border mechanisms, with a prevalent focus on the segmentation, integration, flexibility and permeability of the borders. The remaining three studies by Capra et al. (2013), Demerouti and Geurts (2004), as well as Montgomery et al. (2005) operationalise Clark's theory to explain the results of their studies but don't actually directly assess border theory. Table 1 below offers the methods, theory being tested and the explanation of the results. Table 2 presents the sample size, demographics, and measures used.

To assist the reader and provide better insight into each study, a critique of each article can be found below both tables. The critiques are listed alphabetically and thus follow the structural design of the tables below.

Table 1: Clark's border theory in literature

Authors	Method(s)	Clark's work	Explains findings?
Bulger, Matthews and Hoffman (2007)	• Exploration using Spearman's coefficient • Afterwards used a two-step clustering analysis on the data	• Border mechanisms • Segmentation and integration	No, literature
Capra, Khanova and Ramdeen (2013)	• Spearman's correlation	• Border mechanisms • Segmentation and integration	Yes, explains email findings
Cecchinato, Cox and Bird (2014)	• Thematic content analysis	• Referred to Capra et al. (2013) usage, described above	No, literature
Cousins and Varshney (2009)	• Thematic content analysis	• Uses definition of balance	No, literature
Demerouti and Geurts (2004)	• Cluster analysis with a multi-step process	• Uses definition of balance • Border mechanisms • Segmentation and integration	Yes, border mechanisms
Derks, Duin, Tims	• Multilevel analysis	• Blurring of boundaries	No, literature

and Bakker (2015)			
Donald and Linington (2008)	• Descriptive statistics • Pearson product-moment correlations • *T*-test • ANOVAs	• Border-crossing/crossers • Border mechanisms: ○ Flexibility and permeability	Yes, participant displayed border-crossing and border mechanisms of flexibility and permeability
Kossek and Lautsch (2012)	• Literature study	• Border mechanisms: ○ Flexibility and permeability	No, literature
Kossek, Lautsch and Eaton (2006)	• Least squared regression	• Border mechanisms: ○ Flexibility and permeability provides more flexi-careers	No, literature
Kossek, Lautsch and Eaton (2009)	• Least squared regression	• Border mechanisms: ○ Flexibility and permeability provides more flexi-careers	No, literature

Kossek, Ruderman, Braddy and Hannum (2012)	• Exploration using confirmatory factor analyses
	• Cluster analysis to identify boundary management profiles
	• ANOVA to test for profile differences on relevant work and family outcomes
		• Border mechanisms:
		  ○ Segmentation and integration explains email findings
		  ○ Flexibility
			No, literature

Mellner, Aronsson and Kecklund (2015)	• Independent two-tailed *t*-tests
	• Chi-square tests
	• One-way ANOVA with Scheffé test performed.
	• Two separate discriminant function analyses were conducted, one for each boundary management preference group
		• Border mechanisms:
		  ○ Flexibility and permeability
		  ○ Psychological and behavioural mechanisms
		• Boundary management preferences
			No, literature

Montgomery, Panagopoulou, Peeters and Schaufeli (2005)	1. Content analysis 2. Standardised *t*-test 3. A non-parametric rank order correlation to measure the association between negative affect at home and work	• Border-crossing/crossers • Border mechanisms: ○ Flexibility and permeability	Yes, participant displayed border-crossing and border mechanisms of flexibility and permeability

Table 2: The demographics and measurements of each article citing Clark's work

Authors:	**N:**	**Demographics:**	**Measures:**
Bulger, Matthews and Hoffman (2007)	332	• Employees of 24 companies	Domain boundary strength and work/personal life balance

Capra, Khanova and Ramdeen (2013)	596	• University staff members	Primary work and primary personal accounts, the focus of which centered on their roles, amount of incoming email, email client used (web vs standalone), email management practices, as well as boundaries and identities
Cecchinato, Cox and Bird (2014)	16	• University staff members	Semi-structured interviews regarding emails
Cousins and Varshney (2009)	10	• Self-employed • Office worker • Teleworker	Case studies
Demerouti and Geurts (2004)	751	• Postal employees	SWING questionnaire looking at: +WHI, -WHI, +HWI and –HWI
Derks, Duin, Tims and Bakker (2015)	79	• Heterogenous convenience sample	Trait measures: Supervisor, Expectations, Norms of colleague, Workload State measures: Smartphone use, Daily WHI and Daily work engagement
Donald and Linington (2008)	52	• Male managerial staff from financial organisations	Sex role orientation determined using the Sex-Role Orientation Inventory (Tomeh, 1978). Work-family conflict was determined using the Multidimensional Measure of work-family conflict, developed by Carlson et al. (2000). Life satisfaction was evaluated using the Congruity Life Satisfaction Scale developed by Meadow, Mentzer, Rahtz and Sirgy (1992).
Kossek and Lautsch (2012)	N/A	• Literature study	N/A
Kossek, Lautsch and Eaton (2006)	245	• Professionals	Formal telecommuting policy, formal use of work-family benefits, psychological job control, how workers telecommute, and hours worked, boundary management strategy, turnover intentions, work-family conflict, supervisor performance rating, depression and demographic variables

Kossek, Lautsch and Eaton (2009)	316	• Professionals	Flexibility types, personal job flexibility control, formal access to telework, flexible work volume, place mobility and schedule irregularity, boundary management strategy, individual difference measures, gender, total work hours
Kossek, Ruderman, Braddy and Hannum (2012)	592	• Managerial	Non-work interrupting work behaviours scale, work interrupting non-work behaviours scale, boundary control, work and family identity scale and ten well-known measures to establish the convergent discriminate and criterion related validity of the five boundary management characteristics scales
Mellner, Aronsson and Kecklund (2015)	808	• Telecommunication employees	Boundary management preferences, boundary control, boundary management preference and boundary control, psychosocial work factors: work in time and space, work characteristics, individual characteristics, work-life balance and sociodemographic variables
Montgomery, Panagopoulou, Peeters and Schaufeli (2005)	10	• Information technology	The affective state was measured using the Positive and Negative Affect Schedule (PANAS) questionnaire. Positive affect is determined using: active, alert, enthusiastic, inspired and interested measures, while negative affect uses the following: afraid, hostile, irritable, jittery and upset.

2.5.1 Bulger, Matthews and Hoffman (2007)

Bulger et al.'s (2007) study offers a comprehensive investigation of boundary management and the relationship to work and personal life balance. To investigate their hypothesis of a segmentation-integration continuum they recruited 332 survey responses. Their literature review provided an in-depth comparison between work-family border theory and boundary theory where their similarities and differences are shown to be the same. However, there was no empirical assessment of border- or boundary theory.

Bulger et al. (2007) survey measured the domain boundary strength and work/personal life balance

of their participants. Five of the items from Clark's (2002) study were used for the domain boundary strength measures to assess the permeability of the work domain. The survey data was originally explored with a Spearman's coefficient, after which a two-step clustering analysis was performed on the data and from which they found 4 cluster groups showing varying degrees of segmentation and integration along a continuum. Individuals found in Cluster (1) (n = 107) were on the integrative end of the continuum, while Cluster 2 (n = 128) individuals were positioned toward the integration end of the segmentation-integration continuum. In Cluster 3 (n = 32), the smallest cluster found, individuals sat close to the midpoint of the segmentation-integration continuum. In Cluster 4 (n = 65) individuals were neither fully segmenters nor fully integrators; instead, they made their work domain malleable but shielded their personal lives (Bulger et al., 2007).

Bulger et al. (2007) found that reduced flexibility and increased permeability increased the chance of interference between the domains. The provision of work domain flexibility increased the predictability of whether their personal lives would be enhanced. Those who were unable to achieve work domain flexibility and, instead, facilitated the permeation of their personal life into the work domain, experienced greater work interference in their personal lives.

Finally, an individual's refusal to flex the home boundary and the permeation of work into their personal life resulted in increased person-life interference with work (Bulger et al., 2007).

2.5.2 Cecchinato, Cox and Bird (2014)/ Capra, Khanova and Ramdeen (2013)

In Cecchinato et al.'s (2014) study they refer to Capra) et al.'s (2013) usage of work-life boundary theories and an email management survey to determine email usage by university staff in the home and work domains. Capra et al. (2013, p. 1030) suggest that Clark's theory has examined "the effects that technology has on boundaries", although it is only referred to as an aspect by Clark (2000) and Clark did not actually explore the impact of technology in any depth. Cecchinato et al. (2014) summarised how in border theory Clark (2000) posits that border and domain construction occur. An online survey was conducted, which originally recruited 596 usable participants. The survey questioned the participants about their primary work and primary personal accounts, the focus of which centred on their roles, amount of incoming email, email client used (web vs standalone), email management practices, as well as boundaries and identities. They analysed the results with a Spearman's correlation, but did not test any of Clark's theoretical hypotheses. Their

study found that email can act as a work-personal boundary, which can separate the two conflicting identities but at the same time provide permeation. The study also found that checking email on a smartphone increases the work to personal permeation. Participants used their personal email for work purposes, which supports Clark's claim that conditions in one domain transfer to the other, although it is hardly an unforeseeable result. Cecchinato et al.'s (2014) study therefore offers a technological aspect to Clark's work but does not operationalise nor test the usage thereof and does not provide any critique of border theory.

2.5.3 Cousins and Varshney (2009)

The lack of theoretical critique is found once again in Cousins and Varshney's (2009) work. They primarily utilise Clark's border theory in their definition of work-life balance and thus centre the construction on satisfaction and good functioning between the domains with reduced conflict. Predictably, the absence of theoretical analysis can be seen once again in the work of Demerouti and Geurts (2004), who utilise Clark's argument that neither domain segmentation nor integration is ideal for employees. The focus returns to the Cousins and Varshney (2009) study, where they conducted 10 qualitative case studies to determine "how effective mobile workers from a cross section of industries employed mobile devices to manage work life boundaries" (Cousins & Varshney, 2009, p. 117). The study goes on to describe that traditionally, at the beginning and end of each day, the individual physically transitioned from one domain (work) into another (home/life). The same mental structure is thus inherited by mobile workers; they will however provide on-demand ubiquitous access when requested. Participants in their study therefore utilised their mobile phone features, such as the allocation of certain ring tones, to signal when clients or work peers were calling. This of course assists them with the management of incoming communication and the accessibility they will provide. This study advocates the development of a plausible solution where mobile devices are designed to accommodate work-life segmentation and integration to best suit the individual's need. To make this solution feasible would require that the device be able to determine their location (domain), available times, and can meet the individuals' communication preferences. They concluded that work-life blurring is not caused by mobile technologies, but rather represents a new way of living and working. They then advocate that ubiquitous technological environments should be designed to meet the users' individual preferences of blurring or solidified boundaries, which allows for wellbeing and satisfaction in both domains.

2.5.4 Derks, Duin, Tims and Bakker (2015)

Derks et al. (2015) found that individuals would rotate their roles when a work message was received to their smartphone whilst at home. As a result, increases in WHI could be attributed to the blurring of boundaries described in Clark (2000) as well as Ashforth et. al.'s (2000) work, which is categorised as boundary theory. When smartphones allow work to intrude at home, it results in strain-based and time-based role conflict. Their study, as with many of the studies critiqued here, fails to assess border theory but merely used it as a literature review to substantiate the need for the study. The study surveyed a sample of 79 participants and consisted of two sets of measures; trait and state measures. Trait measures contained metrics on the following: supervisor expectations, norms of colleagues, and workload; while the state metrics monitored daily smartphone use after work hours, daily WHI as well as daily work engagement. A multilevel analysis was run on the survey data which found that organisations/supervisors and colleagues defined the protocols of how and when an employee makes themselves available. This conditioned behaviour facilitates smartphone interruption at home and increased WHI levels, where supervisors are therefore expected to avail themselves to their employees during extended periods of time beyond "normal" working hours.

2.5.5 Demerouti and Geurts (2004)

Demerouti and Geurts' (2004) study recruited 751 participants who participated in the Survey Work Interaction-NijmeGen or SWING questionnaire. The SWING questionnaire uses four scales of positive and negative interaction between work and home (+WHI, -WHI, +HWI and -HWI). The data collected from the SWING was used to run a cluster analysis with a multi-step process, which resulted in five distinct clusters of positive HWI (cluster 1, n = 193), positive WHI (cluster 2, n = 113), negative interaction (cluster 3, n = 74), positive and negative interaction (cluster 4, n = 122), and no interaction (cluster 5, n = 239). Predictably, employees who primarily came from the high-strain job conditions experienced negative WHI and viewed their work conditions less favourably and reported more health complaints, while the opposite was felt by the positive WHI employees who reported more favourable perceptions of their work conditions, health and wellbeing compared to other clusters. The study goes on to conclude that employees may experience a specific WHI pattern, but the pattern is related to a specific constellation of working conditions, level of health, and to a lesser extent demographics and family characteristics. Clark's (2000) theory was used to discuss the outcomes of their study, to explain the varied approaches

used by the employees for domain integration and segmentation and associated it with their clustering analysis results. As with so many of the other studies critiqued, this study does not authenticate any of Clark's claims or findings, but only validates their own claims.

2.5.6 Donald and Linington (2008)

Donald and Linington's (2008) study differs substantially from the other studies as it utilises Clark's border theory as a research lens to interpret gender role orientation and not technology as the other studies do. It thus provides a much needed perspective into how male managers influence the way they experience work-family conflict and life satisfaction. This can be attributed to how they conceptualise their roles at work and at home. To better understand gender role orientation, a sample of 52 male managers, married or cohabiting with their partner, who were engaged in dual-career relationships with at least one child dependant under the age of 18 were recruited through a non-probabilistic convenience sampling method. The participants completed a self-report questionnaire which determined their gender orientation, work-family conflict, and life satisfaction. The results of this study were analysed via descriptive statitics and revealed work-family conflict to be moderate and that work-to-family conflict was slightly higher than family-to-work conflict. Thereafter a Pearson product-moment correlation was run on the data which found that men who exhibited a more traditional gender role experienced greater overall work-family conflict (which implies that the lack of traditionality would reduce it), while the same traditionality was attributed to an increase in family-to-work conflict. Finally an additional inverse correlation was found between work-family conflict and life satisfaction, which implies that emotional spill-over between work and home relates to life satisfaction.

Donald and Linington (2008) operationalised Clark's border theory concept of centrality, which they describe as "the border-crossers' degree of influence and identification with the responsibilities of each domain and is used to distinguish between border-crossers" (Donald & Linington, 2008, p. 660). However, the construct is not Clark's original work but that of Lave and Wenger (1991), which Clark (2000, p. 759) duly acknowledges as can be seen below:

> "Border-crossers can be described on the degree to which they are peripheral or central participants in either domain (Lave & Wenger, 1991). Lave and Wenger (1991) define a central participant as having: a) internalized the culture, including learning the language and internalizing the domain 's values; b) demostrated competence in one's responsibilities;

> c) connected with others who have central membership and; d) identified personally with domain responbilities. Elements of peripheral participation necessarily contrast: a) ignorance of or disdain for domain values and cultural norms; b) full competence not yet achieved; c) lack of interaction with members of the domain's central community; and d) little or no sense of the domain responsibilities. Lave and Wenger's four aspects of being a central participant can be reduced to two main elements that mesh with other research on individual adjustment to work and home — influence and identity."

Clark offers her own interpretation of influence and identification which also aligns well with Donald and Linington's (2008) concept of centrality. It should be highlighted that Donald and Linington (2008) work could benefit from a deeper introspection into that of Lave and Wenger (1991) since the dimensionality it provides could plausibly counter the small effect sizes reported and thus it is advised that they should revisit this work. Donald and Linington's (2008) study concludes that men that are central border-crossers who are less likely to have traditional gender role orientation and therefore likely to experience less work-family conflict. However, they do acknowledge that alternative factors were at play as only a small effect size was reported (9%). They also found that family borders were more permeable than work borders, which implies that the borders of the family domain are easier to cross than the borders of work, which relates to Clark's 3rd and 4th propositions (2000, p. 761). A key outcome from their study was the link between gender role orientation and directional work-family conflict and thus men were found to be more susceptible to facilitate work interference at home, but not vice versa. This was linked to men's role in both domains being complementary and attributed to the traditionality of the gender role they exhibited or the number of hours they worked. Finally, and most pertinently, their study contributed to gender research areas, as it provided evidence that less traditional gender roles reduced work-family conflict.

2.5.7 Kossek and Lautsch (2012)

Kossek and Lautsch (2012) provided a framework for the integration of theories on boundary management. In this framework they found that control over boundary management affects work-family conflict directly and indirectly. Individuals in the study enacted varied approaches to boundary management style, whereby they managed the domain demands through a combination of integration and segmentation. It is important to add that Kossek and Lautsch's study (2012)

failed to define or explain the process of enactment. A literature analysis methodology was used, with a focus on Clark's work-family theory. The authors grouped boundary theory and border theory together as it was their belief that individuals were able to change the scope of the boundaries in both, using permeability and flexibility. They then went on to explain how permeable borders caused roles, behaviours and emotions to spill over into the alternate domain. As with so much of the literature used, there was no empirical analysis of the theory.

2.5.8 Kossek, Lautsch and Eaton (2006)

Kossek et al. (2006) investigated how telecommuters could use boundary management strategies to manage their lives. In their study, 245 participants participated in a survey and telephonic interview. The participants were analysed through the usage of the following metrics: formal telecommuting policy, formal use of work-family benefits, psychological job control, how workers telecommute, the hours worked, boundary management strategies, turnover intentions, work-family conflict, supervisor performance ratings, depression, and demographic variables. The survey data was then analysed with a least squared regression analysis. The outcomes of this analysis were interpreted by using Clark's work to explain the border flexibility and permeability as well as bidirectional domain integration. The most pertinent outcome of Kossek et al.'s (2006) study was that individuals were found to have the ability to determine their own psychological flexibility. The ability to separate the boundaries between work and family in turn predicted their wellbeing. Wellbeing predictability increased with an individual's ability to control where, when and how they worked; and a boundary management strategy assists to separate work and family boundaries. Thus, when employees were provided with the ability to make strong determinations about the boundary, they were found to be more likely to remain employed at their current workplace, to reduce family-to-work conflict, and to reduce depression.

2.5.9 Kossek, Lautsch and Eaton (2009a)

Kossek et al.'s (2009a) study posits that employees should be given the option to telework, even though this choice by itself does not improve worker wellbeing. Their sample consisted of 316 professional participants who participated in a survey after which they were contacted to do a 45-minute telephone interview. To get an additional perspective, their supervisors were interviewed three months after the participant interviews. The survey used the following metrics: flexibility types, personal job flexibility control, formal access to telework, flexible work volume, place

mobility and schedule irregularity, boundary management strategy, individual difference measures, gender, and total work hours. The survey's dependent variables were as follows: turnover intentions, career movement preparedness, work-family conflict, and the supervisor's performance rating. The results were run through a least squared regression analysis. This analysis revealed that through the provision of psychological control over their teleworking situations, employees' wellbeing improved significantly. When employees were given the opportunity to control their own work conditions personally, it diminished their desire to leave their current place of employment (turnover intention) and reduced their work-family conflict. Personal control over their own work conditions was achievable through the implementation of their own boundary management strategy. Teleworkers' positive wellbeing can therefore be predictably attributed to the management control they have over their physical and psychological borders. Finally, the only usage of Clark's work in Kossek et al.'s (2009a) study was to explain the processes of flexitime and flexi-place job design to ensure that the two domains could become integrated.

2.5.10 Kossek, Ruderman, Braddy and Hannum (2012)

In Kossek et al.'s (2012) study, two groups of managerial participants (N = 592) were recruited several months apart. All of the participants were active managerial staff that attended a leadership course at a management education centre. The first group of managers was used to test the developed and validated scales, while the members of the second group were used for confirmation. The metrics of a non-work interrupting work behaviours scale, work interrupting non-work behaviours scale, boundary control, work and family identity scale, and ten other outcomes (i.e. work-to-family conflict, family-to-work conflict, work-family integration, engagement, work-schedule fit, positive family-to-work spill-over, turnover intention, psychological distress, time adequacy, and psychological job control) (Kossek et al., 2012). The data were then analysed with two confirmatory factor analyses (to determine the intersection of the measures), cluster analyses (to identify boundary management profiles) and ANOVAs (to determine profile differences between work and family outcomes). The outcome of these analyses provided a set of theoretically validated boundary management metrics with the ability to group individuals by their non-work and work characteristics. This work helped to identify six clusters of employee groups with unique boundary management characteristics that could be linked to unique sets of work-family outcomes. The six clusters were: Cluster 1 - Work warriors (n = 55); Cluster 2 - Overwhelmed reactors (n = 69); Cluster 3 - Family guardians (n = 126); Cluster 4 - Fusion lovers (n = 138); Cluster 5 - Dividers

(*n* = 76); and Cluster 6 - non-work eclectics (*n* = 128). The clusters were further grouped into two based on the level of control. Cluster 1 and 2 had low control profiles and Clusters 3, 4, 5 and 6 had high control profiles. Each cluster's description is given below:

- Cluster 1 (Work warriors): Low boundary control, work-centric, asymmetric interruption behaviours with high work to non-work interruptions.
- Cluster 2 (Overwhelmed reactors): Low boundary control, dual-centric, high interruption behaviours in both directions (non-work to work and work to non-work).
- Cluster 3 (Family guardians): High boundary control, dual-centric, asymmetric interruption behaviours favouring non-work.
- Cluster 4 (Fusion lovers): High boundary control, dual-centric, integrator interruption behaviours.
- Cluster 5 (Dividers): High boundary control, dual-centric, separator interruption behaviours.
- Cluster 6 (Non-work eclectics): High boundary control, other-centric, integrator interruption behaviours.

The literature review component of Kossek et al.'s (2012) study utilised Clark's work to define the characteristics of boundary theory. They then went on to link the same theory with the works of Ashforth et al. (2000), Clark (2000); Nippert-Eng (1996), as well as Kossek, Noe, and DeMarr (1999) to explain the way in which individuals separate or integrate boundaries while trying to carry out their work and non-work roles, to explain the process of boundary management styles. Following this, Kossek et al. (2012) used Clark's work to define flexibility in the development of the perceived boundary control, which they describe as the individual's perceived ability to expand or contract a boundary.

It is important to note that Bulger et al. (2007), Kossek et al. (2012), and Mellner et al. (2015) recognised Clark's (2000) theoretical border theory contribution within the context of boundary theory, and it is for this reason that the two theoretical constructs are viewed as one in the same.

2.5.11 Mellner, Aronsson and Kecklund (2015)

Mellner et al. (2015) recruited a total of 808 telecommunication workers as participants. They used

the following metrics: boundary management preferences, boundary control (a grouped variable of segmentation and integration was combined with a variable representing low and high boundary control), psychosocial work factors, work in time and space, work characteristics, individual characteristics, work-life balance and sociodemographic variables. Independent two-tailed *t*-tests, Chi-square tests and one-way ANOVAs with Scheffé tests were performed, as well as two separate discriminant function analyses; one for each boundary management preference group. They found that a vast majority of their participants preferred to segment the domain, while a significant portion of the participants experienced low boundary control that made segmentation cumbersome. The results of their study thus reiterate previous study outcomes that utilised boundary- and border theories. It was thus predictable to find that segmenters in this study preferred to do their work at their workplace. At the same time, integrators increased their work hours beyond the standardised work hours and thus worked outside their organisation's physical location. This could be attributed to a lacking physical border. However, Mellner et al. (2015) acknowledged that self-regulation is pertinent to the development of boundary competence that in turn adequately prepares people to deal with knowledge-intensive, flexible work.

Mellner et al.'s (2015) study used the findings of Ashforth et al. (2000); Bulger et al. (2007); Clark (2000), Matthews and Barnes-Farrell (2010), Matthews, Barnes-Farrell, and Bulger (2010); Matthews, Winkel, and Wayne (2014); Nippert-Eng (1996); and Winkel and Clayton (2010) in the development of a theoretical background to explain the characterisation of border development using permeability, flexibility, and boundary management preferences. Clark (2000) and Nippert-Eng's (1996) works were used to demonstrate how boundaries can be developed psychologically and behaviourally to manage work and personal life domains. They went on to show that some individuals prefer to engage boundary management preferences, as proposed by Clark, to segment the domains by maintaining two separate email accounts as an example (Kossek et al. (2012). Clark's work was then used to explain how border permeability provides the individual with the ability to strengthen or weaken boundaries to enhance the flow of communication. Finally, they used Clark's work to explain how individuals engage in "boundary work" to balance demands and expectations between work and non-work.

2.5.12 Montgomery, Panagopoulou, Peeters and Schaufeli (2005)

Montgomery et al. (2005) recruited and conducted in-depth qualitative interviews with 10

employees from an information technology company. After each interview, every participant was asked to complete a Positive and Negative Affect Schedule (PANAS) questionnaire to determine their mood in each domain. A content analysis was run on the transcribed interviews in relation to the participants' domain construction. They analysed the PANAS questionnaire data using a standard *t*-test and also ran a non-parametric rank order correlation to measure the association between negative affect at home and at work. Their study provided a basic theoretical look at border theory, which only focused on border-crossing, border construction, and the three planes that they operate on. Montgomery et al. (2005) went on to validate their own usage of qualitative methods against Clark's usage of it in the development of border theory, but later acknowledged that conclusions from such methods were tentative at best. Montgomery et al. (2005) limited their sample size to 10 participants while Clark (2000) had only 15 participants. Their second research question dealt with the structure of work and the conditions that impact on the boundary between work and home, which was found to relate to Clark's work. A participant who spent most of their time in the interview and who talked about work while at home was associated with Clark's border work and permeability. A second participant segmented his non-work role to prevent WHI. The participant, who was a shift worker, lived in temporary accommodation during the weekdays and travelled 200 miles to his parents' home when he wasn't at work. This of course is connected to Clark's work that deals with border-crossers' centralisation between the domains, thus ensuring that strong borders can be found in both directions.

2.6 Limitations of Clark's border theory

2.6.1 Negative aspects of border theory

Clark (2000) describes border theory as the individual's ability to manage and control the transitions between the home and work domains in order to attain balance. She fails, however, to describe what occurs if the individual is unable to attain balance, which requires the reader to surmise that it would result in imbalance (as this would be the theoretical antithesis). As imbalance is never explicitly mentioned in her theory it is therefore problematic to determine how it is defined or what its outcomes are.

Secondly, Clark's (2000) study mentions that individuals can shape their domain through enactive,

proactive, or reactive processes. Later she clarifies that the processes are enactive and proactive (reactive gets dropped from the discussion), in the construction of the family and work domains, which is achieved through the individuals communicating and negotiating. However, she does not offer any real critique of proactive or reactive controls used in the construction of the border, or even the failures of border construction in the domain shaping process. She then drops both proactive and reactive processes completely, but offers no validation for this in her follow-up study (Clark, 2002). This leads to theoretical inconsistencies and confusion as to how the psychological mechanisms are used in border management when the domains and their borders overlap. This is made even complex when she fails to clarify how the process of border maintenance takes place. She thus fails to mention what happens to the individual when a border is frequently inundated from constant domain blending and/or blurring. Does this diminish the person's ability to re-enact their border? Do they know the original location of the border or do they become locked into a state of inactivity?

Thirdly, Clark (2000, p. 753) collected stories to "understand the cultural meaning attached to 'work' and 'home'" and used only 15 in-depth interviews with individuals who were all "personal contacts". She regrettably fails to acknowledge that stories may be largely circumstantial and thus open to interpretation. This is problematic as her desired outcomes could be achieved through an interpretation of the stories adopted to better suit her perspective and ensure her findings. This is further complicated by the fact that she knew all of her participants personally, who might even potentially have known of her development of border theory, thus being more susceptible to slant their opinions and views and ensuring she gets the necessary data and outcomes to substantiate the validity (i.e. selection bias) of the theoretical claims. This of course makes its development and validity somewhat problematic to say the least. Finally, her use of a small sample size (i.e. 15 individuals) is problematic as it is insufficient to ensure transferability and thus raises questions about the theory's applicability.

Fourthly, Clark fails to acknowledge how mobile phones (or indeed any other information and communication technology) would influence the development of borders. However, she does include clients using a phone as an example of permeation into the family (home) and work domains in figure 2 (Clark, 2000, p. 754). She therefore regrettably fails to quantify or validate how phone calls from "Clients of Work" would enable such a permeation of its effects (Clark,

2000, p. 754). From this the following can be concluded:

1. That technology is an aspect, but Clark (2000) fails to explain how.
2. Only home and client phone calls are mentioned although other technologies (e.g. mobile phones, email, Skype, etc.) can also permeate the border.

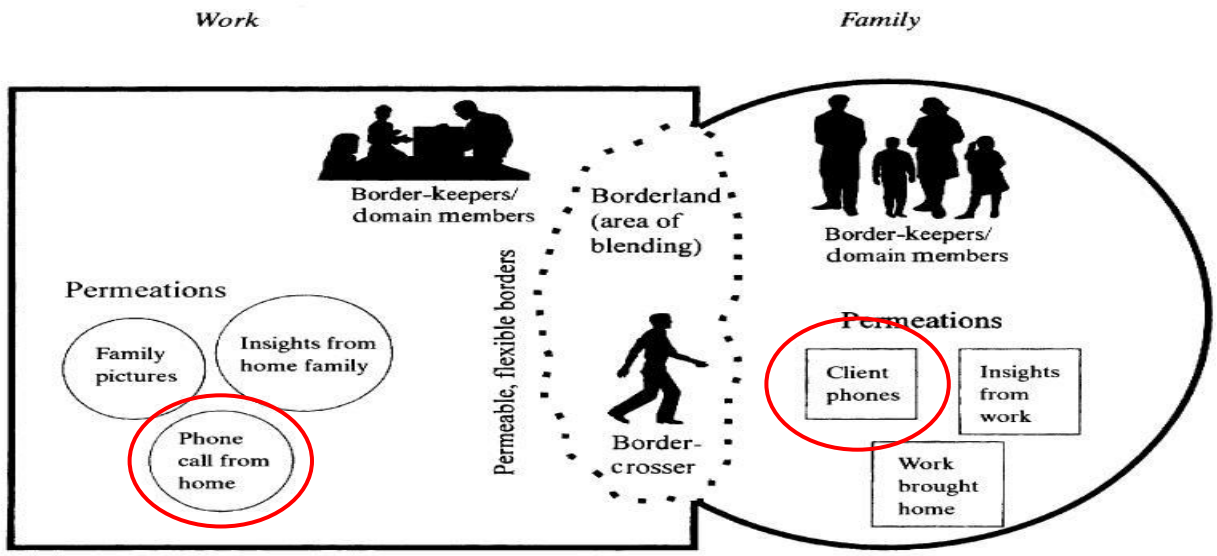


Figure 2: The use of phone within work-family border theory (Clark, 2000, p. 754)

A fifth aspect that Clark neglects to include is the influence that the individual's personal qualities could have on the construction and development of border permeability. She acknowledges, however, that individuals have the ability to determine when and where to enact a border (i.e. interpret the border for themselves through their interactions "at" the border), but fails to discuss the internal psychological mechanisms that might be used to maintain balance over time. This study therefore proposes that Bandura's (1989) concept of self-regulation could be used to explain the process of enactment, utilised by the individual in the development of their border to ensure that they find balance over time. For example, an individual with efficient self-regulation will be able to define the necessary borders, thereby "keeping" the domains separate and negating or limiting blurring between the two domains. However, an individual with low or "deficient" self-regulation will arguably allow for constant crossing in their daily schedule, blurring domains and resulting in imbalance. Therefore, this study proposes that an individual, through self-regulation, will be able to be their own border-keeper.

Finally, and as shown by the critique of border theory above, there have been limited studies that have empirically tested its theoretical constructions, hypotheses or propositions (Capra et al., 2013; Demerouti & Geurts, 2004; Donald & Linington, 2008; Montgomery et al., 2005).

2.6.2 Positive aspects of border theory

Border theory, as explained by Clark (2000), offers a (modern) twenty-first century theoretical perspective and interpretation of work-family balance theory, which she proposes could be achieved through the provision of how and why "conflict and balance occur" (Clark, 2000, p. 750). She believes that work-family balance can be achieved through her development of border theory which solidifies and extends the theoretical construction of work-family balance by incorporating boundary and role theories. Previous theorists in the area had largely failed to explain the complex task of how the individual achieves balance between their family and work responsibilities (Clark, 2000). To rectify this situation, Clark therefore proposes that border theory would fill the modern theoretical void created by current societal needs and the research questions that they will be required to fulfil. Because previous studies have been largely unable to meet the needs created through a modern society, this is exemplified through their inability to acknowledge the pertinence of domain structuring in the development of balance (Clark, 2000, p. 749). Clark posits, however, that this can be achieved through her holistic theoretical approach of border theory, which describes the effects of integration and segmentation on the constructions of family and work and the influence that technology has upon it.

From a traditional standpoint, family and work were viewed as two separate domains. This construct originates from the time when the wife stayed at home mainly to look after the family while husbands went to work each day to be the breadwinner. This produced two distinct spheres with no linkage between the two (Clark, 2000) and this is why she emphasises the need for a modern investigation and perspective of the traditional domain segmentation construct. She therefore provides background support for this thesis because a modern societal structure has altered the family and work domain constructs. For instance, with the increased prevalence of single-parent families, dual-earning partners and greater living distances from work, more in-depth analysis is required. Each of these aspects can change the domain structure which, in turn, affects work-family balance. An increase in work domain demands could affect the family border

permeability and cause an imbalance. Consequently, this has changed the individual's mind-set in the way they deconstruct and reconstruct their family and work domain borders. Border theory acknowledges that societal structure has evolved, because the family-work structural situation has changed and exemplifies the need for a new theoretical paradigm to better understand the changes that they bring.

A pertinent component of Clark's border theory over that of similar theories, is that it addresses previous failures of spill-over and compensation theories which were largely focused on the "emotional linkages (i.e. satisfaction, expressions of frustration) and gave little or no acknowledgment of spatial, temporal, social and behavioural connections between work and family" (Clark, 2000, p. 749). She therefore postulates that individuals can enact their own environment, instead of being reactive as advocated in spill-over and compensation theories. As a result, enactment assists the individual to delimit family and work merging by using the physical, temporal and psychological borders.

A final key contribution that Clark adds to the body of knowledge is that of the concepts of border-crossers and border-keepers. Border-crossers are individuals who commute daily between family and work domains. It is acknowledged that the terminology of border-crosser is not a new academic construct but a pertinent extension of the work to be incorporated into the field of family and work balance (Clark, 2000, 2002; Kossek et al., 2012; Lewin, 1939, 1947; Nippert-Eng, 1996). Border-keepers are individuals that are also involved in the process of border construction and development, which they utilise to define (for others) the start and end of each domain. Border-keepers were found to work from an internal compass to determine what constitutes work and family. This is obviously determined based on their own unique family situation.

2.7 Urgency versus importance

President Dwight David Eisenhower, the 34th President of the United States from 1953 to 1961, when addressing the Second Assembly of the World Council of Churches in Evanston, Illinois at Northwestern University on the 19th of August 1954 said: "I have two kinds of problems, the urgent and the important". The urgent are not important, and the important are never urgent" (Eisenhower, 1954). He attributes the statement to "President Miller", which is believed to refer to Dr J. Roscoe Miller, the President of Northwestern University at the time. From this statement a time management scheme called the Eisenhower Decision Principle or the Eisenhower Matrix was

developed (Eisenhower, 1954; O'Toole, 2014). In the matrix, important and urgent activities/tasks were divided into 4 quadrants, to better define their impact on the individuals.

A task is defined as urgent when it requires immediate attention which puts the individual in a defensive/reactive mode as they respond to the task defensively with a mind-set that is narrowly focused (McKay & McKay, 2013). "Urgent matters are usually visible. They press on us; they insist on action" (Covey, 2014, p. 150). Important tasks, by comparison, require in-depth thought which contributes to an individual's long-term missions, values and goals. When we focus on what is important we are able to operate with insight, because it provides us with the ability to remain calm in the situation at hand, remaining rational and taking advantage of new opportunities when they present themselves (McKay & McKay, 2013). Infrequently, important tasks can also be urgent.

Urgent tasks are largely formed by external pressures and crises, while in comparison one's own internally-driven value system defines "important" tasks (Covey, 2014, p. 340). Therefore individuals can become conditioned to prioritise urgent tasks as they become addicted to the sense of urgency that they provide, whilst simultaneously being driven by a sense of guilt when they do not respond fast enough (Covey, 2014, p. 340). The individual therefore becomes internally conflicted, as they acknowledge that the fulfilment of important tasks offers long-lasting positive effects on their lives, while urgent tasks do not (Covey, 2014, p. 340). This is why career executives who prioritise important tasks (which are socially constructed) are viewed more successfully than their peers who concentrate on urgent tasks and therefore are viewed as less effective.

To assist the reader to better understand the complexities of how important and urgent tasks are discerned, Table 3 (from Covey (2014)) and the description of each quadrant is offered below.

Quadrant I: Urgent and Important

When tasks are both urgent and important, they require the individual's immediate attention in order to facilitate their long-term goals. The tasks are predominantly characterised by crises, problems, or deadlines. A large percentage of society believe that their tasks are quadrant I trait behaviours. Certain individuals, such as crisis managers, problem-minded people and deadline-

driven producers, are consumed by quadrant I. If an individual only focuses on the tasks which are both urgent and important, these tasks dominate their lives and they eventually become worn down (Covey, 2014).

Quadrant II: Not Urgent but Important

Individuals who are effective personal managers prioritise important issues and evade urgent issues. This therefore results in important issues, which are more beneficial to the individual, being resolved over urgent issues that largely benefit external people and/or organisations. Individuals exhibit these behaviours when they concentrate on their own self-worth and wellbeing, and therefore are more likely to exercise, prepare for events ahead of time and take time to recover from a day's work, while urgent matters are frequently postponed (Covey, 2014).

Table 3: Urgent and importance (Covey, 2014, p. 151)

	Urgent		**Not Urgent**	
Important	**Quadrant I:**		**Quadrant II:**	
	Activities	Results	Activities	Results
	• Crisis • Pressing problems • Deadline-driven	• Stress • Burnout • Crisis management • Always putting out fires	• Prevention, capability improvement • Relationship building • Recognising new opportunities • Planning, recreation	• Vision, perspective • Balance • Discipline • Control • Few crisis

	Quadrant III:		Quadrant IV:	
	Activities	Results	Activities	Results
Not Important	• Interruptions, some callers • Some email, some reports • Some meetings • Proximate, pressing matters • Popular activities	• Short-term focus • Crisis management • Reputation – chameleon character • See goals/plans as worthless • Feel victimised, out of control • Shallow or broken relationships	• Trivia, busy work • Some email • Personal social media • Some phone calls • Time wasters • Pleasant activities	• Total irresponsibility • Fired from jobs • Dependent on others or institutions for basics

Quadrant III: Urgent and Not Important

Individuals who frequently engage in urgent and not important tasks are misguided by their beliefs that they are in quadrant I. Therefore, they respond to urgent tasks which they assume are important. However, their urgency is largely based around other people's expectations and priorities which they feel propelled to fulfil (Covey, 2014).

Quadrant IV: Not Urgent and Not Important

These activities are neither urgent nor important and therefore facilitate little beneficial movement forward. Therefore, spending time in quadrant IV is largely wasted time as it offers little benefit to anyone (McKay & McKay, 2013).

In conclusion, activities which are urgent are usually externally motivated and will be of more benefit to the individual's peers, employers, or employees, which can probably be further exacerbated through social learning experiences. Important activities, by comparison, are internally driven processes which facilitate the advancement of an individual's career and internal development. If taken from a self-regulation lens it is pertinent and beneficial for an individual to fulfil important activities/tasks while attempting to avoid, curtail and reject urgent applications as they are non-beneficial to themselves (i.e. thus facilitating their self-regulation). If achieved, the individual will be able to concentrate on themselves and their own advancement and not deal with

external influencers and their needs.

Individuals who respond frequently to all communication (i.e. deficient self-regulation) received on their mobile phone are therefore thought to originate from quadrants I and III of Table 3, as they are more susceptible to facilitate communication that is either urgent and important or that is urgent and not important. In contrast, individuals that are more careful in discerning the communications that they receive are thought to facilitate and prioritise activities/tasks that are important and not urgent (quadrant II). The way in which individuals differentiate between important and urgent communication received on a mobile phone, is thus thought to be influenced by the operationalisation of the border-keeping mechanism. Self-regulation is thus advocated as a potential mechanism to assist the individual in the ability to discern between the importance and/or urgency of a communication which will influence the way in which the border is structured and developed (i.e. border-keeping).

2.8 Self-regulation / Social cognitive theory

2.8.1 Introduction

Social cognitive theory (SCT) is a theoretical approach that was developed to better understand human nature and causality (Garbharran, 2013), and to examine human incentivisation, beliefs and actions to "predict and explain behaviour and behavioural changes" (Bandura, 1974, 1986; Garbharran, 2013, p. 8). Self-regulation is contextually defined by SCT as the way in which users self-monitor their behaviour, enforced by self-reactive incentives to modify deviant behaviours (Bandura, 1989; Eastin, Glynn, & Griffiths, 2006; LaRose & Eastin, 2004). The individual develops this sense of control over their behaviour through the usage of self-observation, judgement and self-response (Bandura, 1989; Boeree, 2006). Self-observation occurs when the individual monitors their behaviour with a substance or device. Judgement occurs when the individual compares their usage against other users' behaviours with the same device or substance, which in turn assists them to determine what the "standard" is (Bandura, 1989; Boeree, 2006). The standard can either be an internal or external mechanism, such as a personal achievement (e.g. a faster running time) or societal standard or norm (e.g. a family expectation or tradition) (Bandura, 1989; LaRose, Lin, & Eastin, 2003). Self-response occurs when the individual compares the standard against their actual (perceived) usage, which results in a positive or negative self-response (Bandura, 1989; Boeree, 2006). They then reward themselves for a good performance (positive

self-regulation) and punish themselves for doing badly (negative self-regulation) in relation to the standard (Bandura, 1989; Boeree, 2006).

SCT defines deficient self-regulation through technology as the failure of self-monitoring (i.e. an internal standard) and in the context of device use, results in increased media consumption (LaRose & Eastin, 2004). LaRose et al. (2003) argue that deficient self-regulation can occur in all media consumers, even those with normal usage patterns (LaRose et al., 2003). Overreliance on media systems to provide people with the expected social structure and synchronous communication (e.g. social network services such as Facebook/MSN) (Lee & Perry, 2004) results in the deterioration of the individual's self-regulation, which in turn allows them to become engaged in a state of perpetual border-crossing.

2.8.2 Self-regulation as a border-keeper

In Clark's border theory she specifies that border-keepers in the work domain are commonly managers, while spouses and partners were common border-keepers within the home domain. Thus, individuals rely on external sources as the border-keepers (such as the supervisor/spouse mentioned above) to assist them in keeping their borders between the domains by helping them to manage the border-crossing process. It is important to add that border-keepers influence the individual (as they set the standard) and could therefore also be one's children, managers, spouse, friends, superiors, or colleagues. This of course implies that the border-keeper and not the individual (other than through enactment) is highly influential in maintaining control over the enforcement of the domains, examples of which can be seen in Table 4 below.

Table 4: Border-keepers

Border-keepers					
Work		**Border**	Home and Family		
Boss	Colleagues		Children	Partner	Pets

A critical failure of Clark's border theory, as seen in the critique above, is that she fails to acknowledge the influence of technology as an aspect in the development of the border between

domains. The omission of the technological aspect results in limited theoretical knowledge or understanding, from Clark's perspective, on how technology influences the process of border transitioning (border-crossing) and what role border-keepers fulfil in the transitioning process.

To supplement for this inherent failure of Clark's border theory, this study posits that mobile phone usage can be arbitrated by border-keepers, which might be operationalised as a self-regulation standard mechanism and therefore would assist with the individual's border development and transitions. As border-keeping is constructed from a unique combination of external and internal mechanisms in an attempt to assist the individual with their arbitration needs, border-keeping allows an individual to be able to reflect on a situation and advise whether to integrate or segment the domains to provide the optimum solution. Consequently, the solutions that border-keepers provide are based on their own social experiences in similar conditions (e.g. where they were promoted to a management position because they frequently accepted client calls after hours). The same societal pressure can be experienced by the individual through social learning, whereby individuals feel pressured by work colleagues into believing that communications received via mobile phones must be facilitated 24/7 in order to facilitate their own needs. With frequent use the solution becomes the individual's self-regulatory standard by which they measure their success or failure. Individuals therefore reward themselves for success (i.e. receiving communications 24/7) and punish themselves for failures (i.e. refusing communications 24/7).

As technological usage increases, such is the case with mobile phones: the already cumbersome task of border delineation can become even more complex because the border-keeper's guidance in the arbitration process will now become more pertinent for the individual than in the past. Because technological applications such as mobile phones have the ability to encroach into previously unreachable domain spaces, the need for border-keepers to assist the individual with their arbitration process has grown to help facilitate domain delineation. Therefore the border-keeper must use a combination of mental and visual cues to assist the individual in making choices. The cues are derived from a combination of all three planes (physical, psychological and temporal) which determine the arbitration process and border construction which culminates in the integration or segmentation of the domains.

Originally, border-keepers were viewed as individuals who assisted in the process of domain arbitration (e.g. a colleague who indicates to the individual that their mobile phone should be put

on silent and stowed away for the duration of the morning or during company meetings). In addition, structural elements may also act as border-keepers as they provide physical prompts to the individual according to location and the expected behaviour. This can be seen the way in which the individual, when seeing their workplace, tucks their shirt into their trousers and straightens their jackets in preparation for the work day ahead.

In both cases above, individuals were considered to require border-keepers to set a standard against which to measure themselves. If achieved, they reward themselves and if not, they punish themselves. Over time, the self-regulatory standard becomes internalised, against which the individuals then more accurately measure themselves. This thesis posits that the border-keeping mechanism might also be operationalised as a self-regulatory mechanism within the individual. In this thesis it is suggested that there are two new border-keeper groups: in internal-internal (intrinsic) and internal-external (extrinsic) border-keepers.

Internal-external border-keepers use physical and structural elements to remind the individual about what domain they should be in as well as the domain's associated thought patterns. An example of this is an alarm set on a mobile phone, which highlights to the individual that they need to leave work and, on their commute home, collect their children from school. The sight of the individual's workplace, at the start of the day's work, is another good example of an internal-external border-keeper as it indicates to the individual that they should mentally prepare for a day's work.

On the other hand, internal-internal border-keepers involve the utilisation of a combination of the individual's own insight, previous experiences, self-regulation and social learning. The internal-internal border-keeping could be operationalised as a self-regulatory standard. An example of internal-internal border-keeping is when the individual makes judgements based on their own internal standards of what will be beneficial or detrimental to themselves.

To conclude, this study therefore posits that when technological communication is used to facilitate the flow of work into the home domain, for instance through the usage of mobile phones, that internal-internal (intrinsic) and internal-external (extrinsic) border-keepers can operate as a self-regulatory mechanism to arbitrate this flow.

2.8.3 Efficient self-regulation, deficient self-regulation and the overlap with enactive and inactive domain controls

Enactment is the process by which a domain is shaped by the individual and organised to meet the individual's needs. By comparison, effective self-regulation is the self-activation and/or regulation to further one's goals. A superficial comparison of the two concepts shows that internal shaping and organising (i.e. enactment) might be considered complementary or even interchangeable with self-activation and self-regulation. This study therefore proposes that enactment, as defined by Clark, and effective self-regulation may overlap in the following ways:

- The user will enforce, through efficient self-regulation, the work-home border (border-keeping) by deciding not to accept any work domain based communication in the home domain after hours and, as a result, will not respond to any mobile phone communication he/she receives.
- The user accepts limited after-hours work domain communications due to their perceived necessity/urgency/importance (efficient self-regulating) by responding to them in the home domain. The user will view the incoming work-based communication, arbitrate its necessity/urgency/importance (efficient self-regulation), and duly respond, thereby either permitting work message to cross (border-crossing) into the home domain or rejecting it as it is viewed as not essential (border-keeping).

  The arbitration process of an important communication will originate from quadrants I (important and urgent) and II (important and not urgent) as seen in Table 3, and therefore will be accepted. The self-regulatory mechanism will indicate that the communication has the potential to culminate in the individual's achievement of their self-actualised goals and will be beneficial to them. If, however, it is not viewed as important, the communication will be rejected.

When an individual is unable to meet the self-regulation standards that they have set for themselves through social learning (i.e. deficient self-regulation), they are triggered to punish themselves and will be an inactive border-keeper. They are no longer able to enforce the border and therefore allow for unrestricted border-crossing and the amalgamation of both domains. The state of inactivity that envelopes the individual is an operationalisation drawn theoretically from SCT. The following

behaviours are predicted:

- The individual learns from their border-keepers over a period of time, to accept and facilitate all communication which, in turn, expands the work domain. Consequently, the home domain space recedes with every communication received from the work domain. The result of this behaviour leads to an integrative space, where work has become predominant. The overflow of the work domain onto the home domain leads to a severe reduction of time within which the individual can recuperate, and the individual remains "one phone call away" to their employer. This results in the establishment of the work and home border occurring "deeper" within the home domain. This situation provides additional support through the border-keeper's stipulation that urgent after-hours work domain communication should be facilitated by the individual. This reinforces the reformation of the work domain structure in the home domain as the individual no longer discerns between important and urgent communications. This in turn diminishes their ability to re-establish the borders between the domains and to stop the overflow of the work domain into the home domain (i.e. deficient self-regulating), resulting in an "inactive" domain control.

This study therefore proposes that some of the mechanisms of enactive and inactive domain control would be better complemented (or even replaced) with the psychological mechanism of self-regulation.

2.9 Outcomes

2.9.1 Work-family conflict and work-home interference

Work-family conflict and work-home interference (WHI) are used interchangeably in this study as both can be defined as "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible so that participation in one role [home] is made more difficult by participation in another role [work]" (Greenhaus & Beutell, 1985, p. 77; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Kossek et al., 2011c; Van Hooff et al., 2006). It is however important to note that the flow of conflict is not unidirectional but bidirectional, as work has the ability to unduly influence home and vice versa (Kinnunen, Feldt, Mauno, & Rantanen, 2010; Kossek & Ozeki, 1998). This study, however, only focuses on the influence of work onto the home

domain. The relationship between home and work is both complex and multidimensional, even without the addition of smartphones. Therefore, it was decided to focus on a single dimension of work onto home interference through a smartphone, from an individual's perspective. To do this an exploratory-based empirical study used a mixed-method design to produce replicable research results and solutions.

To that effect one of the most prevalent forms of work-family conflict occurs when work-related stress and strain (psychologically) spills into the home. As a result the individual is less likely to be able to recover from a day's work (Lacovara, 2007; Peeters et al., 2005). An example of this can be seen in a manager who frequently works after hours over a prolonged duration, to ensure his career security and growth, causing fatigue to build and limiting the likelihood of recovery. As a result the manager frequently comes home late and has limited contact and interaction with his spouse and children and, when he does, is short-tempered due to the burden of being overworked. This in turn further degrades their already strained relationship. This tension is possibly further heightened by smartphone communication after hours, as it can increase the prevalence of WHI. Even in a non-work domain, a mobile phone increases the plausibility of work occurrence, as it provides a relatively unfiltered ubiquitous communication medium/channel (Derks et al., 2015). To lessen the effects that the mobile phone facilitates, the individual must determine whether or not to respond to the communication which may, it is argued in this thesis, be achieved through self-regulation.

The sentiments of the earlier definitions of work-family conflict and WHI are reiterated by Greenhaus and Beutell's (1985) claim that an individual's behaviours in the work and home domains are unique and therefore mutually incompatible. This is debatable, however, as the same strategies can be used in both work and home domains. Smartphones provide the individual, independent of their employment scenario, with the ubiquity to collect their sick child from school and take them to their family general practitioner for treatment, while still attending to an important work teleconference scheduled at the same time. The same ubiquity offers a client the ability to phone the individual after hours to deal with an important work-related issue. As a result, the individual and their family members eat dinner later than usual, the knock-on effect delays the children's bedtime and they are therefore far more difficult and irritable to deal with in the morning

when getting ready for school.

This, however, is in contrast to Greenhaus and Beutell's (1985) and Edwards and Rothbard's (2000) additional beliefs that every domain has behavioural roles associated with it, which ties in with their earlier sentiments. A parent, for example, is expected to be a guardian, care provider and companion in the home domain. A parent is susceptible to receive email and/or phone calls from work while at home, if facilitated, and the organisation is able to exert its dominance and enforce the relevant behaviour onto a domain. This occurrence increases the potential for an individual to experience work-family conflict and stress, which predictably decreases their wellbeing (Allen, Herst, Bruck, & Sutton, 2000; Mauno, Kinnunen, & Pyykkö, 2005). The effects may also include an increase in WHI and behavioural conflict (Derks et al., 2015). This aligns well with the HWI/WHI paradigm and the Effort-Recovery theory proposed by Geurts et al. (2005), which suggests that when individuals experience interference and/or conflict it will result in a wide range of personal consequences, such as a reduction in both life and/or work satisfaction, negatively impacting their health from a standpoint of psychological and physical wellbeing.

A central tenet of the Effort-Recovery Theory is that the amount of effort that is required to perform a task needs to be countered through the provision of recovery time. Without this ability the individual will become susceptible to strain and/or short-term psychosomatic health complaints, or else will have a negative response to workload demands (Geurts et al., 2005, p. 321). A worker who functions in a work environment which does not provide them with the ability to regulate their working hour demands, results in "negative load reactions" (e.g. strain) which overflow into the home domain (Geurts et al., 2005, p. 321). Thus, through successive exposure to work after hours and limited recovery opportunities, the worker becomes additionally strained which diminishes their performance because their work environment (system) was activated without adequate time to recuperate from the previous exposure (Geurts et al., 2005). The expectation that employees constantly read and respond to email (as well as other forms of electronic communication) has become a standardised protocol for employees.

In border theory, in order to limit their exposure from the scenario above, a border-keeper should manage the border-crossing process of their spouse, partner, or co-workers in order to

counterbalance the aforementioned disparity and negative effects from a border theory perspective. Without the ability to manage "border-crossing", the accumulation of work demands and the push to facilitate it more frequently after hours results in the flow of negative effects into the home environment. If not properly counterbalanced through the provision of recovery time, the demands can build up and result in potential psychological damage and health problems (Demerouti et al., 2005; Demerouti & Geurts, 2004; Eby et al., 2010; Geurts et al., 2005; Glezer & Wolcott, 1999; Majomi et al., 2003 ; Montgomery et al., 2005; Peeters et al., 2005; Rost & Mostert, 2007; Van Hooff et al., 2006). Logically, the higher the strain of the job (i.e. high job demands, low job resources), the greater the potential for domain spill-over, which further perpetuates a negative relationship between the two domains (Demerouti et al., 2005; Demerouti & Geurts, 2004).

In contrast, dual-centric employees (i.e. employees who value work and non-work equally) were found to have "more overall satisfaction, greater work-life balance, and less emotional exhaustion" than work-centric peers who predictably had the lowest personal life satisfaction (Bourne et al., 2009, p. 387). Through the systematic and rapid adoption of smartphones and the ubiquity they offer, this creates the further perpetuation of work spilling over into the home and the potential for the worker to become work-centric wherever the phone is on. In addition, smartphones provide a conduit for work to constantly interfere at home, which further diminishes the worker's time to recuperate and lowers their life satisfaction. Individuals struggle to balance the work and non-work demands which results in conflict; instead it has been argued that they should cast off the dual-centric role thrust upon them and focus on only one role at a time (Bourne et al., 2009). Without the ability to fully recover from their overtime work in the evening, employees were found to be less likely to recover fully which further increases the effects of negative WHI (Van Hooff et al., 2006). The same study found a relationship between fatigue, sleep complaints and WHI which they attributed to the extension of the work day and little recovery time being provided (Van Hooff et al., 2006).

To assist employees to counter the negative WHI they must be provided with ample opportunity to recover from the interference they experience (e.g. the provision of sleep, leisure activities, the implementation of family-friendly policies, workshops, or taught relaxation and/or time management techniques) (Sanz-Vergel et al., 2011). The balance between the two domains is achievable when the organisation and the employee work together (Sanz-Vergel et al., 2011) to

find mutually workable solutions.

2.9.2 Self-esteem

Any discussion on self-esteem would be lacking without acknowledging its two prominent components; namely that of global self-esteem and specific self-esteem (Marsh, 1990; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). The fundamental difference between the two components is that global self-esteem offers a more all-encompassing, holistic perspective of the individual's self-esteem while, in contrast, specific self-esteem relates to a single component of the individual's self-esteem such as a facet or a single behaviour, e.g. perceptions towards education or a specific discipline (Marsh, 1990; Rosenberg et al., 1995). To provide further clarity, global self-esteem could be imagined as a whole cherry pie, while specific self-esteem is only a single slice of pie or even just a cherry. It is acknowledged that while the relationship between the two components is irrefutable, they are not "equivalent or interchangeable" (Rosenberg et al., 1995, p. 142). It is important to add that Rosenberg et al. (1995, p. 142) view self-esteem as an attitude:

> "they include both cognitive and affective elements. That attitudes are cognitive is evident from the fact that they refer to objects - an attitude represents some thought about a particular thing (e.g., person, material object, group, idea, etc.). That they are affective is shown by the fact that attitudes have both direction (i.e., a positive or negative orientation toward some object) and intensity."

This creates an undeniable link to Ajzen and Fishbein's (1975) theoretical model which attributes behaviour to the power of an attitude, implying that the more specific an attitude is the greater its predictive power. Thus a specific self-esteem was predicted to be a better predictor of a defined behaviour than global self-esteem (Rosenberg et al., 1995, p. 144). It is therefore likely that Rosenberg et al. (1995, p. 148) established an association between specific self-esteem and behaviour (or behavioural outcomes), "whereas global self-esteem has a direct effect on psychological well-being". To better understand the consequences of self-esteem within an organisational context, Brockner (1988) provides his plasticity hypothesis which associates roles and their stressors to that of an environment, with low-esteem individuals being affected more than those with high self-esteem. Kinicki and Latack (1990) attribute self-esteem as a moderator of role stressors, thus low-esteem individuals "tend to use more passive forms of coping than their high self-esteem counterparts" (Jex & Elacqua, 1999, p. 72). When the arguments above are combined,

it infers that low-esteem individuals are thus more susceptible to the effects of roles and their stressors as they are less able to effectively cope with the strains they are subjected to (Hall, 1972; Jex & Elacqua, 1999).

As this study aims to better understand individuals' self-regulatory mechanism with regard to their mobile phone usage for work purposes after hours and its impact on wellbeing, it was determined that self-esteem (in this study) refers more to a reflective holistic perspective. This study therefore conceptualises self-esteem as a global construct related to how mobile phone usage impacts a user's wellbeing. Self-esteem is therefore theorised to mediate the individual's behaviour and thus is believed to be operationalised in this study as a mediating variable.

2.10 Mobile phones

2.10.1 Technological self-regulation

LaRose et al. (2003) suggest that the theoretical construction of "Internet addiction" is largely inaccurate. For it to be defined as addiction, the consumption needs to be viewed as harmful, which it is not always. Instead they argue that Internet addiction should more accurately be equated to lapses in self-regulation (deficient self-regulation) when it comes to media consumption. Thus the terminology of "Internet addiction" should rather be re-defined as deficient self-regulation (LaRose et al., 2003, p. 243). A related increase in mobile phone consumption was attributed to its prolonged use as well as the potential development of pathological or problematic behaviours (Billieux, Van Der Linden, & Rochat, 2008). The development of mobile phone consumption is reinforced by the pleasure that individuals receive when they facilitate the formation of habits (and even the development of behaviours) which accentuate its development into a goal or learnt behaviour (Song, LaRose, Eastin, & Lin, 2004).

Individuals will make themselves available 24 hours a day via their mobile phones to ensure the facilitation of urgent communication (a strong predictor of problematic usage), which might usher in the potential reconstruction of the border and domain (border-crossing) (Billieux, Van Der Linden, D'acremont, Ceschi, & Zermatten, 2007). Furthermore, they are rewarded with a strong sense of pleasure which further perpetuates its occurrence. In 2010 researchers at the University of Maryland requested 200 students aged between 18 to 20 years to go on a media starvation diet for

24 hours (i.e. no texting, no Facebook or instant messaging). Their study found that the students were reluctant and largely unable to disconnect from their "media skin", and thus were unable to shed it due to their "deficient self-regulation" media consumption approaches (Independent, 2010).

This thesis differs from previous studies as it aims to determine how self-regulation influences the development of border control (construction or deconstruction) with mobile phone usage from the theoretical standpoint of border theory. Both enactment and self-regulation operate from a psychological perspective in the formation of the border.

2.10.2 Mobile phones, their pervasive reach and the "inability" to disconnect

In order to stay competitive in a globalised market, organisations have required their employees to facilitate a more flexible work structure. Employees are therefore requested to conduct work in previously non-traditional work spaces and times through technologies such as BlackBerrys, cell phones, laptops, mobile phones, PDA's and smartphones. However, these technologies are a double-edged sword for the users as it offers employees the ability to work anywhere but at the same time makes it more difficult for them to disconnect and have sufficient time to recover from a day's work. This is further exacerbated by increased workloads that could be attributed to globalisation (Fenner & Renn, 2009; Lobel, 1991).

As a result, smartphones have offered work tasks the ability to reach into areas previously not seen before (e.g. an individual's vacation time on a cruise ship) and has been made even more complicated through their prolific rapid global adoption. The rise of smartphones began predominantly with BlackBerrys, as the company is viewed as the first commercially successful producer of smartphones. Arguably this was because of the many business tools (i.e. email, phone calls, text messaging and word processing, etc.) that they incorporated into their devices. The addition of these tools largely negated the need for a physical office, as all these capabilities lay in the palm of the user's hand (Mazmanian, Yates, & Orlikowski, 2006a; Middleton, 2007). Of course this provides smartphone users with greater freedom as they are "always" accessible but it also inherently alters the way they construct their boundaries between the different spheres of their life. However, these technologies make it far more problematic for users to discern between "on" and "off" times (Mazmanian et al., 2006a, p. 4; Zerubavel, 1981, p. 159). This type of behaviour could predictably result in discontentment in the home environment (Middleton & Cukier, 2006) if work perpetually takes place there.

Back in 2001, BlackBerrys were the single most common device owned by the general population of the United States of America, for all the sending and receiving of work-related emails. Five years later (in 2006), the same individuals were found to have two devices, one for each of their domains and each with their own domain-specific email address attached to it (Dabbish, Kraut, Fussell, & Kiesler, 2005). The single device usage has once again gained traction with each domain assigned its own unique email application to ensure domain separation and the formation of micro-boundaries between them. It is important to note, however, that this situation was predominantly found with tablet users rather than mobile phone users (Cecchinato et al., 2014). Through tablet usage, users were found to increase their productivity to do simple tasks such as reading or responding to emails in their daily commute time. Upon further investigation it was determined that the devices, although originally purchased without a preconceived goal or purpose, had become an all-encompassing mechanism (i.e. it also offered the capability to do personal browsing, all the way through to responding to work emails) (Stawarz, Cox, Bird, & Benedyk, 2013). However, the ubiquitous design of tablets has led users to foster the erroneous belief that reading emails and work documents in bed, for instance, is not "real work", as it only validates the interwovenness of the domains it facilitates (Stawarz et al., 2013).

A mobile phone is a piece of machinery, and essentially therefore has only two states, on and off (Turkle, 2011). The latter hardly seems to be the case, as participants argue it ensures their connectivity to those around them while lessening their sense of agitation and irritability (Billieux et al., 2008; Leung, 2008). When always on the phone, users have greater susceptibility to border and domain transitions (border-crossing) which occur on the physical and temporal border planes. Therefore, to regain their sense of control and thus separate the domains (border-keeping), users are required to employ their psychological border, which this study believes can be achieved through self-regulation.

The evidence in this section offers a plausible explanation for why 84% of South Africans appear to have the inability to be without their mobile phones (Synovate, 2010). Users have kept their mobile phones close to their beds to ensure their constant availability for a variety of reasons (i.e. to respond to communications instantly, to check their phone upon awaking, or to use it as an alarm clock) (Hjorth, 2006; Leung, 2008; Mazmanian et al., 2006a; Mazmanian, Yates, & Orlikowski, 2006b; Synovate, 2010; Towers, Higgins, & Thomas, 2006). At the same time, some users go as

far as to equate their mobile phones to that of a phantom limb, or as an extension of themselves, implying that loss of access equals losing an appendage (Carr, 2011; Turkle, 2011). An example of this can be seen by the outrage BlackBerry users exhibited in 2011 when their BlackBerry Internet Service was down for three days (Tubbs, 2011). The Internet service outage enraged users as they were unable to access their email, Internet and related services, which in turn limited their ability to border-cross. The upheaval did not end there for BlackBerry, however, the company experienced the loss of key executives, mass retrenchment of approximately 2000 staff members, and launched the disastrous BlackBerry Playbook tablet in the same year (2011). All of this led to unease about their customer retention and continued service. However, it was the 2011 outages that led to their final downward spiral and BlackBerry's eventual financial demise, where it lost 75% of its stock price value in one year (Hicks, 2012) and led to it losing its competitiveness as a market contender.

The rapid adoption of mobile phones has thus been perpetuated by the drive to stay connected and has become irrevocably interwoven into our society (Mazmanian et al., 2006b), which plausibly gives insight into South Africa's massive 147.13% adoption rate in 2016 (World Bank, 2016). The question, however, is why? Some mobile phone users categorically state it offers them the ability to stay connected (Mazmanian et al., 2006b; Middleton & Cukier, 2006), while others state that it is essential to their ubiquitous availability (Cousins & Varshney, 2009; Mazmanian et al., 2006b) and ensures their (job) security (Middleton, 2007; Wallace, 2004). This could be attributed to the expectations of certain workplaces. For instance, access to their employees is considered important (Glotz & Bertschi, 2006; Lacovara, 2007; Middleton, 2007). The development of workplace expectations is thus created ("shaped") by organisational and institutional "norms" (Middleton & Cukier, 2006) which are then forced upon their employees (through their peers, self-conditioning and social learning) to ensure that employees are available anywhere and anytime to facilitate work (border-crossing). It has been argued that this has resulted in the development of the "cyber sweatshop" (Hill et al., 1996, p. 294).

The steady adoption of mobile phones increases the potential of domain integration as it can be utilised as a conduit for work to occur within the home domain (on all three planes). This thesis therefore advocates that the psychological border mechanisms (proactive or enactive controls) should be used to arbitrate (border-keep) the flow between the domains, thus reducing any role

conflict. However, if the individual is unable to control the flow between the domains, there is the potential that the home domain will become "flooded" by the overflow. There is a danger that the purpose of the borders between the domains becomes essentially nullified, as the borders no longer prevent work from taking place at home Thus, if an individual exhibits an inactive psychological border-keeping mechanism (deficient self-regulation), they are more likely to accept one domain's dominance over another (work over home, for instance) which increases their work-home role conflict and raises the possibility of imbalance. BlackBerry, compared to its competitors, originally had the largest empirically tested body of work on the effects of mobile phone use on imbalance (Lacovara, 2007; Mazmanian et al., 2006a, 2006b; Middleton, 2007; Middleton & Cukier, 2006; Shirey, 2008; The Economist, 2005). This can be explained by the leading role that BlackBerry played in the development of what is now considered to be the smartphone. BlackBerry allowed their users the ability to browse the Internet, play music, make calls, take photographs (with their embedded camera), send and receive email, and many other personal digital assistant capabilities (such as a calendar functionality and a Microsoft Office Suite); functionalities which were largely underdeveloped in the competing brands. However, these capabilities are now commonplace in almost all smartphones. As a result, for purposes of this study, smartphones are defined by their ability to make calls, as well as send and receive emails as well as text messages.

The tools provided on BlackBerrys and mobile or smartphones also increase their users' ability to traverse the home-work border (border-crossing) for their work purposes, from wherever they are (Wajcman, Bittman, & Brown, 2008). At the same time the phones also offer the individual positive border-crossing abilities so that they can connect, communicate, and work whenever they choose. Examples of this can be seen in the commute to work. This time could also be used to catch up with administration or emails, or to engage in teleconferences. Another example is that these phones could allow the individual to continue with important work while tending to a sick child at home. This means that the positive aspects of border-crossing could also reinforce the coupling of the domains.

2.10.3 Border theory before mobile technology

Border theory has a dated theoretical conceptualisation of the home and work domain constructs. Clark believed that home and work existed on different planes of space, time and thought (Clark, 2000). She explains that previously, individuals used to move between the home and work domains

in order to fulfil their domain-specific roles while still attempting to maintain balance between the domains (Clark, 2000, 2002). The border exists between the two domains to try to enforce the end of one domain and the start of another, where the development of a border can assist in the attainment of balance for the individual (Clark, 2000, 2002).

However, it is significant to acknowledge that the work domain can overflow into the home domain and vice versa. For instance, work would not conventionally take place on a beach when the employee is on vacation, i.e. crossing the border (border-crossing) into the home domain (Middleton & Cukier, 2006). Prior to expansive uptake of mobile phones, the work domain could just as easily be transported into the home domain as it is today. For instance, a briefcase could easily go anywhere the individual goes. The difference of course is that the work contained in the briefcase does not easily have the ability to impose (push) itself onto the individual. It is thus far more passive in its assertion of the work domain's influence over the home domain than a mobile phone. The suitcase requires the individual to psychologically acknowledge its presence (or absence) and determine whether to accept or reject the work it brings to the home domain. A mobile phone, on the other hand, does not suffer from the same restrictions and can assert its demands on the user's immediate attention through beeps, blips and flashes until they respond. Every cue ushers in an additional opportunity for the work domain to transition deeper into the home domain and to cement its dominance within the domain.

A further instance must be acknowledged, however, and can be seen in the use of electronic pagers. Pagers differ fundamentally from a suitcase as they also have the ability to push themselves upon on their users, demanding attention and an appropriate response. In most cases pagers required the user to make a phone call to an emergency call centre to determine the full communication. In general, pagers were more frequently found in highly critical careers (such as a medical doctor, emergency technicians and CEOs, etc.). With the increased adoption of mobiles phones and later smartphones, however, the need for pagers died out as the phones offered a multi-stream communication channel. This diminished the need for two or more devices (as in the case of a pager), as the mobile phone offered a broader range of functions than a pager. Consequently this wrought far greater global penetration and adoption rates as the mobile phone provided its user with a greater ability to send and receive communications ubiquitously.

Clark advocates that previously, individuals would go to work in the morning and return home in

the evening (Clark, 2000). A (border) space exists to ensure a clear-cut segregation between the two domains. The border segregation can therefore be constructed through the individual's surrounding physical location/place (physical border), the associated thought patterns of each domain (psychological border), and the times they allocate to each domain (temporal border). An example of such border segregation would be the daily drive from work to home. In the process of the commute the individual constructs a clear border on two planes (time and place) between the domains, with the possibly of a third dependent on the driver's thoughts (psychological). Therefore, it is likely that the individual, upon arrival at home, must be able to shed one or even two work planes easily, i.e. the physical and temporal planes. It is however acknowledged that landlines can also create a physical connection and a permeation between the two domains, but there is steady decrease in their use (Kreutzer, 2009; Link, Battaglia, Frankel, Osborn, & Mokdad, 2007).

The previous physical and temporal boundary constraints are no longer a problem for mobile phone users as they can be easily traversed with the ubiquitous border-crossing reach they facilitate. Therefore, to ensure that segmentation between the domains prevails with mobile phone usage, the individual will be required to employ their psychological border for its construction now more than ever. This of course implies that the individual is psychologically responsible for their own mobile phone usage as well as the domains' integration and segmentation which, it is argued, relates to their self-regulatory constructions. The individual's discretionary choice of psychological border construction with their mobile phone can therefore result in the following options: (a) when usage increases, self-regulation decreases (and may become deficient) which, in turn, increases their potential for domain integration, border-crossing and domain blending or (b) lower and/or moderated usage is equated to efficient self-regulation of the segmentation of domains which culminates in border enforcement and solidification (border-keeping) (Clark, 2000).

2.10.4 Mobile technology and the need for a psychological border

Many individuals (especially office workers) have always had the ability to transport work to wherever they think they need it in their heads (psychological). While reflecting cognitively they are able to play out past, present and future scenarios, and the outcomes of these on their workplace. Previously, when the individual left their workplace, their physical connection with work was severed, e.g. they were no longer able to mould pots without the relevant equipment and raw materials when at home, unless of course they lived above or below their workplace. The physical

separation found previously is no longer the case as more work is considered to be knowledge work and technology offers a ubiquitous reach into locations formerly unattainable. Technology has the potential to thrust the individual, wherever they are, back into work mode physically and psychologically. It does, however, also provide the same individual with the ability to resolve their personal and work problems whenever and wherever they choose.

When the two domains become intrinsically interwoven (and thus integrated), individuals are thought to be less able to perform a unique role, which would have previously taken place in a single domain, as its occurrence would have a knock-on effect on the other roles within that space. This could result in various knock-on effects, such as overcompensation of a role to regain their formerly occupied space or the complete retraction of a role. For instance, in the case of a coalesced home-work domain, when the individual decides to feed their children (a formerly home domain activity) they will be able to spend less time working on their costing spreadsheets for work. This has the potential to trigger an imbalance between the roles.

The scenario described above is no longer a hypothetical one, as technologies such as mobile phones have ushered in the fundamental reconstruction of the work and home domains into a mangled interwoven state as neither exists without the other. This of course means that domains are no longer inherently separated, as mobile phones (and other similar technologies such as laptops, palmtops, smartphones, tablets, etc.) cause them to merge. If this occurred frequently, or for a prolonged duration, a full domain eclipse may occur and thus may be viewed as the norm, which ultimately limits the individual's ability to place the domains back in their original location (which of course may result in role conflict and imbalance). This construction obviously differs vastly from border theory's original construction. As shown above, Clark largely treats technology as an add-on component, rather than an integral component of the theory. She offers little theoretical explanation as to how mobile technologies should be used to ensure that the domains are maintained. This lack of a theoretical border development for technology usage therefore creates a fundamental hole for the theory, which this study believes can be filled through the inclusion of internal psychological processes such as self-regulation. It is therefore advocated that when an individual utilises their self-regulation to govern their smartphone usage, this will provide them with the ability to maintain the border between the domains and prevent them from overlapping. This would help individuals to disconnect more frequently from their smartphones.

This ability could assist the individual to decrease their WHI and increase their psychological disconnection from work, hence increasing their recovery time.

The increased prevalence of mobile phones has altered the construction of domains so that they no longer have to be fixed in space or time, but instead rest in the palm of one's hand. This has changed how individuals cross the border (border-crossing). Smartphones and similar technologies therefore offer individuals the ability to physically detach their domains from a central location and become psychologically transient. This ushers in both positive and negative aspects. A positive aspect would be the ability to collect the children from school while still being able to be on a conference call with work. A negative aspect might be when a work colleague calls you repeatedly in the middle of a family engagement. Both of the described incidents illustrate that individuals are able to switch between the scenarios and domains with a simple hand gesture on their mobile phones. This creates an "absent-present" state, as an individual cannot easily be on the phone and physically present at the same time (Mazmanian et al., 2006a; Middleton & Cukier, 2006). This is largely because border and domain development have become more psychologically constructed with the increased adoption and usage of smartphones. In this study it is argued that when self-regulation is employed an individual will be better equipped to govern the process.

2.10.5 Outcomes of mobile phone ringing

The section below offers hypothesised outcomes from the theory above, in the way in which mobile phones could alter the development and structure of the domain border(s).

When a mobile phone rings in the home domain after hours and for work purposes, there are two plausible outcomes:

1. Impermeable border (enactive)

   When a communication (phone number, email or text message) is received by the individual after hours, they will decide whether to accept or reject the communication in relation to who the communicator is, what the message contains (or could contain from their previous experience), as well as its pertinence (thus determine its important and/or urgency) in relation to the attainment of their self-actualised goals. The entire decision-making process will thus consider all the criteria above to determine whether to accept or reject the communication. This is guided through a combination of the individual's internal and

external border-keepers.

For the communication to be accepted, decision-making will first need to determine if the message is either important and urgent (quadrant I), or important and non-urgent (quadrant II), as found in Table 3 (Covey (2014). This links to the individual's self-actualised goals and needs. If it meets these requirements, then the decision would be to facilitate the development of a channel for the message to be transmitted. If, however, the communication is urgent, but not important, it will be rejected as it offers little to no personal benefit to the individual. Over time the border-keeping behaviour becomes conditioned within the individual, who internalises it as their own self-regulatory mechanism (internal-internal border-keeper). Once they establish the self-regulatory mechanism (internal-internal border-keeper), this will help the individual to determine when to accept or reject future communications on their mobile phone.

For example, when an individual receives an urgent after-hours phone call from their work colleague, it is arbitrated in a brief instant where their own self-regulation is employed. Self-regulation is formulated through a unique combination of the individual's own previous experiences and external and internal border-keeper reflections. If from here it is determined that the facilitation of an urgent call after hours will not aid the individual's achievement of their self-actualised goals and needs, but instead will result in an imbalance between the domains, the individual will reject the call. If, however, the same communication was determined to be important, instead of being urgent, the same arbitration process determines that it will result in the achievement of the individual's self-actualised goals and then the border is made permeable and the message passes through.

2. Permeable border (inactive)

   If a work colleague calls the individual with an urgent message after hours while they are home, the individual will look at their external and internal border-keepers to determine if they should accept or reject the intrusion. If the request is frequently accepted, the behaviour becomes conditioned in the individual over time and becomes their default approach for dealing with all further urgent after-hours communications. Each occurrence of the

intrusion will change the physical and mental construction of the domains and the border between them. With every facilitated work intrusion the border is established deeper in the home domain (integration) and results in the domains amalgamating. In the event of such an occurrence, the behaviour that individuals exhibit is that of fully deficient self-regulation, as they are unable to prevent the amalgamation of the domains or re-establish the previous structure to resemble that of the original state lost. They become locked in an "inactive" state under border theory. Once this "inactive" state becomes their norm, individuals are thus thought to experience greater role conflict which results in greater imbalance and has negative effects on their wellbeing.

However, there is a further possibility whereby an individual who has an inactive border-keeping mechanism (i.e. deficient self-regulation) becomes their own border-keeper. They will therefore enforce the belief that all urgent communication requests should be facilitated from work, but as it is an urgent communication facilitation, it will not necessarily result in the attainment of the border-crosser's self-actualised goals or needs but merely expand the work border and domain deeper within their home.

2.11 Literature contributions

This thesis aims to contribute to the body of literature in the following ways:

- By identifying Clark's failure to define the inactivity and dysregulation of borders;
- By offering a theoretical expansion of border theory through the incorporation of Lewin and Bandura's work; and
- By offering a comprehensive explanation, from a theoretical or operationalisation point of view, for understanding mobile phone usage. The current study deems this to be a discrepancy, as border theory, from a theoretical perspective, could provide valuable insight into the processes of construction and deconstruction of the home and work borders, and explain the same processes through the lens of mobile phone usage. This is especially pertinent as mobile phones facilitate the transference of physical and temporal domains ubiquitously, therefore driving the need to re-establish control through the use of a

psychological border for attaining healthy border control.

2.12 Research questions

2.12.1 Research question 1: Does self-regulation help to regulate after-hours work-related mobile phone usage in the home domain?

It is proposed that efficient self-regulation will limit or prevent after-hours work from flowing into the home domain. Deficient self-regulation will instead limit the user's ability to regulate/limit the same flow of work into the home domain.

- Hypothesis 1.1: Regulated after-hours mobile phone usage is achieved through efficient self-regulation.
- Hypothesis 1.2: Unregulated after-hours mobile phone usage is achieved through deficient self-regulation.

2.12.2 Research question 2: Does self-regulation moderate the relationship between mobile phone use and work/life balance?

Individuals with efficient self-regulatory abilities will be able to determine when after-hours mobile phone usage for work will result in balance and therefore will regulate their usage to prevent the possibility of imbalance. Individuals with deficient self-regulation will be incapable of controlling after-hours mobile phone usage for work, thus disturbing the balance.

- Hypothesis 2.1: Self-regulated after-hours mobile phone usage results in work-family balance.
- Hypothesis 2.2: Deficient self-regulated after-hours mobile phone usage results in work-family imbalance.

2.12.3 Research question 3: How do mobile phone users understand their mobile phone usage for work purposes after hours?

The third research question endeavours to determine how mobile phone users choose when to respond (or not to respond) to work requests after hours? Do they compare their mobile phone use

for work purposes to other referents (e.g. colleagues, friends, family)? Is there anything else in their environment that limits their use of mobile phones for work purposes after hours?

If a mobile phone user who exhibits efficient self-regulation receives a request to facilitate a communication channel in the home domain after hours and decides to either accept it and limit its intrusion or reject it completely (both of which might be achieved through self-regulation), how will they compare their own arbitration process against their internal and external border-keepers (such as their colleagues, family and friends)? Will they conclude that their arbitration process is either "normal" in relation to their peers and that they have achieved the same level or standard of border-keeping effectiveness (self-response) as their peers and develop a positive self-concept from this experience? Will they determine that this is not the case and alter their behaviours to achieve the standard set in place, thus chastising themselves to reform their behaviour back into efficient self-regulation?

If, however, they are unable to regain their original self-regulation, their behaviour will become that of a deficient self-regulator, whereby they will be permissive of work intrusion into the home domain, the result of which culminates in the exact antithesis (i.e. where they have limited border-keeper mechanisms or potentially none at all). Over time this is believed to develop into a negative self-concept, which therefore leads to compensation, inactivity, or escape. Table 5 summarises the sub-questions that will be investigated.

Table 5: Border-crossing versus the self-regulation model

	Self-regulation			
Border-crossers	**Enactment**			**Border-keepers**
	Self-observation	**Judgement**	**Self-response**	
Mobile phone use at home. Determine amount of border-crossing. What are the borders?	Is it appropriate for themselves?	How do they choose? What to answer and/or respond to at home?	How do they compare their usage to others? Who do they compare themselves to?	What in their environment limits their mobile phone use at home?

2.13 Chapter summary

Mobile phone adoption has provided its users with the ability to exist simultaneously at home and at work. This is because temporal and physical boundaries have been effectively "nullified" through the existence of mobile phones, which have inherently altered the ability of work to be locked down to a central location. This will require the individual worker to find another way to manage these manifestations. To assist with this management, it is important to remember that domains and their borders exist on only three different planes (the physical, psychological, and temporal planes) (Clark, 2000; Nippert-Eng, 1996) and through the process of enactment the psychological plane is able to control the construction and deconstruction of the other two. The same process of enactment and psychological planes (and it is proposed this is complemented by efficient self-regulation) can therefore be employed in the individual's management of their mobile phone usage (Clark, 2002). This study therefore hypothesises that mobile phone usage can be regulated with the use of a psychological mechanism to assist the management of the borders and domains, thus achieving "balance". However, Clark fails to acknowledge the existence of an inactive domain state within border theory, where the user is no longer able to enforce or re-establish the border (border-keeping) and to place a border back in its original place. The person may thus become psychologically "inactive" and frozen. The border mechanism processes of enactment and inactivity could therefore be complemented, or even replaced by Bandura's (1989) concept of efficient and deficient self-regulation.

The literature review provides evidence from a theoretical perspective that time is an important consideration in the formation of domains which can be unduly disturbed through mobile phone usage. Through self-regulation, individuals are believed to be able to reposition the border formation between the domains and thus achieve work-family balance. To determine the plausibility of this hypothesis, this study will determine if individuals are able to self-regulate their after-hours work-related mobile phone usage in the home domain and determine how this self-regulation influences the individual's work-family balance.

CHAPTER 3: METHODS

3.1 Introduction

As this study was based on explorative research, a mixed-methods approach was used as it was believed that it would provide the most comprehensive results. The mixed-method approach consisted of a quantitative component (an online questionnaire) and a qualitative component (semi-structured interviews), each of which will be discussed in greater detail below.

3.2 Philosophical approach

A mixed methodology was chosen for this study because of its ability to provide holistic insight. A post-positivist paradigm counters the inherent inadequacies in the research paradigm and creates an optimal approach, as each approach is prone to their own faults or errors (Trochim, Donnelly, & Arora, 2015). Triangulation can counter the inherent inadequacies in the research paradigm and create an optimal approach through the use of the multiple sources in order to reveal the reality of the situation, but it still has its flaws. Another key component of a post-positivist paradigm is a constructivist approach to acknowledge that reality requires an objective paradigm but is inherently biased as our own observations are used (Trochim et al., 2015). Although objective analyses and metrics were used in this study, the interpretation of results and findings are subjective. To limit the subjectivity, further exploration of the variables in this study is needed and recommended whilst acknowledging that this research is just a piece of the solution of the future puzzle. This study therefore fulfils a post-positivist paradigm design.

Through the adoption of a mixed method research design, the individualistic weaknesses found in mono-method quantitative and qualitative research methods are more likely to be overcome (Schulenberg, 2007). This is primarily because the mixed method data provides greater insight and perspectives from the participants and their behaviour through the triangulation of the methods. The amalgamation of this data thus offers both deductive (quantitative) and inductive (qualitative)

approaches (Riazi & Candlin, 2014). This enables to study design to better enable addressing exploratory and confirmatory questions than a mono-method design as it provides increased objectivity and subjectivity so a more holistic view from the participants can be determined (Schulenberg, 2007).

3.3 Study design

As this study was explorative in its nature, it is an attempt to better understand the complexities surrounding an individual's ability to delineate home and work, originally advocated by Clark (2000) as the process of enactment in a previously unexplored extension of border development in mobile phone users. Self-regulation, and not the process of enactment advocated by Clark, is believed to govern the domain borders. It is therefore hypothesised that the individual's self-regulation determines the ebb and flow of communication, and the effect on their work-life balance.

A mixed-method approach was chosen for its explorative nature, potential to generate in-depth results and its malleability. The explorative results highlight areas for further study. Unlike most mixed methodologies, this study conducted a quantitative survey first, the results of which were used in the interview qualitative analysis using thematic content analysis (TCA).

Both quantitative and qualitative methodologies have inherent strengths and weaknesses. However, through their combination the solution of mixed method, as advocated by Johnson and Onwuegbuzie (2004), minimises the inherent weaknesses in methodologies while providing the ability for the strengths to build on each other. In practice, when conducting research the techniques used more frequently resemble mixed methods in their implementation (Johnson & Onwuegbuzie, 2004). Their commonality does not end there, as both quantitative and qualitative methods use empirical observations to answer research questions and implement safeguards to minimise confirmation bias and other sources of invalidity in their inquiries (Johnson & Onwuegbuzie, 2004).

As research advances into inter- and multidisciplinary fields, the associated research questions will become more complex. In order to find sustainable solutions to their inherent complexities,

researchers will be required to mix-and-match design methods which best suit the questions at hand (Johnson & Onwuegbuzie, 2004). Through the use of mixed methods the ability to determine patterns in the data (inductive), to test theories and hypotheses (deductive), and to define, discover and depend on the results (abductive) is provided (Johnson & Onwuegbuzie, 2004). It is argued that the fundamental weaknesses of the linear qualitative and quantitative approaches to "human" research can be alleviated and resolved through adopting a mixed-methods design as a pluralistic and complementary approach (Johnson & Onwuegbuzie, 2004).

Mixed-method approaches to research have been shown to be effective in countering the inherent limitations of traditional research methodologies while providing useful solutions (Creswell, Plano Clark, Gutmann, & Hanson, 2003; Greene & Caracelli, 1997; Johnson & Onwuegbuzie, 2004). Mixed-method designs therefore provide a third perspective and with it new solutions, frequently referred to as the third solution.

3.4 Quantitative procedure and sample

To test the suitability and comprehensibility of the measures developed and utilised in this study a pilot test was conducted (N = 30) using an online questionnaire on SurveyMonkey™, an online questionnaire tool. By doing so, the problematic question(s) in the survey were determined and amended prior to the finalised study being conducted. In some cases this meant re-ordering the questions for better flow and logic. Participants for the pilot sample were recruited through a snowball sampling method using social media platforms such as Facebook, Twitter and email.

The problematic questions, which are discussed in greater detail below, were identified from the pilot study and resolved. The modified questions were then re-checked by the researcher's supervisor for clarity and the amended survey was uploaded to SurveyMonkey™ for the final study to be conducted. One of the questions removed after the pilot study requested participants to provide the number of hours spent working on the weekend. This item was removed as the study was focused on two sets of work timeframes, namely work during normal working hours and after-hours work during a normal working week. The weekend, although technically defined as after-hours work, confuses the focus of the research. An additional question was removed which requested the ages of any children above 12 years of age and below 11 years of age, although the information may be relevant (Montgomery et al., 2005, p. 154). Finally, three questions were removed for the final survey which were related to the amount of calls, emails, and text /SMS

messages received after hours as the responses received were too inconsistent. All the pilot sample data, findings, and results were not included in the final analysis.

A snowball sampling method was once again chosen for the main study as it was thought to provide a more heterogenous sample, as it had done in the pilot study. Regrettably the snowball sampling method failed to recruit a statistically sufficient sample (of N = 200). Therefore, an alternative solution was determined where a local animal charity (Pet Welfare South Africa, a Non-Profit Company, Registration No: 2012/180351/08) who have a large email database of donators, contributors, and volunteers were approached to assist with recruitment. It was agreed that for each one of their members who participated and completed a survey, the organisation would be paid ZAR5 per participant. The participants were requested to indicate, in the checkbox at the end of the survey, if they had been referred to the study by Pet Welfare SA. The Pet Welfare SA participants were also included in the Kindle draw. In total, the Pet Welfare SA collection method rendered an additional 41 participants, but as an act of charity and for their assistance a total donation of ZAR1500 was contributed to them. In total 232 participants were recruited for the study over the period of 10 months from the 5 October 2012 to 1 July 2013, which was refined down to 180 participants after the data was cleaned for missing or incomplete data.

Participants in the study were directed from a hyperlink found in the emailed invitation to the online survey hosted on SurveyMonkey.com. The emailed invitation also included the participant information sheet explaining the purpose of the study and what would be required of them (please see Appendix H: Email invitation). As an incentive to complete the survey, two Amazon Kindles were offered as prizes, with one random participant selected from the interviewee and questionnaire groups respectively. The winners were randomly selected from the email addresses / cellphone numbers in the presence of a neutral third party. To facilitate the draw of the prize the participants, after completing the survey, were invited to provide their email address or cellphone number so that the winner of the prize could be contacted. Participants who wished to participate in the draw were asked if they wished to compete. If so, they were asked to provide their contact details. All details collected for the prize were destroyed upon awarding the prize and no other details were collected. An Amazon Kindle was chosen as the prize since this is a tool which would not result in further home-work imbalance. Therefore, a standard Kindle (Wi-Fi, 6inch Monitor with E-Ink Display) was offered as a prize. The value of the Kindle was approximately ZAR1400.00 at the

time of study. The survey consisted of a total of 85 items, 65 items measuring the participant's mobile phone usage and a further 20 items assessing demographics factors, all of which can be seen in Appendix C (Questionnaire).

The statistical analysis was conducted on a custom-built computer with an Intel® Core ™ i7-3770 CPU @ 3.40 GHz with 8 Gigs of RAM using a 1 terabyte Hard Disk Drive and AMD Radeon HD 6450 Graphics running Microsoft Windows 8.1 Professional 64 Bit using IBM SPSS release 24.0.0.0 64 Bit version. All graphs were drawn with ModGraph-I, the Microsoft Excel 2010 version, developed by Paul E. Jose from the Victoria University of Wellington.

3.5 Quantitative measures

3.5.1 Questionnaire measures

3.5.1.1 Biographical and mobile phone use measures

The following demographics were collected in the study: age, race, gender, education level, marital or partner status, partner's occupation, career position, primary income earner, number of children, age of children, working hours, Internet usage time, mobile phone Internet time, number of phone calls a day, and number of hours and minutes on the phone per month. All of the aforementioned biographical and mobile phone usage data were collected through a self-report questionnaire.

The demographics were not used as control variables, but merely as exploratory variables since the influence of demographic variables was uncertain in that these relationships have not yet been explored in previous research. They were used as exploratory variables to see if further nuances can be determined.

3.5.1.2 Mobile phone use after hours

In order to determine mobile phone usage during and after work, two scales each consisting of seven items were designed for this study; one to determine mobile phone usage during "working" hours and another to determine mobile phone usage during "home" hours. Participants were asked to account for their mobile phone usage on a typical weekday, typical weekend, and a typical day

prior to the survey, as has been effectively used in previous studies (LaRose & Eastin, 2004; LaRose et al., 2003; Liu & LaRose, 2008). The second section of the survey looked at the participants' mobile phone use at specific times during the day, i.e. during working hours and while at home. The measures were chosen so as to draw a comparison to better understand the individual's general usage against their work usage. A matrix design was used as the measures worked together to provide a more holistic understanding of what tasks were performed by the participants with their mobile phone, when they were used, and for what duration. The measures provided various options of what tasks the participant may perform and the duration for each activity, offered as nine different time periods. The nine time periods were as follows: 0 = None; 1 = <1 hour; 2 = 1 to 2 hours; 3 = 2 to 3 hours; 4 = 3 to 4 hours; 5 = 4 to 5 hours; 6 = 5 to 6 hours; 7 = 6 to 7 hours; and 8 = >7 hours. Both measures can be found in Appendix C (Questionnaire), in the mobile phone usage section.

A further measure was used to determine the participants' monthly mobile phone usage in hours and minutes. An additional matrix was used for the participant to indicate the proportion of phone calls they receive in a typical day, week and month; whether it was someone from their home or family calling or if they were a work colleague/employee/boss etc.; and whether it was someone calling for some other purposes (e.g. individuals or organisations such as telemarketers and/or government departments).

One of the questionnaire items determined the number of phones owned by the participant. If it was more than one then a subsidiary question asked if each phone was used for a specific area/domain (i.e. one phone for home and another phone for work). The participants' responses showed that most participants had only one phone (64.8%). Some participants reported having two phones (28.5%), three phones (4.5%), four phones (0.6%), and even five phones (1.7%). The largest proportion of participants (37.8%) indicated that they had a separate phone for each specific area/domain, while the remaining 21.1% indicated that they did not separate their mobile phone usage. The remaining participants reported having only one phone.

To better understand the participants' average usage, a set of questions were asked to determine the percentage of calls, emails, and text /SMS messages for work, for home/family, or for other purposes beside work, home and family. The results showed that the largest percentage of phone

calls originate from the home and family domain (45.96%), closely followed by calls from work (45.77%). Emails originate predominantly from the work domain (49.35%) and text /SMS messages from the home and family domain (54.57%). The descriptive statistics (mean and standard deviation) for each can be seen in Table 6 below.

Table 6: Descriptive statistics of calls/emails/texts for purposes of home and family, work, or other

Communication type		Work	Home/family	Other purposes
Calls	Mean	45.77	**45.96**	11.07
	SD	31.946	29.651	15.455
Emails	Mean	**49.35**	25.59	17.37
	SD	38.023	29.240	24.199
Texts	Mean	29.09	**54.57**	15.84
	SD	28.439	30.497	22.644

3.5.1.3 Self-regulation

The moderation variable for this study is self-regulation. To measure self-regulation, the study used an adapted version of LaRose et al.'s (2003) scale which was originally developed to measure Internet self-regulation, but for this study was used to measure mobile phone self-regulation. All seven questions were adapted for the pilot study so that every instance of the word "Internet" was replaced with the phrase "mobile phone". Therefore, in LaRose et al. (2003) the item read "I use the Internet so much it interferes with other activities", whereas for this study it was changed to "I use my mobile phone so much it interferes with other activities" and so on (see Appendix I: Original and adapted Self-Regulation Scale. The original metric consists of seven questions ($\alpha = 0.86$), while the revised version consisted of only six questions ($\alpha = 0.92$), using the original 7-point Likert-type scales where participants could express their emotions between "Strongly Disagree" to "Strongly Agree". The pilot study participants reported confusion regarding questions 4 and 5. The most prudent solution was to combine two items into a single item. The revised 6-item scale had an internal reliability coefficient of $\alpha = 0.92$. The new question therefore read "I feel my mobile phone use is out of control; I would miss my mobile phone if I no longer had access to it". The results from this component of the study are discussed in the quantitative results section.

3.5.1.4 Work-family balance

The dependent variable for this study is work-family balance. Clark (2000, p. 751; 2002, p. 37) defines work-family balance as "satisfaction and good functioning at work and at home, with minimum role conflict". To measure this multifaceted construct Clark's study (2002) used five scales. This study only looks at the one-way transfer of the work domain into the home domain, and therefore only made use of the following scales:

- *Satisfaction with work*: Seven items ($\alpha = 0.91$) were used with a 7-point Likert-type scale where participants could express their emotions between "Strongly Disagree" to "Strongly Agree". Four items were constructed by Clark (2002), while the remaining three items were taken from a study by Hackman and Oldham (1975) on traditional work satisfaction. The measure to determine the participants' frequent thoughts of quitting was reverse coded as it was negatively worded.
- *Satisfaction with home life*: Four items ($\alpha = 0.85$) were used with a 7-point Likert-type scale where participants could express their emotions between "Strongly Disagree" to "Strongly Agree". All four items were constructed by Clark (2002).
- *Good functioning at work*: Six items ($\alpha = 0.78$) were used with a 2-point Likert-type scale where the participants could express their emotions between "Agree" to "Disagree". All six items utilised by Clark (2002) come from the altruism subscale developed by Smith, Organ, and Near (1983) in their Employee Citizenship Scale. Clark (2002) utilises the scale as it measures behaviour over and above simple conformance to work rules, since employees frequently violate these.
- *The Family Cohesion Scale*: Ten items ($\alpha = 0.89$) were used with a 5-point Likert-type scale where the participants could express their emotions between "Almost Never" to "Almost Always". Clark (2002) utilised the Family Adaptability and Cohesion Evaluation Scale III (FACES III), developed by Olson (1986) to measure family behaviour, cohesion, adaptability and communication in determining good family functioning. Clark (2002) utilised only the cohesion scale of FACES III to simplify and contain the length of the questionnaire: "cohesion refers to the emotional bonding that family members feel toward one another" (Olson & Gorall, 2003).
- *Work-family conflict:* Seven items, developed from Bohen and Viveros-Long's (1981) role

conflict scale (α = 0.86), were used with a 5-point Likert-type scale where participants could express their emotions between "Never" to "Always". All seven items utilised by Clark (2002) were developed by Bohen and Viveros-Long (1981) in their role conflict scale. Items from this scale encompass components of "work-family conflict such as job burnout, work interference, time for self, and negative spill-over" (Clark, 2002).

3.5.1.5 Self-esteem

To measure global self-esteem for purposes of this study the Rosenberg Self-Esteem Scale (RSES) was used. The RSES is a ten-item (α = 0.80) unidimensional scale initially designed to measure the global self-esteem of high school students. A 4-point Likert-type scale was used where the participants could express their emotions between "Strongly Disagree" to "Strongly Agree". The scale measured personal worth, self-confidence, self-satisfaction, self-respect, and self-deprecation. The RSES has demonstrated good internal consistency (Cronbach's alpha = .80) and test-retest (.85) reliability (Macan, Shahani, Dipboye, & Phillips, 1990; Silber & Tippett, 1965), and RSES scores have been shown to correlate strongly (.66 to .76) with other measures of self-esteem (Hagborg, 1993; Misra & McKean, 2000). The four measures which determined participants' failure, pride, self-respect, and uselessness were all negatively worded and thus were reverse coded and marked with **(RC)**. The measures and the full scale can be seen in Appendix G (Exploratory variable).

3.6 Quantitative analyses

3.6.1 Moderation and mediation

This study utilises Baron and Kenny (1986) seminal work to determine if self-regulation moderates or mediates the relationship between mobile phone usage for calls, emails, texts, and work-family balance. It is acknowledged however that while there are newer techniques, such as Hayes (2013), Baron and Kenny are well established in the field and relatively simple to interpret.Mediators explain how external physical events take on internal psychological significance, whereas moderators speak to how or why such effects occur (Baron & Kenny, 1986, p. 1176). To assist the reader, a diagram of each has been provided in figures 3 (mediator) and 4 (moderator) below.

It was originally posited in the research questions that individuals, while at home, would be able to self-regulate (moderate) their after-hours work-related mobile phone use. Thus, as an individual

would be able to recognise the interference caused by their mobile phone at home through the facilitation of work communications, their self-regulatory (moderator) abilities would be activated and guide them how to ensure that their balance is maintained without compromising themselves.

3.6.2 Mediator

Mediator variables, are unique, as they have a direct relationship with both the independent and dependent variable (Baron & Kenny, 1986). This allows the mediator variable to act as a conduit for the independent variable to influence the dependent variable (Baron & Kenny, 1986). At the same time this provides the mediator the ability to more accurately determine how or why a particular effect or relationship occurs, which therefore describes the psychological processes which develop the relationship (Baron & Kenny, 1986). An example from this study can be found in section 4.10.3.1 below, where it was found that as the number of call received for other purposes (independent variable) decreased their self-regulation (mediator variable) and culminated in an increase in their self-esteem (dependent variable).

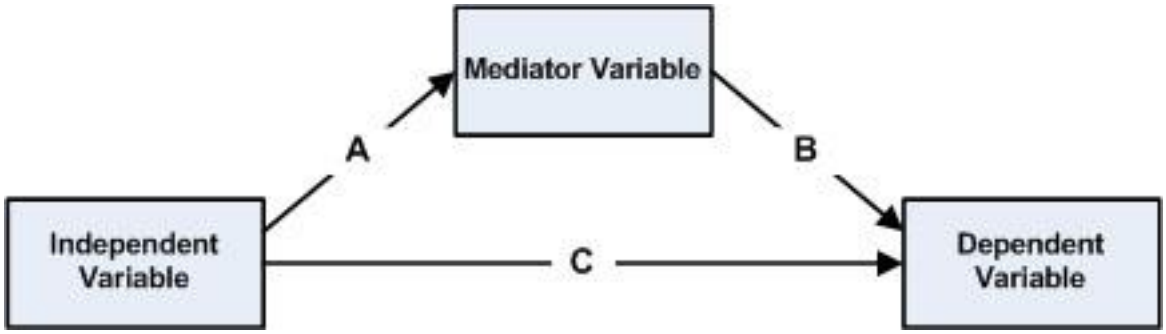


Figure 3: Mediation process

3.6.3 Moderator

A moderator is a qualitative or quantitative variable that affects the direction and/or strength of the relationship between an independent or predictor variable, and a dependent or criterion variable (Baron & Kenny, 1986; Robinson, Tomek, & Schumacker, 2013, p. 1174). Moderator variables

therefore propose that the conditions change when an independent and dependent variable are related and thus when a particular effect will occur. Within a correlational analysis framework, a moderator is a third variable that affects the zero-order correlation between two other variables (Baron & Kenny, 1986) .

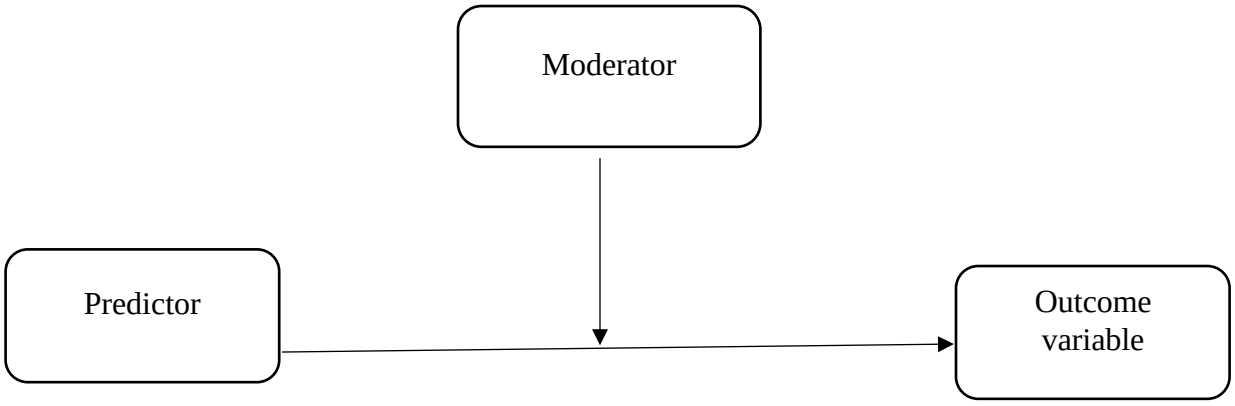


Figure 4: Moderation process

3.7 Quantitative sample description

All of the relevant sample descriptions below relate to the questionnaire sample collected and not to the qualitative sample which will be discussed later. The sample was paired down to 180 usable participants. One respondent did not answer a sufficient number of questions and therefore there was too much missing data. This person's questionnaire was removed from the analysis.

The participants were recruited from predominantly middle to upper management structures in medium to large corporations. Each participant was required to have a smart mobile phone capable of sending and receiving phone calls, emails, text messages and of browsing the Internet. The middle to upper management demographic sample had previously revealed an increase in work interference in the home from their mobile phone use; a finding which was used to support the sample selection for this study. For instance, Glezer and Wolcott (1999) found that highly educated individuals working more than 40 hours a week experienced increased work interference within the home. This was similar to the managers in the study by Desrochers et al. (2005) who had children younger than 12 years of age.

3.7.1 Age

The average age of the participants of this study was 36.28 years, while the youngest was 20 and the oldest was 69. The relevant age-related demographics and their descriptive statistics can be found in Table 7 below.

Table 7: Age of quantitative sample participants

	Minimum	**Maximum**	**Mean**	**Median**	**SD**
Age	20	69	36.28	36.28	10.906

3.7.2 Education level

The largest percentage of the sample (21.7%) reported holding a Bachelor's degree, followed by 20% reporting having obtained an honours degree. At the same time, 19.4% reported attaining a Master's degree and 18.3% of the sample only had a high school qualification. The recruitment of a strongly educated sample population was attributed to the prerequisite requirement that all participants be in a managerial position. The relevant educational demographics from the quantitative sample can be found in Table 8 below.

Table 8: Educational demographics of the quantitative sample

Education Level	**N**	**%**
High School	33	18.3
Diploma	20	11.1
National Diploma	12	6.7
Bachelor Degree	39	**21.7**
Honours Degree	36	20
Master's Degree	35	19.4
Doctorate Degree	5	2.8

3.7.3 Gender

A marginally smaller percentage of women participated in the study, with 38.3% being woman to

42.2% men. The remaining 19.5% of the sample did not disclose their gender. The relevant gender demographics from the quantitative sample can be found in Table 9 below.

Table 9: Gender demographics of the quantitative sample

Gender	Female	Male	Undisclosed
N	69	76	35
%	38.3	**42.2**	**19.5**

3.7.4 Children

It was found that a slight majority of the sample had no children (53.9 %,) and less than half (46.1%) of the sample did have children. The relevant descriptive statistics from the quantitative sample participants can be seen in Table 10 below.

Table 10: Parental status of the participants

Have Children?	No	Yes
N	97	83
%	**53.9**	46.1

3.7.5 Number of children

The majority of the sample with children reported having two children (21.7%), followed by those with one child (13.9%), three children (6.7%), four children (3.3%), and one person reporting six children (0.6%). Eighty-three (83) participants indicated that they had children, the details of which can be found in Table 11 below.

Table 11: Participants' number of children

Number	1	2	3	4	6
N	25	39	12	6	1
%	13.9	**21.7**	6.7	3.3	0.6

3.7.6 Race of participants

The racial demographics for the sample collected are as follows: 73.3% were white, 10% were Indian, 7.2% were Black African, 5% were Asian, and 4.4% were Coloured. The designation of

coloured is a legally accepted and acknowledged group in South Africa, which is a combination of mixed race and interracial descendants. The relevant racial demographics of the quantitative sample can be found in Table 12 below.

Table 12: Racial demographics of the quantitative sample

Race	Black African	Asian	Coloured	Indian	White
N	13	9	8	18	132
%	7.2	5.0	4.4	10.0	**73.3**

3.7.7 Management level

The largest proportion of the participants originated from middle management (36.7%), followed by senior management at 31.1%, and junior management at 27.8%. The relevant managerial level demographics of the quantitative sample can be found in Table 13 below.

Table 13: Managerial demographics of the quantitative sample

Managerial Level	N	%
Junior Management or Equivalent	50	27.8
Middle Management or Equivalent	66	**36.7**
Senior Management or Equivalent	56	31.1

3.7.8 Days worked in a week

The largest percentage of the population reported working 5 days a week (75.6%), followed by 6 days (16.1%), and 7 days (5.6%). The relevant descriptive statistics of the average number of days worked can be seen in Table 14 below.

Table 14: Average number of days worked per week

Days	1	2	3	4	5	6	7
N	1	2	1	1	136	29	10
%	0.6	1.1	0.6	0.6	**75.6**	16.1	5.6

3.7.9 Relationship status

It was found that 76.1% of the participants had a partner against the 23.9% that did not, the details of which can be found in Table 15 below.

Table 15: Percentage of participants with a partner

Partner	No	Yes
N	43	137
%	23.9	**76.1**

3.7.9.1 Partner's gender

Corresponding to the question above, the largest percentages of reported partners were male (42.2%) against the 38.3% of female partners (see Table 16 below).

Table 16: Gender of partner

Gender of partner	Female	Male
N	69	76
%	38.3	**42.2**

3.7.9.2 Partnership status of participants

Members of the collected sample reported the following partnership types: 50.6% were married, 32.22% were single, 9.4% were in a domestic partnership, 4.4% were divorced, 1.7% were in a civil union, and 0.6% were widowed. The partnership descriptive statistics of the quantitative sample can be found in Table 17 below.

Table 17: Partnership status of the quantitative sample

Partnership type	**Civil Union**	**Domestic Partnership**	**Divorced**	**Married**	**Single**	**Widowed**
N	3	17	8	91	58	1
%	1.7	9.4	4.4	50.6	32.2	0.6

3.7.10 Income earning status

The highest proportion of the participants in this study indicated that they were the primary income earner in their households, with 58.3% against the 41.7% who were not. This is important as it was shown by Cinamon and Rich (2002, p. 218) that primary income earners are more susceptible to "increased work hours to better provide financially for the family". The relevant descriptive statistics relating to income earning status can be seen in Table 18 below.

Table 18: Income earning status of the quantitative sample?

Primary income earner	No	Yes
N	75	105
%	41.7	**58.3**

3.7.11 Number of phones owned

The largest proportion of the population reported owning one phone (64.4%), followed by two phones (28.3%). A small proportion of the sample reported owning up to five phones. Please see Table 19 for the descriptive statistics relating to phone ownership.

Table 19: Number of phones owned

Number of phones	**1**	**2**	**3**	**4**	**5**
N	116	51	8	1	3
%	**64.4**	28.3	4.4	0.6	1.7

3.7.12 Communications received on mobile phone after hours

The mean average from the sample relating to mobile phone use after hours was 3.39 calls, 13.47 emails and 7.27 text/SMS messages per day, a breakdown of which can be seen in Table 20 below.

Table 20: After-hours communications received by type

	Minimum	**Maximum**	**Mean**	**Median**	**SD**
Calls	0	50	3.39	2.00	4.859
Emails	0	100	13.47	10.00	14.648
Texts	0	100	7.27	5.00	11.621

3.7.13 Smartphone ownership

As it was a prerequisite, 100% of the participants owned a smartphone as opposed to an ordinary mobile phone.

3.7.14 Standard location of phone calls received

The participants of this study reported that they received the most significant amount of phone calls in their work location for daily (61.1%), weekly (60%) and monthly calls (53.3%). Correspondingly the second largest amount of phone calls received was in the home location during family time for daily (26.1%), weekly (26.7%) and monthly calls (32.8%), details of which can be seen in Table 21 below.

Table 21: Standard location of phone calls received

Location	Not applicable	Home and family	Work	Other
In a typical day				
N	4	47	110	4
%	2.2	26.1	**61.1**	2.2
In a typical week				
N	-	48	108	6
%	-	26.7	**60**	3.3
In a typical month				
N	-	59	96	8
%	-	32.8	**53.3**	4.4

3.7.15 Specific multiple phone usage

If the participants of this study had indicated owning multiple phones, they were asked if they used each phone for a specific and separate purpose. The analysis showed that the largest proportion of the sample indicated that they used each phone for a unique purpose (37.8%), with this signifying an attempt to delineate their domains. On the other hand, 21.1% indicated that they did not use each phone for a specific purpose, and 41.1% did not answer the question.

3.8 Qualitative procedure and sample

3.8.1 Interview recruitment, transcription and coding procedures

All of the participants who agreed to be interviewed at completion of the survey were contacted by telephone and asked if they were still prepared to be interviewed for the study as it had been eleven months (for some participants) since the survey had taken place. If the participants agreed to the interview they selected an interview date, time and location which suited them best. This approach was taken in the hope that it would further limit the undue burdens in work and life domains. The interviews varied between 9 and 40 minutes in duration. As it was a semi-structured interview the time period was governed by the interviewee's responses to the questions and not by the researcher. In total, twenty-seven (27) participants were interviewed for this study during the period ranging from 30 June, 2014 to 14 August, 2014. The sample consisted of 20 primary participants. The remaining seven participants were their partners, who supplied a reflective view on their partners' behaviour. The interviews were captured into an MP3 format using a Philips DVT7000 Meeting Recorder Dictaphone and an external 360-degree microphone. The Philips DVT7000 Meeting Recorder Dictaphone was chosen after online reviews indicated it to be the best device for the procedure at hand. As this was the first time that the researcher had conducted qualitative research, it was decided that it would be best to use a professional third-party transcription service provider. Hi-Tech Outsourcing Services were selected to transcribe the interviews on account of their expertise in the area which was attested to by the positive feedback reviews by the researcher's peers as well as online reviews.

The MP3 interview files were transcribed into text format on Microsoft Word 2013 by Hi-Tech Outsourcing Services and these interviews were hosted on DropBox Professional. To add an additional level of security all individual MP3s and returned transcribed interviews were password protected. The interviews were further secured by removing all identifying characteristics, names and events to ensure the participants' anonymity and control for any ethical concerns.

Hi-Tech Outsourcing Services transcribed all 27 interviews over a nine-day period from 20-28 November, 2014 at a cost of USD459, which equated to ZAR5100. Upon receipt of the transcribed interviews, each transcription was checked thoroughly three times by the researcher, to ensure

accuracy and consistency between the audio file and the transcription. Once it was determined that the interviews had been accurately transcribed they were then entered into ATLAS.ti 7.5.12, which was installed on the same custom-built computer described earlier. ATLAS.ti was then used to define codes and themes from a thematic content analysis perspective (TCA) and which relate to the areas of interest described in Table 5.

3.8.2 Thematic Content Analysis (TCA)

TCA was employed to determine the anecdotal characteristics of the interviews conducted for this study. This procedure was chosen as it is effective in limiting the subjectivity of the interviews as far as possible. This is because TCA requires the researcher to adopt an epistemological stance which is objective or at least is objectivistic (Anderson, 2007; Smith, 1992). This is additionally achieved through the way in which the actual words of the participants are grouped into themes, which directly reflect the text as a whole (Smith, 1992). "While sorting and naming themes requires some level of interpretation, 'interpretation' is kept to a minimum" (Anderson, 2007, p. 2). In the TCA process the researcher's own feelings and thoughts towards the themes found and what they signify are irrelevant. Once all the themes have been determined, a phenomenological research paradigm is used to identify meaning in the context and structure for each participant and for the group as a whole (Anderson, 2007; Smith, 1992).

3.8.2.1 The TCA procedure

To assist the study the formalised theoretical TCA approach developed by Braun and Clarke (2006), was used as a guide in the development and classification of the data and themes found in the interviews. Thus the TCA process begun with the researcher of the study taking notes in the course of the participant interviews of behaviours and/or areas which they found to be of interest and/or significance (Braun & Clarke, 2006). Interviews were audiotaped and then transcribed by an external person. The researcher then read through the transcribed interviews and determined the feasibility of the original codes developed from the interview notes and removed those found to no longer be relevant or those found to no longer adequately describe the data/theme, while at the same time new codes were identified which more aptly described the themes found (Miles & Huberman, 1994). Upon completion of the first round of coding the interviews, all the relevant behaviour- and trend-related notes were grouped together and then saved as unique codes within ATLAS.ti. This process was iterative until a stable set of condensed codes was produced. A second-

rater was utilised to authenticate the codes. Where there were disagreements between coders a discussion was held to reach consensus. Thereafter the transcribed interviews were finalised to assign relevant codes to specific statements (Braun & Clarke, 2006).

During the first phase of interview codification, additional undetermined themes were found and then codified on the transcripts again. The process additionally revealed the existence of a hierarchy in the codes, which helped to determine the overarching themes and then the sub-themes within the interviews. The codes were once again reviewed where the codes were refined even further to make the existence of the themes and the hierarchies that they revealed even more accurate (Braun & Clarke, 2006). The process was thus iterative in nature and thus, by the sixth iteration, all the relevant themes had been identified and coded from the interviews.

Once the process of codification was complete the existence of themes became more clear, which helped to reveal the existence of three separate border-keeping groups within the participant group, related to mobile phone use. The existence of the groups was additionally solidified through the unique identifiers which helped define the way in which the home and work domains were constructed, as well as how the domains were separated. This of course was influenced by the importance and/or the urgency of the communication, self-regulation, and the origin of control.

In order to obtain a holistic account of the participants' smartphone usage, it was decided to use multisource interview data from both participants and their partners, together with survey data, as advised by Kossek et al. (2011a) in their study.

3.8.3 Interview procedure

The interview participants were asked to provide the researcher with half an hour to 45 minutes of their time, but the participants invariably controlled the length of the interview.
The interview procedure was conducted as follows:

- The purpose of the interview was explained to the participant.
- The terms of confidentiality were explained to the participant from the participant information sheet.
- The format of the interview was explained to the participant.
- The rough amount of time that the interview would take was explained to the participant.

- It was explained to the participant that they had the right to withdraw at any time or to refrain from answering a particular question.
- Consent forms were provided to the participant, who, if they agreed to participate in the study, were then asked to give formal signed permission to be interviewed and for the interview to be recorded.
- The researcher of this study then began by setting the scene.
- Next, the researcher established rapport with the interviewee, followed by a fairly one-sided conversation where the researcher asked questions designed to encourage interviewee participation.
- Each question was asked one question at a time.
- Throughout the interview process the researcher remained neutral, while encouraging responses and keeping control of the interview.

On completion of the interview the participants were thanked for their time and the researcher provided the participant with contact details if they wanted clarification or further details about the study.

3.8.4 Interview measures

Emerging from the analysis of the quantitative survey data, seven themes were identified: defining the home domain; defining the work domain; separation of the home and work domains; temporal domain construction; importance and urgency; self-regulation; and the origin of control. The seven themes were then used to develop the interview questions. During each interview, notes were taken to better refine and guide the participants into revealing details about their mobile phone usage, while at the same time providing additional questions and cues for further interviews to take place.

In the one-on-one interview with the participants the following aspects were probed:

- How the participants perceived the borders between work and home;
- How the participants viewed their mobile phone usage at home,
    - If they view their mobile phone use at home as affecting their home-work balance negatively or positively;

- How and when the participants chose to answer or respond to after-hours communications on their mobile phone at home;
- What or who delimits their mobile phone usage at home; and
- If the users work on their phone at home after hours, and why they do it?

Please refer to Appendix D for the full interview schedule used for this study.

3.8.5 Demographics of the qualitative sample

The qualitative interview sample displayed a skewed gender demographic with a marginally higher percentage of male to female participants (66.66% females compared to 33.33% males). A significant proportion of the sample (81.48%, N = 22) had a partner, an equal proportion of which was male and female (50% each), while the remaining 18.52% (N = 5) of participants indicated that they did not have a partner. The largest contingent of the sample was married (48.14%, N = 13), followed by 18.52% (N = 5) who were single, and 33.33% (N = 9) who were engaged in a domestic partnership. Of the 27 participants recruited, 20 were the main participants, with the remaining seven being their partners. In total, seven couples were recruited, consisting of four married couples and three domestic relationships. The partners were originally recruited to report back on the consistency of the interviewees' self-reporting as it was envisioned that their accounts would help minimise any self-report bias.

Of the residual 13 principal participants, only 8 reported being in a relationship with six being married, two in domestic relationships, and five single. All eight participants' partners were asked to partake in the study but declined.

The analysis found that only 22.22% (N = 6) of the participants had children. The largest proportion of participants indicated that they were parents to two children (14.81%, N = 4) or only one child (7.4%, N = 2). The remaining 77.77% (N = 21) of participants indicated that they did not have any children.

The youngest manager participant was 28 years old at the point of data collection, with the oldest being 40 years of age. The average age of participants was 33.77 years of age. The largest proportion of the sample identified their ethnicity as being white (81.48%, N = 22), followed by

11.11% (N = 3) who identified themselves as Indian, 3.7% as Black African (N = 1), and 3.7% as Coloured (N = 1). This can be attributed to the legacy left by apartheid on South Africa's structural landscape.

The level of the managerial participants' education fell predominantly within university education, with participants in possession of a Bachelor's degree constituting the largest proportion at 29.62% (N = 8), followed by a Diploma at 22.22% (N = 6), and then an honours degree qualification at 18.52% (N = 5). Those in possession of Master's degrees and merely high school education each represented 14.81% (N = 4) of the sample. The largest proportion of the sample originated from the banking or related sectors at 22.22% (N = 6), followed closely by telecommunications at 7.4% (N = 2).

3.9 Ethical issues

All participants from both the qualitative (interviews) and quantitative (questionnaires) samples were requested to be as honest as possible in their responses and were informed that there were no right or wrong answers to the questions. The participants were not coerced into participation and did so of their own free will. Although the prize of an Amazon Kindle is recognised as an incentivisation, it is not likely that participants recruited from middle to senior management levels would be influenced to remain in the study for a prize that they could easily purchase for themselves. Additionally, all participants were informed at the start of both components of the study that they could withdraw from the study at any time if they felt uncomfortable. In the case of the interviews, the interviewees were informed that they could leave at any time and their interview would be deleted and their transcription destroyed. The University of the Witwatersrand, Johannesburg requires that an ethics clearance number be obtained for all research involving human participants to ensure that both the participants and the data from the study be handled in an ethical and professional manner. Thus to ensure that all the participants from this study were treated ethically and their data handled in a similar manner as required by the rules and regulations of the University of Witwatersrand, Johannesburg for this type of study an ethic clearance was obtained and can be found in Appendix B.

All scales used in the questionnaire were validated and had already been used in prior studies. To

ensure ethical treatment of the questionnaire participants, no personal identifiers were recorded (e.g. names, identification numbers, employee numbers, etc.). However, not all identifiable markers were collected which made it impossible to remove the participant data once the participant had submitted their survey.

All interviewees' details, although known to the researcher, were removed from the transcribed interviews to ensure their anonymity. Before the TCA was conducted, all the identification markers were removed and digital copies of the transcribed interviews were sent to the participant for them to check that they were happy that no defining characteristics had been revealed. This process assisted with preparing the final transcriptions for the TCA. It is important to add that no members of the quantitative or qualitative sample requested to be removed from the study.

It must be acknowledged that some of participants' details were kept, but were separated from their responses as they had participated in the study components for prizes and/or they had agreed to be contacted for secondary follow-up interviews. Upon completion of the interviews and once the prize winners had been selected for both groups, all remaining identifiers were removed and destroyed.

To ensure an additional level of confidentiality for all the interviewed participants, audio files (MP3s) and the results of the TCA were encrypted and the transcribed interviewed were password protected. To ensure the confidentiality of collected survey information, all results and analyses were encrypted. All the information and data collected for this study will be destroyed seven years after completion of the study. The data will only be kept should the researcher or alternative researchers wish to obtain the data to rerun components of the study. To provide further confidentiality, each participant was assigned a pseudonym. This was used to provide an additional layer of confidentiality so that a participant's comments were further anonymised.

CHAPTER 4: QUANTITATIVE STUDY RESULTS

4.1 Independent variables of the study

4.1.1 Typical working day

In order to better understand what the average participant does with their time in a typical work day on their mobile phone, the study used a 7-point Likert-type scale developed by LaRose et.al (LaRose & Eastin, 2004; LaRose et al., 2003; Liu & LaRose, 2008).

The largest proportion of participants indicated that they spent on average seven or more hours a day working (78.1%), and 22.2% indicated that they spent the same amount of time (7 or more hours a day) on the Internet. In contrast, the majority of participants indicated that they spent less than one hour a day on their mobile phones using the Internet (42%), sending and receiving text and SMS messages (55%), sending emails (47.8%), receiving (58.3%) and making calls (60%), the details of which can be found in Table 22 below.

Table 22: Typical working day

	Hours per day								
	None	**≤ 1**	**1 to 2**	**2 to 3**	**3 to 4**	**4 to 5**	**5 to 6**	**6 to 7**	**≥ 7**
1.	Hours worked in a day								
N	2	-	-	-	3	7	5	22	139
%	1.1	-	-	-	1.7	3.9	2.8	12.2	**78.1**
2.	Hours spent on the Internet per day								
N	-	26	34	21	21	9	15	13	40
%	-	14.4	18.9	11.7	11.7	5	8.3	7.2	**22.2**
3.	Hours spent per day using your mobile phone for Internet usage								
N	22	76	36	14	11	3	3	1	11
%	12.2	**42.2**	20	7.8	6.1	1.7	1.7	0.6	6.1
4.	Hours spent per day using your mobile phone to send and receive text messages/SMS								
N	7	99	22	15	8	5	3	5	13
%	3.9	**55**	12.2	8.3	4.4	2.8	1.7	2.8	7.2
5.	Hours spent per day using your mobile phone to send emails								
N	35	86	21	9	8	2	2	3	12

%	19.4	**47.8**	11.7	5	4.4	1.1	1.1	1.7	6.7
6.	Hours spent per day receiving phone calls								
N	5	105	35	15	8	2	2	-	7
%	2.8	**58.3**	19.4	8.3	4.4	1.1	1.1	-	3.9
7.	Hours spent per day making phone calls								
N	10	108	40	7	4	2	2	-	6
%	5.6	**60**	22.2	3.9	2.2	1.1	1.1	-	3.3

A revised 5-item subscale ($\alpha = .849$) was developed from the typical working day scale, which used its items 3 to 7. The new scale, named "Mobile phone usage for work at work per day" looked exclusively at the work conducted and communicated on the mobile phone over the duration of the work day. The new subscale displayed the reliability and frequency statistics found in Table 23 below.

Table 23: Typical working day distribution

	N*	Cronbach's alpha	Mean	SD
Mobile phone usage for work at work per day	5	0.85	9.56	7.57

N* refers to number of items found in scales

4.1.2 Typical day at home

In order to better understand what the average participant does with their time in a standard typical day at home on their mobile phone, a 7-point Likert-type scale developed by LaRose and colleagues was utilised (LaRose & Eastin, 2004; LaRose et al., 2003; Liu & LaRose, 2008).

From the participant data received it can be seen that the largest proportion of participants indicated that they spent on average 1 to 2 hours a day working at home (28.3%). However, the same sample group indicated that they spent an average of less than an hour a day on the Internet at home (41.7%), the same amount of time using the Internet on their mobile phones (40%), sending and receiving text /SMS messages (54.4%), and receiving phone calls (47.2%) as well as making phone calls (47.8%) on their mobile phone. However, the participants indicated that a large proportion would not send emails (42.8%) on their mobile phone, the details of which can be found in Table

24 below.

Table 24: Typical day at home

	Hours per day								
	None	**< 1**	**1 to 2**	**2 to 3**	**3 to 4**	**4 to 5**	**5 to 6**	**6 to 7**	**≥ 7**
1.	Hours spent working at home per day								
N	35	47	51	19	7	3	3	2	11
%	19.4	26.1	**28.3**	10.6	3.9	1.7	1.7	1.1	6.2
2.	Hours spent on the Internet at home per day								
N	38	75	31	10	8	2	2	4	7
%	21.1	**41.7**	17.2	5.6	4.4	1.1	1.1	2.2	3.9
3.	Hours spent per day using your mobile phone for Internet usage at home on mobile phone								
N	69	72	24	5	4	2	1	-	1
%	38.3	**40**	13.3	2.8	2.2	1.1	0.6	-	0.6
4.	Hours in a typical day used on mobile phone to send and receive text messages/SMSs								
N	51	98	14	4	5	3	1	-	3
%	28.3	**54.4**	7.8	2.2	2.8	1.7	0.6	-	1.7
5.	Hours spent per day used to send emails on mobile phone								
N	77	72	17	2	6	1	1	-	1
%	**42.8**	40	9.4	1.1	3.3	0.6	0.6	-	0.6
6.	Hours spend per day used to receive mobile phone calls								
N	59	85	21	5	4	-	3	-	1
%	32.8	**47.2**	11.7	2.8	2.2	-	1.7	-	0.6
7.	Hours spend per day used to make mobile phone calls								
N	68	86	15	4	3	1	1	1	-
%	37.8	**47.8**	8.3	2.2	1.7	06	0.6	0.6	-

A revised 5-item subscale ($\alpha = .901$) was developed from the typical day at home scale, using items 3 to 7. The new scale, named "Mobile phone usage for work at home per day" looked exclusively at the work conducted and communicated on the mobile phone over the duration of a typical day at home. The new subscale displayed the reliability and frequency statistics seen in Table 25 below.

Table 25: Typical day at home distribution

	N*	Cronbach's alpha	Mean	SD
Mobile phone usage for work at home per day	5	0.90	4.80	4.98

N* refers to number of items found in scales

4.1.3 Communications after hours

4.1.3.1 Calls after hours

From the participant data received, as shown in Tables 26 and 27, it can be seen that the average participant reported receiving on average 3 phone calls per day after hours.

Table 26: Calls after hours

	Mean	SD
Calls after hours	3.39	4.86

Table 27: Number of phone calls received after hours

Amount of phone calls received after hours													
Hours	None	1	2	3	4	5	6	7	10	15	20	30	50
N	24	24	45	31	14	26	2	3	7	1	1	1	1
%	13.3	13.3	25	**17.2**	7.8	14.4	1.1	1.7	3.9	0.6	0.6	0.6	0.6

4.1.3.2 Emails after hours

From the participant data received, as shown in Table 28, it can be seen that the average participant reported receiving on average 13 phone calls after hours. The statistical distribution found in Table 29 indicates that on average the participant would respond to 10 emails after hours.

Table 28: Emails after hours

	Mean	SD
Emails after hours	13.47	14.65

Table 29: Number of emails received after hours

Amount of emails received after hours																				
Hours	0	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	45	50	100
N	9	4	10	9	6	26	4	2	2	2	42	4	12	22	7	7	2	1	7	2
%	5.0	2.2	5.6	5.0	3.3	14.4	2.2	1.1	1.1	1.1	**23.3**	2.2	6.7	12.2	3.9	3.9	1.1	.6	3.9	1.1

4.1.3.3 Text and SMS messages after hours

From the participant data received, as shown in Table 30, it can be seen that participants reported receiving on average 7 text/SMS messages after hours. The statistical distribution found in Table 31 indicates that on average the participant would respond to only 5 text/SMS messages after hours.

Table 30**:** Text/SMS messages after hours

	N	Mean	SD
Text/SMS messages after hours	180	7.27	11.62

Table 31: Distribution of after-hours text/SMS messages

Amount of text /SMS messages received after hours																		
Hours	0	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	50	100
N	28	17	19	20	5	31	2	5	6	3	20	1	6	8	1	2	5	1
%	15.6	9.4	10.6	11.1	2.8	**17.2**	1.1	2.8	3.3	1.7	11.1	.6	3.3	4.4	.6	1.1	2.8	.6

4.2 Moderator variables

4.2.1 Self-regulation

Self-regulation, Internet and mobile phone habitual strength were determined by adapting the 7-point Likert-type ($\alpha = 0.92$) scale consisting of seven items to evaluate deficient Internet self-regulation (as shown in Table 32 below). Due to their similarity in dealing with control from the pilot study, the two statements of "I feel my mobile phone use is out of control" and "I would miss my mobile phone if I no longer had access to it" were merged into one question.

The largest proportion of the participants indicated that they disagreed that their mobile phone usage interferes with other activities (22.2%), while participants strongly disagreed with their need to keep using their mobile phones to get their thrills (19.4%), as did they with the construct of dealing with phone control and access to it (19.4%). However, they did agree that they spent longer periods of time than they intended on their mobile phone (20%), which ties in with the reported urge to be on their mobile phone (20%), but disagreed that they would go out of their way to satisfy their mobile phone urges (31.1%). Please see the self-regulation table in Appendix E (Moderator variable) for the relevant information.

Table 32: Self-regulation distribution

	Cronbach's alpha	Mean	SD
Self-regulation	0.92	3.31	1.56

4.3 Dependent variables

4.3.1 Work-family balance

The dependent variable for this study is work-family balance. Clark (2000, p. 751; 2002, p. 37) defines work-family balance as "satisfaction and good functioning at work and at home, with minimum role conflict". To measure this multifaceted construct, Clark (2002) used five scales in her study. This study is only assessing the one-way transfer from the work domain into the home domain, and therefore only used the following:

4.3.2 Satisfaction with work

Satisfaction with work was assessed using a seven-item construct devised to measure traditional work satisfaction ($\alpha = .94$), as shown in Table 33 below. Four items were constructed by Clark (2002), while the remaining three items were taken from Hackman and Oldham, (1975) in their research on traditional work satisfaction.

From the participant data collected, the largest proportion of participants agreed that their work activities are rewarding in and of themselves (49.4%), while gaining a lot of satisfaction from carrying out their responsibilities at work (48.9%). This is linked to the meaning they place upon

their work activities (43.3%), their love for their work (31.1%), and their satisfaction with their work (41.1%), in the content matter of their job (37.2%), and that they are not thinking of quitting their jobs (45%). Please see the satisfaction with work table in Appendix F for the relevant information. This of course indicates a good work-life environment.

Table 33: Satisfaction with work distribution

	Cronbach's alpha	Mean	SD
Satisfaction with work	0.94	36.18	8.28

4.3.3 Satisfaction with home life

All four items were constructed by Clark (2002) (α = .94), as shown in Table 34 below. From the participant data collected, the largest proportion of the participants agreed that their activities at home were rewarding (42.8%), that they got a lot of satisfaction from carrying out their responsibilities at home (38.3%), found their activities at home to be personally meaningful (41.1%), and that they loved what they do at home (43.9%). By agreeing to the statements about their home above, a picture emerged of a good home life and environment. Please see the satisfaction with home life table in Appendix F for the relevant information.

Table 34: Satisfaction with home life distribution

	Cronbach's alpha	Mean	SD
Satisfaction with home life	0.94	23.19	4.110

4.3.4 Good functioning at work

All six items utilised by Clark (2002) (α = .67) come from the altruism subscale developed by Smith, Organ and Near (1983) in their Employee Citizenship Scale (as seen below in Table 35). Clark (2002) utilises the scale as it measures behaviour over and above simple conformance to work rules, since employees frequently violate these. From the participant data collected, the largest proportion of the participants agreed to help others who have been absent (90.6%),

volunteered for things that were not required (81.7%), oriented new people even though it was not required (84.4%), helped others who had heavy workloads (91.1%), assisted the supervisor with their work (84.4%), and made innovative suggestions to improve the department (94.4%) (see the good functioning at work table in Appendix F). From this we can determine that the participants in this study were team players, who stayed within the confines of the work rules and conformed to rules and standards.

Table 35: Good functioning at work distribution

	Cronbach's alpha	Mean	SD
Good functioning at work	0.67	33.07	4.80

4.3.5 Family Cohesion Scale

The Family Cohesion Scale consisted of ten items ($\alpha = .92$), as shown in Table 36 below.

Clark (2002) used the Family Adaptability and Cohesion Evaluation Scale III (FACES III) developed by Olson (1986) to measure family behaviour, cohesion, adaptability, and communication for purposes of determining good family functioning. Clark (2002) utilised only the cohesion scale of FACES III, which reduced the length of the questionnaire. The largest proportion of the participants reported frequently asking family members for help (45.6%), approved of each other's friends (42.2%), liked to do things with just their immediate family (41.1%), felt closer to other family members than to people outside their family (35.6%), liked to spend free time with each other (44.4%), felt very close to each other (45%), got together for activities (34.4%), everybody was present (34.4%), could easily think of things to do together as a family (33.3%), consulted other family members on their decisions (40.6%), and deemed family togetherness as being very important (52.8%). See Appendix F for the relevant information.

Table 36: Family Cohesion Scale distribution

	Cronbach's alpha	Mean	SD
Family Cohesion Scale	0.92	37.93	7.82

4.3.6 Work-family conflict

Seven items relating to work-family conflict were developed from Bohen and Viveros-Long's (1981) role conflict scale (α = .87) (see Table 37 below). Items from this scale encompass components of work-family conflict such as "job burnout, work interference, time for self, and negative spill-over" (Clark, 2002). Work-family conflict is a positive scale, thus the greater the score the lower the conflict, while the lower the score the higher the conflict. The largest proportion of the participants found "that some of the time" the participant's job kept them away from their family too much (46.1%), while feeling that they have more to do than they could handle comfortably (45.6%), resulting in a desire to have more time to do things for the family (42.8%), feeling physically drained (45.6%), rushing to get everything done every day (42.8%), having enough time for themselves (37.8%), and feeling emotionally drained when they get home from work (45%) (see the work-family conflict table in Appendix F for the relevant information).

Table 37: Work-family conflict distribution

	Cronbach's alpha	Mean	SD
Work-family conflict	.873	19.88	5.050

4.4 Exploratory variable: Self-esteem

The Rosenberg Self-Esteem Scale (RSES) was used to measure self-esteem in this study. The RSES is a 10-item (α = .65) unidimensional scale initially designed to measure the self-esteem of high school students (see Table 38 below). This scale measures personal worth, self-confidence, self-satisfaction, self-respect, and self-deprecation. From the participant data collected, the largest proportion of the participants agreed to feeling that they were a person of worth (91.6%), that they had a number of good qualities (97.8%), that they were able to do things as well as most other people (95.5%), took a positive attitude toward themselves (87.7%), were satisfied with themselves (87.2%), strongly disagreed to the inclination that they were failures (41.9%), felt that they had much to be proud of (40.8%), and disagreed to wishing to have more respect for themselves (43.6%) or that they felt useless at times (39.7%), or that they felt that they were no good at all

(38%). See the self-esteem table in Appendix G for the relevant information.

Table 38: Self-esteem distribution

	N	Cronbach's alpha	Mean	SD
Self-esteem	179	.787	28.96	2.505

4.5 Summary of dependent variables

Table 39 offers a summative conclusion of all the dependent variables listed above.

Table 39: Summary of dependent variables

	N	**Cronbach's alpha**	**Mean**	**SD**
1.Self-regulation	180	0.92	3.31	1.56
2.Satisfaction with work	178	0.94	36.18	8.28
3.Satisfaction with home life	180	0.94	23.19	4.11
4.Good functioning at work	180	0.67	33.07	4.80
5.Family Cohesion Scale	180	0.92	37.93	7.82
6.Work-family conflict	180	0.87	19.88	5.05
7.Self-esteem	179	0.79	28.96	2.505

4.6 Intercorrelations between the moderator variables and dependent variables

It is pertinent to note that for this study that when correlation were reported that a Spearman's correlation was used when the data were categorical or ordinal and a Pearson's correlation was used when the data were ratio.

Table 40: Intercorrelations between the moderating variables and dependent variables

		1	2	3	4	5	6	7
1	Self-regulation							
2	Satisfaction with work	0.003						
3	Satisfaction with home life	-0.047	0.302**					
4	Good functioning at work	-0.025	0.248**	0.166*				
5	Family Cohesion Scale	-0.023	0.268**	0.488**	0.183*			
6	Work-family conflict	-0.243**	0.064	0.088	-0.046	-0.223**		
7	Self-esteem	-0.166*	0.506**	0.459**	0.166*	0.328**	0.215**	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.6.1 Self-regulation

Self-regulation showed a positive correlation with the work-family conflict scale ($r = -.243$; $p < 0.01$) and self-esteem ($r = -0.166$; $p < 0.05$). All the above correlations were found to be significant, but varied between weak (work-family conflict) and very weak (self-esteem), as seen in Table 40.

4.6.2 Satisfaction with work

Satisfaction with work showed a positive correlation with satisfaction with home life ($r = .302$; $p < 0.01$), good functioning at work ($r = .248$; $p < 0.01$), Family Cohesion Scale ($r = .268$; $p < 0.01$) and self-esteem ($r = .506$; $p < 0.01$). All the above correlations were found to be significant, but varied between weak (satisfaction with home life/ good functioning at work/ Family Cohesion Scale) and

moderate (self-esteem), as seen in Table 40.

4.6.3 Satisfaction with home life

Satisfaction with home life showed a positive correlation with good functioning at work ($r = .166$; $p < 0.01$), Family Cohesion Scale ($r = .488$; $p < 0.01$) and self-esteem ($r = .0459$; $p < 0.01$). All the above correlations were found to be significant, but varied between very weak (good functioning at work) and moderate (Family Cohesion Scale/self-esteem), as seen in Table 40.

4.6.4 Good functioning at work

Good functioning at work showed a positive correlation with Family Cohesion Scale ($r = .183$; $p < 0.05$) and self-esteem ($r = .166$; $p < 0.05$). All the above correlations were found to be significant, but very weak (Family Cohesion Scale/self-esteem), as seen in Table 40.

4.6.5 Family Cohesion Scale

Family Cohesion Scale showed a negative correlation with work-family conflict ($r = -.223$; $p < 0.01$) and positive correlation with self-esteem ($r = .328$; $p < 0.01$). All the above correlations were found to be significant, but weak (work-family conflict/self-esteem), as seen in Table 40.

4.6.6 Work-family conflict

Work-family conflict showed a positive correlation with self-esteem ($r = .215$; $p < 0.01$), which was found to be significant, but weak, as seen in Table 40 below. This outcome, according to Baron and Kenny's (1986) model, increases the potential likelihood of self-regulation abilities to operate as either moderators and/or mediators of work-family conflict.

4.6.7 Self-esteem

Self-esteem showed a negative correlation with self-regulation ($r = -.166$; $p < 0.05$) and a positive correlation with satisfaction with work ($r = .506$; $p < 0.01$), satisfaction with home life ($r = .459$; $p < 0.01$), the Family Cohesion Scale ($r = .328$; $p < 0.01$) and work-family conflict ($r = .215$; $p < 0.01$). All the above correlations were found to be significant, but varied between very weak (self-regulation), weak (Family Cohesion Scale / work-family conflict), and moderate (satisfaction with work / satisfaction with home life), as seen in Table 40 below. This outcome, according to Baron and Kenny's (1986) model, indicates that self-esteem was a far better candidate as either a moderator and/or mediator of the independent variables.

4.7 Intercorrelations between the independent variables and the moderating variable

Table 41: Intercorrelations between the independent variables and the moderating variable

				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Independent variables	Amount of … received after hours	1	Calls																			
		2	Emails	.166*																		
		3	Text messages/SMS's	0.13	0.06																	
	Mobile phone usage at work	4	per day for work	.241**	.197**	.255**																
		5	in a typical work day	.206**	.187*	.244**	.953**															
	Mobile phone usage at home	6	per day for work	.440**	.215**	.408**	.677**	.633**														
		7	in a typical day at home	.392**	.230**	.352**	.580**	.567**	.914**													
	Time	8	Minutes on mobile	0.16	-0.07	0.00	-0.03	-0.05	-0.01	-0.03												
		9	Hours on mobile	0.10	-0.06	-0.01	-0.03	-0.04	.189*	.193*	1.000**											
		10	Work days a week	.202**	0.06	0.13	0.08	0.14	.198**	.287**	0.13	0.09										
	Percentage of calls received for	11	Work	.210**	.307**	0.06	0.13	0.11	.270**	.376**	0.10	0.06	.276**									
		12	Home and family	-.150*	-.233**	-0.09	-.170*	-0.12	-.331**	-.378**	0.10	0.06	-0.10	-.798**								
		13	Other purposes	0.03	-0.03	0.01	-0.03	0.00	-0.06	-0.09	0.14	0.10	-0.12	-.240**	0.06							
	Percentage of emails received for	14	Work	0.10	.288**	0.01	.221**	.198**	.258**	.334**	-0.03	-0.02	.154*	.583**	-.563**	-0.09						
		15	Home and family	-0.03	-0.08	0.02	-0.06	-0.05	-.170*	-.220**	0.14	0.10	0.02	-.437**	.438**	0.11	-.504**					
		16	Other purposes	-0.05	-0.13	0.02	-0.07	-0.09	-0.13	-.195*	0.00	0.01	-0.06	-.310**	.213**	.148*	-.408**	0.05				
	Percentage of SMS's received for	17	Work	.227**	.357**	-0.05	.196**	.187*	.175*	.302**	0.01	0.00	.240**	.572**	-.428**	-.187*	.388**	-.204**	-0.15			
		18	Home and family	-.195**	-0.11	0.07	-.172*	-0.11	-.232**	-.231**	-0.05	-0.04	-.148*	-.264**	.430**	0.01	-.253**	.277**	-0.02	-.553**		
		19	Other purposes	0.06	-0.02	-0.01	-0.05	-0.09	0.04	-0.05	0.14	0.13	-0.02	-.171*	0.08	.284**	-0.05	-0.07	.168*	-.259**	-.269**	
Moderator		20	**Self-regulation**	0.14	0.11	0.04	.198**	.158*	0.14	0.09	-0.02	-0.01	-0.04	0.01	0.00	0.09	0.14	-0.05	0.02	0.06	-0.07	0.06

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.7.1 Amount of emails received after hours

There is a positive correlation ($r = .166$; $p < 0.05$) between the amount of emails and calls received after hours, as seen in Table 41.

As an individual permits an increase in after-hours emails to be received, they also become susceptible to receive phone calls after hours. The correlation is significant but weak.

4.7.2 Mobile phone usage at work

Mobile phone usage per day for work showed a positive correlation with the amount of calls ($r = .241$; $p < 0.01$), emails ($r = .197$; $p < 0.01$), and text messages ($r = .255$; $p < 0.01$) received after hours. Mobile phone use in a typical work day correlated significantly with the amount of calls ($r = .206$; $p < 0.01$) and text messages ($r = .244$; $p < 0.01$), while mobile phone use in a typical day also showed a significant correlation with the amount of emails ($r = .187$; $p < 0.05$). These correlations were significant, but fairly weak. A strong positive correlation ($r = .953$; $p < 0.01$) was observed between mobile phone usage at work per day for work and mobile phone usage for work in a typical work day. Please see Table 41.

4.7.3 Mobile phone usage at home

Mobile phone use per day for work while at home showed a positive correlation with the amount of calls ($r = .440$; $p < 0.01$), emails ($r = .215$; $p < 0.01$), and texts ($r = .408$; $p < 0.01$) received after hours, and exhibits weak to moderate correlations.

Mobile phone use per day for work while at home showed a stong positive correlation with the mobile phone usage at home and mobile phone usage at work per day for work ($r = .677$; $p < 0.01$) and a typical work day ($r = .633$; $p < 0.01$), i.e. the more an employee uses a mobile phone at home for work, then usage of a phone at work and in a typical work day was also likely to be high.

Mobile phone use per day for work while at home showed a weak correlation with the amount of calls ($r = .392$; $p < 0.01$), emails ($r = .230$; $p < 0.01$) and text messages ($r = .352$; $p < 0.01$) received after hours.

A strong positive correlation ($r = .914$; $p < 0.01$) was found between the amount of time that a person uses their phone at work and the amount of time they use their phone at home. This in turn is believed to further the acceptance of work facilitation on mobile phones ($r = .580$; $p < 0.01$) and throughout their typical work day ($r = .567$; $p < 0.01$), as seen in Table 41.

4.7.4 Time

The number of hours spent on a mobile phone was positively correlated with the amount of work conducted on the mobile phone per day while at home ($r = .189$; $p < 0.05$), and typical usage at home in a day ($r = .193$; $p < 0.05$).

As an individual increases the number of days they spend at work in a week, this is also related to the number of phone calls they receive after hours ($r = .202$; $p < 0.01$). The number of days was also weakly to moderately correlated with their mobile phone use per day while at home ($r = .198$; $p < 0.01$), and typical usage at home in a day ($r = .287$; $p < 0.01$), as seen in Table 41.

4.7.5 Percentage of phone calls received

A. For work

The individual who facilitates an increase in the percentage of work calls, will also experience an increase in the amount of calls ($r = .210$; $p < 0.01$) and emails ($r = .307$; $p < 0.01$) they receive after hours. As a result, when the percentage of work calls increased, there was an increase in the work conducted on the mobile phone per day while at home ($r = .270$; $p < 0.01$), typical usage at home in a day ($r = .376$; $p < 0.01$) and days worked in a week ($r = .376$; $p < 0.01$), as seen in Table 41.

B. For home and family

for individuals who allowed the percentage of home and family calls to increase ($p < 0.01$), this resulted in a reduced amount of calls ($r = -.150$; $p < 0.05$) and emails they would receive after hours ($r = -.233$; $p < 0.01$), which was also found to result in a reduction of mobile phone usage at work per day for work ($r = -.170$; $p < 0.05$). As a result, when home and family calls increased, there was a decrease in the work conducted on the mobile phone per day while at home ($r = -.331$; $p < 0.01$), in typical usage at home in a day ($r = -.378$; $p < 0.01$), and in the percentage of works calls received

(r = -.798; p < 0.01). This additionally suggests that individuals with a 'home centrality' were generally better able to manage their mobile phone use.

For individuals who allow the percentage of home and family calls to increase, this resulted in a reduced amount of phone calls they would receive after hours (r = -.150; p < 0.05), while they used their mobile phone less at work for work (r = -.233; p < 0.05). See Table 41.

C. For other purposes

For individuals who allow the percentage of phone calls for other purposes to increase, this resulted in a decreased percentage of works calls received (β = -.240; p < 0.01), as seen in Table 41.

4.7.6 Percentage of emails received

A. For work

The individual who increases the percentage of work emails received will also experience an increase in the amount of emails they receive after hours (r = .288; p < 0.01). Consequently, when the percentage of work emails increased, there was also an increase in the work conducted on the mobile phone per day while at work (r = .221; p < 0.01), in typical usage at work in a day (r = .198; p < 0.01), in the work conducted on the mobile phone per day while at home (r = .258), and in typical usage at home in a day (r = .334; p < 0.01). The percentage of emails received for work per day was also correlated with an increase in the percentage of phone calls received for work (r = .583; p < 0.01), but with a decrease in the amount of phone calls accepted for other purposes (r = -.563; p < 0.01).

The individual who facilitated an increase in the percentage of work emails received, also experienced an increase in the days they would work in a week (r = .154; p < 0.05).

B. For home and family

An individual who allows the percentage of home and family emails to increase was found to experience a decrease in typical usage of a mobile phone at home in a day (r = -.220; p < 0.01), which resulted in a decreased/diminished percentage of calls (r = -.437; p < 0.01) and emails (r = -.504; p < 0.01) received for work. However, the percentage of home and family emails was negatively correlated with an increase in the percentage of home and family calls received (r = -

.438; p < 0.01).

An individual who allows the percentage of home and family emails to increase was found to experience a decrease in the work conducted on the mobile phone per day while at home (r = -.170; p < 0.05)**.** Please see Table 41.

C. For other purposes

An individual who allows the percentage of emails for other purpose emails to increase also had a decreased percentage of work calls (r = -.310; p < 0.01) and emails (r = -.408; p < 0.01) received. However, an increase in the percentage of emails received for other purposes was also associated with an increase in the percentage of phone calls received from home and family (r = .213; p < 0.01).

An individual who allows the percentage of emails received for other purposes to increase was found to experience a decrease in the work conducted on the mobile phone per day while at home (r = -.195; p < 0.05), and an increase in the percentage of phone calls received for other purposes (r = .148; p < 0.05). See Table 41.

4.7.7 Percentage of SMSs received

A. For work

The individual who facilitates the percentage of work SMSs to increase, will also experience an increase in the amount of calls (r = .227; p < 0.01) and emails (r = .357; p < 0.01) they receive after hours and, consequently, an increase in the work conducted on the mobile phone per day while at work (r = .196; p < 0.01). A similar result was found, which showed a positive relationship between an increase in the percentage of work SMSs received and an increase in the typical usage of the mobile phone at home in a day (r = .302; p < 0.01), which was also related to an increase in the amount of days they would work in a week (r = .240; p < 0.01).

Again, the increase in work SMSs received was also associated with an increase in the percentage of phone calls received for work (r = .572; p < 0.01) and an increased percentage of emails received for work (r = .388; p < 0.01). On the other hand, the percentage of work SMSs received was negatively correlated with the percentage of emails (r = -.204; p < 0.01) and calls (r = -.428; p < 0.01) received from home and family.

In summary, it is likely that the individual who facilitates an increase in the percentage of work SMSs similarly experienced an increase in typical usage of mobile phone at work in a day (β = .187; $p < 0.05$) and an increase in the work conducted on the mobile phone per day while at home ($r = .175$; $p < 0.05$), but experienced a decrease in the percentage of phone calls received for other purposes ($r = -.187$; $p < 0.05$). See Table 41.

B. For home and family

The individual who facilitates the percentage of home and family SMSs to increase, will also experience a decrease in the amount of phone calls ($r = -.195$; $p < 0.01$) and a decrease in the work conducted on the mobile phone per day while at home ($r = -.232$; $p < 0.01$), in typical usage at home in a day ($r = -.231$; $p < 0.01$), and in the amount of days they would work in a week ($r = -.148$; $p < 0.05$). In addition, an increase in home and family SMSs was also associated with a decrease in the percentage of calls ($r = -.264$; $p < 0.01$), emails ($r = -.253$; $p < 0.01$) and SMSs ($r = -.553$; $p < 0.01$) received for work, but an increase in the percentage of calls ($r = .430$; $p < 0.01$) and emails ($r = .277$; $p < 0.01$) received from home and family.

The individual who facilitates the percentage of home and family SMSs to increase results in a decrease in mobile phone usage in a typical day ($r = -.172$; $p < 0.05$) and a decreased amount of days worked in a week ($r = -.148$; $p < 0.05$). See Table 41.

C. For other purposes

The individual who facilitates the percentage of SMSs received for other purposes to increase, experiences a decreased/diminished percentage of SMSs ($r = -.259$; $p < 0.01$) received for work and for home/family purposes ($r = -.269$; $p < 0.01$). However, the percentage of SMSs received for other purposes was positively correlated with the amount of phone calls received for other purposes ($r = .284$; $p < 0.01$).

For the individual who facilitates the percentage of SMSs received for other purposes to increase, this shows a correlation with a decreased/diminished percentage of phone calls ($r = -.171$; $p < 0.05$), but an increased amount of emails received for other purposes ($r = .168$; $p < 0.05$). See Table 41.

4.7.8 Self-regulation

An increase in self-regulation was associated with an increase in the work conducted on the mobile phone per day while at work ($r = .198$; $p < 0.01$). Similarly, an increase in self-regulation was

associated with an increase in the work conducted on the mobile phone per day while at work on a typical work day ($r = .158$; $p < 0.05$), as seen in Table 41.

As shown in the paragraph above, only two of the independent variables (mobile phone use per day while at work and mobile phone use per day while at work on a typical work day) correlate with the moderating variables (self-regulation). These outcomes, according to Baron and Kenny's (1986) model, increase the potential likelihood of self-regulation abilities to operate as either a moderator or mediator of the two highlighted independent variables.

4.8 Intercorrelations between the independent variables and the dependent variables

Table 42: Intercorrelations between the independent variables and the dependent variables

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Amount of ... received after hours	1	Calls																			
	2	Emails	.166*																		
	3	Text messages/SMS's	.132	.056																	
Typical	4	Working day:	.206**	.187*	.244**																
	5	Day at home:	.392**	.230**	.352**	.567**															
Percentage	6	Works	.210**	.307**	.062	.114	.376**														
	7	Home/ Family	-.150*	-.233**	-.093	-.123	-.378**	-.798**													
	8	Other	.026	-.028	.013	.001	-.088	-.240**	.060												
Percentage	9	Works	.104	.288**	.014	.198**	.334**	.583**	-.563**	-.093											
	10	Home/ Family	-.029	-.077	.025	-.046	-.220**	-.437**	.438**	.112	-.504**										
	11	Other	-.048	-.127	.019	-.092	-.195*	-.310**	.213**	.148*	-.408**	.050									
Percentage	12	Works	.227**	.357**	-.050	.187*	.302**	.572**	-.428**	-.187*	.388**	-.204**	-.145								
	13	Home/ Family	-.195**	-.110	.066	-.109	-.231**	-.264**	.430**	.009	-.253**	.277**	-.021	-.553**							
	14	Other	.061	-.021	-.014	-.090	-.050	-.171*	.075	.284**	-.049	-.067	.168*	-.259**	-.269**						
Work/family balan	15	Satisfaction with work	.132	.089	-.005	.001	.218**	.370**	-.209**	-.190*	.308**	-.235**	-.198**	.162*	.034	-.065					
	16	Satisfaction with home life	.140	.051	.002	.046	.159*	.177*	-.113	.035	.186*	-.136	.079	.146	.023	-.069	.302**				
	17	Good functioning at work	.116	.026	.010	-.056	.157*	.246**	-.088	-.044	.078	-.141	-.211**	.023	.097	-.036	.248**	.166*			
	18	Family Cohesion Scale	.103	.075	.006	.024	.129	.321**	-.164*	-.053	.193**	-.079	-.096	.149*	.206**	-.174*	.268**	.488**	.183*		
	19	Work Family Conflict	-.178*	-.116	.020	-.103	-.142	-.283**	.131	-.064	-.072	.007	-.038	-.250**	.150*	.083	.064	.088	-.046	-.223**	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.9 Research question 1

Introduction

The aim of this section is to determine if the proposed research hypotheses were plausible, showing that there is a relationship between mobile phone usage outside of work and self-regulation. To assist the reader and make the flow of the document more comprehensive and easier to read, both research questions 1 and 2 and their relevant hypotheses (found in sections 2.12.1 and 2.12.2 above) have been repeated.

4.9.1 RQ1: Does self-regulation help to regulate after-hours work-related mobile phone usage in the home domain?

- Hypothesis 1.1: Regulated after-hours mobile phone usage is achieved through efficient self-regulation.

- Hypothesis 1.2: Unregulated after-hours mobile phone usage is achieved through deficient self-regulation.

4.9.2 Relationship between independent and moderating variable (self-regulation)

4.9.2.1 Mobile phone usage for work at work per day

Typical working day usage

It was hypothesised that there would be a relationship between self-regulation and typical working day usage of a mobile phone ($r(176) = -.040$; $p = .597$), as seen in Table 43 below. However, this study did not find a significant relationship between the two variables.

Table 43: Pearson's regressions of Independent Variable/ Dependant Variable and Moderating Variable

	Self-regulation[1]	**p**
Mobile phone usage for work at work per day		
Typical working day usage (all 7 items below are in a work day)	.158*	.039
1. Hours worked in a typical day	-.040	.597
2. Hours spent on Internet usage	-.011	884
3. Hours spent on mobile phone Internet usage	.221**	.003

4. Hours spent send and receive mobile phone text messages/SMS	.188*	.013
5. Hours spent to send mobile phone emails	.247**	.001
6. Hours spent when mobile phone calls are received	.063	.407
7. Hours spent when mobile phone calls are made	.034	653
Mobile phone usage for work at work per day (sub-scale items 3 to 7, above)	.198**	.010
Mobile phone usage for work at home per day		
Typical day at home usage (all 7 items below are in a day spent at home)	.260	.088
1. Hours worked in a typical day at home	.024	.757
2. Hours spent on Internet usage for work, in a day at home	.027	.720
3. Hours spent on mobile phone Internet usage for work, in a day at home	.185*	.014
4. Hours spent to send and receive mobile phone text messages/SMS for work, in a day at home	.045	.550
5. Hours spent to send mobile phone emails for work, in a day at home	.181*	.016
6. Hours spent when mobile phone calls are received, in a day at home	.076	.315
7. Hours spent when mobile phone calls are made, in a day at home	.174*	.021
Mobile phone usage for work at home per day (sub-scale items 3 to 7, above)	.143	.063
Times		
Minutes spent on mobile	-.020	.861
Hours spent on mobile	-.009	.914
Work days a week	-.041	.588
After hours		
Calls after hours	.143	.057
Email after hours	.111	.142
SMSs after hours	.044	.558
Percentage of calls received for…		
Work	.011	.881
Home and family	.000	.995
Other purposes	.091	.230
Percentage of emails received for…		
Work	.144	.056
Home and family	-.052	.492
Other purposes	.016	.834
Percentage of texts and SMSs received for…		
Work	.061	.481
Home and family	-.068	.370
Other purposes	.063	.408
Work-family balance scale		
Work-family balance	-.091	.233
Satisfaction with work	.003	.965

Satisfaction with home life	-.047	.538
Good functioning at work	-.025	.737
Family Cohesion Scale	-.023	.765
Work-family conflict	-.243**	.001
Self-esteem		
Self-esteem	.305**	.000

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

[1] To measure the participants' deficient self-regulation for this study, a 7-point Likert-type scale was used where "Strongly Disagree" was set to 1 and "Strongly Agree" was set to 7. Therefore, the higher the score the more deficient the self-regulation, while the lower the score, the more moderated or controlled the usage becomes.

Typical working day usage

A weak positive correlation between mobile phone self-regulation and typical work day usage ($r(171) = .158^{*}$; $p = .039$) was found, as seen in Table 43 above.

As the individual spends more time in a typical day on work using their mobile phone, their deficient self-regulation increases. This behaviour can be attributed to the conditioning they receive from their work environment, which includes their employers and peers.

This of course means that the opposite is also true: that the fewer hours in a typical day spent on their mobile phone for work, the more individuals are able to self-regulate.

1. Hours worked in a typical day

It was hypothesised that there would be a relationship between mobile phone self-regulation and the number of hours typically worked in a day ($r(177) = -.040$; $p = .597$), as seen in Table 43 above. This study did not find a significant relationship.

2. Hours spent on Internet usage

It was hypothesised that there would be a relationship between mobile phone self-regulation and the number of hours spent on the Internet in a work day ($r(176) = -.011$; $p = .884$), as seen in Table 43 above. This study did not find a significant relationship.

3. Hours spent on mobile phone Internet usage

There was a weak positive correlation between mobile phone self-regulation and the hours spent on mobile phone Internet usage per work day ($r(174) = .221^{**}$; $p = .003$), as seen in Table 43 above.

As the individual increases the number of hours spent on their mobile phone during the work day, their deficient self-regulation increases.

This of course means that the opposite is also true; the less time spent on the mobile phone over the course of the work day, the more the individual is able to self-regulate.

4. Hours spent to send and receive mobile phone text messages/SMS

There was a weak positive correlation relationship between mobile phone self-regulation and the hours spent on mobile phone text/SMS messages per work day ($r(174) = .188^{*}$; $p = .013$), as seen in Table 43 above.

As the individual increases the number of hours spent sending and receiving text/SMS messages on their mobile phone over the course of the work day, so their deficient self-regulation increases.

This of course means that the opposite is also true; the less time spent on a mobile phone to send and receive text/SMS messages over the course of the work day, the more the individuals were able to self-regulate their usage.

5. Hours spent sending mobile phone emails

There was a weak positive correlation between mobile phone self-regulation and the hours spent on the mobile phone to send emails per work day ($r(175) = .247^{**}$; $p = .001$), as seen in Table 43 above. As the individual increases the number of hours spent on emails sent on their mobile phone while at work over the course of the work day, their deficient self-regulation increases.

6. Hours spent receiving mobile phone calls

It was hypothesised that there would be a relationship between mobile phone self-regulation and the number of hours spent receiving mobile phone calls per work day ($r(176) = .063$; $p = .407$), as seen in Table 43 above. This study did not find a significant relationship.

7. Hours spent making mobile phone calls

It was also hypothesised that there would be a relationship between mobile phone self-regulation and the number of hours spent making mobile phone calls per work day ($r(176) = .034$; $p = .653$), as seen in Table 43 above. This study did not find a significant relationship.

‘Mobile phone usage for work at home per day’ sub-scale

There was a weak positive correlation between mobile phone self-regulation and the number of hours spent on the mobile phone for work per work day ($r(171) = .198^{**}$; $p = .010$), as seen in

Table 43 above.

As the individual increases the number of hours spent on mobile phone usage for work over the course of the work day, their deficient self-regulation increases.

4.9.2.2 Mobile phone usage for work at home per day

Typical day at home usage

It was hypothesised that there would be a relationship between mobile phone self-regulation and mobile phone usage during a typical day at home spent on work (r (165) = .260; p = .088), as seen in Table 43 above. This study did not find a significant relationship.

1. Hours worked in a typical day at home

It was hypothesised that there would be a relationship between mobile phone self-regulation and the number of hours spent on mobile phone work, in a typical day at home (r (175) = .024; p = .757), as seen in Table 43 above. This study did not find a significant relationship.

2. Hours spent on Internet usage for work, in a day at home

It was hypothesised that there would be a relationship between mobile phone self-regulation and the number of hours spent on the Internet for work in a day at home (r (174) = .027; p = .720), as seen in Table 42 above. This study did not find a significant relationship.

3. Hours spent on mobile phone Internet usage for work, in a day at home

There was a weak positive correlation between mobile phone self-regulation and the number of hours spent on a mobile phone for work-related Internet usage in a day at home (r (175) = .185*; p = .014), as seen in Table 43 above. As the individual increases the number of hours spent on their mobile phone for Internet use over the course of the day at home, their deficient self-regulation increases.

4. Hours spent to send and receive mobile phone text messages/SMS for work, in a day at home

It was hypothesised that there would be a relationship between mobile self-regulation and the number of hours spent on a mobile phone to send and receive work-related text/SMS messages in a day at home (r (176) = .045; p = .550), as seen in Table 43 above. This study did not find a significant relationship.

5. Hours spent to send mobile phone emails for work, in a day at home

There was a weak positive relationship between mobile phone self-regulation and the number

of hours spent on a mobile phone to send work emails in a day at home (r (175) = .181*; p = .016), as seen in Table 43 above. As the individual increases the number of hours spent to send mobile phone work emails over the course of the day at home, their deficient self-regulation increases.

6. Hours spent when mobile phone calls are received, in a day at home

It was hypothesised that there would be a relationship between mobile phone self-regulation and the number of hours spent on a mobile phone to receive work-related mobile phone calls in a day at home (r (175) = .076; p = .315), as seen in Table 43 above. This study did not find a significant relationship.

7. Hours spent when mobile phone calls are made, in a day at home

There was a weak positive correlation between mobile phone self-regulation and the number of hours spent on a mobile phone to answer work phone calls in a day at home (r (176) = .174*; p = .021), as seen in Table 43 above. As the individual increases the number of hours in which they receive mobile phone calls from work over the course of the day at home, their deficient self-regulation increases.

'Mobile phone usage for work at home per day' sub-scale

It was hypothesised that there would be a relationship between mobile phone self-regulation and the number of hours for work-related mobile phone usage in a day at home (r (169) = .143; p = .063), as seen in Table 43 above. This study did not find a significant relationship.

4.9.3 Correlation between independent variables and mediating variable (self-regulation)

4.9.3.1 Times

Minutes spent on mobile phone

It was hypothesised that there would be a relationship between self-regulation and minutes spent on the mobile phone (r (78) = -.020; p = .861). This study did not find a significant relationship, as seen in Table 43 above.

Hours spent on mobile phone

It was hypothesised that there would be a relationship between self-regulation and hours spent on the mobile phone (r (148) = -.009; p = .914). This study did not find a significant relationship,

as seen in Table 43 above.

Work days a week

It was hypothesised that there would be a relationship between self-regulation and the number of work days spent on the mobile phone (r (177) = -.041; p = .588). This study did not find a significant relationship, as seen in Table 43 above.

4.9.3.2 After-hours

Calls after hours

It was hypothesised that there would be a relationship between self-regulation and the number of after-hours calls received on the mobile phone (r (177) = .143; p = .057). This study did not find a significant relationship, as seen in Table 43 above.

Email after hours

It was hypothesised that there would be a relationship between self-regulation and the number of after-hours emails received on the mobile phone (r (177) = .111; p = .142). This study did not find a significant relationship, as seen in Table 43 above.

SMS after hours

It was hypothesised that there would be a relationship between self-regulation and the number of after-hours SMSs received on the mobile phone (r (177) = .044; p = .558). This study did not find a significant relationship, as seen in Table 43 above.

4.9.3.3 Percentage of calls

Measures

The percentage of communications made or received on the mobile phone for the various purposes of work, home and family, and for other purposes, requires the participant to accurately self-report their usage.

It was hypothesised that there would be a relationship between self-regulation and the percentage of phone calls for work (r (177) = .011; p = .881), home and family (r (177) = .000; p = .995), and for other purposes (r (177) = .091; p = .230), as seen in Table 43 above. This study did not find any significant relationships.

4.9.3.4 Percentage of emails

Received on mobile phone for work

It was originally hypothesised that there would be a relationship between self-regulation and the percentage of emails received for work (r (177) = .144; p = .056), for home and family (r (177) = -.052; p = .492), and for other purposes (r (177) = .016; p = .834), as seen in Table 43 above. This study did not find significant relationships.

4.9.3.5 Percentage of texts/SMSs

It was originally hypothesised that there would be a relationship between self-regulation and the percentage of text/SMS messages for work (r (177) = .061; p = .418), for home and family (r (177) = -.068; p = .370), and for other purposes (r (177) = .063; p = .408), as seen in Table 43 above. This study did not find significant relationships.

4.9.4 Correlations between dependent variables and the moderating variable (self-regulation)

Work-family balance scale

Work-family balance

It was originally hypothesised that there would be a relationship between self-regulation and the work-family balance (r (175) = -.091; p = .233), as seen in Table 43 above. This study did not find a significant relationship.

Satisfaction with work, satisfaction with home life, good functioning at work and the Family Cohesion Scale

No significant correlations were found between satisfaction with work (r = .003; p = .965), satisfaction with home life (r = -.047; p = .538), good functioning at work (r = -.025; p = .737), the Family Cohesion Scale (r = -.023; p = .765) and self-regulation, as seen in Table 43 above.

Work-family conflict

Measures

The measure for probing work-family conflict utilised a reverse 5-point Likert-type scale where "Never" was set to 5 and "Always" was set to 1. Therefore, the lower the score the higher the

work-family conflict.

Analysis and discussions

There is a weak negative correlation between mobile phone self-regulation and work-family conflict (r (177) = -.243**; p = 0.01), as seen in Table 43 above. As self-regulation decreases, work-family conflict increases.

As self-regulation is diminished through unregulated mobile phone usage, it culminates in imbalance and in work-family conflict.

4.9.5 Exploratory variable: Self-esteem

Measures

To probe self-esteem a 4-point Likert-type scale was used, where "Strongly Disagree" was set to 1 and "Strongly Agree" was set to 4. Therefore, the higher the score the more self-esteem the participant has, while lower scores equate to low self-esteem.

Analysis and discussions

There was a weak positive relationship between deficient self-regulation and self-esteem (r (176) = .305**; p = 0.000), as seen in Table 43 above. As deficient self-regulation increases, so does the user's self-esteem.

The finding above could be explained by the individual's drive to facilitate mobile phone usage which, in turn, increases their self-esteem because they believe that through its facilitation it increases their chances of achieving self-actualised work goals. This can influence the way in which they discern between urgent and/or important communications.

4.10 Research question 2

Introduction

The aim of this section is to determine if the proposed research hypotheses below were plausible, which will determine if individuals are able to moderate their mobile phone usage through self-regulation and how this affects their work-life balance.

4.10.1 RQ2: Does self-regulation moderate the relationship between mobile phone use and work/life balance?

- Hypothesis 2.1: Self-regulated after-hours mobile phone usage results in work-family balance.
- Hypothesis 2.2: Deficient self-regulated after-hours mobile phone usage results in work-family imbalance.

Overview

In order to determine if the proposed hypotheses are plausible, a series of moderated multiple linear regressions were run on the data using IBM SPSS release 24. In each step of the regression model an additional variable was added, which may result in an artificially inflated R^2 value. Therefore, to minimise the effects on the model, the adjusted R^2 value was the preferred statistic for this study's reporting.

The total variance explained in most of the models (adjusted R^2) explained a very low percentage of the variance found, which might be attributed to the relatively small sample size (180 usable responses of the initial 227). In order to increase the variance in the model it might require a much longer duration to collect a larger sample, which was not practically possible in this study. For this study, however, a total number of 180 usable responses was still deemed sufficient for the purposes of a moderated multiple linear regression since statistical significance can be determined.

4.10.2 General findings of the moderated multiple linear regression

A moderated multiple linear regression analysis was conducted where significant correlations were found in responding to research question 1. A summary of the results is shown in Tables 44, 45 and 46 below. It can be seen that self-regulation was effective in mediating the relationship between work-family conflict and self-esteem. Table 44 provides the full names of all the dependent and independent variables and their outcomes found below in Tables 45 and 46.

Self-regulation's ability to mediate work-family conflict (a scale which centres on role conflict outcomes such as job burnout, work interference and negative spill-over) highlights that self-regulation can be the "enactor/enactment" needed by border-crossers and border-keepers when using mobile phones to separate the two domains.

From the regression analyses conducted, five significant interactions were found. Four significant interactions were found for self-regulation between work-family balance and the multifaceted construct. However, self-regulation was not a significant interacting variable in the majority of instances. The results of all the significant findings will be discussed in greater detail below.

Table 44: Summarised legend

Legend							
Outcomes							
NS	Not significant	**DPM**	Direct predictor MV	**MEF**	Mediator - Full	**MOF**	Moderator - Full
DPI	Direct predictor IV			**MEP**	Mediator - Partial	**MOP**	Moderator – Partial
Dependent variables							
WFB	Work-family balance	**SW**	Satisfaction with work	**SH**	Satisfaction with home life	**GFW**	Good functioning at work
FCS	Family Cohesion Scale	**WFC**	Work-family conflict	**SE**	Self-Esteem		
Independent variables							
TWD	Typical working day	**TDH**	Typical day at home	**MW**	Mobile phone usage for work at work per day	**MH**	Mobile phone usage for work at home per day
CA	Calls after hours	**EA**	Emails after hours	**TA**	Text/SMS after hours	**CW**	Percentage of phone calls for work
CHF	Percentage of phone calls for home and family	**CO**	Percentage of phone calls for other	**EW**	Percentage of emails for work	**EHF**	Percentage of emails for home and family
EO	Percentage of emails for other	**TW**	Percentage of text/SMS for work	**THF**	Percentage of text/SMS for home and family	**TO**	Percentage of text/SMS for other

Table 45: Part A: Summary of multiple regression analyses

	TWD	TDH	MW	MH	CA	EA	TA	CW
WFB	N.S	N.S	N.S	N.S	N.S	N.S	N.S	**DPI**
SW	N.S	N.S	N.S	N.S	N.S	N.S	N.S	**DPI**
SHL	N.S	N.S	N.S	N.S	N.S	N.S	N.S	N.S
GFW	N.S	N.S	N.S	N.S	N.S	N.S	N.S	**DPI**
FCS	N.S	N.S	N.S	N.S	N.S	N.S	N.S	**DPI**
WFC	**DPM**	N.S	**DPM**	**DPM**	N.S	**DPM**	**DPM**	NS
SE	N.S	N.S	N.S	N.S	N.S	N.S	N.S	**NS**

Table 46: Part B: Summary of multiple regression analyses (continued)

	CHF	CO	EW	EHF	EO	TW	THF	TO
WFB	N.S	N.S	DPI	N.S	N.S	N.S	DPI	**MEF**
SW	N.S	N.S	N.S	N.S	N.S	N.S	**MEF**	**MEF**
SHL	N.S	N.S	**DPI**	N.S	N.S	N.S	N.S	N.S
GFW	N.S	N.S	N.S	N.S	**MOP**	N.S	N.S	N.S
FCS	N.S	N.S	DPI	N.S	N.S	N.S	N.S	N.S
WFC	N.S	**DPM**	**DPM**	**DPM**	**DPM**	**DPM**	N.S	**DPM**
SE	N.S	**MEF**	**DPM**	**DPM**	N.S	N.S	N.S	**DPM**

4.10.3 Independent variables

4.10.3.1 Phone calls for other purposes

Self-regulation mediating between phone calls for other purposes and self-esteem

The model in Table 47 below shows a progressive increase in the adjusted R^2 (i.e. increasing the variance explained). In *Step 1* the adjusted R^2 = -.004 (-0.4% of the variance is explained by the IV). In *Step 2* the intervening variable (self-regulation) is included and the adjusted R^2 = .020 (2.0% of the variance explained), while in *Step 3* the interaction term is included and the adjusted R^2 = .033 (3.3% of the variance explained). In this case, the mediator term was significant (β = -.279; t = -2.947; p = 0.004).

Table 47: Self-regulation mediating between phone calls for other purposes and self-esteem

Self-Esteem												
	Step 1				Step 2				Step 3			
Self-Esteem (DV)	28.872		124.123	,000	29.754		66.024	,000	30.348		55.154	.000
	Est.	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**	**Est.**	**β**	**T**	**Sig.**
Percentage of other calls received on mobile phone (IV)	.007	.043	0.571	.569	.009	.059	0.783	.434	-.051	-.314	-1.464	.145
Self-regulation of mobile phone usage (MV)	-	-	-	-	-.046	-.171	-2.276	.024 *	-.075	-.279	-2.947	.004 *
Percentage of other calls received on mobile phone X Self-regulation of mobile phone usage	-	-	-	-	-	-	-	-	.003	.421	1.854	.065
R^2	-	-	-	.002	-	-	-	.031	-	-	-	.050
Adjusted R^2	-	-	-	-.004	-	-	-	.020	-	-	-	.033
ΔR^2	-	-	-	-	-	-	-	.029	-	-	-	.019

Note: * p < 0.05; ** p < 0.01; *** p < 0.001

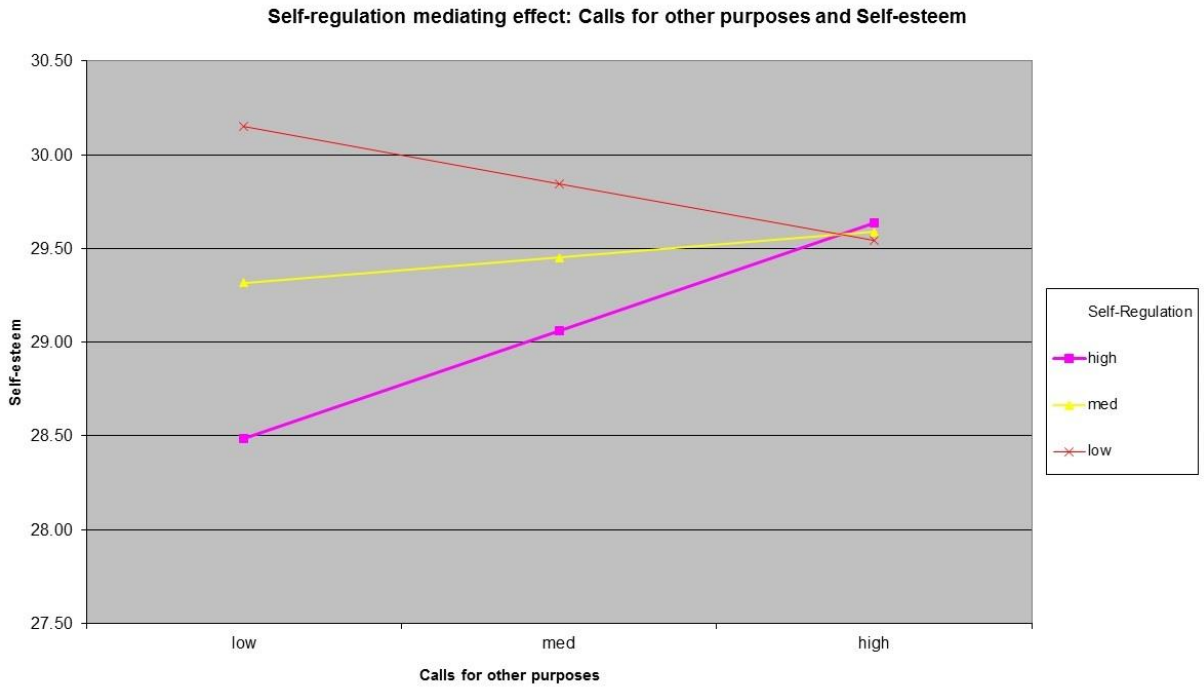


Figure 5: Self-regulation mediating between phone calls for other purposes and self-esteem

Table 48: Levels of self-regulation with phone calls for other purposes and self-esteem

	t-value	p-value
High self-regulation	**3.765**	**.000**
Medium self-regulation	1.009	.314
Low self-regulation	-.969	.333

The simple slopes in figure 5 above show that the high self-regulation group (t = 3.765; p = 0.000) differs significantly from 0. In this instance, high self-regulation (deficient self-regulation) increases self-esteem from 28.48 to 29.63. It is important to note that higher self-regulation equates to an increased deficient self-regulatory ability. This could possibly be explained as individuals who exhibit strongly deficient self-regulation who facilitate after-hours calls received for purposes other than work/home, which increases their self-esteem.

A simple slope analysis was done to show the strength of the relationship between the dependent and independent variables, with high, medium or low individual groups of the moderating value. According to Robinson et al. (2013, p. 17) "testing for the difference in the simple slopes has more statistical power than the test for the interaction term by reducing the threat of Type II error; and testing the significance of the difference in simple slopes does not increase Type I error".

4.10.3.2 Emails for work

Self-regulation moderating between emails for work and self-esteem

The model in Table 49 below shows a progressive increase in adjusted R^2 (i.e. increasing the variance explained). In *Step 1*, the adjusted R^2 = -.046 (4.6% of the variance is explained by the IV). In *Step 2*, with the inclusion of the intervening variable (self-regulation), the adjusted R^2 = .080 (8.0% of the variance explained), while in *Step 3*, with the inclusion of the interaction term, the adjusted R^2 = .095 (9.5% of the variance explained). The moderator term was significant at the 10% level (β = .379; t = 1.927; p = 0.056).

It is acknowledged that this is a direct predictor as the interaction term is not significant at the 5% level, but it is at the 10% level. Additionally all of the signs point to it being a moderation including the significant t and p-values of simple slopes which can be found in figure 6 and Table 50. This raises awareness about the outcomes and what they mean contextually.

Table 49: Self-regulation moderating between emails for work and self-esteem

Self-Esteem												
	Step 1				Step 2				Step 3			
Self-Esteem (DV)	28.214		93.309	.000	29.192		62.917	.000	30.044		47.083	.000
	Est.	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**
Percentage of work emails received on mobile phone (IV)	.015	.227	3.071	.002*	.017	.254	3.477	.001**	-.002	-.027	-0.64	.870
Self-regulation of mobile phone usage (MV)	-	-	-	-	-.054	-.201	-2.744	.007*	-.101	-.378	-3.224	.002*
Percentage of work emails received on mobile phone X Self-regulation of mobile phone usage	-	-	-	-	-	-	-	-	.001	.379	1.927	.056
R^2	-	-	-	.051	-	-	-	.091	-	-	-	.110
Adjusted R^2	-	-	-	.046	-	-	-	.080	-	-	-	.095
ΔR^2	-	-	-	-	-	-	-	.040	-	-	-	.019

Note: * p < 0.05; ** p < 0.01; *** p < 0.001

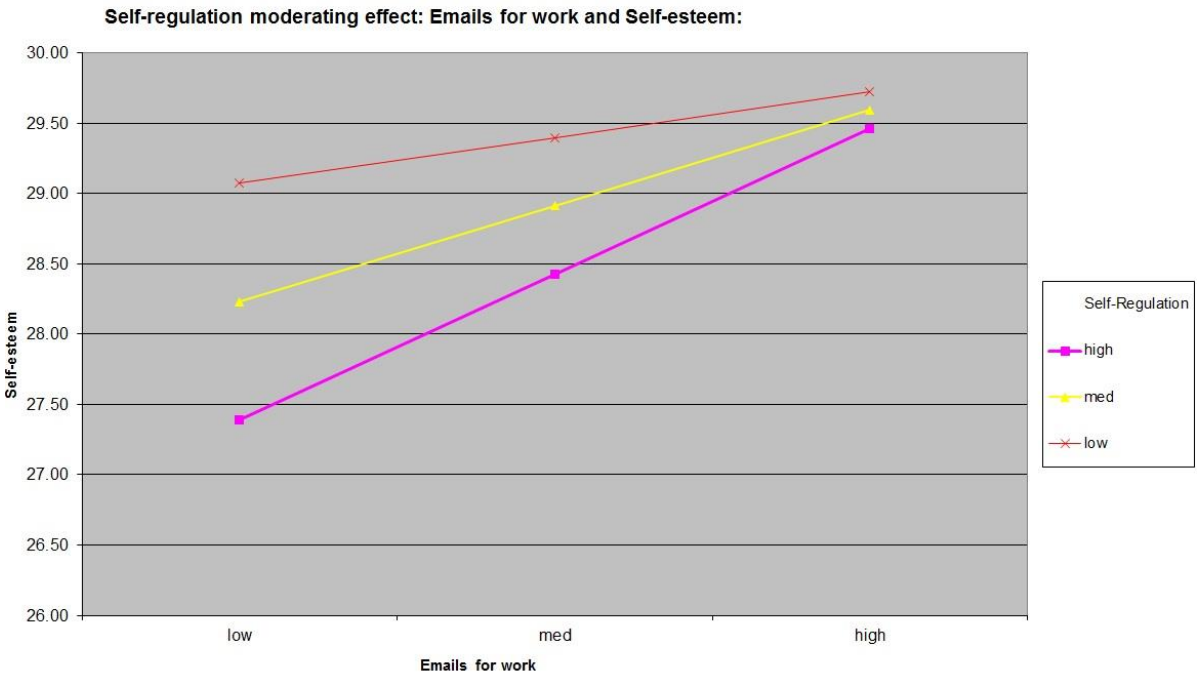


Figure 6: Self-regulation moderating between emails for work and self-esteem

Table 50: Levels of self-regulation with emails for work and self-esteem

	t-value	p-value
High self-regulation	**4.076**	**.000**
Medium self-regulation	**4.066**	**.000**
Low self-regulation	1.353	.177

The simple slopes in figure 6 above show that both the high self-regulation (t = 4.076; p = .000) and medium self-regulation (t = 4.066; p = 0.000) groups differ significantly from 0. In this instance, high deficient self-regulation increases self-esteem from 27.38 to 29.46 and medium deficient self-regulation increases self-esteem from 28.23 to 29.59. This can be explained as individuals who exhibit a high or medium deficient self-regulation facilitate a greater number of after-hours emails received from work, which is related to an increase in their self-esteem.

4.10.3.3 Emails for other purposes

Self-regulation moderating between emails for other purposes and good functioning at work

A moderated multiple linear regression analysis revealed that the self-regulation relationship moderated the relationship between the percentage of email received for purposes other than work and home and good functioning at work. "Good functioning at work" measures employee behavioural compliance to work rules and was one of the five scales used to measure work/life balance (Clark, 2002).

The model in Table 51 below shows an increase in adjusted R^2 (i.e. increasing the variance explained). In *Step 1*, the adjusted R^2 = .040 (4.0% of the variance is explained by the IV). In *Step 2* the intervening variable (self-regulation) is included and the adjusted R^2 = .035 (3.5% of the variance explained), while in *Step 3*, with the inclusion of the interaction term, the adjusted R^2 = .055 (5.5% of the variance explained). In this case, the interaction term was significant (β = -.393; t = -2.185; p = 0.030).

Table 51:Self-regulation moderating between emails for other purposes and good functioning at work

Good functioning at work												
	Step 1				**Step 2**				**Step 3**			
Good functioning at work (DV)	33.819		77.509	.000	34.043		39.072	.000	33.092		34.271	.000
	Est.	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**
Percentage of other emails received on mobile phone (IV)	-.042	-.213	-2.886	.004 **	-.042	-.213	-2.873	.005 **	.026	.132	0.758	.449
Self-regulation of mobile phone usage (MV)	-	-	-	-	-.011	-.022	-.298	.766	.042	.082	.937	.350
Percentage of other emails received on mobile phone X Self-regulation of mobile phone usage	-	-	-	-	-	-	-	-	-.004	-.395	-2.185	.030 *
R^2	-	-	-	.045	-	-	-	.046	-	-	-	.072
Adjusted R^2	-	-	-	.040	-	-	-	.035	-	-	-	.055
ΔR^2	-	-	-	-	-	-	-	.000	-	-	-	.026

Note:* p < 0.05; ** p < 0.01; *** p < 0.001

Step 3 explains only 5.5% of the total variance of the model, which is statistically significant but still fairly low. It shows that deficient self-regulation interacts with the percentage of emails received on the mobile phone for purposes other than work in explaining home and family and good functioning at work (β = -.395; t = -2.185; p = 0.30). This therefore shows that hypothesis 2.1 is confirmed for good functioning at work as the dependent variable and mobile phone use for purposes other than work while at work.

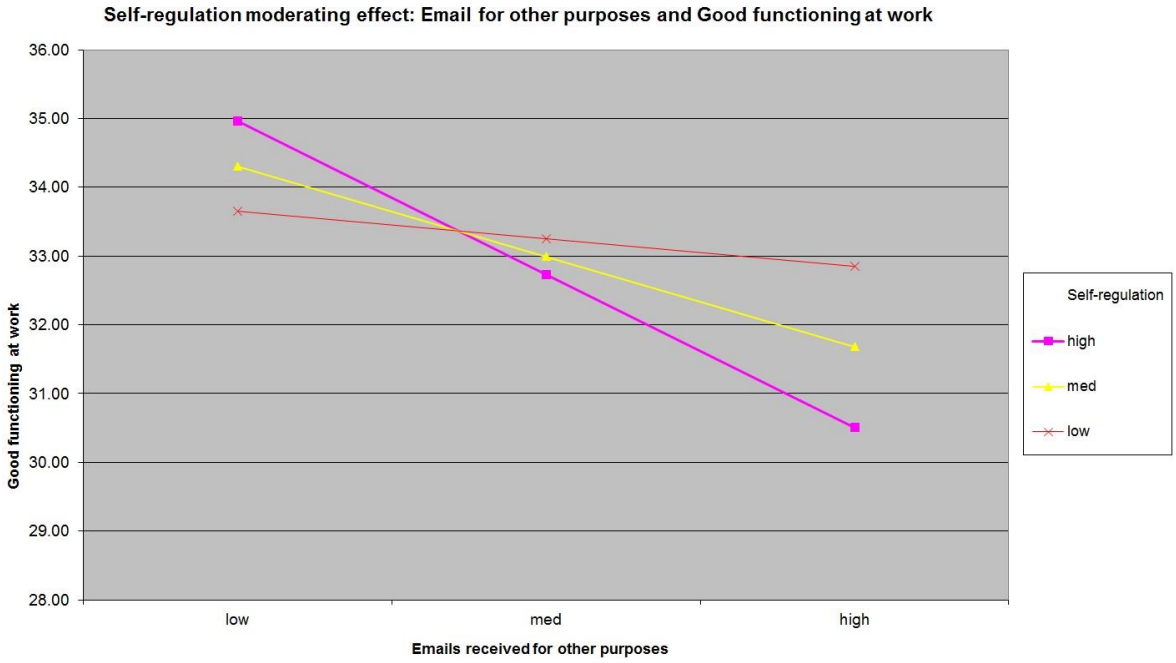


Figure 7: Self-regulation moderating between emails for other purposes and good functioning at work

Table 52: Levels of self-regulation with emails for other purposes and good functioning at work

	t-value	p-value
High self-regulation	**-3.573**	**.000**
Medium self-regulation	**-3.334**	**.001**
Low self-regulation	-0.816	.269

The simple slopes in figure 7 above show that both the high self-regulation (t = -3.573; p = .000) and medium self-regulation (t = -3.37; p = .001) groups differ significantly from 0. In this instance, high deficient self-regulation decreases good functioning at work from 34.95 to 30.50, and medium deficient self-regulation decreases good functioning at work from 34.30 to 31.68. This could be explained as follows: users who exhibit high deficient self-regulation have a perceived reduction in good functioning at work when a high percentage of emails is received for purposes other than work/home. This could be because they perceive the emails for other purposes to be interfering with work.

4.10.3.4 Text/SMS messages for work

Self-regulation mediating between text/SMS messages for home and family purposes and satisfaction with work

The model in Table 53 below shows a progressive increase in adjusted R^2 (i.e. increasing the variance explained). In *Step 1* the adjusted R^2 = -.005 (0.05% of the variance is explained by the IV). In *Step 2* the intervening variable (self-regulation) is included and the adjusted R^2 = -.011 (1.1% of the variance explained), while *Step 3* incudes the interaction term and the adjusted R^2 = .014 (1.4% of the variance explained). The mediator term was significant (β = .331; t = 2.056; p = .041).

Table 53: Self-regulation mediating between texts/SMSs for home/family purposes and satisfaction with work

Satisfaction with work												
	Step 1				**Step 2**				**Step 3**			
Satisfaction with work (DV)	35.692		27.665	.000	35.590		18.428	.000	29.865		9.498	.000
	Est.	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**
Percentage of texts/SMSs received from home and family on mobile phone (IV)	.008	.029	0.385	.701	.008	.030	0.388	.698	.112	.411	2.248	.026 *
Self-regulation of mobile phone usage (MV)	-	-	-	-	.005	.005	.071	.943	.294	.331	2.056	.041 *
Percentage of texts/SMSs received on mobile phone from home and family X Self-regulation of mobile phone usage	-	-	-	-	-	-	-	-	-.005	-.513	-2.290	.023 *
R^2	-	-	-	.001	-	-	-	.001	-	-	-	.031
Adjusted R^2	-	-	-	-.005	-	-	-	-.011	-	-	-	.014
ΔR^2	-	-	-	-	-	-	-	.000	-	-	-	.030

Note: * p < 0.05; ** p < 0.01; *** p < 0.001

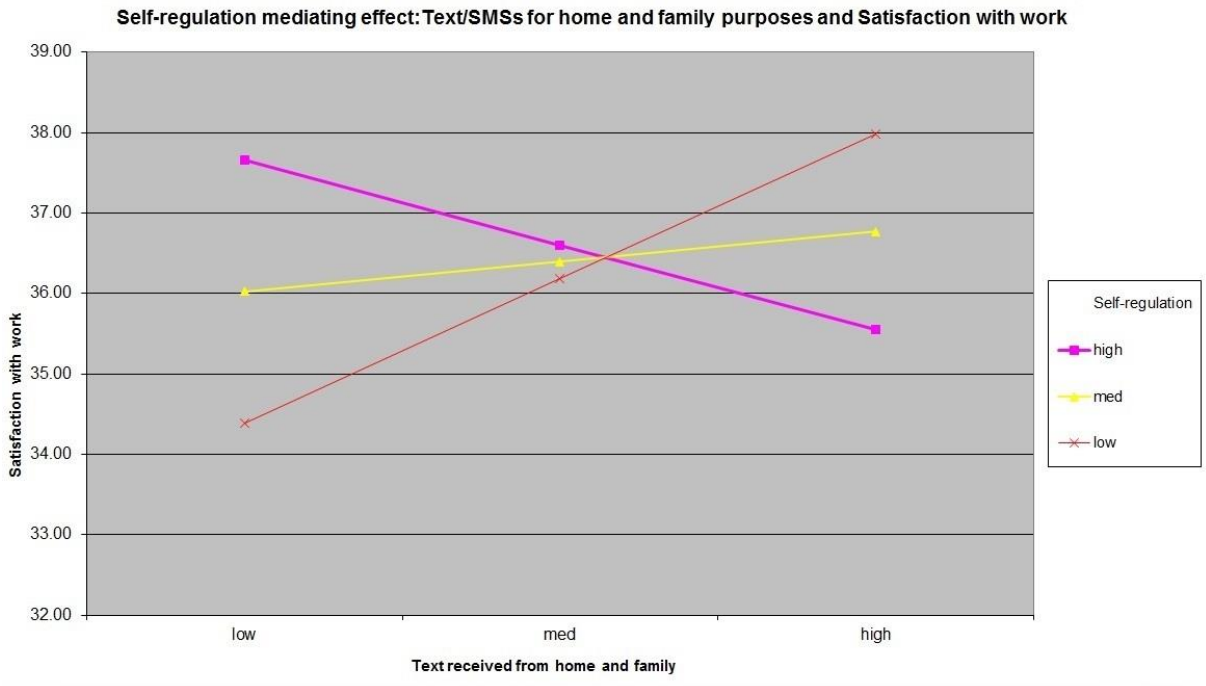


Figure 8: Self-regulation mediating between texts/SMSs for home/family purposes and satisfaction with work

Table 54: Levels of self-regulation with texts/SMSs for home/family purposes and satisfaction with work

	t-value	p-value
High self-regulation	-1.449	.149
Medium self-regulation	.780	.436
Low self-regulation	**2.085**	**.0385**

The simple slopes in figure 8 above show that low self-regulation ($t = 2.085$; $p = .0385$) differs significantly from 0. In this instance, low self-regulation increases satisfaction with work from 34.39 to 37.98, compared to high self-regulation. This could possibly be explained by the fact that individuals who exhibit low self-regulation (efficient self-regulatory ability) are more satisfied at work as the percentage of home/family SMSs increases. Individuals who exhibit a deficient self-regulatory ability become less satisfied with work as the percentage of home/family SMSs increases. Thus, individuals who exhibit high self-regulation (deficient self-regulation) feel that SMSs received for home and family purposes are an intrusion on their workplace. However, it could be that efficient self-regulators feel that SMSs received for home and family purposes helps them to stay connected.

4.10.3.5 Text/SMS messages for other purposes

Self-regulation mediating between text/SMS messages for other purposes and work-family balance

The model in Table 55 below shows a progressive increase in adjusted R^2 (i.e. increasing the variance explained). In *Step 1* the adjusted R^2 = .005 (0.5% of the variance is explained by the IV). In *Step 2* the intervening variable (self-regulation) is included and the adjusted R^2 = .007 (0.7% of the variance explained), while in *Step 3* the interaction term is included and the adjusted R^2 = .025 (2.5% of the variance explained). The mediator term was significant (β = -.194; t = -2.107; p = .037).

Table 55: Self-regulation mediating between texts/SMSs for other purposes and work-family balance

Work-family balance												
	Step 1				**Step 2**				**Step 3**			
Work-family balance (DV)	151.382		92.967	.000	154.527		47.696	.000	158.684		41.715	.000
	Est.	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**
Percentage of other texts/SMSs received on mobile phone (IV)	-.082	-.106	-1.400	.163	-.078	-.101	-1.336	.183	-.344	-.446	-2.409	.017 *
Self-regulation of mobile phone usage (MV)	-	-	-	-	-.161	-.085	-1.122	.263	-.367	-.194	-2.107	.037 *
Percentage of other texts/SMSs received on mobile phone X Self-regulation of mobile phone usage	-	-	-	-	-	-	-	-	.013	.398	2.038	.043 *
R^2	-	-	-	.011	-	-	-	.018	-	-	-	.042
Adjusted R^2	-	-	-	.005	-	-	-	.007	-	-	-	.025
ΔR^2	-	-	-	-	-	-	-	.007	-	-	-	.023

Note: * p < 0.05; ** p < 0.01; *** p < 0.001

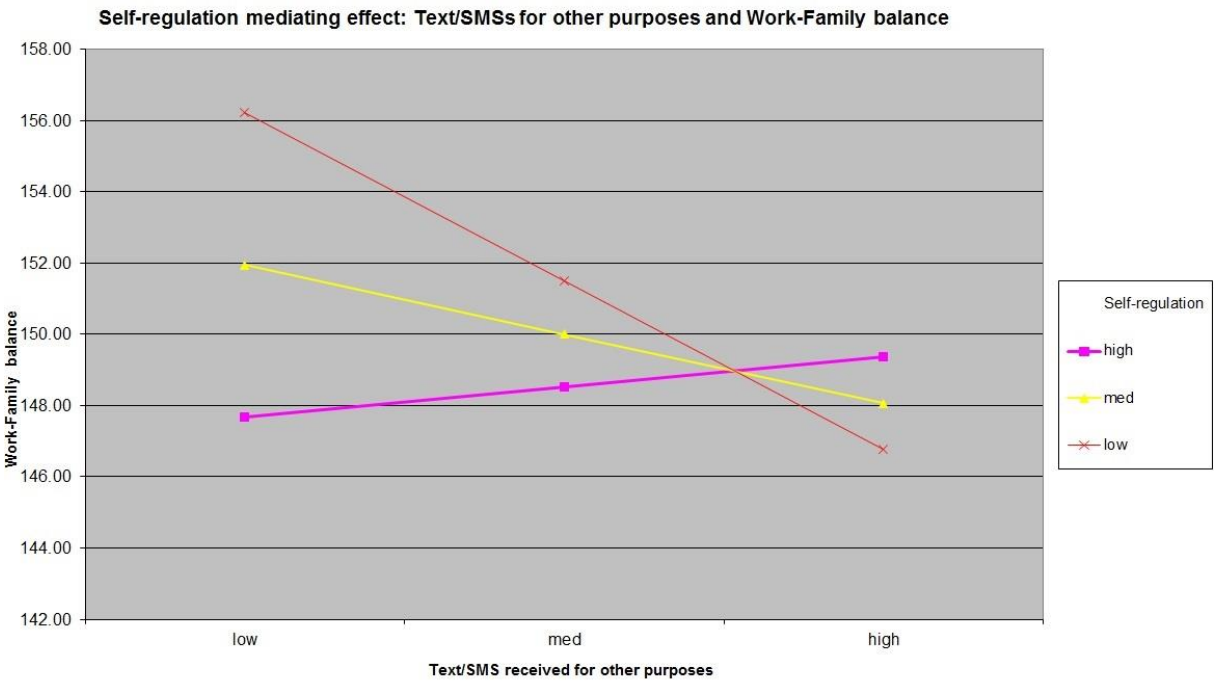


Figure 9: Self-regulation mediating between texts/SMSs for other purposes and work-family balance

Table 56: Levels of self-regulation with texts/SMSs for other purposes and work-family balance

	t-value	p-value
High self-regulation	.478	.632
Medium self-regulation	-1.473	.143
Low self-regulation	**-2.387**	**.018**

The simple slopes in figure 9 above show that low self-regulation (t = -2.387; p = .018) differs significantly from 0. In this instance efficient self-regulators have decreased work-family balance from 156.22 to 146.76. This could possibly be explained by the fact that individuals who exhibit an efficient self-regulation ability when receiving a high percentage of SMSs for purposes other than work/home, have reduced work-family balance. They view this communication as an intrusion in either domain as the communication pertains to neither of the domains. In contrast, individuals exhibiting deficient self-regulatory abilities show little difference in work-family balance with varied (high or low) percentages of SMSs received for other purposes, as these are not viewed as an intrusion.

Self-regulation mediating between text/SMS messages for other purposes and satisfaction with work

The model in Table 57 below shows a progressive increase in adjusted R^2 (i.e. increasing the variance explained). In *Step 1* the adjusted R^2 = -.002 (-0.02% of the variance is explained by the IV). In *Step 2* the intervening variable (self-regulation) is included and the adjusted R^2 = -.008 (-0.08% of the variance explained), while in *Step 3*, with the inclusion of the interaction term, the adjusted R^2 = .045. The interaction/mediating term was significant (β = .628; t = 3.247; p = .001).

Table 57: Self-regulation mediating between texts/SMSs for other purposes and satisfaction with work

Satisfaction with work												
	Step 1				**Step 2**				**Step 3**			
Satisfaction with work (DV)	36.493		47.568	.000	36.372		23.742	.000	39.449		22.328	.000
	Est.	**β**	**t**	**Sig.**	**Est.**	**β**	**t**	**Sig.**	**Est.**	**B**	**t**	**Sig.**
Percentage of other texts/SMSs received on mobile phone (IV)	-.023	-.063	-0.834	.405	-.023	-.064	-0.836	.404	-.220	-.607	-3.317	.001 ***
Self-regulation of mobile phone usage (MV)	-	-	-	-	.006	.007	.091	.927	-.147	-.165	-1.814	.071
Percentage of other texts/SMSs received on mobile phone X Self-regulation of mobile phone usage	-	-	-	-	-	-	-	-	.009	.628	3.247	.001 ***
R^2	-	-	-	.004	-	-	-	.004	-	-	-	.062
Adjusted R^2	-	-	-	-.002	-	-	-	-.008	-	-	-	.045
ΔR^2	-	-	-	-	-	-	-	.000	-	-	-	.058

Note: * p < 0.05; ** p < 0.01; *** p < 0.001

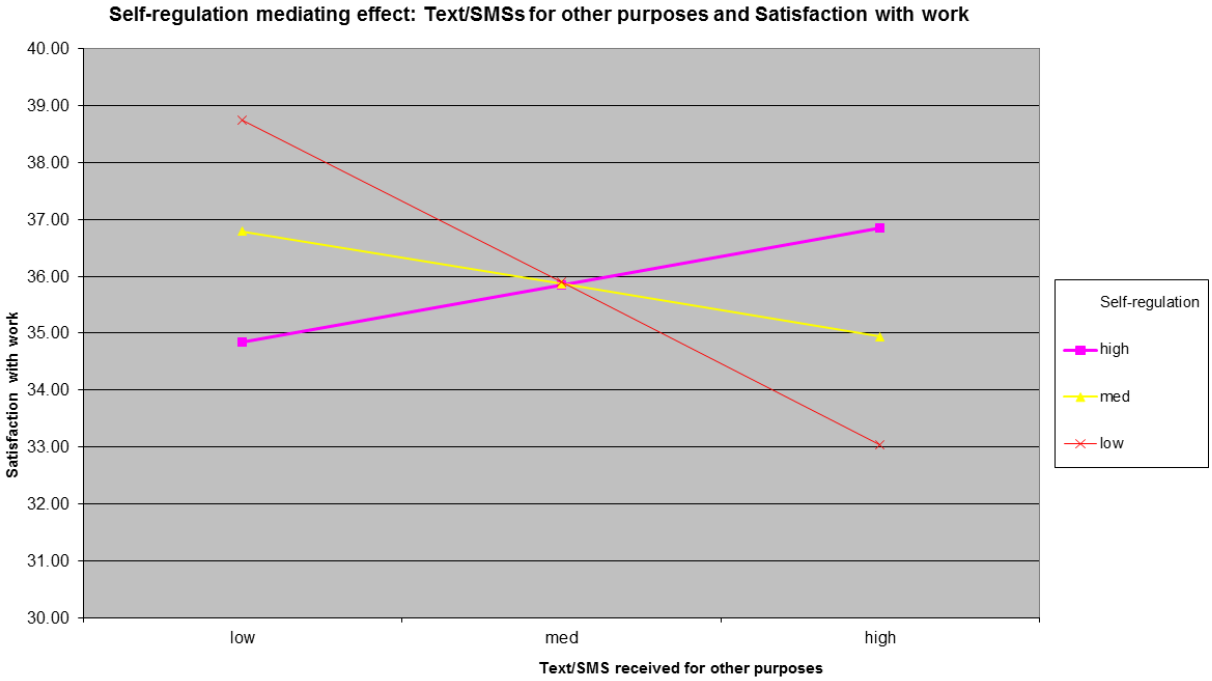


Figure 10: Self-regulation mediating between texts/SMSs for other purposes and satisfaction with work

Table 58: Levels of self-regulation with texts/SMSs for other purposes and satisfaction with work

	t-value	p-value
High self-regulation	1.457	.147
Medium self-regulation	-1.762	.079
Low self-regulation	**-3.163**	**.001**

The simple slopes in figure 10 above show that the low self-regulation (t = -3.163; p = .001) group differs significantly from 0. In this instance, efficient self-regulatory ability decreases satisfaction with work from 38.75 to 33.03, compared to high deficient self-regulation. This could possibly be explained by the fact that individuals who exhibit efficient self-regulatory ability and receive after-hours SMSs for purposes other than work/home perceive that these messages as interfere with their after-hours activities. In contrast, users exhibiting deficient self-regulatory ability and who receive after-hours SMSs for other purposes experience a resultant increase in their job satisfaction. This is thought to be the case as they have become conditioned (via organisational social learning for instance) to facilitate after-hours communication and as they no longer discern this as an intrusion, it culminates in their job satisfaction increasing when receiving after-hours SMSs for other purposes.

4.10.4 Summary

From the analyses in this chapter it can be shown that: (a) the self-regulatory moderating mechanism is mostly not very prevalent as an interactive term (in most cases self-regulation displays weak to very weak correlations between the independent variables and/or the dependent variables); (b) when self-regulation acts as an interaction term it seems to have the opposite effect of what was predicted (e.g. it has a negative effect on self-esteem and work-family balance); and (c) it seems that the data point to the existence of two groups, namely work-centric individuals and family- or home-centric individuals. For work-centric individuals the connection to work through a mobile phone is a central part of who they are and they see no need to self-regulate. In fact, the inability to regulate is central to their self-esteem and their view of balance. For family- and home-centric individuals the border is paramount and permeations are to be avoided at all costs. This will be explored in greater detail in the following chapter.

CHAPTER 5: QUALITATIVE STUDY RESULTS

5.1 Introduction

The adage of "do you live to work or work to live?" offers a succinct embodiment of the complexity faced by the interviewed participants in their attempts to find balance between their home and work domains. This in itself is not unique as for generations workers have tried to find sufficient time to sustain their career ambitions in order to provide the best possible future for themselves and their families, while meeting their family and relationship commitments at home. The physical and mental pressures of work have for centuries traversed the border between home and work. However, previous generations had the ability to physically leave work in the suitcase and on their desks at home, thereby limiting the encroachment on their home lives. However, with the advent of mobile phones and their rapid technological development into smartphones, an evolutionary transformation of work and home has occurred once again, both of which now provide a technological conduit through which work can be extended and proliferated into areas that were previously difficult or implausible to reach.

The rapid global proliferation and adoption of smartphone and mobile phone usage has arguably altered work as we know it. It has contributed to the accelerated globalisation of work and has increased the competitiveness of the international job market due to outsourcing (Kakihara, Sørensen, & Wiberg, 2005; Novita Christin, Zainuddin Tamin, Santoso, & Miharja, 2014), but has also led to an ever-increasing number of work hours per week (Derks et al., 2015) through the facilitation of push technology. Push technology has changed the relationship between the user and the mobile phone in that a device buzzes, hums, blips and flashes until the user responds, thereby commanding the individual's attention and response.

In order to deal with the complexities of balancing the work and home domains, mobile phone users have to carefully weigh the domains against each other. Thereafter users need to determine how they will avail themselves (from a temporal, physical or psychological perspective), and for what duration and when.

5.2 After-hours mobile phone usage

Borders are lines of demarcation between domains which define the point that domain-relevant behaviour begins or ends. In the literature, these borders have taken three main forms: physical, temporal, and psychological. A physical border, such as the walls of a workplace or the walls of a home, defines where domain-relevant behaviour takes place. Temporal borders, such as set work hours, discern when work is done and also indicate the appropriate times for taking care of family responsibilities. Psychological borders are rules created by individuals that dictate when thinking patterns, behaviour patterns, and emotions are appropriate for one domain but not the other (Clark, 2000, p. 756). According to Lewin (1939), individuals may use psychological borders to determine the rules that make up a domain. A more exact term describing how psychological borders are created is 'enactment' (Weick, 1979) – a process in which individuals take elements in their environment and organise them in a way that makes sense.

Borders are characterised, in part, by their permeability. "Permeability" is the degree to which elements from other domains may enter (Beach, 1989; Hall & Richter, 1998; Piotrkowski, 1978). For example, an individual may have an office at home whose physical doors and walls create a sort of border around his or her work. However, the border may be very permeable because family members are accustomed to entering frequently and talking with the individual doing work. Frequently, physical and temporal permeations are perceived as interruptions. They can also be positively perceived as reminders that one is a member of another important domain (Clark, 2000, p. 756).

In the following sections, the findings of this study will be presented by describing the demographics of the qualitative sample in the sections below. Thereafter each border-keeper group will be defined and described in accordance with seven themes which will help the reader to better understand the complicated relationship between work and home, and the user's transition between the two. The chapter will conclude with a summative description of each border-keeper group.

5.3 Introduction to border-keeper types

After the thematic content analysis (TCA) was conducted using the transcribed interviews, it was determined that there were three prominent types of border-crossers found in the context of mobile phone usage in this study. The three dominant groups of smartphone users that emerged were the border-expanders, the border-adapters, and the border-enforcers. Demographic descriptions and an overview of each of the border groups are provided below.

5.3.1 Introduction to border-expanders

Twelve of the participants were categorised as border-expanders. The gender distribution of the 12 participants consisted of 9 males and 3 females. Ten (10) of these participants were in a domestic relationship or marriage and the remaining 2 participants were single. Finally, 6 of the participants in this group were made up of couples, 2 heterosexual couples and 1 homosexual partnership, with the remaining 6 participants consisting of 5 individual males and 1 individual female. The relevant demographic descriptors of the border-expander group can be seen in Table 59 below. It is important to note that the pilot functioned both as a pilot and as a managerial staff member in their organisation.

Table 59: Demographics of border-expanders group

	Age	**Race**	**Gender**	**Occupation**	**Field of Work**	**Self-employed ?**	**Education**	**Partner ?**	**Partnership status**	**Partner's gender**	**Children?**
	29	African	Male	Managing Director	Contracting	Yes	Honours	Yes	Domestic partnership	Female	No
	37	White	Male	Managing Director	Banking consulting	Yes	Master's	Yes	Married	Female	Yes
	33	White	Female	Management	Consulting	No	Diploma	Yes	Domestic partnership	Male	No
	38	White	Male	Director: Corporate finance	Banking	No	Honours	Yes	Married	Female	No
	33	White	Male	Management	Telecommunications	No	Bachelor's	No	Single	Single	No

	32	White	Male	Management	Hospitality	No	Diploma	No	Single	Single	No
Paired	35	White	Male	Pilot	Aviation	No	Matric	Yes	Married	Female	Yes
	31	White	Female	Pilot's partner	Advertising	No	Bachelor's	Yes	Married	Male	Yes
Paired	34	White	Male	Managing Director	Recruitment	Yes	Matric	Yes	Domestic partnership	Male	No
	36	White	Male	Managing director's partner	Not supplied	No	Matric	Yes	Domestic partnership	Male	No
Paired	30	White	Male	Senior management	Insurance	No	Diploma	Yes	Married	Female	No
	29	White	Female	Senior manager's partner	Broker/financial advisor	Yes	Diploma	Yes	Married	Male	No

Border-expanders were found to be smartphone users who lack the ability to delineate the home-work border, frequently allowing after-hours communications to spill over into the home domain and not being capable of keeping the domains separate. They legitimised their lack of border enforcement because of the need for career advancement which is conditioned and encouraged by employers, management, and colleagues (which could be considered a form of encouragement to blur the borders). Upon further in-depth questioning it became apparent that the participants perceived this to be an organisationally conditioned and sanctioned need to respond to all communications which could be legitimised by a forthcoming deadline. When interviewed with regards to the number of hours worked, participant 26 described it as follows: "In a day, I would say sometimes easily 10 hours, sometimes less. If it's close to a deadline, there is a couple of times where I don't even go to sleep at all…".

Prioritisation and facilitation of all after-hours communications viewed as urgent was a common trend found in the border-expander group members which, in turn, propels a perceived "urgent" response. Therefore, when an after-hours communication was received that facilitated organisational goals and needs, it was more likely to be perceived as an urgent communication. In contrast, an important communication could facilitate organisational desires and its inherent drive was to cultivate the individual's self-actualised achievement. The same participants validated their facilitation as a norm in their client-facing work condition when asked why they did so. The constant shifts between home and work demands with each urgent communication received would lead to increases in the flow of work into the home domain and the

establishment of the border's relocation within the home domain (or the merger of the two domains into one). With the facilitation of each urgent communication, the border-expander becomes more accustomed and susceptible to further intrusions that makes the potential re-establishment of the border in its original location cumbersome or unfeasible. This results in the two domains being merged into one and the person finds it difficult to re-establish the border or determine where the border should exist.

This is believed to occur due to the participant's inability to discern between urgent and important issues, as shown in Table 3 (section 2.5), which looks at urgency and importance and highlights the complexity faced by the participants in discerning between urgent and important issues. When the interview with participant 21 discussed their vacation and what they viewed as after hours, they provided the following description;

> "So, my clients expected I'm contactable 24 hours a day, given the nature of the work which typically requires a very quick turnaround in terms of response. And if you're usually dealing with silly complex matters that expectation is there. So, I would say that sort of a liable turnaround time when email is allowable in my industry would be a maximum of 24 hours."

It is believed that due to the organisational, socially-conditioned behaviour exerted upon border-expanders by their workplaces and peers, they prioritise their work needs over those of their home and family. They equate this emphasis to career advancement and development, an example of which can be seen in participant 12's description below;

> "You're always in that space, you're always in that zone. So unless you make a specific commitment to leave work, work, and then you typically -- you may not, but maybe that's just a personal -- it's a personal commitment and it's personal growth, really. So if you've become accustomed to doing it and creating those expectations over the years, you can continue to do it, whereas if you don't create the same expectation, you manage that priority. So it's like, you know, for -- perhaps, the way that it was put to me through my course as well was, we always prioritize our boss's work, and rather than saying, but these are my priorities right now, this is the job that I'm employed to do."

Because of this border-expanders become more susceptible to after-hours communication and disregard all partner protests they receive. Consequently, this culminates in more arguments and, in a few cases seen in the interviews, the breakdown of the relationship. To that effect

partner 7 offers a reflection on their previous partner's phone use which culminated in the breakdown of their relationship;

> "Well, the last long term relationship broke up because he was in a situation where he was being abused by his work, and the stress from work was brought home and all the issues with work. And so that just -- that drove a rift and even though I was trying very hard to make everything work, he wasn't willing to make it work on his side, you know, it was kind of defeatist. So, yeah he then ended up breaking up with me even though I was trying to hold all the pieces together."

The leading cause of arguments and general discontent felt by the border-expander and their partner was the border-expander's general inability to delineate the home-work borders so that there was a domain space and time for the partner and family to have their mutual needs met. It was also found that a predominant influencing factor for border-expanders was if they were client-facing and working in a high-stress industry such as finance and/or telecommunications.

Border-expanders validated the extension of the work border into the home domain in order to develop their careers in ensuring their own financial wellbeing and that of their family. For example, participant 2 validated the facilitation of after-hours phone calls as their work environment expected them to:

> "be responsive to clients it becomes more burdensome as you get more senior because you are being responsible for your client."

A similar motivation was provided by participant 24 (the partner of participant 8) who equated their partner's work ethic and after-hours mobile phone facilitation to:

> "achievement and making sure that he makes lots of money".

A counter to this explanation was that most of the partners of the participants interviewed in this group frequently fought or disagreed with their partner's after-hours usage of their phones in family time. Therefore, due to the extension of the working hours into the home domain, the border-expanders' family sustainability becomes questionable. Finally, the border-expanders did not separately define the two domains, which implied that they felt that the two domains were melded into one. In effect they were oblivious to the presence of there being two distinct domains. However, the same participants' partners who were interviewed complained about the constant interference and arguments caused by the main participant's work facilitation. As an

example, participant 23 (the partner of participant 12) stated that;

> "He walks around a lot when he talks on the phone as well. And when it comes to work he gets quite aggressive when people are not doing things right. And that can upset the dogs and myself."

A number of border-expanders interviewed legitimised their usage even when their partners complained. This culminated in arguments and, in a few cases, the breakdown of the relationship. The foremost cause of arguments and general discontent felt by the border-expander and their partner, was the border-expander's general inability to delineate the home-work borders so that there was a domain space and time for the partner and family to have their mutual needs met. As border-expanders allow for border expansion, there is no longer a work disconnection; the two domains fuse which culminates in them exhibiting absent-present behaviour. One such case is described by participant 24:

> "On our wedding anniversary, this year we booked a really expensive restaurant, a fancy restaurant and the minute we sat down he took his phone out and he spent a good 10 minutes off -- after we just sat down searching on his phone and he said he needed to email people for work which I don't understand why he didn't do it before we go to the restaurant, so yes, it happens a lot. I can't sit down at a table with him at a restaurant without him automatically pulling his phone out."

This provides a brief glimpse into the effects of extending the borders on their partner. This results in feelings of abandonment, causes arguments, or general unhappiness.

A plausible explanation for this could be the way in which border-expanders and their partners differentiate work time duration and availability. Participant 21, for example, described their working hours on their mobile phone as follows: "24/7. Hopefully, all the time whenever I'm awake, I'm on my mobile". The structure and definition of after-hours work availability provides a further issue of contention between the two, with the ubiquitous timeframe offered by the border-keeper against the rigid structure of time and space wanted by the partner for their lives and not just their work. The vastly different viewpoint on mobile phone usage between the two partners results in a power struggle, with the border-expander's desire to meet their work needs immediately and a partner who wants time and space for them both without intrusion.

5.3.2 Introduction to border-adapters

Ten of the participants were categorised as border-adapters. The gender distribution of the 10 participants consisted of 7 males and 3 females. Seven of these participants were in a domestic relationship or marriage, and the remaining 3 participants were single. Finally, 4 of the participants interviewed were made up of couples, 1 heterosexual couple and 1 homosexual couple, with the remaining 6 consisting of 4 individual males and 2 individual females. The relevant demographic descriptions of the border-adapter group can be seen in Table 60 below.

Table 60: Demographics of border-adapters group

	Age	Race	Gender	Occupation	Field of Work	Self-employed ?	Education	Partner ?	Partnership status	Partner gender	Children?
	30	White	Male	Analyst programmer	Telecommunications	No	Master's	No	Single	Single	No
	38	White	Male	Architect	Construction	No	Honours	Yes	Domestic partnership	Female	No
	32	White	Male	Analyst programmer	Recruitment	No	Matric	No	Single	Single	No
	34	White	Female	Environmental scientist	Environmental	No	Master's	No	Single	Single	No
	31	Indian	Male	Software developer	Banking	No	Bachelor's	Yes	Married	Female	No
	28	White	Female	Head teacher of school	Education	No	Bachelor's	Yes	Married	Male	No
Paired	40	White	Male	Change manager	Banking	No	Bachelor's	Yes	Domestic partnership	Male	No
	33	White	Male	Change manager's partner	Medical	Yes	Bachelor's	Yes	Domestic partnership	Male	No
Paired	32	White	Male	Freelance engineer	Telecommunications	Yes	Diploma	Yes	Domestic partnership	Female	No
	31	White	Female	Freelance engineer's partner	Information Technology	No	Honours	Yes	Domestic partnership	Male	No

Border-adapters differ from border-expanders in that they actively arbitrate all mobile phone communications which originate from work and enter the home domain. This, in turn, results in either their acceptance or rejection of the communication. The arbitration process

(mechanism) juxtaposes the individual's own and family needs against their employer's needs. The result is a domain border which fluctuates to adapt to the relevant needs in attempting to keep all groups content. The process of arbitration is based on a plethora of criteria, such as the permeability of the border between home and work, the identity and role of the person who initiated the contact (i.e. the higher the seniority of the communication initiator, the more likely they were to answer at the time of the communication), as well as their previous communications with the individual. If the arbitration outcome was determined to facilitate the communication upon its completion of the domain transition, the participant reinitiates the border to separate domains once again.

Border-adapters were hostile towards their employers when requested to install or enable email facilities on their work or personal mobile phones, which indicates their desire to limit the border fluctuations and movements that the mobile phone facilitates, thus driving domain delineation. This should ensure that the domains remain segmented when an after-hours communication is received from work. This mechanism was seen in participant 4's interview, where they described why they limit their mobile phone accessibility;

> "If you're contactable all the time, people will phone you up all the time".

However, members of the same group point out that a channel for communication will be facilitated, but it is dependent on the role of the communicator, the urgency of the communication as determined by the time of the call, their physical location, and their perceived need for a rapid response time. An example can be imagined when the CEO of a Fortune 500 company phones their managing director on a Sunday evening and leaves a voicemail. This will more than likely result in the managing director immediately calling back, but the janitor of the organisational headquarters may not be so inclined. Participant 13 provides an example of how he utilises his discretion in returning after-hours phone calls:

> "So I'd generally make it very clear to people that I am away, that's number one… the other thing is if I do get a random call, and I know it might be exceptional circumstances, I'd still not take it. I would then check monitoring systems and emails for alerts or any kind of other cues if something's wrong or not. And if something is wrong, I'll start taking action and then let them know something's wrong. Otherwise, I will just call back in a few minutes later and say, sorry, I missed your call, I was in the pool, I'm yet to dry myself, or we were cycling, if I take longer -- or something, some excuse. Or I will just -- I'll call back rather than take the call immediately because it breaks that thing that I

am reachable like at the drop of a hat and I'm not. I'm reachable at my discretion."

When an after-hours communication is received by a border-adapter, the decision to enforce or facilitate border transitions is largely dependent on the individual's self-arbitration process. The process utilises their own mix of internal and external border-keepers in the construction of a decision. Consequently there will either be the acceptance or rejection of the communication and the resultant segmentation or integration of domains. The same processes concurrently define the communication as urgent or important to the individual. An example of this can be seen in participant 1's description of how they define and arbitrate an urgent communication:

> "Well, I'll answer the phone and find out what the issue is and then, decide for myself, once I've heard what it is, whether I want to deal with it or not".

The participant's point of view from this quote provides insight into how the flow of communication is arbitrated through internal and external self-regulatory cues to reduce interruptions within the home domain. However, this point of view is a single point of reference because the development of the border-adapters' arbitration process is individualistic. This is because it relates to the forces which are exerted upon them, and the way in which their external and internal border-keepers guide them on how to respond. Over time the outcomes of these decisions become internalised which defines the individual's self-regulatory border strength approach and guides them with their border-keepers to either relax or strengthen the borders. For instance, a border-adapter who is frequently guided by their border-keepers to facilitate work after hours, is more likely to permit acceptance.

The predominant difference between border-expanders and border-adapters is that border-adapters determine the validity of the communications by looking at who is making the communication, when the communication is being made, and the perceived "urgency" of such communication. Judging from this they determine its importance/urgency and the requirement for swift action (or not). Border-expanders, however, constantly make themselves available to communicate as and when the need arises. Seventy percent (70%) of the border-adapters had partners, although the individuals in this group were not client-facing like the majority of participants in the border-expander group.

5.3.3 Introduction to border-enforcers

Five of the participants were categorised as border-enforcers. The gender distribution of the 5 participants consisted of 3 males and 2 females. Five of these participants were in a domestic relationship. Finally, 4 of the participants interviewed were made up of couples, both heterosexual couples, with the remaining 1 participant being an individual male. The relevant demographic description which pertains to the border-enforcer group can be seen in Table 61 below.

Table 61: Demographics of border-enforcers group

	Age	Race	Gender	Occupation	Field of Work	Self-employed?	Education	Partner?	Partnership status	Partner gender	Children?
	37	Coloured	Male	Middle management	Banking	No	Diploma	Yes	Married	Female	Yes
Paired	37	Indian	Male	Accountant	Banking	No	Honours	Yes	Married	Female	No
Paired	37	Indian	Female	Accountant's partner	Photography	Yes	Bachelor's	Yes	Married	Male	No
Paired	37	White	Female	Project manager's partner	Interior decorating	No	Bachelor's	Yes	Married	Male	Yes
Paired	38	White	Male	Project manager	Telecommunications	No	Master's	Yes	Married	Female	Yes

A commonality found between the border-adapter and border-enforcer groups was that when an after-hours communication was received on a smartphone by the individual, both utilise their arbitration process to determine whether to accept or reject the communication. The commonality ends with the way in which the group manages their borders, with border-adapters using a more flexible border approach which results in the integration and segmentation of the domains. In contrast, border-enforcers implement a far more rigid, inflexible border which emphasises domain delineation. The border-enforcers emphasise a clear domain delineation and border solidification that can be attributed to the fact that two of the three border-enforcers indicated that they thought there was a time and place for each domain and emphasised the distinction between the two. This is echoed by participant 14:

> "I don't believe in receiving any sorts of mail, work related, on my cell phone… For me, I would use my work laptop. Once I leave work, I do not want to be distracted by

any work-related issues… There's a very clear, defined segregation."

The border enforcement and domain segmentation emphasised by participant 14's quote was found to be a common sentiment in the border-enforcer group, indicating clarity in the space and time which they associated with each domain. Similarly, border-enforcers were clear on where each domain begins and ends and the distinction between the two. Participant 27, due to their experiences with work infringing on their home domain, decided to shift work roles to prevent a further scenario with their 7-year-old daughter which he described as follows:

> "When I was in my previous role, when I used to work often. So, I'll be at home, I'll be having dinner and I'll be on my phone. So, my daughter once came and took the phone".

Another incident described by the same participant took place when they were required to leave their daughter's birthday party to deal with issues at work, with this resulting in an argument with his wife and child. He goes on to say it took a few days to overcome the effects of the argument before his wife's demeanour had normalised and which required that his daughter be bought another birthday present as penance for his indiscretions. Because of these scenarios experienced, participant 27 decided to transition to a different role in the organisation to better suit his family and own needs. This new role lessened the impact on their home and family time and was less intrusive and demanding on all parties in the domain as there was increased domain segmentation and border delineation. The benefits that the border-enforcers derive from the segmentation of the domains and the solidification of the borders between them, becomes enshrined in their own self-regulatory behaviour for later use. It is important to add that the use of border delineation as a coping mechanism was found in all of the individuals identified as border-enforcers. An example of benefits for the participant 27 would be a decrease in arguments with their family members and partners and an increase in happiness of all parties.

It was therefore surprising for the same members, identified as border-enforcers, to all agree that they would facilitate after-hours communications, but this would depend on the urgency of the communication and the importance of the message or person who is making contact. They did not, however, link the facilitation to their career development but more to their career sustainability which further differentiates this group from the other groups. It is important to add that the occurrence of urgent after-hours communication was infrequent or was not experienced at all. Rather, the after-hours facilitation appeared to be hypothetical only. When the partners of the participants where asked when, or if, their partners would facilitate after-hours communications, all agreed that their partner would only facilitate urgent

communications and the catalyst would be the importance of the person making contact. An example of this is shown by participant 7 who moved from her previous company to a new company in order to obtain a better life:

> "Because I used to work at another company where you know clients thought that they could call you willy-nilly and all of that, and I used to be a very "Yes, yes, I will do it," until I burned out and got -- it aggravated my depression and I did not need that. And that's when I decided that's it, you know."

5.3.4 Summary of the characteristics of the three border-keeping types

All three groups defined in this study allowed for at least some crossing of the borders between the work and home domains. However, the differences were seen in the way in which the groups chose to accept each after-hours communication. The border-adapters and border-enforcers screened the communication by seniority of the communicator and the time at which they were being contacted, and then redefined the border thereafter. Border-enforcers vocalised their displeasure at the blurring of the two domains to facilitate work after hours. Border-enforcers highlighted that it would only be acceptable if it was an emergency as they felt that they have assigned work the required amount of their time and deserved their own time. For border-enforcers to accept the blurring of work and home required a higher or senior level manager to facilitate the contact and then it would be deemed acceptable, and if not would be rejected. Urgency was used by all three groups to necessitate allowing for after-hours communications into the home domain. Urgency was the most frequently utilised validation for blurring the borders, as it was viewed as necessary to facilitate the continuity of business and career development. To prevent the constant barrage of after-hours communications from work, and thereby allow the separation of the two domains, border-enforcers opted to change their working scenarios to take back control of their lives. One of the most frequently cited validations from border-expanders was that they needed to facilitate "urgent" communications as they were client-facing and therefore it was a requirement of the role.

5.4 Domain construction by border-keepers

Over the course of the interviews, seven themes were determined through the thematic content analysis (TCA) which describe how each group constructs their domains and the movement

between them, each of which is described below.

5.4.1 Defining the home domain

When asked to define their home domain, a significant proportion (N = 11) of the 20 participants (shown below in Table 62) defined the home as part of the physical plane, such as the physical building or the rooms within the physical structure. Participant 21 provides an example of the average response received from the participants:

> "Home for me is my primary residence which is in Parkwood, Johannesburg".

The presence of a physical plane in participants' home domain construct was reinforced by their partners when questioned how their partner (the participant) would define their home domain. However, the construction of a domain on a physical plane requires that individuals reflect on their physical location and exhibit appropriate behaviour in relation to that physical location.

The resultant behaviour is constructed through the individual's reflection point, guided by internal and external forces in relation to the current and previous requests issued upon them. An example of such a request can be seen when an individual catches a glimpse of their physical office which cues a mental response that they adjust their tie, shirt, and trousers so that they appear professional and prepared for the day ahead when they walk through the door. However, a problem arises when an individual, while at home, receives an after-hours phone call from their work, thus receiving a request to integrate the domains. At the same time, their physical home domain structure indicates that the behaviour is not synchronised with the values of the domain and therefore requires them to segment their domains. This culminates in an internal battle in the individual about which path to follow, that of integration or segmentation. Participant 7, for instance, describes her after-hours work phone use while at home as;

> "So you know if I'm having supper, watching movies with friends, my phone will be off. I do have a tendency to put it on silent when I get home. I will check it every now and again and if I see I had a missed call, I'll be like okay who phoned me? If there is no voice message, then can't be that important there is a voice mail for a reason."

If a participant wishes to attempt to separate the two domains and thereby reduce the occurrence of domain blurring and its resultant effects, they need to question all requests that potentially permeate the physical border. This of course relies heavily on the individual's self-regulation,

to which participant 27 offers the following:

> "my usage at home, I don't use my cell often at home. I don't give any calls at home. I try not to make many calls, I'm doing my calls at work. So I don't use my cell phone often."

Table 62: Group definitions of the home domain

Planes	Participant	Partner	**Total**
Physical	11	5	**16**
Physical/psychological	7	2	**9**
Psychological	2	0	**2**
Total	**20**	**7**	**27**

A surprising commonality was found with the discovery that a significant proportion of border-expanders, border-adapters and border-enforcers defined their home domain as being on a physical plane. Each group, however, has a unique approach to the physical domain construct. Border-expanders either fail to recognise or ignore the cues that the physical home domain infers on them, which potentially explains their lack of border delineation and a propensity to coalesce the two domains into one. Border-adapters equate the home domain with a sense of ownership or control over the domain as they associate the area with themselves. Participant 2, for instance, describes it as:

> "I know it's my place because my place – as it is painted the way I like, everything's according to my liking. It has my personal touch to the place."

This sense of ownership associated with their home domain simultaneously offers cues to their "owners" about what time and space they are in. This in turn is combined with their external and internal border-keeper's guidance and culminates in the construction of their individual arbitration process in relation to forces placed upon them. This will be discussed in greater detail below.

On the other hand, border-enforcers utilise the same cues predominantly in the solidification of their home domain structure and completely delineate every request.

Table 63: Individual definitions of the home domain

	Border-expander			Border-adapter			Border-enforcer			Total	
Planes	Participants	Partners	**N**	Participants	Partners	**N**	Participants	Partners	**N**	**Participants**	**Partners**
Physical	5	3	**8**	4	0	**4**	2	2	**4**	**11**	**5**
Physical/ Psychological	3	0	**3**	3	2	**5**	1	0	**1**	**7**	**2**
Psychological	1	0	**1**	1	0	**1**	0	0	**0**	**2**	**0**
Total:	**9**	**3**	**12**	**8**	**2**	**10**	**3**	**2**	**5**	**20**	**7**

The second most number of participants, at 7 of the 20 (shown above in Table 63), defined their home domain as being located on both the psychological and physical planes. An example of the home domain defined on both the physical and psychological planes (multi-state construct) can be seen when an individual, while in the home domain, is stressed by the conflicting situation with their employer. Another example is the mental and emotional attachment that an individual has to a space which they define as their home. Participant 5 defines it as:

> "physical elements it's a three-bedroom town house…I think psychologically, my room is my haven."

An inconsistency was found, however, between the number of participants and their partners who defined their home domains as being located on both the psychological and physical planes, with only 2 of the 7 partners being in agreement, both of whom originated from the border-adapters group. Participant 11 (the partner of participant 19), for instance, provides a reflective description on the way in which their partner would define their home domain:

> "the cottage where we're living in… and me"

The evidence of a multi-state plane construct was neither acknowledged nor tested by Clark, and provides a theoretical contribution to the area. This of course means that multiple planes could work together to facilitate domain construction, deconstruction, and border delineation.

Interestingly, a significant proportion of the border-adapters group defined their home domain as a multi-state construct. This could plausibly be explained by the border-adapters' learnt skills, developed through the arbitration of the borders to ensure that the communication is accepted or rejected relative to their originator and the message it contains. Border-adapters, because of their adaptation to and control of mobile phone communications, are inherently multi-planed and have gained the relevant insight into the multi-plane construct of the home

domain, thus being more adequately prepared to arbitrate the borders.

The smallest number of participants, 2 of 20, identified their home domain to exist primarily as a psychological plane, as shown above in Table 63. It is interesting to note that none of the participants' partners agreed with this definition. The fact that one of the two participants who identified the home domain as a psychological plane was a border-expander (participant 25) is unsurprising as the psychological construction facilitates the domain to move with the individual everywhere they go, thus resulting in greater engagement with the needs of work. An example of a psychological plane home domain construct can be seen in participant 25's definition below:

> "Home is where I relax… I don't have to answer to anyone else and I can do whatever I want, when I want, how I want".

The other participant was a border-adapter. The border-adapter's permissive behaviour makes them more susceptible to avail themselves psychologically within the home domain as they are always willing to facilitate all types of work, the behaviour stemming from their expectations and the previous experience placed upon them from their clients, employers, peers, and others.

In the case of the single border-adapter who defined their home domain psychologically, their mental construction of what their home domain provides also offers the ability to determine where it begins or ends, which will assist with the ability to delineate it better. The ability to do so is derived from their previous arbitration processes which have determined what work-related communications or messages to accept or reject within the home domain.

5.4.2 Defining the work domain

When asked to define their work domain, 7 of the 20 participants (shown in Table 64 below) defined its construction as a combination of both physical and psychological components. The multi-state construct was supported by their partners, with 3 of the 7 expressing agreement. Work, when defined as multi-state construct, implies that it can exist simultaneously on both the physical and psychological planes. For example, an employee at work could be filing documents but anticipating the forthcoming meeting in half an hour. It is important to note that this thought pattern is not unique as a similar multi-state construct could be used to develop the home domain construction.

However, the duality of the work domain construct implies that it will become more difficult to contain when, or where, work occurs, which makes the delineation of the domains even more cumbersome. Consequently, it is not surprising to find that 4 of the 9 participants in the border-expander group (shown in Table 64 below) constituted the largest reported proportion of any group who identified with the multi-state construct of the work domain. This could be expected as they were more likely than the other groups to accept work as being ubiquitous and existing on multiple planes. For example, participant 12 describes their work domain as;

> "Well, work is -- it's a place of I guess, where you go, the place of knowledge more specifically, you lead a team of people -- in my case, I lead a team of people, so it's kind of a different family, you know. So you retreat from one place to almost the secondary home, and should always be treated as a secondary home, otherwise it'll consume everything else that is home."

Table 64: Group definitions of the work domain

Planes	**Participant**	**Partner**
Physical and psychological	7	3
Psychological	7	1
Physical	4	3
Physical, psychological, temporal	2	0

The same proportion of participants (7 of the 20 participants shown in Table 64 above) defined their home domain as existing on the psychological plane. This means that these participants imagine work as a conceptual construction that can take place anywhere (or anytime). This therefore requires that the individual can determine the time and place for work. When asked to define their work domain, participants relate it to their emotions and thoughts, with a significant number reflecting it as "stress"; others varied between "a place of inspiration" (participant 3, border-expander); and some reflecting an "I work to live. I don't live to work" philosophy (participant 14, border-enforcer). The acknowledgement that work is a psychological thought pattern makes it more problematic for the individual to encapsulate and delineate. It is important to note that the lowest proportion of partners agreed with the main participant's work domain when defined as existing only on a psychological plane. This is possibly because they believed that the participant requires more than one domain plane to cue them into (work) action.

As with the physical definition of the home domain, work was predominantly defined as a physical structure or room within the structure by a slightly smaller proportion of participants (4 of the 20 participants shown in Table 64, above). It is important to note that both border-adapters and border-enforcers defined their work domain as existing on a physical plane (see Table 65 below). Plausibly, this could explain why the two groups are more effective in the arbitration of the borders and the delineation of their domains than their border-expander peers. Participant 2, for instance, equated their work domain to the state-owned broadcasting company building where they worked daily.

Table 65: Individual definitions of the work domain

	Border-extender			**Border-adapter**			**Border-enforcer**			**Total**	
Planes	**Participant**	**Partner**	**N**	**Participant**	**Partner**	**N**	**Participant**	**Partner**	**N**	**Participant**	**Partner**
Physical/ psychological	4	2	6	2	1	3	1	0	1	**7**	**3**
Psychological	4	0	4	3	0	3	0	1	1	**7**	**1**
Physical	0	1	1	3	1	4	1	1	2	**4**	**3**
Physical, psychological, temporal	1	0	1	0	0	0	1	0	1	**2**	**0**
Total:	**9**	**3**	**12**	**8**	**2**	**10**	**3**	**2**	**5**	**20**	**7**

The smallest percentage of the participant sample (2 of the 20 participants, i.e. a single participant from both the border-expander and border-enforcer groups) defined their work domain to exist as a multi-plane construct of physical, psychological, and temporal planes, as shown above in Table 64. This can be explained as border-expanders' permissive behaviour to facilitate work ubiquitously, and therefore identify all three planes. This results in their ability to flow into the home domain in unregulated fashion, which can be seen in participant 9's description of their work domain:

> "it's a place where I interact with people a lot more, it's somewhere where I'm a lot more guided by things that need to be done, I have deliverables, I have commitments, obligations to things, people, situations that are driven either by me or by others that are either time sensitive, pressure sensitive, outcome-based where everything is measurable and quantifiable."

In contrast, border-enforcers value the ability to control the flow of work through the enshrinement of domain separation which is achievable through the delineation and control of

all three planes. To that effect, participant 22 describes the way in which they delineate their home and work domains as;

> "I actually have a very good system where I track exactly how much I work. So, I have a calendar setup and if work happens I put it in the calendar… And it happens anytime, but I clocked my hours basically after half an hour. So, if somebody phones and we have a conversation, if it's 20 or 25 minutes I will clock that half hours as work time even if it's 2 o'clock in the morning".

This provides additional evidence that the use of the temporal plane controls can assist in domain delineation and border solidification. It is important to note that not a single partner used the multi-state construct when they defined their partner's (the participant's) work domain, thus constituting an interesting avenue for further study.

5.4.3 Separation of the home and work domains

In their interview participants were asked if they had, or have ever attempted to, separate their home and work domains (the results are summarised in Table 66 below). Fourteen (14) of the 20 participants indicated that they were separating the work and home domains, and a further 6 indicated they were either not trying or had tried and failed. However, a significant number of the partners did not believe this to be the case, with 5 of the 7 partners providing incidents which suggested that their partners (i.e. the participants) had made no attempt, were largely ineffective, or were unsuccessful in their attempts.

This is in stark contrast to the finding that the largest proportion of the three participant groups (border-expanders (N = 4); border-adapters (N = 7); and border-enforcers (N = 3)) indicated that they were attempting to achieve home and work domain separation. Although participant 24 (partner of participant 8) acknowledged her partner's attempt to separate the domains, she described the attempts as being "ineffective". It is important to add that border-expanders were found to frequently contradict themselves and it is believed that they do not view their behaviour from an external perspective but rather from their own inner perspective. An example of such a contradiction can be seen in participant 7's comments section 5.4.6 below, when she admits to having both accepted and rejected after-hours communications. This can be linked to a Gestalt view of life space and the construction of the different domains it forms in their lives. However, this study only concentrated on the two domains of home and work and the movement

between these two domains, and therefore does not deal with the full complexities of the individual's entire life space.

Table 66: Separation of home and work domains

Border-expander				Border-adapters				Border-enforcers			
Separation	Participant	Partner	**N**	**Separation**	Participant	Partner	**N**	**Separation**	Participant	Partner	**N**
Yes	4	0	**4**	Yes	6	1	**7**	Yes	2	1	**3**
No	3	1	**4**	Yes, depending	1	0	**1**	Yes, psychologically	1	0	**1**
No, tried or trying	2	1	**3**	No	1	0	**1**	Not always	0	1	**1**
Yes, ineffective	0	1	**1**	Unsuccessful	0	1	**1**				
N	**9**	**3**	**12**	**N**	**8**	**2**	**10**	**N**	**3**	**2**	**5**

From the interviews conducted it became apparent that border-expanders were captivated by the constant state of movement which surrounds them, and in order to engage with it they use their mobile phones. The activity and movements integrate into their behaviour as it becomes learnt and, over time, becomes their own default behaviour. The mobile phone acts as a conduit for the constant flow of communications that originate in the work domain and enter the home domain. Over time, the border-expanders become so enthralled with the stickiness of the communication activity that they struggle to disengage themselves from their mobile phones in order to reinforce the border between the two domains. An example of mobile phone stickiness can be seen in participant 26's description of their mobile phone Internet usage:

> "when I'm supposed to sleep, the moment I climb into bed I would start browsing for Facebook and jumping from one person for a photo and another one searching there and so I would usually end up I think very quickly two hours / three hours a day, when I'm supposed to be sleeping actually you end up browsing. I'm not very, very active on numerous websites, I would usually just stick to one or two and spend few hours on that."

To provide deeper insight into border-keepers and their varying styles it is important to consider which plane(s) they predominantly operate within, as this may provide a potential clue as to how they are able, or unable to separate home and work domains. The largest proportion of border-expanders, as shown above, defined their home domain within the physical plane and their work domain within physical and psychological planes.

This can be explained by the evidence described above, that border-expanders define

themselves and their value primarily within their work domain (i.e. they are work-centric). Therefore, border-expanders are more permissive than the other groups to facilitate work domain infringements via their mobile phone and within their home domain on both physical and psychological levels. The mobile phone provides a conduit which extends and strengthens the work domain within the home domain.

The addition of mobile phones provides a device which overcomes the previous limitations of the work domain constraints in its ability to reinforce its push factor upon the individual, thereby command their ubiquitous attention. This culminates in the restrictions of the physical and psychological home domain border being overwhelmed by the constant flow of communications originating in the work domain. Consequently, there is the possibility of a perpetual flow of activity from the work domain to the home domain, with limited capability to separate the two domains again.

In contrast to the border-expanders' integrative approach to the domains, border-adapters and border-enforcers indicated their attempts to separate the two domains. However, they differed in their approaches to controlling the flow of communications originating in the work domain. Border-adapters regulated their domains with an arbitration method which closely resembles a water barrage. They controlled the flooding or damming of the home domain through their sluice gates (domain borders), which results in the controlled integration or separation of the domains and, upon completion of the transfer, the border is reset in its original location. The border-enforcers operated similarly to that of a lessee/dyke in that they blocked the flow from the work domain and only under "urgent" conditions allow for communications to flow into the home domain. In contrast, the acceptance or rejection of work-originated communications received on an individual's mobile phone were arbitrated because they entered the physically defined home domain construct utilised by the border-adapters. The attributes of the physical home domain cue the individual to psychologically reflect (arbitrate) when a communication is received on the mobile phone and either accept or reject the intrusion. The arbitration governs whether the communication is accepted, if the domains are integrated and whether the communication passes through the border and, once complete, the border is re-formed in its original position. The alternative is also true that if the communication is rejected, the domains segment and the border is reinforced.

The work domain construct was defined by the individual's definition of their physical and psychological planes (or in some cases a multi-state construct of physical and psychological

planes). The work domains, although uniquely defined by two separate domain constructs (physical and psychological), are believed to work together, thus the one domain triggers the other into action. Therefore, the physical plane cues the psychological plane to arbitrate the domains. This of course implies that communications received while in the work domain are arbitrated by the physical location and its associated structure, which cues the behaviour the individual should exhibit while at work or home. The domains therefore remain separated and the border between them is reinforced, and becomes further reinforced for future situations of a similar nature. For example, a worker who receives a call from a friend during work hours can view their office around them and determine that this is not the place to accept the call, and therefore does not answer the call.

This provides an explanation as to why border-adapters are more efficient in the regulation of the work domain. The physical plane creates a point of reflection (psychological cue) for the individual. The cues, in turn, result in the arbitration of the communication in relation to the individual's internalised or externalised (or in rare cases, both) guidance from the border-keeper. Only 3 of the 20 participants were identified as border-enforcers, who are believed to have played an integral part in the somewhat dispersed definition of the work domain construct's utilisation of planes. The home domain was, however, predominantly defined as a physical plane construct. This suggests that physical elements invoke the border-enforcer to respond to the situation which they have encountered and segment the domains. This can be seen from participant 22's interview, where he describes the entrance into their car after work as the cessation point of work, signalling his transition into the home domain.

Border-expanders provided both individual and multi-plane constructs with the utilisation of physical, psychological, and temporal planes when asked to define their work domain. This is believed to be the case as border-expanders have recognised that the work domain can operate in various combinations, forming an intrusion into the home domain. As border-expanders have acknowledged the potential of these multiple combinations it provides them with the ability to more clearly recognise what belongs where and implement clear, internalised segmentation policies.

5.4.4 Temporal domain construction

Temporal domain construction describes the use of time by individuals to separate their domains, with this being achievable through a single plane or that of a multi-plane construct. When asked to define the home domain construct, a significant proportion of all three

participant groups and their partners indicated the temporal construct to exist within the physical plane, after which a multi-state physical and psychological plane was supported. Only 2 participants supported the purely psychological home domain construct.

However, the work domain construct was inconsistently conceptualised in the different groups. An example of this can be seen when an equal number of border-expanders defined their work domain as either a psychological plane construct or a multi-state plane construct (of both the physical and psychological planes). Only the definition of the multi-state plane construct was supported by their partner sample. This differs from the definition offered by the two groups of border-adapters who utilised single psychological and physical planes. This is believed to occur because the physical work domain cues a psychological arbitration of the behaviours that one is expected to exhibit. The group which offered the most dispersed plane construct, however, was the border-expander group, who utilised a unique combination of the physical, psychological, and temporal planes.

It is therefore believed that the utilisation of multiple plane constructs in the work domain may provide insight into how the different groups determine how to segment and integrate their domains. The participants' unique constructionist approach results in varied domain construction and border flexibility which could be attributed to the individual's self-regulation. For instance, border-expanders and border-enforcers were the two groups who acknowledged the significance of the temporal plane in the multi-plane work domain construct (greater clarification of this is provided in the paragraph below). Through the incorporation of the temporal plane, group members could utilise temporality as a cue to indicate to the other planes what their appropriate integration or segmentation behaviour should be in that space and time. The multi-state planes can thus form part of the individuals' internal border-keeper mechanism which is used to formalise their border delineation behaviour (of either domain integration or segmentation).

However, this study only revealed two instances of the temporal plane construct in the domain construction; by a single border-expander and border-enforcer. Both participants used a multi-plane definition for the work domain. However, the lack of a temporal plane in the definition gives rise to the belief that individuals are less likely to use time to integrate and segment their domains. This is further reinforced by the fact that none of the participants' partners used the temporal domain when defining their partner's (the main participant) mobile phone usage.

With the rapid adoption of mobile phones (and later smartphones), the temporal plane border

has in all likelihood become less important since Clark conducted her study in 2000. As in the past, employers were the ones who described the employees' work (domain) day hours. The remainder of the day would therefore be home (domain) time. This meant that the employer shaped both of their employees' domain constructs and controlled how they would integrate or segment the two.

Over time individuals have gained the independence to manage the delineation of their domains and are increasingly granted the ability (i.e. the tools) to decide how they wish to integrate or segment the two domains. Mobile phones have thus altered the way in which domains are delineated once again. The individual must decide how to balance their desires for career sustainability and advancement. If the participant delegates the responsibilities of temporal regulation to their employer, they will potentially lose the ability to discern how and where their domains integrate and segment. This makes the location of the domains and the borders between them difficult to re-establish, as the domain border remains in a state of flux. With varied approaches to dealing with the flow of work between the domains and borders, the employees must determine which role they wish to exhibit, that of an integrator or a segmenter. Every approach will culminate in the formation of a different border-keeper group role. Participants and their partners are therefore probably unable to accurately discern the necessary percentages of after-hours time as well as the timeframes for the various domains. A further possibility exists, however, whereby individuals become susceptible to expectations placed upon them (through social learning) when they take behaviours that they observe and internalise them as their own over time. For instance, this could occur when individuals internalise their peers' work behaviour, which they observe from the after-hours emails they receive on their mobile phone, or their employer's susceptibility to interrupt their personal life to permit work needs. Over time these behaviours have the propensity to be internalised and thus become the individual's own self-regulatory mechanisms.

Each border-keeper group described therefore exhibits its own unique behaviour and constraints which relate to the percentage of after-hours work performed by the participant and the timeframe they consider to be after-hours mobile phone usage. Border-expander participants indicated that they would make themselves available for 60% to 70% of the time, while only one of their partners agreed, and the remaining two partners believed it to be between 20% to 30%, or 30% to 40% of the time, as shown in Table 67 below. Although both border-adapter and border-enforcer participants predominantly viewed their availability to be between 0% to 5% of the time, as shown in Table 67, only the border-enforcers' partners agreed with their

claims. It is therefore thought that the support provided by the border-enforcers' partners acts as further support or reinforcement of the border.

Table 67: Percentage of time available for after-hours work

	Border-expander		**Border-adapter**		**Border-enforcer**		**N**
%	Participant	Partner	Participant	Partner	Participant	Partner	
0 to 5	0	0	4	0	3	2	**9**
20 to 30	2	1	3	0	0	0	**6**
30 to 40	0	1	0	1	0	0	**2**
40 to 50	2	0	0	0	0	0	**2**
50 to 60	1	0	0	0	0	0	**1**
60 to 70	3	1	0	0	0	0	**4**
80 to 90	0	0	0	1	0	0	**1**
90 to 100	1	0	0	0	0	0	**1**
N	**9**	**3**	**7**	**2**	**3**	**2**	**26**

The border-adapters' partners, by comparison, provided little support for their claims and viewed their actual after-hours availability to be higher, at 30% to 50% or 80% to 90% of the time, as shown in Table 67. Finally, it is important to add that a single border-adapter participant (participant 7) did not indicate her percentage of time in the interview.

To better clarify the percentage of time available for after-hours work, the participants and their partners were asked an additional set of questions to determine the timeframes which they viewed as after-hours time. The largest number (N = 4) of the border-expander participants indicated that they viewed anything after 22:00 as after hours. However, there was no support for this claim from their partners, as shown in Table 68 below. It is important to note that congruency was found between three border-expander participants and their partners (N = 2) who believed that the main participants would avail themselves 24 hours a day, 7 days a week, as shown in Table 68. This indicates that these participants did not define after-hours work, per se, as they were unable or reluctant to create a temporal border or "space" between the two domains. The general lack of congruency found between the participants and their partners therefore indicates that border-expanders avail themselves more than they are cognitively aware.

Table 68: Times considered to be “after hours”

		Border-expander		**Border-adapter**		**Border-enforcer**		**N**
	Timeframe	Participant	Partner	Participant	Partner	Participant	Partner	
	24/7	3	2	0	1	0	0	**6**
After	22:00	4	0	0	0	0	0	**4**
	20:00	0	0	1	0	1	0	**2**
	18:30 unless emergency	0	0	1	0	0	0	**1**
	17:30	0	0	0	0	0	1	**1**
	17:00	0	0	5	1	0	0	**6**
Between	18:00 to 08:00	1	1	0	0	0	0	**2**
	16:00 to 08:00	0	0	1	0	0	0	**1**
	Relative to situation	1	0	0	0	0	0	**1**
	No after-hours facilitation	0	0	0	0	2	1	**3**
	N	**9**	**3**	**8**	**2**	**3**	**2**	**27**

The largest contingent of border-adapter participants (N = 5), by comparison, viewed anything after 17:00 as being after hours, which implies that they viewed work to end after a traditional working day (as shown in Table 68). This is a pertinent characteristic which uniquely identifies border-adapters by the way in which they define their work and home domains. In this respect, participant 7 offers the following construction:

> “Work is the moment when I get into my car and drive to the place where I sit at a computer most of the day writing reports or go to site… home is not the gym because that's a different thing, but it's -- so it's here, so it's where I cook, it's where I eat, it's where I sleep, it's where I relax, unwind. That's -- and where my books are”.

It was important to note the deliberate exclusion of the gym by participant 7. In order to obtain greater insight into the construction of a third state (a transient state as related by Clark), this aspect was further probed. The investigation provided evidence that participant 7 used the gym and meeting with friends between work and home as a way to separate the domains. This

“buffer zone” delimits the work domain’s ability to seep into the home domain. The use of a buffer zone by participant 7 can be seen as a tool to locate where one domain ends and another begins. As shown earlier, border-adapters utilise a unique combination of physical and psychological planes in their development of the work domain. The clarity with which the border-adapter defines their domains is further provided by the time and space allotted to each domain. Participant 7 defines the work day as falling between 07:00 and 17:00 in summer and between 08:00 and 17:00 in winter. Later on, participant 7 acknowledges that they will facilitate after-hours work if they “absolutely have to…such as an insane deadline that I have to work from home, but otherwise I will not”. The participant was quick to add that they would still avail themselves for after-hours phone calls in the case of an environmental spill at a site. This provides further evidence that important messages are facilitated by border-adapters.

To understand how participant 7 developed the ability to discern where the work domain should start and end, they were probed about how they developed this skill. Participant 7 replied:

> “because I used to work at another company where, you know, clients thought that they could call you willy-nilly and all of that, and I used to be a very "Yes, yes, I will do it," until I burned out and got -- it aggravated my depression and I did not need that. And that's when I decided that's it, you know.”

They go on to explain that their previous workplace was a brokerage firm where they billed by the hour. The clients therefore expected that their needs would be facilitated at all hours of the day. In the hopes of finding a greater equilibrium between the domains, participant 7 therefore resigned from that job at the brokerage firm and started a new career at an environmental firm.

The synopsis of participant 7’s interview gives insight into the border-adapters’ use of a transient buffer to assist with the delineation of the domains. Through a clear timeframe of the work day, the border-adapter is able discern when work starts and ends, while after-hours communication is only allowed if the message is perceived as urgent and important. The ability to discern between the work and home domain needs and the facilitation between the domains is shaped by their past experiences.

Through the clear provision of a timeframe for work to end, border-adapter participants indicated their desire to delineate their domains and the borders between them. This therefore infers that they were more likely to arbitrate any and all communications received after 17:00. However, little congruency was found between the border-adapter participants and their

partners. This implies that the border-adapter participants may have been expressing an ideal rather than the reality.

Finally, the largest number of border-enforcer participants (N = 2) and their partners (N = 1) agreed that they would not do any after-hours work, as shown in Table 68. This implies that border-enforcers have a clear temporal plane which they utilise in the construction of a timeframe of when and where the domains begin and end (found in the number of after-hours facilitations in a row). The development of this clear timeframe therefore assists with the clear domain segmentation policy which the border-enforcer utilises.

Of the group of participants and their partners defined as border-enforcers, participant 22 was the most flexible of the group in their approach to after-hours communication on their mobile phone. This may be because they defined their "after hours" as:

> "the mornings, before 8 o'clock I generally don't answer my phone and don't use it for work purposes. In the evenings, I will answer it up to about 19:00 or 20:00 after that not easily unless there was something planned. If somebody is planning an upgrade for work on a weekend I might, otherwise it would be pretty much personal use".

The exception which participant 22 provided for after-hours phone calls for planned events was because they acknowledge, through the facilitation of these important events, that they thereby increase their chances of achieving their own self-actualised goals. Thus, the drive to respond only to important communications is supported by all of the border-enforcer participants and their partners as they would like to attain their own self-actualised goal. To better understand how they discern between importance and urgency, participant 22 was asked how they knew a communication was important. They replied:

> "I know there is something urgent happening if the person calling, calls repeatedly but if it's off hours I generally wouldn't answer, I'd ask them to message me with whatever the issue is because project management generally doesn't have unplanned crises like you have in tech support or other fields".

They went on to say they would answer the communication if:

> "I know there is some crisis or if it's a particular person, so if it's my boss calling or my project sponsor calling then I would typically answer. It also doesn't happen often, maybe once a month".

Participant 22 recognised that career choice, as a project manager, comes with limited or few after-hours communication requirements, which assists them with their delineation process of whether a message is important and urgent or not. Although participant 22's quote may appear to display a rhetoric similar to that of a border-expander or border-adapter, they indicated a career choice to become a project manager to limit their availability after hours.

5.4.5 Importance and urgency

A further insight into the variability of the groups identified in this study lies in the way in which the participants and their partners discerned if their after-hours communication was important and/or urgent. To investigate these aspects required the participants and their partners to explain when they would answer a call after hours and support it with why they would answer the call. Their responses were then tabulated to match Covey's (2014) matrix design, the results of which are seen in Table 69 below.

Table 69: Importance and urgency of after-hours communications

Importance and Urgency	**Quadrant**	**Border-expander**		**Border-adapter**		**Border-enforcer**		**N**
		Participant	Partner	Participant	Partner	Participant	Partner	
Important and Urgent	I	3	3	8	2	3	2	**21**
Important and Not Urgent	II	0	0	0	0	0	0	**0**
Not Important and Urgent	III	6	0	0	0	0	0	**6**
Not Important and Not Urgent	IV	0	0	0	0	0	0	**0**
N		**9**	**3**	**8**	**2**	**3**	**2**	**27**

Border-expander participants were found to be more susceptible to facilitate after-hours phone calls that were not important but were perceived as urgent. The inability to discern between importance and urgency can be attributed to a combination of social learning and the inability to differentiate between self-actualised goals and the goals of the organisation. A prime example of why they would respond to an after-hours communication is provided by participant 21, who responded that "I would still respond to something urgent" when questioned about why they were available 24/7. It is important to add that border-expanders were found to be driven to fulfil their client's requirements via their mobile phones, which they validated because they were either client-facing or it was included as part of an accepted industry standard (as reinforced by their employers, organisations, or peers). The border flexibility and domain management of the border-expanders appears to be predominantly externally driven and

controlled.

It was of interest to note that the remainder of the border-expander participants and their partners viewed the after-hours communication fulfilment as both important and urgent. This could possibly be explained by the participants of the study being drawn from organisational management who wanted to remain on course for further career developments and advancements. Therefore, their own goals and that of their organisation have become aligned and their partners seem to support this alignment.

Table 70: Motivations behind the facilitation of after-hours phone calls that were urgent or important

Why	**Border-expander**		**Border-adapter**		**Border-enforcer**		**N**
	Participant	Partner	Participant	Partner	Participant	Partner	
Arbitrate	1	0	1	0	1	0	**3**
Client-facing	2	0	0	0	0	0	**2**
Emergency	1	0	3	1	1	0	**6**
Importance	0	2	2	1	1	1	**7**
Industry standard	5	0	1	0	0	0	**6**
Perfectionism	0	1	0	0	0	0	**1**
Seniority of caller	0	0	1	0	0	1	**2**
N	**9**	**3**	**8**	**2**	**3**	**2**	**27**

The unwavering support for facilitation of after-hours phone calls that were both important and urgent was retold by both participants and their partners in the border-adapter and border-enforcer groups. For instance, when participant 17 was asked when they would answer a work-related call at home, she responded;

> "All the times… because it could be important".

A similar response was ironically provided by participant 24 (partner of participant 8) when reflecting on their partner's mobile phone use in response to the same question:

> "All the times… because he thinks it's important to do".

The motivations behind the after-hours facilitation were not as clear, yet they still offered a relatively congruent motivation for urgency and importance. The congruency was largely seen with the largest number of border-adapter and border-enforcer participants when their predominant usage was for family/friends and leisure. This finding was supported by the border-enforcers' partners. An inconsistency arose with the border-adapters' partners who believed their partners' usage was predominantly for work.

Table 71: Predominant mobile phone usage after hours

Predominant usage after hours	Border-expander		Border-adapter		Border-enforcer		N
	Participant	Partner	Participant	Partner	Participant	Partner	
Family/Friends/Leisure	3	2	7	0	3	1	**16**
Family/Work	1	0	0	0	0	0	**1**
Work	5	1	1	2	0	0	**9**
N	**9**	**3**	**8**	**2**	**3**	**1**	**26**

This difference of perspective on the border-adapters' after-hours mobile phone usage offers some evidence as to how the border-adapters' arbitration process is formulated. While the border-adapter is at home, their partner or spouse acts as the border-keeper who, in this case, questions their partner's after-hours mobile phone usage for work and, as a response, pushes for the delineation of the domain for their partner. This in turn potentially triggers a point of reflection or discernment within the border-adapter as to what belongs and what doesn't. An example can be seen with participant 5, a border-adapter, who explained that after the failed relationship with their previous partner:

> "I actually became aware that my mobile phone usage could actually be interfering and that I used to focus on the mobile phone instead of on my partner".

They then explained that they would not allow this to happen in a new relationship and now arbitrate after-hours phone calls more vigorously.

The single border-enforcer participant (20; i.e. participant 14's partner) who was not included in Table 71 above, explained that their partner "doesn't work on his cell phone, he doesn't get emails or anything". Unfortunately, they did not provide information on what their partners did do with the phone.

5.4.6 Self-regulation

To understand who was responsible for the individual's mobile phone self-regulation, participants and their partners were questioned around this concept to gain deeper insight into their behaviour. It was of little surprise that the largest number of border-expander participants reported that they self-regulate their behaviour but were ineffective (which was supported by their partners), as seen in Table 72 below.

The second largest number of border-expander participants indicated that they did not regulate their usage at all. When participant 17 was questioned as to who regulates their behaviour, they

responded “no one, because it is not regulated ... because there is no need … I’m reachable all the time”. A follow-up question was then asked to determine if there weren’t times and spaces in which they were unavailable, to which they responded:

> “there is, but to be honest I think I’m not in a stage now where workload is so much that it is needed, I’m just saying like I’m always reachable but they don’t call after hours. But if it’s needed, I’m doing it because work has been a priority in my life, career has priority”.

The way in which border-expanders constantly avail themselves to work is reiterated throughout the interview. The behaviour, as shown above, is believed to stem from their career ambitions and is reinforced by their organisational demands.

Organisations, in order to ensure that a communication channel is developed and continuously open, are able to expand their reach through inundating their employees. This was the case with participant 25, who explained:

> “well, I got to a point at one stage where I stopped trying to respond to messages and I was assuming other people would respond to them and they obviously didn’t and it caused things to not get done when it should be done at work which caused tensions”.

Obviously, the constant barrage of work-place originated communications on the border-expanders’ mobile phones alters their ability to discern the location of the domains and the border between them.

A further commonality between border-adapter and border-enforcer participants was found when the largest numbers from both groups indicated that they felt they were effective in the self-regulation of their mobile phone usage and particularly their after-hours communications. This was further substantiated by the largest number of participants’ partners from both groups. These results reinforce the belief that border-adapters and border-enforcers exert greater self-control in their mobile phone usage through self-regulation, which results in greater domain separation and border solidification and/or monitoring.

Table 72: Self-regulation of mobile phone use

Self-regulation	Border-expander		Border-adapter		Border-enforcer		N
	Participant	Partner	Participant	Partner	Participant	Partner	
No regulation	3	0	0	0	0	0	**3**
Self, ineffective	4	2	1	0	0	0	**7**
Self, with help	2	1	0	0	0	0	**3**
Self, effective	0	0	6	2	3	2	**13**
Partner	0	0	1	0	0	0	**1**
N	**9**	**3**	**8**	**2**	**3**	**2**	**27**

The subtle differences between the groups becomes more noticeable when their border management approaches with after-hours communications are more closely examined. Border-adapters provide a more flexible arbitrative approach, while border-enforcers adopt a more rigid solidification approach.

The border-adapter considers the received after-hours communication through arbitration, where a combination of criteria are examined to determine if the communication will be accepted or rejected. The criteria which influence the development of the border-adapters' communication channel are the importance and urgency of the message, factors which are influenced by their previous interactions, relationships, and the level of authority of the communicator. An instance of this can be observed in participant 2's reasoning for why they would answer an after-hours phone call:

> "But on the other hand, I feel guilty because all the other people, my boss, reads his emails 24/7, why don't I? My boss takes phone calls 24/7, why don't I? So, in a way, I feel obliged to phone or to answer calls, answer emails anytime but I don't."

Further evidence of this can be seen in participant 19's answer to the same question:

> "the seniority of the call, of the person calling and the other one is also the cycle of my project that I'm in. If we are in a tight fit period of time I will answer."

The outcome will result in a uniquely suited configuration of domains and borders which varies between an integrative or segmentative approach. In contrast, border-enforcers opt for a far more rigid approach in their facilitation of after-hours communications and this results in a solidified border and segmented domains. However, exceptions were made when the communications came from a person of authority in relation to the individual and were viewed

as urgent and important.

The self-regulatory arbitration mechanism used by border-adapters is thought to arise from the knowledge gained from their previous experiences. An example is provided by participant 7, who in their explanation of phone calls received said:

> "work disrupted me a couple of times when I was with my family on weekends. And I think that's when I started learning to be like, okay now, f**k these people! You know this is my own time; this is my "me time", you know, I'm not getting paid sufficiently to warrant, you know, phone calls from clients on, you know, Sunday lunch time. So, it happened, and so that's when I would start being really vigilant -- not vigilant, diligent of that. You know, when I'm with my family, the phone goes off".

Later in the same interview the participant admits that:

> "Well, normally I don't answer work calls after hours… I guess, so if I'm working say on a project where I'm the head, say, environmental control officer, and I see a client phones me on a Saturday morning, I know something is going wrong on site, so then I'll answer it. And it has happened in the past and they were reporting an environmental incident".

The way in which border-adapters arbitrate their domains and borders is somewhat more complex than the border-enforcers' and border-expanders' approaches, which are more of an all-or-nothing approach. Border-enforcers are more discretionary with their approach and weigh their past interactions with the communicator against the perceived urgency and/or importance of the message and a range of other criteria. This in turn culminates in the acceptance or rejection of the communication. Self-regulation is believed to be the mechanism that determines the outcome of the acceptance or rejection.

Border-enforcers also reported that their previous interactions, such as when they previously received after-hours mobile phone communications, influenced how they shaped the construction of the border. Participant 22 recounts one such experience which assisted in their self-regulatory approach to after-hours phone calls:

> "I think previously I didn't achieve it because I was trying to solve everything and deal with everything, whatever came my way I tried to attack and deal with. I realized somewhere along the line that you can't solve all the problems and sometimes you just

> have to let go and say I can't deal with this or I am not the right person to deal with this and to filter that and you know, to learn to ignore certain things. If three people are screaming you can only deal with one, you pick the one that's screaming the loudest or as the problem that's most appropriate for your solution or that will give the most benefit to solve. And people somehow -- if you ignore a problem for a day or two the minor problem could solve magically and the tougher problems come back and then you can solve".

Later on in the same interview they admit that they are not perfect in separating their domains, but believe that "most of the time I think I get it right". The self-regulatory mechanism utilised by border-enforcers further enshrines the reinforcement of the domain and border construction requires constant reflection on previous experiences.

In an attempt to obtain greater insight into the development of the discernment mechanism that they used in the arbitration of after-hours communications received on their mobile phone, participant 22 was probed further about how they developed these skills. Participant 22 explained it as follows,

> "I think it has also become easier to manage to some extent because with caller ID you can save a number. I often save numbers which are unimportant, such as "sales people do not answer" and then if they phone from that number again you will know to ignore. But work related is a method you have to sort of make a judgment call -- is it the right kind of person or the right kind of issues to deal with or to allow to disrupt the conversation. I mean, if you were standing in a passage and somebody came walking up and said I've got a problem would you finish your conversation and then give them a go, or would you know to interrupt your conversation and say okay, we'll carry this online to let this interrupt me. The same with a telephone conversation. You have to evaluate what you're busy with, versus what could possibly be coming in and sort of prioritize that way. Caller ID helps with that. But I think it's also experience. You have to build up the experience to know which problems did arise when and allow it to be interrupted".

The behavioural prioritisation which assists the border-enforcer (participant 22) as to when and how to facilitate an important after-hours communication, is gained through social conditioning and past experience. This also implies that individuals can reflect on their physical interactions concerning how to deal with their mobile phone communications and apply those reflections to

the mobile phone environment.

The sections above have provided evidence that participant 22, through their reflections, had previously utilised various planes in their work construction which assisted in their border development and the effective delineation of domains. Through their unique plane construction, participant 22 has been able to develop a mechanism which clearly resembles that of self-regulation when they receive an after-hours communication on their mobile phone.

To gain greater insight into this, participant 22 was probed on their self-regulation. They responded:

> "Currently no, but I think it's because I did have a problem with it previously and I think I have addressed that and my phone and I have some kind of balance which is manageable. It used to be a big problem."

Regrettably, the only information participant 22 provided about their previous work situation was that they had previously worked on contract, which required shift work and standby time. In the hope of getting more insight into the change, they were questioned further. An alternative account was provided by their partner (participant 16), who explained that participant 22 used to be a business owner and worked constantly, but because of the constant demands and lack of time with family, he sold the business and found employment elsewhere. This also implies that border-enforcers, to regain their self-regulation, would change work situations (and sometimes whole careers) in an attempt to gain more control over their life and achieve a greater sense of balance. This is an important finding that should be looked at in greater detail as an area for future research.

5.4.7 The origin of control

From the interviews conducted a further theme emerged, which was the influence of the participants' colleagues and employers over the participants continuous acceptance of mobile phone communications to gain their approval and recognition. This was recounted by 10 participants and one of their partners. In this regard, participant 2, a border-adapter, recounted an incident when they were out with their friends one evening. When their employer called, they refused to answer the phone as they were not on call and weren't being paid overtime.

When participant 2 arrived at work the next day, their employer reprimanded them as he believed that they should be obligated to accept the intrusion as the issue was urgent. Due to this incident participant 2 now felt more obligated to answer "urgent" phone calls from their employer, but would not for any reason facilitate any answering of emails. This therefore highlights that an individual's previous experiences can indeed influence (and lead to the formation of) their current behaviour (and usage). This would also explain why they were more susceptible to facilitate urgent phone calls but not emails.

However, this was not the only recounting of after-hours facilitation of communications. Participant 21, a border-expander, provides further insight into why this and similar events could occur. In this regard, participant 21 had previously mentioned that while they were away on holiday they would still make themselves available 24 hours a day, 7 days a week. To better understand the inherent motivation for this facilitation they were then probed with a follow-up question asking who expects this availability, to which they responded:

> "my employer and my clients too… my clients expect I'm contactable 24 hours a day, given the nature of the work which typically requires a very quick turnaround in terms of response. And if you're usually dealing with silly complex matters that expectation is there. So, I would say that sort of turnaround time when email is allowable in my industry for a maximum of 24 hours".

It is important to add that at the time of the interview, participant 21 worked in a client-facing director role in a multinational banking and financial services company, an industry well known for their extended work hours and high stress (Beaverstock, 2005). The behaviour is reinforced on all employees in the industry, which they are conditioned to adopt by their peers, colleagues, and employers, and thus are expected to blur the borders to facilitate work into the home domain. Some employers offer incentivisation and/or perks to ensure the behaviour is adopted more readily, but not all are so fortunate, though they are still expected to meet the same work "norm". Through the scenarios described above, a possible explanation is given as to how border-enforcers and border-adapters may evolve into border-expanders.

In an attempt to reclaim their own home domain space, some participants reported having to resort to changing their workplace, career path, employer, and even their whole career. In this regard participant 12 (border-expander) recounts a few occurrences where the constant facilitation of work through the day and night had led to arguments with their partner (participant 23). Their partner (participant 23) explained, when questioned, that the arguments

were her attempts to quell the flow of work into the home domain through separation of the domains. As a result participant 12 had recently changed workplace and sought the assistance of a life-coach to help him separate home and work and to ensure better time management. It is important to note that the partner had created the point of reflection for the participant and that this had changed their behaviour and approach to the workplace, and, their general life approach. Over the course of the study only a few participants reported such extreme changes in their home and work domains. It highlights, however, the shift needed in a person's mind-set about the level of work-domain interference permissible at home.

In all three instances above, the individual's mobile phone usage was altered by those around them (e.g. their bosses/clients/peers/partners) and, as a result, the origin of control was attributed to externally conditioned mobile phone behaviour. This behaviour was further perpetuated by the individual's own self-actualised goals, which determined the importance and/or urgency of the communication. This in turn has the ability to influence future interactions as they become deeply entrenched.

5.5 Summary

5.5.1 Border-expander

To further solidify the discrepancies between the three border-keeper groups, it is important to understand how each group transitions between the home and work domains in the attempt to elucidate their differences. The largest number of border-expander participants (4 of the 9) indicated that they were effective in their domain delineation or active in their attempts to do so. Their behavioural indicators were somewhat contradictory to their actual stated behaviour as the same group gave evidence that they had frequently facilitated after-hours work-domain communication on their mobile phones while at home. Consequently, the border between the domains was blurred and home-domain interference had occurred. When border-expanders were probed as to why this would be the case, they repeatedly legitimised their facilitation of after-hours work on account of its "urgency". The facilitation of after-hours communication is further substantiated by the second largest group of border-expanders group (3 of 9), who reported being available 24 hours a day, 7 days a week (which was further supported by evidence from their partners). It was of interest to note that the largest number of participants

believed that they did not do any work after 22:00, yet none of their partners substantiated these claims. The permissive facilitation of mobile phone communications by border-expanders can possibly be explained through participant reflections such as: “the thing is like, I’m not working 24/7 but I am reachable 24/7… If it’s needed I could work 24/7”.

Border-expanders are characterised by the constant struggle with their own self-regulation in the attempt to find a sustainable equilibrium between the two domains. It was somewhat predictable that 7 of the 9 border-expanders did not attempt, or were largely ineffective, in self-regulating their mobile phone use, as their attempts led to little or no results and established a state of inactivity with regards to border-keeping. The two border-expander participants not accounted for had indicated that they could self-regulate with help. Participant 21 reported that they could self-regulate their availability and thus the flow of communication between the two domains without outside assistance and described the process as it being “easier in non-busy times to keep to the regulation than when you're in busy times and you would be conscious or concerned around a specific client or specific transaction and I will be less good with it”. However, when they were no longer able to delineate the border and domains, due to client or work demands, the partner of participant 21 assisted in the re-formation of the border and domain construction through their verbal complaints.

A frequently held belief by border-expanders was that work needs to be accommodated at home as it is a pre-condition to ensure their career advancement and retention. However, due to the frequency of work facilitation in the home domain with the use of mobile phones over time, the behaviour became normalised as their default modus operandi and was no longer consciously seen as an intrusion, or as abnormal or deviant. The iterative facilitation of work communications while at home becomes reinforced and culminates in the fusion of the domains as the behaviour becomes conditioned in the border-expander. As a result, work in the home domain is more frequently accepted and facilitated. This naturally changes the location of the border between the domains and the border becomes obscure.

This behaviour conditions the border-expander to accept the frequent occurrences of after-hours communication in the home domain and renders the border in a constant state of flux. This also diminishes the chances of re-establishment or stabilisation of the border as the border-expander no longer knows where it should exist between the domains. Thus, they become “frozen” into a state of inactivity, as described by Lewin in his force-field analysis. Perceptibly, as the individual becomes more inactive or frozen, they become less likely to be able to stem the flow

of after-hours communications between work and home. This immerses them even further into the frozen/inactive state and perpetuates the condition for a longer duration. It is then likely to become habitual and they feel they have no option but to facilitate all communications all the time no matter what the location.

5.5.2 Border-adapters

Of all the three border-keeper types, the most unique approach taken is that of the border-adapters who actively arbitrate the border. The approach is unique in that it weighs the need for the free flow of communication against the need for recovery. This simplifies a far more complex self-regulatory mechanism. A range of criteria are weighed against each other by the border-adapter, the result of this culminates in three possible border and domain approaches; two of which resemble their border-enforcer and border-expander peers, and also their own unique approach. The first approach, which is the same as that of the border-enforcers, is where the communication is rejected, the border is solidified, and the domains remain separate. The second approach, which is the same as the border-expander approach, is where the communication is accepted, the border becomes permeable, and the domain is integrated. The difference between the two cases above and that of the border-adapters' approach is that the border is constantly being re-allocated to its original location after the communication, whereas this might not be the case in either the border-expander or border-enforcer approach.

The third approach, and the one most commonly used by border-adapters, amalgamates the first two approaches in an attempt to find a balance between the two domains. This can be seen for instance when an after-hours work-domain communication is requested via their mobile phone and the border-adapter needs to determine the advantages (in terms of the urgency and importance, quadrant I or II found in Covey (2014); see Table 3 in section 2.5 above). If the communication is perceived to be urgent and important, then the communication is accepted and a communication channel is formed. If it is perceived to be either not urgent or not important, it is rejected. Throughout the process the border-adapter will attempt to find a more harmonious balance with their home domain, which implies that one domain's demands do not override the others. Of all three groups, the border-adapter is probably the most difficult to maintain, as it requires the individual to constantly focus in an attempt to provide the optimum solution for both domains. This group is holistic in nature as it recognises that the flow of after-hours communication is dualistic, as they can bring both positive and negative effects on the

home domain and need to be weighed against each other to determine when and if communication should be facilitated.

To further highlight the important differences between border-adapters and their peers, greater cognizance should be placed on how they construct their domains and delineate their borders. Unsurprisingly, the largest number of border-adapters (6 of the 8 participants) indicated that they were effective in their self-regulation approach to their domain and border delineation. This claim was validated by both partners of these participants (N = 2).

Out of all of the groups, border-adapters attempted to achieve equilibrium in the management of their mobile phone communications. This achievement was not random, but rather developed through decisions which showed that they had reflected on their circumstances. One example of this can be seen in section 5.4.7, where participant 2 an incident where their employer had conditioned them to avail themselves for urgent after-hours communications. Further on in the same interview, participant 2 speaks about how they have deactivated email on their phone to prevent work email intrusions. It is therefore of interest to note that participant 2 has developed a self-regulatory mechanism whereby they discerned between the facilitation of urgent after-hours phone calls from their employer and a complete rejection of emails on their mobile phone. The discrepancy between the facilitation of urgent after-hours phone calls and the rejection of urgent email, is attributed to the different qualities of of the various communication methods. However, this is beyond the scope of this study and thus is an avenue for further research.

The development of this discernibility could possibly be attributed to the way in which the mobile phone notifies the individual of an incoming communication. When a mobile phone rings after hours it offers an array of information to the receiver to assist with whether to accept or reject the call, such as the identification of the caller (or at least the caller's number), a unique assigned ring tone for that specific individual, or information on previous missed calls. Phone calls are not alone in their ability to communicate the additional information to the receiver as email, instant messaging and SMSs can provide similar information to mobile phone users. The communications medium can therefore be seen to be equal in terms of the supplementary information given to users (e.g. the communicators' details, number of communications received, and in some cases a brief overview of the message). Thus, what inherently separates their facilitation and the communication channel that they create is the perceived synchronicity or asynchronicity associated with each medium, with calls being viewed as synchronous while all the other media are instead viewed as asynchronous. The mobile phone feedback provided

assists the individual to determine whether the received call comes from their employer and therefore whether the communication must be urgent and important and needs facilitation. When this occurs the border becomes flexible and domains coalesce for the duration of the communication. Once completed, the borders are re-administered in their original location and the domains are separated once more. However, the outcome would differ if the after-hours phone call was received from a colleague as they would be more likely to reject the call as they have not been conditioned to facilitate it. This would mean that the border remains firm and ensures the separation of the domains.

Mobile phone calls are synchronous and thereby facilitate the direct real-time flow of information between individuals. If a call is missed it will offer a notification but it will not keep ringing. The intrusion may therefore be diminished over time. The synchronicity of the communication may also influence the construction of the domains and the borders.

When an email is received on a mobile phone after hours, as would be the case in receiving texts/SMSs/email, the receiver is required to investigate the content of the message in order to determine the urgency and/or importance of the message. To highlight that an email has been received, the mobile phone flashes and beeps to push the individual to respond. To discern the importance and/or urgency of the email, the individual can view the details of the sender and the subject, but this will not necessarily provide enough information about the specific content of the communication. To determine the content, the message must be opened and, if it is not important to the individual but rather urgent to the organisation, it can create an imbalance between the domains. To reduce this occurrence, it is possible to set the email application on the mobile phone to only alert the individual of emails received when certain conditions are met (e.g. the sender's email address, a specific subject line, or keywords in the message content). The provision of this filtering can therefore minimise the possible intrusion. However, this is somewhat removed as the individual would require the technical abilities to make these changes, and not everyone has this ability or even the knowledge that this can be done.

Emails are asynchronous and therefore do not offer a direct real-time intrusion, but rather the ability to reply as and when the individual chooses. This choice can be hastened with the notifications issued by the sender. The asynchronicity provides an additional dimension in its ability to push the individual to facilitate a response to its message throughout the day, as it is not in real time and therefore does not require a real-time response although it will require a response at some point. This offers a possible justification for participant 2's removal of the

email facility on their mobile phone to ensure that the domains remain separated and the border between them remains in place. From this synopsis, one gains some insight into how participant 2 has utilised two very distinct techniques to deal with the flow of communication. They have ensured that their domains in both cases have remained separated, while the domain border returns to its original location.

The accounts of participants 2 and 7 provide evidence of the arbitration approach used by border-adapters in their acceptance or rejection of after-hours communication via mobile phones. Participants offered evidence of when organisational demands were previously placed upon them and the way in which they responded to them. These experiences shape their future interactions with similar situations. Border-adapters therefore try to ensure their work-family balance and operationalise their mobile phone communication discernment to facilitate after-hours work through their close observation and scrutiny of the urgency and importance of the communication. The establishment of work-family balance in the border-adapters' case thus calls for discernment as well as the skill to know how and when to operationalise it.

5.5.3 Border-enforcers

As was the case with border-adapters, border-enforcers also believed that they were effective in their self-regulation approach to their domain and border delineation with mobile phone usage after hours. What differs between the two groups is that all of the border-enforcer participants (N = 3) and their partners (N = 2) supported these claims. Of the 3 participants identified as border-enforcers, 2 of the participants also asked their partners to participate in the study. This provides a holistic view of the participant's usage from both a partner and participant perspective.

Those participants identified as border-enforcers showed little congruency with their definition of the work domain, an occurrence reiterated by their partners. Instead, all group members utilised either single-plane physical or psychological constructs, or multi-plane physical and psychological constructs to describe their work domain. The only real commonality found was the exclusion of the temporal plane in all but one case. This is thought to be the case as they acknowledged time as part of the construction of the work domain. This can possibly be explained as border-enforcers were hardened in their belief that they would not make themselves available for after-hours work. Therefore they did not require the temporal plane in order to delineate their domains, as these constructions have been facilitated through a variable

combination of physical and psychological planes.

Predictably, the discernment that participant 22 showed in facilitating important after-hours communication was supported by their partner (participant 16), who related to the statement about the communicator's seniority. All the border-enforcer group members (i.e. participants and their partners) agreed that they would facilitate important and urgent communications. The outcome that border-enforcers develop a link between their career choice and the way in which they discern the flow of after-hours communication as important and/or urgent, is a relevant outcome and one that should be investigated in future studies.

An additional noteworthy outcome was the border-enforcers' use of the temporal plane in the work domain construct. This could explain the more hardened approach taken by them in forging a more solidified delineation of the domain. Their border-expander and border-adapter peers used a combination of physical and psychological planes in their approach.

CHAPTER 6: DISCUSSION

6.1 Introduction

The aim of this study was to determine if self-regulation was the mechanism by which individuals were able to monitor and moderate their after-hours work-related mobile phone usage and whether it has potential to ameliorate the negative effects of work-related mobile phone use on work-life balance. This was achieved through exploring three research questions. Research questions 2 and 3 were explored through quantitative research methods and thereafter, research question 1 was explored through a qualitative research method. A brief synopsis of each research question is described below.

Research question 1 examined if individuals were able to efficiently self-regulate their mobile phone usage after hours which would manifest as their ability to control the flow of communication from a mobile phone. If the individual lacks the ability to self-regulate (i.e. deficient self-regulation) this results in the inability to curtail the flow of after-hours mobile phone communications.

Research question 2 examined the individual's self-regulatory approaches towards mobile phone use after hours and the influence on maintaining (work-life) balance. Thus, the research question concerns whether users had the ability to discern when a mobile phone communication should be permitted after hours to ensure that balance is maintained. If users lacked this ability these research questions explored whether their usage would result in uncontrolled usage and imbalance.

Research question 3 examined the way in which individuals determined whether to accept or reject after-hours mobile phone communications. This research question provided greater insight into what the individual's inherent motivators were for the facilitation or rejection of communication.

6.2 Research question 1: Self-regulation as the psychological mechanism to regulate after-hours work-related mobile phone usage

6.2.1 Independent variables and self-regulation

6.2.1.1 Mobile phone usage for work at work per day

Both the variables of "Typical working day usage" and that of "Mobile phone usage for work at work per day" (found in Table 43) were significantly, but weakly correlated with self-regulation. These results provide some evidence that increased mobile phone usage in the work day leads to the increase in deficient self-regulation with the mobile phone. The individual components of these variables were analysed separately. From this analysis it was determined that as individuals increase the number of hours spent on their mobile phone to use the Internet ($r = 0.221$), to send and receive text/SMS messages ($r = 0.188$), and to send emails ($r = 0.247$) over the course of the work day, their deficient self-regulation increases. Since this is a correlation, the inverse is also true. The less time the individual spends on their mobile phone to use the Internet, to send and receive text messages, and to send emails over the course of the work day, the more they are able to self-regulate.

6.2.1.2 Hours spent on a mobile phone for work while at work and self-regulation

Further evidence is the correlation between the number of hours that individuals spent on their mobile phone for work during the work day and an increase in deficient self-regulation. In this case the described use relates more specifically to the hours spent on a mobile phone for emails/SMSs and Internet usage for work, while at work. This of course means that individuals might also become more susceptible to after-hours mobile phone facilitation, as the behaviour may become conditioned. This result also supports hypothesis 1.2, as well as for hypothesis 1.1, whereby individuals who spend less time per work day on their mobile phone showed an increase in their self-regulation efficiency.

6.2.1.3 Mobile phone usage for work at home (after hours) per day

Neither of the two variables of a "Typical day at home usage" and that of "Mobile phone usage for work at home per day" (found in Table 43) revealed any significant correlations between self-regulation and mobile phone use. The individual components of these variables were also re-analysed. These analyses revealed that individuals who increased the number of hours spent on their mobile phone at home for work-related requests, to use the Internet ($r = 0.185$), to send emails ($r = 0.181$), and to make phone calls ($r = 0.174$) on their mobile phone, reported an increase in their deficient self-regulation abilities. As this is a correlation, however, the inverse is also true. Thus, the less time the individual spends on their mobile phone usage to use the Internet, to send emails, and to make phone calls for work at home, the more the individuals are able to report self-regulation. These correlations support hypotheses 1.1 and 1.2, but require further validation and exploration. Both sets of correlations support the findings of Cousins and Varshney (2009) who advocate that mobile devices be designed to best fit the individual's work and life integration and/or segmentation needs and adapt to them. As this is a correlation the inverse is also true. If the individual's self-regulation increases with their mobile phone use, they will experience less work-family conflict and this will result in greater work-family balance. This is supported by Kossek et al,'s (2009a) study which found that individuals who were able to determine their own working conditions with a boundary management strategy could control their own work-family conflict. When combined, the evidence would suggest that an individual with efficient self-regulatory mobile phone abilities would be able to control their work-family conflict through the implementation of an appropriate boundary management strategy which suits them best and culminates in improved attainment of work-family balance.

6.2.1.4 Hours spent on the mobile phone for work while at home (i.e. after hours) and self-regulation

The correlation between hours on the mobile phone for work while at home and deficient self-regulation provides evidence for the link between excessive mobile phone use at home and deficient self-regulation. The described use relates more specifically to the hours spent on mobile phone calls, email and Internet usage for work while at home. This provides support for hypothesis 1.2. Similarly, individuals who reduce the number of hours spent on their mobile phone for work at home are more likely to display efficient self-regulation with their mobile phone. This provides support for hypothesis 1.1. By implication, individuals are able to define their own boundary management strategy and thus regulate their work and family roles. This is

a recontextualisation of the findings of Kossek and Lautsch (2012); Kossek et al. (2009a) from a mobile phone perspective.

6.2.2 Dependent variables and self-regulation

6.2.2.1 Work-family conflict

A weak negative correlation was found between self-regulation and work-family conflict (r = -0.243). This of course implies that as the individual's self-regulation decreases, they will experience an increase in work-family conflict and therefore the potential for imbalance. Work-family conflict specifically pertains to incompatible demands from the home and work domains (Greenhaus & Beutell, 1985, p. 77; Kahn et al., 1964; Kossek et al., 2011c; Van Hooff et al., 2006). The development of this can be explained by Allen et al. (2000) and Mauno et al.'s (2005) studies, which relate to the occurrence of an organisational dominance in a domain, where it would not naturally occur, which would culminate in the development of work-family conflict. Lacovara (2007) and Peeters et al. (2005) provide an additional explanation, where they attribute work-family conflict formation to the psychological overflow of work-related stress and strains into the home. Because of this people will be less able to recover from a day's work.

It is therefore posited that individuals who are able to control the flow of after-hours work-related mobile phone communication through self-regulation will lessen their work-family conflict and increase their work-family balance. This too can be seen as a potential support for hypothesis 1.1, but further validation is required. At the same time these results support hypothesis 2.2, but this too requires additional substantiation to fully support the hypothesis. It is of interest to note that neither the main work-family balance scale nor the remaining four sub-scales, namely satisfaction with work, satisfaction with home life, good functioning at work and the Family Cohesion Scale, correlated with self-regulation.

6.2.3 Exploratory variables and self-regulation

6.2.3.1 Self-esteem

A weak positive correlation was found between deficient self-regulation and self-esteem (r = 0.305). This implies that as the individual's deficient self-regulation increases so does their self-

esteem. It is suggested that this is the case, as the individual believes, through the facilitation of mobile phone communication, that they are more likely to reach their self-actualised goals. As this is a correlation the inverse is also true. If the individual's self-regulation increases, their self-esteem will decrease. These results suggest that individuals carefully consider how they discern between urgent and important communications.

This is thought to be the case as a large number of this study's participants self-identified as work-centric (i.e. the achievement of work goals superseded all other goals (home/family) and thus they were more propelled by their own career advancement, commitment, and development, which superseded their need to feel valued at home). Further substantiation is provided by Clark's claim (in proposition 6 of her border theory) that border-crossers who show high levels of commitment to a domain, in turn experience high levels of work-family balance, against those who show little to no commitment (Clark, 2000, p. 761). While this is somewhat in contrast, Bourne et al. (2009) attribute such behaviour to lower personal life satisfaction. However, this outcome runs contrary to Bandura's (1986) social cognitive theory, as Bandura argues that there should be a positive relationship between efficient self-regulation and self-esteem. The results of this study show the exact opposite. This could be because people are arguing to themselves that their work-centric behaviour (even though it may be deficient self-regulation because of their work-centric behaviour) is more important to them.

6.2.4 Research question 1 Synthesis

The correlation results thus show that after-hours work-related mobile phone usage done at work and at home per day have both positive and negative relationships with self-regulation, the outcomes of which generally associate deficient self-regulation to the increase in mobile phone usage at work and at home. In addition, deficient self-regulation is related to negative work-family outcomes such as work-family conflict. This can be explained by acknowledging that home and work domains are mutually incompatible and independent, as originally posited by Greenhaus and Beutell (1985) as well as by Clark (2000). This is further substantiated by Clark's fifth proposition: border-crossers who do not recognise the domains around them are more susceptible to work-family imbalance than those who do. Furthermore, to compensate for each domain's individuality, Kossek et al. (2012) advise that a boundary management style be used which allows the individual to facilitate role-cycling and self-regulation in order to determine when integration and segmentation should take place between the domains. In

addition, this is substantiated by Kossek et al.'s (2009a) results which indicate that a significant predictor of work-family conflict can be attributed to how much influence the individual has in determining their own working conditions, which is acquired through an efficient boundary management strategy (Kossek et al., 2009a). This can be combined with Fenner and Renn's (2009) findings, that attribute the strength of technologically-assisted supplemental work and work-family conflicts to an individual's ability to set goals and priorities (i.e. through their own effective time management). On the other hand, Bandura's SCT defines deficient self-regulation with technology as the failure of self-monitoring and in the context of device usage, results in increased media (i.e. mobile phone) consumption (LaRose & Eastin, 2004).

Thus, as smartphone usage overwhelms the individual with its constant demands for ubiquitous facilitation, they are no longer able to self-regulate (deficient) the flow of communications between the domains, as required, and this culminates in the development of work-family conflict (one component of work-family balance). This result is supported by Stawarz et al.'s (2013) study, which determined that tablets, although originally purchased without a preconceived goal or purpose, have become a mechanism used to fit everything in.

Finally, deficient regulation is related to increased self-esteem (in other words, not regulating phone usage after hours is associated with an increased perceived self-esteem). These results also imply that individuals feel compelled to "feed" their self-esteem through after-hours phone use. The outcomes of this study thus oppose that of Brockner (1988); Hall (1972); Jex and Elacqua (1999), which found that low self-esteem individuals are more susceptible to the effects of roles and their stressors. Instead, in this study, it appears that those with higher or increased self-esteem facilitate their roles more persuasively through their mobile phones, by lowering their self-regulation.

These results provide some support for the notion that self-regulation is a possible intermediary mechanism between phone use and family outcomes. It should be noted though that all the significant correlations demonstrate a very weak (i.e. $r < 0.2$) or weak (i.e. $r < 0.4$) effect size. This suggests that there are other likely variables that also help explain the outcomes.

Interestingly, it was originally thought that there would be far more significant correlations between self-regulation and the remaining independent variables, such as: hours worked in a typical work day, typical hours spent at work on Internet usage/mobile Internet/phone calls made or received, the hours spent in typical day at home, the typical hours worked in a day at home, Internet usage for work, SMSs sent and received, the calls received, mobile phone usage

for work at home, the time (hours/minutes) spent on the mobile phone or work days a week, the facilitation of calls/email/SMSs after hours, the percentage of calls/emails/SMSs received for work/home and family/other purposes none were found. The low number of correlations found in this study could possibly be due to the limited sample size, scales used, length of the questionnaire (affecting the fall-out rate) and choice of variables used.

6.3 Research question 2: Self-regulation as the moderator between mobile phone use and work/life balance

To test research question 2, the significant results from the moderated multiple linear regression analyses performed have been separated into two tables of mediators and moderators. The basic premise is that mediators explain how or why a relationship occurs/exists (i.e. a relationship only exists between two variables in the presence of the mediator), while moderators explain when a relationship takes place (i.e. change in the direction or strength of the relationship) (Baron & Kenny, 1986). Baron and Kenny (1986) study provides more information on the differences between mediators and moderators. The original results can be found in Chapter 4.

Table 73: Significant mediation results

Self-regulation as a mediator (WHY/HOW)			
	Home/Family	Work	Other purposes
Work and family balance			
Calls			
SMS			X
Emails			
Satisfaction with work			
Calls			
SMS	X		X
Emails			
Self-Esteem			
Calls			X
SMS			
Emails			

6.3.1 Mediators

6.3.1.1 Mediation of work-family balance

The only moderated multiple linear regression analysis that produced a significant intervening relationship of self-regulation between the independent variables and the work-family balance scale, was the mediating relationship found between the percentage of SMSs for purposes other than work/home and work-family balance. An example of using SMSs for other purposes could be the receipt of marketing material, doctors' appointments, and payment reminders. The analysis revealed that when individuals receive an increased number of SMSs for purposes other than work or home (e.g. a reminder of a dental appointment), they were more likely to experience lower work-family balance because they exhibited efficient self-regulatory abilities.

If instead, the same individuals were less able to regulate the intrusion (as they exhibited deficient self-regulatory abilities), they would be more permissive of the SMSs for other purposes whenever and wherever they received them. The individual's work-family balance thus remains largely unchanged as they do not view it to be an intrusion, which could plausibly be explained by the organisational social learning which conditions them to be more accepting and permissive of intrusions. This surprising outcome could be explained by the design of the scale as it was developed to measure work and family impacts on work-family balance and thus the inclusion of SMSs for purposes other than work and family does not fit within this binary construct, thus making it difficult to measure or determine. For example, when an individual receives an SMS while at work to inform them to book a dental checkup online, they decide to either accept or reject the intrusion. If they accept the intrusion they will spend work time booking the appointment. This therefore takes time away from their work domain, which results in an imbalance between the domains (of work and home). This finding suggests that follow-up studies will have to explore the complex interactions between additional domains, which Clark (2000) failed to recognise in her construction of border theory.

6.3.1.2 Mediation of satisfaction with work

The moderated multiple linear regression analysis found two cases of mediation. Self-regulation mediates the relationship between SMSs for home or family purposes and SMSs for purposes other than work or home, and job satisfaction. It is important to note that satisfaction with work is a subscale of the work-family balance scale. It was found that individuals who receive SMSs for purposes other than work and home were less likely to facilitate an intrusion if they had efficient self-regulation, but that this reduces their perceived job satisfaction. An

individual who receives SMSs for purposes other than work or home (such as SPAM) while at home and permits those SMSs also experiences reduced perceived job satisfaction. This is possibly because the individual has a reduced amount of time to recover from a day's work and this is perceived as reduced job satisfaction. This contributes to the belief that efficient self-regulators prefer to segment their domains from outside intrusion to ensure work-family balance.

The second instance can be seen when individuals who receive SMSs for home-family purposes (for instance SMSs received while at work) are more permissive to that intrusion if they have efficient self-regulation. This in turn was found to increase the individual's job satisfaction (as shown in section 4.10.3.4 above), while if they were more deficient in their self-regulation, the same individuals would be less permissive of the intrusion and this would result in a decrease in their job satisfaction (see Table 54). The individuals with efficient self-regulatory abilities are thus more susceptible to facilitate home-family SMSs and the integration of their domains is more likely to take place. Thus, the positivity and joy derived from the facilitation of home-family SMSs can therefore easily increase their job satisfaction.

Individuals with deficient self-regulation are less permissive to facilitate home-family SMSs, which is thought to be the case because they would like to keep the domains separate and prevent them from merging. As a result they experience a reduction in their job satisfaction. This could be explained since individuals who have deficient self-regulation do not wish to receive home-family SMSs within their workplace in order to secure their career commitment/development and success. This outcome was not expected and requires further studies to be conducted. This is corroborated by Allen et al. (2000); Mauno et al. (2005) who determined that organisational dominance found in a domain not its own, increases the individual's potential to experience work-family conflict and stress. Both of the examples above provide instances where self-regulation/enactment influences the way in which SMSs for home-family and other purposes influence the individual's job satisfaction.

6.3.1.3 Mediation of self-esteem

The study found that individuals who receive after-hours phone calls for other purposes are more permissive of the intrusion if they exhibit deficient self-regulation, which in turn increases their self-esteem (see Table 48)**.** This can be explained as the individual who has lower self-regulation is more inclined to integrate the domains more frequently. If the domains are integrated then the individual experiences an increase in their self-esteem. The results from the

correlations and moderated linear regression analyses therefore support each other when describing the relationship between self-esteem and self-regulation.

6.3.1.4 Research question 2: Synthesis of the mediating relationships

The mediation results thus provide empirical evidence of Bandura's (1989; 1977) self-regulation theory operationalised within the context of mobile phone usage and the effects on the individual's self-esteem. Because the individual is able to attain their mobile phone usage standard (which their internal and external border-keepers guide them on), they reward themselves internally, which results in the development of higher self-esteem. To that effect, Bandura (1989); LaRose et al. (2003) provide additional substantiation for this development; a standard which can either be an internal or external border-keeper (e.g. personal achievement or a societal standard or norm). The attainment of this standard results in increased self-esteem and thus increased perceived psychological wellbeing, as posited by Rosenberg et al. (1995). It is therefore predictable that the mobile phone behaviour develops into the individual's own standard (from a self-regulation perspective) against which they measure and map their mobile phone usage in order to maintain their higher self-esteem. This outcome provides additional evidence for a relationship between an individual's self-regulatory ability with their mobile phone usage and global self-esteem, but requires additional studies to validate the result.

In order to ensure the maintenance of this behaviour, the individual enshrines it as their default enactment procedure (i.e. self-regulatory standard), and they utilise their internalised map system (of self-observation/judgement and self-response), as described by Weick (1979, 1988); Weick and Bougon (1986). This provides evidence that the constructs of self-regulation and enactment culminate in the same outcomes within the context of mobile phone use, which suggests that from a border theory perspective the self-regulation and enactment might be used interchangeably. This therefore provides a possible solution to one of the theoretical limitations of enactment used in border theory. There is, however, limited statistical support for these claims within the study as only a small number of regression analyses were significant. Because of this the role of self-regulation has not been demonstrated robustly enough. This could be because of sampling issues or measurement issues and would be worth exploring further.

It was of interest to note that all of the mediations found occurred with SMS usage and, in all but one case, the results were for SMSs for purposes other than the family or work domain. This of course corresponds to the correlation results that found that the number of hours spent

on a mobile phone to send and receive SMSs over the course of a day at work was correlated with the individual's self-regulatory abilities. A decrease in the individual's mobile phone self-regulatory abilities therefore resulted in increased usage, while an increase in their self-regulatory ability decreased usage (see Table 43). An individualistic solution is thus advised, as posited by Grawitch et al. (2010), because individuals should have the ability to determine how or where they would like to make sense of their "life". On the other hand, as the individual does not exist in a vacuum, they are at the same time susceptible to the pushes and pulls from those around them to integrate or segment the domains, as described by Nippert-Eng (1996), as well as the time they demand (Bourne et al., 2009; Geurts et al., 2005). Combining these results indicates that an individual's self-regulatory abilities can influence the receipt of asynchronous SMSs which, in due course, impacts on their perceptions of work-family balance, job satisfaction and self-esteem. This therefore indicates that even a technology as asynchronous as SMSs can influence the way in which domains are constructed. This provides some missing evidence to demonstrate technology's role in Clark's border theory. These outcome are once again supported by Fenner and Renn's (2009) study. The strength of technologically-assisted supplemental work and work-family conflict is highly dependent on the individual's ability to set their own goals and priorities. The ability to predict work-family conflict can be attributed to how much influence a person has to determine their own working conditions through their own boundary management strategy (Kossek et al., 2009a).

The mediation outcomes above are thus inherently linked to research question 1's correlation result synthesis discussion above (in section 6.2.4), as both concern the effects of diminished (deficient) self-regulation on mobile phone usage. A further plausible explanation for these behaviours can be determined through additional reflection on Kossek et al.'s (2012) work warrior cluster. Individuals in this cluster were found to exhibit low boundary control, were work-centric, and had asymmetric interruption behaviours with high work to non-work interruptions. However, the correlation and mediation results differ in that the mediation results point to an individual's ability to self-regulate their usage and, in doing so, they are more effective in the achievement of their work-life balance. The results thus provide additional substantiation for Clark's sixth proposition because, when border-crossers show high levels of commitment to a domain, they in turn experience higher levels of work-family balance.

The communication of SMSs for purposes other than family or work also demonstrates that there are other domains in addition to the home/family and work domains that also interact with the work/home border. Further work needs to re-examine the binary work-family balance

construct advocated by Clark (2000).

6.3.2 Moderators

Table 74: Significant moderation results

Self-regulation as a moderator (WHEN)			
	Home/Family	Work	Other purposes
Good functioning at work			
Calls			
SMS			
Emails			X
Self-esteem			
Calls			
SMS			
Emails		X	

6.3.2.1 Moderator of good functioning at work

The moderated multiple linear regression analysis results found that an individual's self-regulatory abilities moderated the relationship between emails received for purposes other than work or home and perceptions of good functioning at work. When individuals with high to moderate deficient self-regulatory abilities receive emails for purposes other than home and work, they in turn experience a reduction in their good functioning at work (see figure 7). It is important to add that the "Good functioning at work" outcome measures the employees' behaviour over and above simple conformance to work rules since employees frequently violate these rules. So, when an email is received for purposes other than work/home it creates an intrusion/interference for the individual at their workplace which diminishes their good functioning at work. It could be that in order to assist the individual with their location in relation to their workplace, their self-regulation mechanism offers physical and psychological cues to keep them aware of their locality. This of course helps them to discern what belongs in the domain (integration) and what doesn't (separation).

6.3.2.2 Moderator of self-esteem

The moderated multiple linear regression analysis results found that self-regulation moderates the relationship between the number of work emails received and self-esteem. Individuals who exhibit deficient self-regulation are more accepting to attend to the greatest number of emails for work and that will increase their self-esteem. This therefore provides evidence that employees will have higher self-esteem and are more permissive to work emails and the domain integration it creates. This result can be attributed to social learning enforced upon them by their peers and employers. Individuals attribute the facilitation of work emails to work goal achievement, career advancement, work development, and work sustainability.

Originally, it was theorised in this study that self-esteem would mediate the individual's smartphone behaviour and usage, as shown in section 2.9.2. This outcome was supported by the moderated multiple linear regression analyses results (as shown in section 4.10.3.1 discussed above) which found that individuals who receive after-hours phone calls for purposes other than home and work are more permissive to facilitate the intrusion if they had deficient self-regulation, which in turn increases of their self-esteem. The outcome therefore provides evidence which indicates, that self-esteem has a mediating role in smartphone behaviour and usage.

The results from the moderated multiple linear regression analyses also found evidence that individuals who exhibit deficient self-regulation are more permissive to attend to the greatest number of emails for work, which will increase their self-esteem (as shown in sections 4.10.2.3 above). This outcome therefore provides evidence that self-esteem has the additional capability to moderate smartphone behaviour and usage, which results in the original hypothesis being only partially supported. This culminates from self-esteem being shown to act as both mediator with after-hour calls (synchronous medium) and moderator with after-hour email (asynchronous medium), because of which it is posited that self-esteem operationalises to the synchronicity of the technology and the medium used. This provides additional evidence that self-esteem is a vital component of smartphone behaviour and usage, which requires additional studies to determine its full capabilities and validate the results.

6.3.2.3 Research question 2: Synthesis of the moderating relationships

It is of interest to note that both cases of moderation related specifically to email usage and not SMSs. This is thought to be the case as email is another asynchronous communication channel. However it could also be argued that with the increased adoption of mobile phone usage, emphasised through social learning and globalisation, it is now treated as a form of synchronous communication (one where the reader has more information about the actual content of the communication). SMSs might also be considered as a form of synchronous communication that doesn't require an Internet connection to function. A more in-depth analysis is included in the combined discussions below.

Self-regulation was found to be largely ineffectual in its ability to moderate the relationship between a large number of dependent variables (self-esteem, work-family balance scale and its five sub-scales, all of which can be found in Table 45) and the following mobile phone use variables (typical working days; typical day at home; mobile phone usage for work at work per day; mobile phone usage for work at home per day; calls after hours; email after hours; SMSs after hours; percentage of phone calls for work; percentage of phone calls for home and family; percentage of phone calls for other purposes; percentage of emails for work; percentage of emails for home and family; percentage of texts/SMSs for work; percentage of texts/SMSs for home and family; and percentage of texts/SMSs for other purposes). In contrast, self-esteem was as effective in its ability to moderate mobile phone use as self-regulation. This therefore provides evidence that self-regulation was not a strong predictor of mobile phone use and thus for future studies it advised that a greater focus be placed upon self-esteem's role.

6.4 Combined discussion of the mediation and moderation results

It is of interest to note that in both the mediation and moderation results there was a real demand for synchronicity with communication technologies that are actually asynchronous (email and SMSs) in nature. For example, email and SMSs communications are deemed to have been attended to immediately as if they were a telephonic conversation. The results above indicate that SMS communication is mediated but email communication is moderated by self-regulation. This could be due to the different properties of the communication media. SMSs, for instance, can be sent and received without Internet connectivity, but this is a prerequisite for synchronous email. Because of this, an urgent communication would more likely be sent via SMSs rather than email. At the same time, the media provide the ability to facilitate variable

amounts of information. For example, a standard SMS is only 300 characters long, while an email can technically be an unlimited number of characters and have documents, files, and pictures attached. As a result, it is believed that email would more likely be used for more important communication.

The mediation results attribute SMS facilitation to domain construction, while the moderation results indicate that email can be controlled. The technologies, although closely aligned, thus have varied impacts on the individual's border and domain construction, which in this study might be attributed to the way in which the urgency and importance is determined.

6.4.1 Testing of hypothesis 2.1

The mediation and moderation results found with the work-family balance scale as the dependent variable and its subscales (satisfaction with work and good functioning at work) were used to determine if self-regulation was able to influence the relationship between mobile phone use and work-family balance. From this analysis it was determined that communication (SMS/email) for purposes other than work or home negatively affects both the work and family balance scale and its two subscales of satisfaction with work and good functioning at work, even when the individuals had efficient self-regulatory abilities. This is believed to be the case as the outside interference overloads the binary domain construction (home and work) because the third domain (other) was never designed to be incorporated. At the same time it may show that self-regulation may only be able to work within a binary construct. This of course was an unforeseen outcome and further supports the need for us to re-consider the utility of the binary construction of work and home when evaluating mobile phone usage. It must be acknowledged that some researchers refer to a slightly different binary description of work and non-work which might also be unsuitable. Although work-family conflict was diminished by efficient self-regulation it did not show any significant relationship in the regression analyses.

The results therefore failed to test hypothesis 2.1 as the moderation effect could not be consistently confirmed.

6.4.2 Testing of hypothesis 2.2

As in the results for hypothesis 2.1 above, the results from the work-family balance scale and its subscales were used to determine the occurrence of work-family imbalance (i.e. the absence of self-regulation (deficient) results in work-family imbalance). It was thus a surprise to find

that deficient self-regulation actually increased work-family balance, with the receipt of SMSs for purposes other than work/home. Deficient self-regulation was found to decrease job satisfaction (satisfaction with work) with the receipt of home/family SMSs; and good functioning at work by emails for purposes other than work or home alike. The results thus indicate that people who are deficient self-regulators view SMSs as being pertinent to the construction of their own work-family balance. SMSs for purposes other than work or home enabled people to maintain connections with their communities and fulfil other responsibilities. This also implies that work is a central focus for people with deficient self-regulation and thus they prioritise the attainment and fulfilment of work commitments. Additionally, the use of SMSs does not require access to the Internet to provide a synchronous communication mechanism, unlike email and instant messaging. Because of this, SMSs provide individuals with the tools to work "synchronously" to fulfil the work demands placed upon them without Internet and this supports their attainment of work-family balance. Although it was thought that work-family imbalance would culminate in the inability to self-regulate (deficient), the antithesis was actually found. Thus, in this context, deficient self-regulation actually culminates in work-family balance.

A further point to note is that only two of the five sub-scales of the work-family balance scale showed an interaction. While work-family conflict was diminished through deficient self-regulation it did not show any significance in the regression analyses. The results therefore fail to support hypothesis 2.2 and additional studies will need to be conducted.

It is however important to acknowledge that individuals with deficient self-regulatory abilities will facilitate a greater number of communications (phone calls for purposes other than work/home and emails from work) through their mobile phone use throughout the day and night (in both domains) in order to increase their self-esteem. People with deficient self-regulation are thus more permissive in allowing a communication channel to develop ubiquitously in order to attain greater self-esteem. The outcome of this increased communication relates to the development of work-family balance for people who are deficient self-regulators because, as shown above, it is believed to facilitate an improved self-construct. In the hope, therefore, to better determine its true impact, self-esteem should be included as an important outcome variable alongside work-family balance as a potential avenue for future research.

6.5 Research question 3

6.5.1 Introduction

In order to answer this multifaceted research question, the quantitative and qualitative results from the research and discussion chapters will be used to supplement each other.

A central premise of this study posited that the participants are conditioned (via social learning) with regards to how they regulate their mobile phone use. This conditioning comes from their peers and employers which primarily stems from the industry they are in and the positions they hold. This premise is supported by the results found in the qualitative results, which emphasise that their behaviour leads not only to the expectation where users expect the facilitation of mobile phone use, but also the merger of the domains which, over time, develops into their self-regulatory standard against which the individuals measure their success or failure. This provides support for the theoretical operationalisation of social learning theory by Bandura and McClelland (1977), as will be explained. The individual, in order to ensure their career sustainability and advancement, views the vicarious reinforcement placed upon them and their peers, and alters their behaviour.

The culmination of this process can itself be operationalised within border theory. Peers and employers could be seen as border-keepers (or border-expanders) who condition their border-crossing peers to exhibit a more flexible approach to their borders, thus increasing their mobile phone use in a domain where it may not have occurred before. This mobile phone behaviour therefore becomes their self-regulatory standard which they measure their success and failure against. If they achieve success, the border becomes more flexible and the domains integrate. Once the condition is defined as their own, they are more susceptible to condition those around them to engage in similar behaviours as they now act as border-keepers (or border-expanders) for others. It is important to acknowledge at this point that all of the participants recruited for this study identified themselves as management staff. It is possible that these participants were more susceptible to organisational pressures such as the ones mentioned above, which is a potential limitation of the study.

There is of course an alternative scenario whereby the border-keepers condition those around them (peers/employees/spouses/partner) to delineate (segment) their mobile phone communications to their point of origin/domain and thus more decisively enforce the border between the two domains. This is supported by Clark's advocation (in propositions 3 and 4 of

her border theory) that border-crossers, who are central participants in a domain (i.e. those people who have identification and influence), will have more control over the borders of that domain than those who are peripheral participants, and thus both domains will have greater work-family balance than border-crossers who are not central participants in both domains (Clark, 2000, p. 761). It is therefore of little surprise to find that individuals (which in this case would be border-adapters or border-enforcers) who have been coached to separate their work and home domains and who therefore experience a reduction in work-family conflict (Kossek et al., 2011c; Lautsch et al., 2009). As a result, the behaviour becomes their self-regulatory standard over time; the standard against which they measure success and failure. If they consistently achieve this self-regulatory condition, it will become their default behaviour for how to arbitrate all current and future communication. Because of this conditioning they will also condition those around them to exhibit the same behaviour and thus reap the same benefits. In contrast, individuals who have been coached to separate their work and home domains, experience a reduction in work-family conflict. This outcome is supported by the negative correlation found in the reduction in work-family conflict which was felt by individuals who self-regulate efficiently.

However, if participants fail to achieve the standard desired behaviour, the outcome could be to develop into the exact opposite scenario, whereby the individual becomes frozen into a marginal man state, as described by Lewin (1939), where they no longer identify with either state. Because of this, the individual's work-family conflict increases, and since there was also a significant correlation, their self-regulation decreases. This culminates in the development of an inactive/frozen/marginal man state where the border has become flexible and, as a result, the domains have become fully integrated. Consequently, the individual (i.e. border-expander) becomes trapped in a state of unregulated domain integration, where they are unable to reinforce the borders, or no longer feel able to do so. Individuals who find themselves in such scenarios will lack the ability to effectively moderate mobile phone communications. The development of this state requires further studies, and is thus an area for future research.

Finally, a third scenario exists where individuals (i.e. border-adapters/border-enforcers) alter their work environment (such as their career, role, or organisation) in the attempt to nullify the aggrievement or frustration felt by work's intrusion in the home domain after hours. This can be attributed to the integration of the domains as a reward for their achievement or their failure to segment the domains. Each outcome can be ingrained within the individual and become their default self-regulatory response because, over time, the behaviour results in a conditioned self-

regulatory response. However, it is difficult to tell which is more likely to occur and result in the relevant outcome. Therefore the integrated domain scenario may not be the individual's choice but may be influenced by the organisational work environment which they have found themselves within, which culminates in the border-expander persona.

Thus, in an attempt to regain their independence and to segment their domain, individuals (i.e. border-adapters/border-enforcers) have been found to move both career and organisation in the hope of finding a better work-family balance mix. For example, participant 12 had moved employers, while participant 22 had changed their role within their organisation. Both of these participants indicated that they had made these shifts in order to gain better control over their mobile phone availability in a variety of locations.

The results from the scenarios above and the qualitative study provide evidence of the existence of three border-keeper groups (i.e. border-expanders, border-adapters, and border-enforcers). The differences between the groups are primarily related to the way in which each group self-regulates their after-hours mobile phone usage, which is directly influenced by their acceptance or rejection of after-hours mobile phone usage, and which (in turn) influences the permeability or flexibility of the border. These outcomes are corroborated by the positive and negative correlations found between mobile phone Internet usage, emails, calls, work-family conflict, self-esteem, and self-regulation found in research question 1.

6.5.2 Border formation

A key component of Clark's border theory contribution relates to how border-crossers move between the home and work domain over the course of the day, while they simultaneously attempt to reduce role conflicts to ensure that balance is maintained. Border-keepers (such as employers/spouses, or their hypothesised internalised self-regulation mechanism) indicate where the border should be located through physical/psychological/temporal cues and, in turn, create a map from previous interactions which they then internalise. Thus, when an individual receives a communication, they acknowledge the cues around them, which assists them to determine which enacted internalised map to use. The maps are created from previous experiences and the outcomes of these experiences helps them decide on their current behaviour about whether to either accept or reject the communication.

In order to reimagine border theory from a more modern technological perspective, this study

utilised mobile phone use to better understand self-regulation's ability to determine border and domain construction and led to the classification of three groups (i.e. border-expanders, border-adapters, and border-enforcers). The results of the qualitative analysis demonstrated that each group has a unique arbitration (self-regulation) mechanism which they used to regulate the flow of after-hours work-related communication, and which will ultimately determine if a communication will be accepted or rejected. The individual's arbitration mechanism (argued in this thesis to be partly attributable to an internal self-regulation process and that of an enacted internalised map), utilises a combination of either externalised or internalised mechanisms, or both. This determines whether to either integrate or segment domains and the border between them. Once this process is formalised, it becomes their default enactment process in the context of border theory and thus becomes their default behaviour for what to do in multiple mobile phone use contexts (i.e. their enacted internalised map).

This study attributes the point of reflection to cues in the development of an enacted internalised map as described by Weick and Bougon (1986). Border-enforcers, for instance, will take note of the surrounding physical space when an email for another purpose besides work or home is received on their mobile phone (described in section 6.3.2 above). If the origin of the emails and the domain in which they are received do not match each other, an individual experiences a reduction in good functioning at work. This could be explained by the fact that those with efficient self-regulation, like border-enforcers, ensure the domain separation and, as such, domain and actions match each other. However, the same cues could condition the border-expanders, via social learning, to facilitate the development of a communication channel (i.e. always available) in order to feed their self-esteem development.

It was originally hypothesised that this would lead to the development of an imbalance. However, the regression results showed that deficient self-regulation (when related to SMSs for purposes other than work or home), actually culminated in the development of work-family balance**.** This may be attributed to work-family balance being a self-construct, and thus open to those who define it, which in this case resulted in an inverse relationship from the one actually proposed. This may plausibly explain why border-expanders feel that their situation is reasoned or rational.

The flaws in Clark's definition of balance, and the lacking definition of imbalance, could also contribute to the unexpected relationship between deficient self-regulation and work-family balance. Clark advocates (in proposition 8 of border theory) that an open communication

channel needs to be established between border-crossers and border-keepers, through which the ill-effects that lead to imbalance can be moderated (Clark, 2000, p. 765). However, Clark fails to define imbalance, which inherently leads to an ambiguous definition of the construct at best. Thus, to overcome this issue, the definition of imbalance was formulated through the inversion of Clark's definition of balance in this study. Even with the definition of imbalance provided, the proposition(s) and theory are still rife with problems (in Clark's balance construct, for instance, the existence of only two binary domains is acknowledged (home and work), even though she draws from Lewin's work (1947) as a theoretical underpinning (involving many domains)). In addition, the construct becomes more questionable by Clark's failure to acknowledge what occurs in the absence of balance, when, for instance, the individual is no longer able to meet the unsustainable or unachievable demands placed upon them, which stem primarily from the failure to acknowledge the role of technology or mobile phone usage in border development and construction. This study therefore hypothesised, in the rationale component of the literature review, that the psychological (plane) mechanism can regulate mobile phone usage. The psychological plane may be able to control the physical and temporal plane and thus the domain construction of home and work in order to achieve balance.

Nevertheless, the home domain was, by large, defined as a physical plane (by 16 of the 27 participants and their partners who were interviewed). Most of the individuals were from the border-expander (8) and border-enforcer groups (4). The physical (plane) cues may thus fail to create a reflection point for the border-expanders, which results in a deeper domain amalgamation. In contrast, the border-enforcers utilise the psychological border to delineate and separate the domains. However, the same physical (plane) cues assist both the border-adapters and border-enforcers in determining how to arbitrate (self-regulate) their work domain borders through integration or segmentation of the domains. This explains why the physical plane was predominantly used by both groups to define their work domain.

On the other hand, the second largest contingent of participants (9 of 27) defined the home domain as a multi-state construct of psychological and physical planes. Most of these participants originated from the border-adapter group (3) and their partners (2). The combination of internal (psychological) and external (physical) elements, as well as their previous learned experiences from similar scenarios, helps them to determine whether to accept or reject the mobile phone communication and helps the border-adapter to more effectively arbitrate their borders and domains. The outcome of this process culminates in varied border flexibility and permeability scenarios of border (boundary) management, and result in

segmentation and integration solutions. Consequently, it was of interest to note that the same construct was used to define the work domain by the largest contingent (10 of 27) of all the group's participants (N = 7) and their partners (N = 3). This of course infers that work can exist simultaneously on both planes, which makes its containment or delineation far more cumbersome. Therefore, it was somewhat predictable to find that the largest number of border-extenders (N = 4) and their partners (N = 2) supported this multi-state construct of work. This is thought to be the case because they are more permissive to accept work ubiquitously. The individuals' ability to integrate or segment domains with their mobile phone use provides evidence that the process of self-regulation (arbitration) and role-cycling resemble one another, thus providing additional support for Kossek and Lautsch (2012) findings. Kossek and Lautsch (2012) suggest that work-life balance is achievable when individuals are able to use their own preferred boundary-crossing mechanism, a process where they are able to role-cycle to fit the relevant domain (Kossek & Lautsch, 2012). Regrettably, it does not provide evidence that there is an agreement to be reached between the individual and their organisation about the way in which work is constructed.

As already demonstrated, border-expanders predominantly define their home domain within the physical plane and their work domain within the physical and psychological planes (i.e. as a multi-state construct). This of course creates an imbalance between the two domains and how they are perceived to operate. This may be somewhat problematic as border-expanders define themselves and the value they add primarily within the work domain. The outcome of this means that communications and intrusion from the work domain are not only being facilitated, but they are also welcomed by the border-expander. These results indicate that as individuals increase their work hours, their mobile phone regulation decreases, which increases the possibility for the domains to integrate. This behaviour is believed to be conditioned upon them by their peers, employers, and organisations (i.e. important influencers), through social learning. This is attributed to previous experience with clients' after-hours communication, their current and future career ambitions, and the organisational demands placed upon them. The combination of these factors has altered the location of the border between the domains to the extent that it is now largely non-existent or instead acts as a conduit for work communication into the home domain. This state thus becomes their "normal" standard against which they measure their success or failure. In this case, there is complete domain integration and work communications are facilitated ubiquitously. Therefore, all communications received by their influencers are deemed as urgent (i.e. they are viewed to be an industrial standard or norm

which needs to be fulfilled immediately). This of course perpetuates a perceived state of 24/7 availability as demonstrated by the border-expanders and confirmed by their partners.

People in the border-expander group not only expected after-hours usage of their mobile phone, but it has become entrenched in that behaviour and they expect those around them to do the same. This can be attributed to their inability to discern (arbitrate) between urgent and important communications which have become conditioned on them by their peers, employers, and clients. Most of the participants in the border-expander group validated beliefs by arguing that they behaved in this way so as to ensure their current and future career sustainability and trajectory, which also relates to their own and their family's financial wellbeing. Thus, to ensure that this is achieved, the border-expander allows the domains to integrate and the border between them to become flexible through the constant provision of after-hours mobile phone usage. The ubiquity, however, further limits their ability to discern one domain from the other. This, of course, will lead to increased usage and possible interference in the home domain. The knock-on effect of this behaviour results in increased reports of disagreements with partners, spouses, children, and in some cases, the complete breakdown of these relationships. This depends on the border-expander themselves and their partner's perception of their availability. The border between the domains becomes inoperable or frozen into a non-responsive state and further facilitates such occurrences of communication transitions. The border-expander's state closely resembles that of Lewin's "marginal man". The individual no longer belongs to either domain, but lies between them in a "labour camp" situation where they are expected to facilitate all mobile phone communications ubiquitously. The incorporation of this concept supports Lewin's theory as a supporting framework for border theory.

In contrast to border-expanders, border-adapters utilise an inverse domain construction with their home domain defined as being on the physical and psychological plane; and their work domain as being on the physical plane. Their work plane construction as a multi-state construct helps them to discern how and when to segment and/or integrate the domains, while the physical attributes of their home domain provides them with cues as to where they are located and what they should be doing. At the same time, this explains the process of how communication is accepted or rejected within each domain (self-regulation) and if it results in integration or segmentation. This outcome is partially corroborated by the regression analyses results that indicate that self-regulation can moderate email and its effects on good functioning at work and their self-esteem. However, it was found that self-regulation can explain (mediate) the relationship between SMSs and phone calls for other purposes, work-family balance,

satisfaction with work and self-esteem. The re-occurrence of self-esteem in both analyses indicates its significance in when SMSs (specifically) will be accepted or rejected and how this occurs.

By comparison, border-adapters attempt to arbitrate all their mobile phone communications received from work into the home. This was explained by the border-adapter's stipulation that the work day ends at 17:00. However, their partners did not substantiate these claims, which leads to the assumption that this is more of a postulation than a hard delineator. It was demonstrated that only communication that was perceived as important was facilitated after hours and most of these communications were actually for family purposes. To achieve this complex arbitration, the border-adapter compares their own needs and their family's needs against their work needs. The border and the domain composition consequently moves to ensure that all the relevant roles are fulfilled. Once completed, the border is re-established between the domains in its original location. The way in which this is achieved relates closely to Clark's definition of balance as a state of equilibrium between the domains, which will result in diminished role conflict and the achievement of balance. This explanation supports a key component of Clark's border theory, as border-adapters are able to achieve "satisfaction and good functioning at work and at home, with a minimum of role conflict" through the use of self-regulation mechanisms.

Border-enforcers share a commonality with their border-adapter peers in that they both arbitrate all communication received via their mobile phone. However, border-enforcers are more rigid and inflexible with their arbitration. This is because they emphasise a clear domain delineation to indicate where one domain starts and the other ends. This requires that the border between them be recognised at all times and they need clear arguments (largely to themselves) to explain why they do not agree to after-hours work unless it is important. This mechanism of arbitration (self-regulation) is primarily constructed around their previous experiences, where workplace communication caused an interference while they were working and the way in which they decided to respond to it. Once the mechanism is formalised it becomes their default enactment process.

Border-enforcers were the only group found to utilise the physical plane to define both their home and work domains. This of course infers that the physical elements of the domain indicate the relevant behaviours that the individual should be displaying. The cues will thus assist the border-enforcer to establish a border and separate the domains. This is supported by the

mediation relationship found between work/family SMSs received and job satisfaction, and validates the individuals' desire to delineate the domains and segment mobile phone interference.

6.5.3 How do mobile phone users understand their use of their mobile phone(s) for work purposes after hours?

As has been shown from the qualitative analysis, self-regulation is a key component in the acceptance or rejection of a communication on a mobile phone. To better emphasise its pertinence, this section provides additional insight into self-regulation's part in the development of a communication channel.

Border-expanders and their partners agreed that border-expanders had attempted to self-regulate their mobile phone usage, but were largely ineffective in doing so. This is attributed to previous experiences with after-hours client communication, their current and future career ambitions, and the organisational demands placed upon them. The combination of these factors altered the location of the border between the domains to the extent that it becomes largely non-existent. Consequently, this state becomes the standard against which they measure success or failure, which in this case requires complete domain integration and facilitates ubiquitous work communications. This is further supported by the correlation analysis results which showed that as an individual increased the number of hours spent on mobile phone calls, emails, Internet usage and SMSs (as seen in Table 43), they reported a decrease in their self-regulation which in turn can condition their self-regulatory standard to facilitate after-hours communication as it supports an increase in their self-esteem development. These results, when combined, provide evidence that border-expanders' current mobile phone usage has the propensity to influence their future usage but falls short of validating the conclusion that they understand their usage or that they are in control of that usage.

In contrast, border-adapters adopt a more flexible self-regulatory approach with their mobile phone use. To achieve this, they take a combination of elements together such as who the communicator is, what their role is in comparison to the individual, the previous communication outcomes, what the previous communication outcomes were, the urgency and importance of its message, and their own internal and external border-keepers' perspective on the matter. To determine whether to accept or reject the work/communication after hours, they therefore take all the above criteria into consideration when making a decision. This process closely resembles

that of self-regulation as their intention is to achieve an internal standard set in place from previous experiences (such as the ones advised by their internal and external border-keepers) and, if achieved, they reward themselves and this provides positive reinforcement. Efficient self-regulation, for instance, culminates in the reduction of calls, emails, and Internet usage as shown in the correlations, and is believed to culminate in the reduction of work-family conflict. However, if they fail to achieve the work-family balance which they desire, individuals such as participant 7 (a border-expander), have gone as far as to change their work environment completely (see section 5.3.3), so they can attempt to reclaim the level of arbitration or a similar level they once had. This results in the belief that border-adapters understand the mobile phone use placed upon them after hours as they weigh their families and their own needs against their career advancement, development, and the sustainability of their current behaviour. The interaction between the individual's/family's needs and those of their work environment closely resembles that of Clark's advocation (in proposition 8 of her border theory) that an open communication channel needs to be established between border-crossers and border-keepers, through which the ill-effects that lead to imbalance can be moderated (Clark, 2000, p. 765). This provides evidence that border-adapters not only understand their after-hours work needs but are capable of controlling its facilitation. Thus, research question 3 is supported for border-adapters.

Border-enforcers are more definitive in their approach. They take a combination of their previous experiences (e.g. where they were expected to perform more like border-expanders) with the characteristics of the communicators into account, and assess this information against the perceived urgency or importance of the message that needs to be communicated and the guidance that their border-keepers (internal or external) provide them. The combination of these factors defines the standard against which the individual can measure their achievements. The culmination of this process results in the border-enforcer's development of two separate domains and the clear border between them. This speaks to the attainment of proposition 7 of Clark's border theory, "when work and family domains are very different, border-crossers will engage in less across-the-border communication than will border-crossers with similar domains" (Clark, 2000, p. 765). Consequently, border-enforcers exhibit a more self-regulatory efficiency with their mobile phone usage. This of course results in a reduction in the facilitation of after-hours calls, emails and Internet usage, as shown in the correlations, which culminates in the reduction of work-family conflict. As a result, this provides evidence that border-enforcers not only understand their after-hours work needs but are capable of controlling its

facilitation. Thus, research question 3 is supported for border-enforcers.

6.6 Contribution to theory

As this study has shown, domains and the borders which separate them, operate within three planes; physical, psychological and temporal (Clark, 2000). When individuals respond to demands from either domain, the location of the border changes to meet the demands, but this is dependent on the border-keeper's rigidity. The movement of the border depends on the rigidity or flexibility of the individual; the more rigid the individual, the less likely they are to move the border, ensuring segmentation. However, the opposite is also true where the more flexible the individual, the more likely that the border will move more freely and integration as well as border-crossing will take place (Clark, 2000; Nippert-Eng, 1996).

Border-keepers are therefore important custodians of the border(s). They help define the standard behaviour and how to structure the movement between borders based on their own previous experience or the experiences of those around them, and the observed ramifications of these experiences (Clark, 2000). Border-keepers refer to anyone that has the ability to influence the individual to alter their behaviour, to analyse their border development or border construction, and reflect on it against the standard set by the border-keeper.

By convention, border-keepers are more likely to be children, partners, peers, or the user themselves, but they can be anyone who ensures that the individual analyses their behaviour in relation to the standard. The (self-regulation) standard requires the border-keeper to determine the impact of the current request in relation to the individual's goals and values that results in an urgent or important decision, thereby facilitating the selection of the relevant quadrant and appropriate response. Important decisions occur when long-term goals are evaluated and a response is determined in relation to the individual's goal, while an urgent decision results in reactive responses with limited insight into the effects in relation to the individual's goals. Each choice naturally has an effect on the standard for further operationalisation.

This study shows that an individual's self-regulation process can be a combination of externalised or internalised mechanisms. The process defines the individual's border-keeper behaviour and therefore dictates if they will be more susceptible to either integrate or segment domains and the border between. Border-keepers therefore have the ability to influence the individual's self-regulation process.

An example of this can be seen when an individual who receives an urgent and important work phone call after hours, with the guidance of their border-keepers, decides to facilitate the call. This results in a permeable border and the integration of the domains. The phone call was perceived as both urgent and important and therefore sits within the 1st quadrant of Covey's model. However, this study found that this was represented as deficient self-regulation. Workplace expectations thus shaped the individual's usage to more willingly facilitate institutional "norms" (Middleton & Cukier, 2006); a behaviour reiterated by their peers and employers, thus making themselves available anywhere and anytime to facilitate work (and thus border-cross). Because of this, the individual is no longer able to discern the existence of the border and instead acts as a conduit as they no longer filter the communication stream.

Thus, under the guidance of their border-keepers, individuals have weighed the pertinence of the communication to their career development against the consequence to their family and other aspects of their lives, and decided to accept the communication. If, over time, urgent and important communications are frequently permitted, the behaviour will become the default self-regulation standard against which the individual will measure their self-worth and success.

A further key component of the self-regulation standard requires the border-keeper to weigh their individual long-term (i.e. important) goals against their immediate (i.e. urgent) behaviour. For border-keepers the standard can either be important, or urgent, or both.

The study has shown that border-keepers are relevant to the stabilisation or movement of the borders and through their assistance they provide instrumental, structural integrity to border development. However, the theory fails to explain the influence that technology has had on society and domain formation. Technology, as in the case of a mobile phone, has altered the formation of border development as it is a device that can be used ubiquitously and has created a transient border. This has made it difficult for the individual to understand how to control border development, as every situation experienced by the individual requires a unique solution or guide. Technology has thus changed the way in which borders are constructed as it provides a continuous tether which requires the individual to internalise the task of a border-keeper.

This study has thus shown that individuals can acquire the required border development with technology usage through a unique combination of self-regulation, which adapts to the physical/structural and mental cues around them. To assist them in the complex task of border-keeping or border-maintenance when mobile phones and similar technologies are used, the individual uses a unique combination of internal-internal/intrinsic and internal-

external/extrinsic mechanisms which adapt to the situation at hand. The main body of this study's contribution to the literature therefore relates to the way that the internal-external and internal-internal mechanisms can work as a collective or independently in the construction of the border. This is because the internal-external/extrinsic mechanisms offer cues from outside the individual to the border-keepers to increase their awareness of their physical and structural surroundings (i.e. external) and in that way highlight what their associated thoughts should be. The knowledge that they have gained from these mechanisms and other previous experiences, as well as the social-learning cast upon them over time becomes gradually embedded within the border-keeper and thus becomes their internal-internal/intrinsic mechanism, as it utilises the individual's own insights, on how to behave appropriately with their mobile phone relative to the environment and those around them. When the mechanisms work collectively they aid in the development/formation of the individual's self-regulation, which the individual relies on to determine the appropriate behaviour, e.g. when they receive an after-hours phone communication (call/email/SMSs) while at home. Table 75 below provides additional information on the development and formation of the border.

Table 75: Border construction

<table>
<tr><th colspan="10">Border</th></tr>
<tr><td colspan="6">Structural Border-Keepers:
An attribute in the physical plane, which contributes to border formation</td><td colspan="4">Internal Border-Keepers</td></tr>
<tr><td rowspan="2">Buildings</td><td rowspan="2">Clocks</td><td rowspan="2">Distance</td><td rowspan="2">Public transport</td><td rowspan="2">Traffic</td><td rowspan="2">Etc.</td><td colspan="4">Internal-external:
Using physical and mental attributes to self-regulate</td></tr>
<tr><td>Profiles on phone</td><td>Different email apps</td><td>Turn off/on phone</td><td>Varying notifications</td></tr>
<tr><td colspan="10">Internal-internal:</td></tr>
<tr><td colspan="10">Self-regulation formed by relying on learnt behaviour from previous experience</td></tr>
<tr><td colspan="6">Social learning (i.e. habit)</td><td colspan="4">Self-regulation</td></tr>
</table>

For instance, when a request is received via a call, email or SMS, the individual must determine its relevance in relation to their goals and values. In doing so they can determine if it is urgent or important and a decision whether to respond or not can be made. For example, an after-hours phone call from the CEO to a member of the executive staff on their mobile phone requires the

individual to evaluate the effects on their family and spouse in relation to their own career desires and goals. The individual, working as the border-keeper, or assisted by a border-keeper, can potentially respond in a variety of different ways. They can analyse the call in relation to their goals (e.g. does it fulfil an immediate need, then the call is urgent, or does it provide the individual with the ability to achieve their life goals). The individual's response will subtly influence all future communications between the caller and receiver, and thus sets the standard.

The request by an employer for their employee to answer their mobile phone after hours (i.e. border-extending), which is permitted by the internalised or externalised border-keeper, over a continued duration, alters the location of the border as the border moves and fluctuates between permitting the successful completion of a desired communication. The border therefore becomes difficult to replace in its original location with these frequent fluctuations. As a result, the employer's expectations also change and will exert influence on the individual either internally (perception) or by other border-keepers (externalised), and will become the expected modus operandi (standard). Individuals who experience a request to constantly move the border to facilitate further work after hours and accommodate such requests, are more likely to exert similar requests (as external border-keepers or employers) on those around them in order to meet work requests.

A different scenario occurs when a border-adapter individual receives an after-hours mobile phone communication from their employer. In this instance, the internal or external border-keeper provides guidance, based on the internal goals and objectives, on how to respond to the request. The individual, through reflection, determines the urgency or importance of the communication. The reflection process is guided by border-keepers to assist the individuals to achieve their goals. This reflection results in the acceptance or rejection of the communication based on the internalised or externalised border-keeper's guidance. If the individual accepts the communication, the border will be moved to accommodate transference of the message. Upon completion of the communication the border-keeper will assist in the re-administration of the border to a similar or same location as to what existed previously. Relative to the success of the re-establishment of the border, the individual and the border-keepers will be guided to facilitate further communications.

The border-adapter individuals and their border-keepers, over a prolonged duration, are more likely to become accustomed to frequent reformulations of the borders. As a result, the location of the borders will become more fluid and difficult to replace in the same position. Therefore,

the individual and their border-keepers will need to constantly reflect on their goals, compared to the goals offered by the communication, to ensure that they do not become desensitised. If they become desensitised they will start facilitating more urgent requests instead of those that are important and start displaying more characteristics of border-extenders. This is because their actions benefit external people and organisations and not the achievement of their own self-actualisation (Covey, 2014).

A third scenario occurs when a border-enforcer individual receives an after-hours communication from their employer. Guided by their internal or external border-keepers, the individual reflects on the effect of the communication in relation to their goals and to the urgency or the importance of the message. Border-enforcers, as previously shown, are inherently more inclined to respond to important communications which facilitate their goals. It is important to add that the individuals or the border-keepers which guide this group, may previously have belonged to either the border-adapter or border-expander group, where they have gained the necessary insight and ability to more effectively delineate their borders, and may have transcended to their current state of behaviour. The movement and the internalised or externalised insight imparted on the individual by their border-keepers in order to achieve their goals, can be succinctly attributed to self-regulation. This study's significant contribution to the area highlights that self-regulation and the border-keeper are inherently the same for border-enforcers.

Finally and importantly, this study's discovery of the three border-keeper groups (i.e. border-extenders, border-adapters and border-enforcers) adds significantly to the theory. The results show that it is less about technology and more about the person and how they decide to construct their own wellbeing.

In the attempt to further elucidate the way in which border management is thought to occur with mobile phone usage, the hypothetical model below provides a potential explanation for the way in which border management is thought to develop (see figure 11). When a mobile phone communication (call/email/SMS) is received, its importance and/or urgency is determined by a combination of intrinsic or extrinsic cues (i.e. such as their physical locality, the organisational social learning they have been subjected to, their own self-control, their self-actualisation, the identity of the communicator, the time of the communication, etc.), all of which are used to determine their own self-esteem. The self-esteem then defines the relevant self-regulatory response as to how the individual's work-family balance is defined, which determines their

home and work border and the development of the different border-keeper groups, ultimately resulting in the patterns of mobile phone use. It must however be acknowledged that this is a hypothetical model and is thus untested. The temporal precedence of these relationships has not been empirically assessed and may be different to what is being posited.

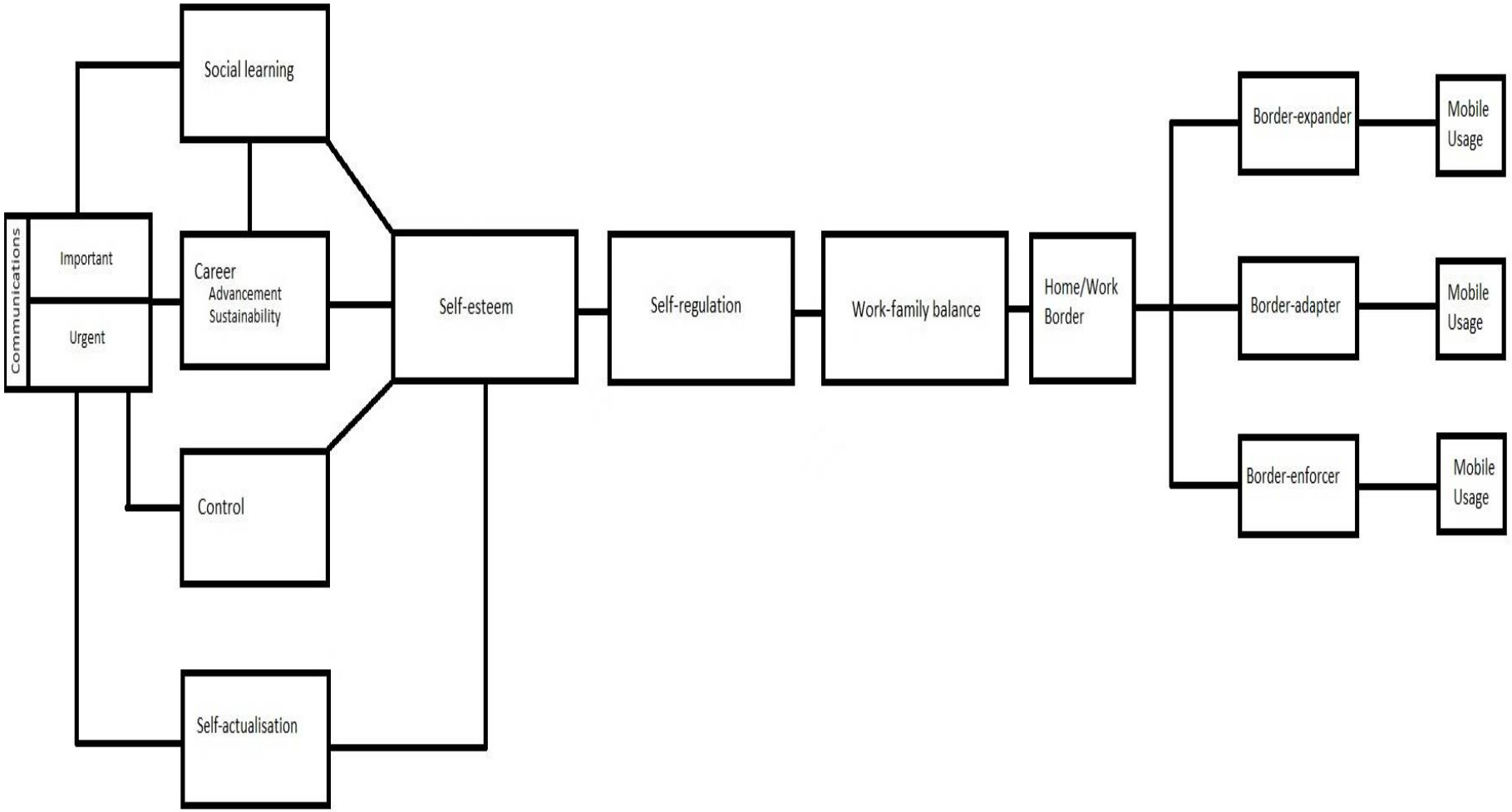


Figure 11: Proposed theoretical model

6.7 Limitations and direction for future research

6.7.1 Demographics

Both the quantitative and qualitative studies would have benefited from increased participant numbers in order to increase the generalisability to the general population. It must be acknowledged that the recruitment of managers for both samples was problematic. A further problem was that there was a disproportionate number of participants to partners recruited for the qualitative study. To get a more balanced and holistic view of the participant's mobile phone usage would require an equal number of participants and their partners. Because of this the qualitative results may contain some inherent biases towards the main participants. This could possibly have been overcome if the prize for their involvement was more expensive or flashy, but regrettably cost was an underlying factor. Furthermore, a larger incentive may have unduly influenced the reasons for participation.

All of the participants and their partners recruited for both the questionnaire and the interview consisted of South African participants, thus responding to Kossek, Baltes, and Matthews (2011b, p. 431) call for work-life research which does not originate from the United Kingdom and the United States of America. It is important to acknowledge the racial skewness found in the participant sample, which is attributed to the legacy of apartheid in the South African context. To overcome this issue, it is advised that future research be conducted with samples showing greater racial equality or balance. It must at the same time be acknowledged that gender disparity can influence the development and structure of work-family balance, but was intentionally excluded, as this study did not want to include an additional metric in an already overloaded mixed-methods study. This is a possible fruitful area for further research. It is important to emphasise that all participants in the questionnaire part of the study did so anonymously to reduce the chances of common method biases frequently found in behavioural research (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

A further limitation can be attributed to the recruitment of managerial staff, which led to a disproportionate number of tertiary educated individuals (with 81.7% of the sample reporting having attained a tertiary diploma or more). This means that the outcomes are not truly representative of the general South African population, where tertiary education sits at 14.59% of the total population according to the OECD (2017). The recruitment of managerial staff came with an unforeseeable consequence, as managerial staff in South Africa, under the Basic Conditions of Employment Amendment Act (No. 11 of 2002), are not required to pay their

employees overtime when they have staff report to them. This of course creates a legal loophole for exploitation, as it would be viewed as a necessity for their role and thus an expected requirement to facilitate after-hours work with no additional pay. To overcome this situation requires further public consultation on the conditions of the work environment in South Africa, meaning that the legislation would need to be redrafted.

6.7.2 Limitation of study design

This was a cross-sectional study and thus the data collected refers to a single point in time, and it was not possible to determine the temporal sequence of participants' psychological thinking. In addition, previous experiences can be a confounding factor but are difficult to determine as they are extensive and vary between participants. An additional limitation relates to the modest amount of variance reported within the regression equations. Plausibly, this relates to the way in which mobile phone use is affected by varied factors not under consideration in this study. This factors can compound or work individualistically; such as the interplay between self-esteem, self-regulation, organisation goals and further contextual aspects.

6.7.3 Border theory

As this study relied strongly on Clark's border theory it has inherited a significant flaw from the original study, which is the binary construction of only two domains (i.e. home and work). The data from both the quantitative and qualitative parts of the study reveals that a more nuanced and broader view of domains is required. This impact is combined with the focus of this study, which was an emphasis on the unidirectional flow of after-hours work-related mobile phone usage into the home domain, and not the bidirectionality of the flow (i.e. work onto home and home onto work) as in Clark's original conceptualisation. It is possible that this unidimensional view partially explains the low variance found in the regression analyses.

A further problem relates to how border-keeper behaviours evolve. Do they, for instance, always start as border-enforcers, then evolve into border-adapters, and finally border-expanders? Are border-keepers able to remain as one type of border-keeper forever, or do they evolve between the border-keeper types? The evolution of the groups is important in understanding how the behavioural self-regulatory mechanism works to improve work-life balance. Finally, the relationship between the different border-keeper roles and the contribution of personality theory has not been explored. This might also prove to be a fruitful area for further study.

6.7.4 Border

An inherit limitation of this research was the development and construction of the border which divides the domains. Because it is a man-made concept it relies heavily on being a formalised construct emerging from the physical plane and being extended to the temporal and psychological planes. The limitation thus stems from the participants' frequent reverting to the usage of a physical plane in their development of a border, as the physical attributes of a building (for instance) assist them to understand where one domain begins and the other ends. In contrast, the psychological and temporal planes are far more subtle in their ability to communicate to the individual if there is a change in the domain. However, this was not the focus of this study but could be viewed as an avenue for future research.

6.7.5 Mobile phone usage and self-regulation

In order to accurately capture and report on self-regulation and actual mobile phone usage would require more than self-reported usage which was obtained in this study's questionnaires and interviews. However, to achieve this would require the volunteer(s) to report their usage via a logbook on a daily basis, which would place an additional burden on the home-work border and balance. An alternative that was considered at the outset of this research was to record their usage electronically. However, this was viewed to be an invasion of their privacy and was not included in the study for ethical reasons. While there are limitations to not collecting actual usage data, this has to be weighed against the limitations of causing more work or family interference through daily logbook collection or by being excessively intrusive. The statistical results are additionally obscured by the categorical nature of the questionnaire design. In additional, it is not clear how accurately participants could recount their mobile phone usage. It is highly likely that a person's mobile phone use changes considerably over the course of several weeks and at different times of the year. It is unclear how well a participant could remember their actual usage patterns or how memory issues may have clouded the reporting.

It is acknowledged that organisational culture is pertinent to the individuals' mobile phone use and the resultant conditioned behaviour, as it has the ability to mould and shift employees' expectations. In an attempt to minimise the organisational culture discrepancies between the participants, employees were recruited from medium to large corporations so that they would have a similar cultural perspective of acceptable mobile phone usage. It must be additionally acknowledged that there was little to no parity in the organisational culture of different participants (e.g. an investment bank has a very different expectation from employees compared to a transactional bank). Due to the complexity in measuring and determining the influence of

organisational culture, it was determined that it should rather be an area of future research and therefore was omitted from this study.

6.7.6 Self-esteem

The exploratory variable of self-esteem was determined to be a key contributor to the development of deficient self-regulation and work-family balance (as both the correlation and the regression analyses reveal significant intersections). However, it is not incorporated into the work-family balance scale. It is believed that it should be included as an important outcome variable and it is advised that further exploratory research is conducted in this area to determine where self-esteem fits in the proposed model.

6.7.7 Technology

A specific limitation of this study relates to the use of smartphones and mobile phones as the catalysts for work-family balance/imbalance. There is the potential that many unassessed or undiagnosed factors or psychoses can also create work-family imbalance, but these were not tested. For instance, the presence of workaholism was not determined but would obviously affect the way in which the individual constructs their work and family domains and the border between them (Guest, 2002). Workaholism has been shown to increase individuals' propensity to work in the evening and, with their inability to detach from work, results in neglected recovery time and increased work-family conflict (Bakker, Demerouti, & Burke, 2009; Taris, Schaufeli, & Verhoeven, 2005). Furthermore, work-family conflict may occur because of numerous other factors such as relationship problems, a sick or problem child, a problematic or sick family member, financial hardships, personality problems, ill health, and a wealth of other circumstances.

CHAPTER 7: CONCLUSION

This study set out to answer three main research questions. First, the study set out to establish the relationship between self-regulation and after-hours work-related mobile phone use in determining home outcomes. Second, the relationship between self-regulation and work-family balance was assessed. Third, the study aimed to determine how individuals understood their after-hours mobile phone use for work purposes. In addition, the author explored the effects of self-esteem, as exploratory variable, in influencing the relationships between self-regulation and mobile phone use.

This study found evidence of a relationship between self-regulation and the time spent organisationally within the work day and at home (after hours), which resulted in the development of work-family conflict. The relationship between mobile phone use and work-family conflict was attributed to self-regulation as an intermediary mechanism. This study therefore establishes a connection between self-regulation and after-hours work-related mobile phone use in the home domain, which provides a theoretical contribution to border theory. To counter these and similar effects, it is recommended that while at home that individuals negotiate their smartphone usage with their partner, children, and work place. Through the incorporation of both domains and their key stakeholders, a greater understanding of all those components within the individual's life can assist in the formation of a guide of what their self-regulatory policy should be and what their behaviour with the device should be in each domain. Therefore they should be more effective in their delineation of their domains with their smartphone which in turn, should diminish work-family conflict. It must be acknowledged, however, that the correlation was weak, which implies that other variables could explain the work-family conflict and is an area for further research.

This study also found evidence that an individual's work-family balance can actually be attributed to their deficient self-regulation in this sample, and not to efficient self-regulation as was originally hypothesised. This was attributed to work being a central tenet on which the individuals based their perceptions of their own self-esteem. It was argued that this could be attributed to social learning processes which altered the way in which they viewed the attainment of their self-esteem. The most prominent example of this can be seen in SMSs which are an asynchronous communication medium but, through social learning (which has been cast upon the individuals by their peers and/or colleagues, as seen in the qualitative participant

sample), it is now perceived to be synchronous. Due to this, their perception of the SMS medium has been altered and thus requires urgent fulfilment. This of course implies that those with deficient self-regulation have a greater propensity to facilitate work ubiquitously to increase their own self-esteem, as they feel that this results in their own work-family balance. A further recommendation is to facilitate a reflective environment for the individuals to evaluate what their central life tenets would be and thus determine what their internal motivators are, and re-evaluate them if necessary to what they desire from their current and future work-family balance. This could be achieved for example through an intervention by a professional counsellor, coach, or a psychologist. A further possibility is the attendance of a digital detox retreat, where individuals are generally removed from all their technological devices and connectivity for a period of time and then requested to work collectively with their peers or family members to assist them in their reflection of their usage by examining their usage contextually while performing group alternative, connectedness activities (such as hiking, fishing, canoeing). Through these potential interventions it is hoped that individuals will re-contextualises what their priorities are and alter their usage to offer a more holistic solution which offers more work-family balance.

From the qualitative interviews conducted, three different border-keeper groups were determined; that of border-expanders, border-adapters, and border-enforcers. Each of these groups exhibits a unique approach to the way in which they arbitrate after-hours work-related mobile phone use. Border-expanders, for instance, were found to be more permissive of work communications. A large number of participants in this group were found to be client-facing workers and thus were expected to meet the organisational expectations of answering all urgent communications received. Therefore they measured their success and failure in relation to the facilitation of communication, which became equated with their sense of self-esteem. Consequently, the border became more flexible for these individuals and domain integration was more likely to occur. In contrast, the border-adapters utilised a combination of elements (such as past experiences, the role of the communicator, and the urgency and/or importance of the communication) to determine how they would arbitrate the request for after-hours work communication via their mobile phone. The process that they followed closely resembled Bandura (1986) self-regulation mechanism as they measured their behaviour in relation to a standard and vicariously rewarded or punished themselves in relation to the attainment of this standard. As a result, border-adapters were acutely aware of their after-hours work communication and how it altered the border configuration as well as the decision to integrate

or segment work and home activities.

Border-enforcers, similar to the border-adapters, utilise a combination of elements and experiences to define the arbitration standard which they use to define their self-regulatory standard, thus determining when to accept or reject communications. Border-adapters' arbitration was more flexible than that of border-enforcers who were far more rigid. Border-enforcers exhibited more solid borders and, as a result, the home and work domains were more clearly delineated. Because of this, border-enforcers opted for a more segmentative approach to their domain construction. This culminates in a clearer awareness of their willingness (or unwillingness) to facilitate after-hours work via mobile phone.

The observations described above, when combined, provide evidence from a hybrid perspective that technology influences the construction of the border and its development into work-family balance. This is explained by a combination of the individual's internalised self-regulatory perspectives (conceived by the intrinsic and extrinsic border-keepers), which includes the development of their own self-esteem. However, it is acknowledged that the statistical analyses indicate that there are further variables at play in the formation of work-family balance.

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APPENDIX A: HCII ARTICLE

How Mobile Phones Affect the Sustainability of the Work/Life Balance of Their Users

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Abstract. This study examined the relationship between sustainability of mobile phone users and work-life balance. Twenty-seven interviews were performed on managerial level mobile phone owners over the duration of a month and half. The study extends Clark's [1] original Border theory that fails to mention how mobile phones (or indeed any other information and communication technology) influence the borders between the two domains. This study found technology has a definitive impact with separate users groups emerging from the data; border-extenders, border-adapters and border-enforcers.

Keywords: Border theory · Mobile phone usage · Mobile phone usage patterns · Work sustainability · Home-work balance · Work-home interface · Mobile phone after-hours work · After-hours work

1 Introduction

Sustainability is the ability to self-sustain while utilising resources without depleting those same resources; providing the ability to allow further sustenance and continuing sustainability [2]. Organisational sustainability is the ability of an organisational system to create balance for human, social and natural resources needs without depleting those resources. A sustainable work system on the other hand, is a work system enabling the sustainability of those in it, ensuring that workers can sustain themselves and the environment without compromising the surrounding system [3]. Therefore a work system is only sustainable when it ensures it does not deplete the resources it requires to function optimally [4] while ensuring a system and a future for it and the workers it requires.

Mobile phones have provided the ultimate tool and availability to work anywhere and anytime. However, this "digital leash" provides limited opportunities for the employee to have downtime as it is becoming more accepted that the phone and the user will always be available and therefore contactable anywhere and anytime. This therefore results in a perpetual state of work engagement. Research indicates that

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mobile devices increase work-life conflict [5]. This adaptation has sometimes been framed as an "addiction" or the popular renaming of BlackBerry to CrackBerry [6–11]. Moore and Wen's study [12] found that respondents had little or no work-life balance, with business executives reporting that challenges for balancing their professional and personal life were enormous resulting in clear emerging areas of concern in relation to parenting and elderly care responsibilities [12]. Rationally, the usage of such devices leads to lengthening of work days as there is a potential constant channel for communication all day, every day [13].

Mobile phones can be utilised by the employers as a technological-tether further extending the work day culminating in prolonged connectivity of the employees. In response, German Labour Minister, Andrea Nahles, states that there is an "undeniable relationship between constant availability and the increase of mental illness" [14]. To better understand the conditions and the effects, Minster Nahles has commissioned the German Federal Institute for Occupational Safety and Health to scientifically determine the effects on the workers.

One plausible explanation as to why, traditional office workers work less than their mobile colleagues, is that in an office setting the workers' peers will inform them that it is time to go home, constraining overzealous work behaviour [15]. This is referred to as border-keepers within Border theory (Clark, [1]. Thomée et al.'s [16] study found that women who had a high rate of mobile phone calls and (SMS)ing/texting had prolonged stress and depression, while the men experienced sleep disturbances and symptoms of depression. Stress and depression were similarly found to culminate from blurring of the work-family border in Border theory [17]. Employees who work overtime in the evening are less likely to fully recover as they are using work-related effort during the time that they would usually recover and this therefore increases the effects of negative Work-Home Interference (WHI) [18]. Similarly, Van Hooff et al. [18] found a relationship between fatigue, sleep complaints and work-home interference (WHI) further indicating a lack of recovery due to the extension of the work day. Geurts et al. [19] found that the negative influences predominantly originated from the work domain, while positive influences predominantly originated from the home domain through the provision of recovery time that could counter balance the negative effects limiting further spill over, as seen by Border-crossers. This study looks at how mobile phones affect the sustainability of the work/life balance of their users using Border Theory as an explanatory lens.

1.1 Border Theory

Border theory is a relatively new theory on work/family balance. The theory explains how "border-crossers" move between the domains of home and work while maintaining satisfaction in each domain and controlling role conflict to ensure balance [1, 20]. To create the domain borders and maintain balance, members of the domain utilise proactive or enactive controls to solidify the domain borders [1]. Clark [1] defines balance as "satisfaction and good functioning at work and at home, with a minimum of role conflict". Clark [1], however, fails to define what a proactive domain mechanism

is, stating it only twice in her study and then disregarding it. This study looks specifically at these proactive controls.

Clark [1] determines that the enactive control mechanism is created psychologically by borrowing from Kurt Lewin's 'life space' idea [Rychlak, 1981 cited in 1], and used in the creation of separate psychological family and work domains. The interaction between the two domains depends on the border strength. According to Clark [1], enactment, as defined by Weick [21], is the "process in which individuals take elements given in their environments and organise them in a way that makes sense". Weick [21] utilises enactment, as a component of his Sense-making theory.

Borders. Central to border theory is that work and family are separate domains with the ability to influence the opposing domains [1]. There are three planes which borders operate upon namely; physical (e.g. the actual walls of work or home), temporal (e.g. set working time), and psychological (e.g. thinking patterns which are suitable for that domain, usually created through enactment) [1].

Domains. In the industrialization period, work and home were segmented into two domains, one for work and one for family, each with its own unique responsibilities, cultures, rules and purposes, which existed at different times and places [1]. The only shared factor was the participant who was a "member" in both spheres. It is likely therefore, that a member of each domain expects unique duties, rules, thought patterns and behaviours to be performed by its members. Clark's [1] view is that there are only two domains (home and work) to transition between. This is arguably a narrow interpretation as there are likely to be more domains, such as for friends, clubs, and societies.

Study Aim. This study aims to provide a deeper understanding of the following two research questions using Border Theory as the lens:

- RQ1: How does smartphone technology allow work sustainability after-hours?
- RQ2: What is the long term impact of being able to sustainably work after hours?

2 Methods

2.1 Sample

To better understand the complexity of after-hours usage on the user's sustainability a sample of 27 participants were interviewed, the sample consisted of 7 participants and their partners and 13 additional individuals without their partners. Participants were required to own a smart phone and be in a managerial role within their work-place.

2.2 Procedure

The participants for this study had previously consented to be contacted in a related prior study which looked at mobile online usage patterns. To recruit the largest sample possible an Amazon Kindle was offered as a prize for one random participant. The interviews took on average of half an hour to forty-five minutes of their time.

A recording device was utilised to capture the participants input, which was transcribed for further analysis.

2.3 Research Measures Used

The demographics used in the study were the following; age, race, gender, educational level, marital or partner status, partner's occupation, career position, primary income earner, number of children, age of children, working hours, Internet usage time, mobile Internet time, number of phone calls a day, number of hours and minutes on the phone per month. All of the aforementioned biographical and mobile phone use measures were collected through a self-report questionnaire. The questions asked to both the participant and the partner focused on the following areas: general usage of the mobile phone, which domain the communications occurred more frequently, the times and effects of the communication, if it provided facilitation or disruption in the domains and who regulates their usage.

2.4 Analysis

The transcripts were analysed using thematic content analysis on Atlas TI. Thematic content analysis was used to determine common themes in the text according to the areas of interest. Thematic content analysis is known for its epistemological stance and is objective or at least is objectivistic [22].

3 Results

3.1 Border-Expanders

12 of the participants were categorized as border-expanders. The gender distribution of the 12 participants in this group consisted of 9 males and 3 females. 10 of participants were in a domestic relationship or marriage the remaining 2 were single. Finally, 6 of the participants in this group were made up 3 couples, 2 heterosexual couples and 1 homosexual partnership, with the remaining 6 participants consisting of 5 individual male and 1 individual female. Border-expanders were found to be smartphone users who have the inability to delineate the home-work border, frequently allowing after-hour communications to overrun into the home domain ubiquitously thereby not keeping the domains separate. They legitimized their lack of border enforcement needed for career advancement, which is conditioned and encouraged by employers, management and colleagues (which could be considered a form of conditioning so as to blur the borders). Upon further in-depth questioning it became apparent that it seems to be an organisationally conditioned and sanctioned need to respond to all communications, which could be legitimised with a forthcoming deadline, but according to all border-expanders interviewed, all communications require an "urgent" response. When border-expanders were further interrogated they responded that this was a working conditions norm in a client-facing market. The frequent work over-flow into the home

domain, resulted in border-expanders' inability to define or redefine the home-work border, dividing the two thereby resulting in the domains being merged into one domain. Obviously over a period of time the border-expander would no longer able to re-establish the border or determine where it should exist.

A number of border-expanders interviewed legitimised their usage even when their partners complained, culminating in arguments and, in a few cases, the breakdown of the entire relationship. Primarily the leading cause of arguments and general discontent felt by the border-expander and their partner was the border-expander's general inability to delineate the home-work borders so that there was a domain space and time for the partner and family to have their needs met. It was also found that a predominant influencer of border-expanders was if they were client-facing and working in a high-stress related industry such as finance or telecommunications.

Interestingly, 83 % of the border-expanders had partners. Border-expanders extended the border in order to ensure their families financial wellbeing concurrently with their own career advancement. A counter to this of course is that most of the partners of the participants interviewed in this group, frequently fought or disagreed with their partner's usage of their phones after-hours in family time. Therefore, due to the extension of the working hours into the home domain the border-expanders sustainability becomes questionable. Finally the border-expanders do not define the two domains, which imply that the two domains meld into one, meaning redefining the border between the two would be difficult.

3.2 Border-Adapters

10 of the participants were categorized as border-adapters. The gender distribution of the 10 participants consisted of 7 males and 3 females. 7 of participants were in a domestic relationship or marriage the remaining 3 were single. Finally, 4 of the participants interviewed were made up of 2 couples, 1 heterosexual couples and 1 homosexual partnership, with the remaining 6 consisting of 4 participants individual male and 2 individual female.

Border-adapters are those users who arbitrate all incoming communications determining to accept or reject the incoming communication into the home domain from work. Border-adapters juxtapose their family and own needs against their employer's needs culminating in fluctuating domain borders which are used to adapt to the relevant needs in order to keep all groups happy. But, upon completion of the domain transition, the participant reinitiates the border to separate domains once again. The border-adapters make their decisions based on the permeability of the border between home and work which is related to who is contacting them, the higher the seniority of the initiator of the communication the more likely they were to answer, at the time of the communication.

Participants in this group used mechanisms such as refusing to install or enable email facilities on their work or personnel phones. A good example of this is noted in a participant's explanation of why he limits his accessibility as "If you're contactable all the time, people will phone you up all the time." However, the participants are quick to point out that, depending on who contacts them and the urgency of the communication,

they will respond in due course. Participant 1 when asked to define urgency and the need to answer the phone, stated "Well, I'll answer the phone and find out what the issue is and then, decide for myself, once I've heard what it is, whether I want to deal with it or not". Thereby creating a self-regulating mechanism to control who contacts them and to see if they see fit to attend to the relevant communication and create an interruption in the home domain.

The predominant difference between group two and one, is that group two determines the validity of the communications by looking at who is making the communication, when the communication is being made and the "urgency" of such, which they determine as beings important and requiring swift action. Group one; however is constantly available to communicate as and when the need arises. 70 % of the border-adapters had partners, but a noticeable difference is that the individuals in this group were not as client-facing as the border-expander group.

3.3 Border-Enforcer

5 of the participants were categorized as border-enforcers. The gender distribution of the 5 participants consisted of 3 males and 2 female, 5 of participants were in a domestic relationship. Finally, 4 of the participants interviewed were made up 2 couples, 2 heterosexual, with the remaining 1 participant being an individual male.

The border-enforcers, as with border-adapters, arbitrate all incoming communication. The major disparity between border-enforcers and border-adapters is that their domain borders are rigid and considerably less malleable than those of border-adapters. 2 of the 3 border-adapters indicated that there is time and place for each domain and emphasised the distinction of the two domains, to all involved. This is re-echoed by participant 14 "I don't believe in receiving any sorts of mail, work related on my cell phone…? For me, I would use my work laptop. Once I leave work, I do not want to be distracted by any work-related issues… There's a very clear defined segregation."

The border-enforcers' definitive border distinction was found to be related to the following; border-enforcers have a clear distinction from the beginning and insist on it or alternatively it was developed due to previous working scenarios where they previously extended the borders or allowed for border blurring. Domain delineation was developed as a coping mechanism. However, border-enforcers as with border-enforcers, will allow for the facilitation of restricted communications beyond the standard work hours into the home domain depending on the urgency but the occurrence of which is far less frequent or none at all.

3.4 Work as an Enforcer of Domain Transitions

All three groups defined by this study allow for the crossing of the border between work and home domain. However the differences come from the way in which the groups will accept all communications at all hours allowing for the merging of the domains. The border-adapters and border-enforcers will screen the communication by seniority of the communicator and the time at which they are being contacted and then

redefine the border thereafter. Border-enforcers communicate to their employees their displeasure of the blurring the domains and that if it is only acceptable if it is an emergency and feel that they have provided work the required their time and deserve their own time. The concept of urgency was used by all three groups to necessitate allowing for communications into the home domain after-hours. Urgency is the most frequent validation for blurring the borders, as it necessitates the continuity of business and career development.

In order to prevent the constant barrage of all communications users have opted to change there working scenarios in order to better control their life and lessen the effects on their lives. A good example of which is shown by Participant 7 who moved from her previous company to a new company to obtain a better position "Because I used to work at another company where you know clients thought that they could call you willy-nilly and all of that, and I used to be a very "Yes, yes, I will do it," until I burned out and got – it aggravated my depression and I did not need that. And that's when I decided that's it, you know." A frequent border-expander validation for urgency is that they are client-facing and therefor it is a requirement of the role.

4 Areas for Further Research

The flexibility of the domains will allow for work to facilitate the home domain; however this was not explored in this study. This will impact the sustainability of workers forced or conditioned to work in the home domain.

The participants of the study reported that they were less stressed in the home domain, while stress was more frequently felt in the work domain. What will happen if there is no longer a border between the two, which domain would the user use to de-stress? What would be the long-term effects of domain stress be without relief?

Some new questions emerge such as: Do mobile phone user's border-roles evolve from border-enforcer to border-adapter and finally to border-expander? Are they able to develop a better understanding of the ability to regulate their usage and the border moving from border-expander to border-enforcer?

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APPENDIX B: ETHICS CLEARANCE

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON MEDICAL)
H120727 White

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER H120727**
PROJECT TITLE	Evolving border theory and self-regulation theory for a mobile phone generation
INVESTIGATOR(S)	Mr E P G White
SCHOOL/DEPARTMENT	Human and Community Development
DATE CONSIDERED	20 July 2012
DECISION OF THE COMMITTEE	Approved Unconditionally
EXPIRY DATE	31 July 2014

DATE 03 September 2012

CHAIRPERSON
(Professor T Milani)

cc: Prof. A Thatcher

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

Signature

27/09/2012
Date

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

APPENDIX C: QUESTIONNAIRE

Demographics

Age:

Race:			
Asian:		African:	
Coloured:		Indian:	
Other:		White:	

Do you have a partner?			
Yes:		No:	

Marital status:			
Civil union:		Domestic partnership:	
Divorced:		Married:	
Separated:		Single:	
Widowed:			

Period of partnership:			
Years:		Months:	

Gender of your partner:			
Male:		Female:	

Partners occupation:

Please indicate your gender, with a tick next to it:				
Female:		Male:		

Please indicate your highest form of education, with a tick next to it:					
Primary School:		High School:		Diploma:	
National Diploma:		Bachelor's Degree:		Honours Degree:	
Master's Degree:		Doctorate Degree:			

Your occupation:

Management level:					
Junior:		Middle:		Senior:	

Are you the primary income earner?			
Yes:		No:	

Do you have children:			
Yes:		No:	

If so how many children do you have?

How many days in a week do you work:					
1 Day:		2 Days:		3 Days:	
4 Days:		5 Days:		6 Days:	
7 Days:					

How many hours a day do you work in the week:					
1 Hour		2 Hours		3 Hours	
4 Hours		5 Hours		6 Hours	
7 Hours		8 Hours		9 Hours	
10 hours		11 Hours		12 Hours	
13 Hours		14 Hours		15 Hours	
> 15 Hours					

Mobile phone usage

Working day hours in a typical day:	**0 = None**	**1 =< 1Hour**	**2 = 1 to 2 Hours**	**3 = 2 to 3 Hours**	**4 = 3 to 4 Hours**	**5 = 4 to 5 Hours**	**6 = 5 to 6 Hours**	**7 = 6 to 7 Hours**	**8 => 7 Hours**
How many hours do you work in a day?									
How many hours in a day do you use the Internet?									
How many hours in a day do									

you use the Internet on your mobile phone?									
How many hours in a day do you use your mobile phone to send and receive text/SMS messages?									
How many hours in a day do you use your mobile phone to send emails?									
How many hours of phone calls do you receive on your mobile phone in a day?									
How many hours of phone calls do you make on your mobile phone in a day?									
At home in a typical day:	**0 = None**	**1 =< 1Hour**	**2 = 1 to 2 Hours**	**3 = 2 to 3 Hours**	**4 = 3 to 4 Hours**	**5 = 4 to 5 Hours**	**6 = 5 to 6 Hours**	**7 = 6 to 7 Hours**	**8 => 7 Hours**
How many hours at home do you work in a day:									
How many hours in a day, when at home, do you use the Internet for work?									
How many hours in a day, when at home, do you use the Internet on your Mobile/Cell phone for work?									
How many hours in a day, when at home, do you use your mobile phone to send and									

receive text/SMS messages from work?									
How many hours in a day, when at home, do you use your mobile phone to send work emails?									
How many hours of phone calls, when at home, do you receive on your mobile phone in a day from work?									
How many hours of phone calls, when at home, do you make on your mobile phone in a day to work?									

How many hour and minutes do you spend on your mobile phone in a month?			
Minutes:		Hours:	
Please indicate on the matrix below. Why people call you in a typical day, week or month and the location where the call is received?			
	Home/Family:	**Work:**	**Other:**
Proportion of phone calls:			
In a typical day			
In a typical week			
In a typical month			
How many mobile phones do you have?			
If you have more than one mobile phone. Do you use each phone for a specific area (one phone for home usage and one phone for work usage)?			
Of the calls received what proportions are for work?			

Of the calls received what proportions are for home/family?
Of the phone calls received what proportions are for other purposes beside work and home/family?
Of the emails received what proportions are for work?
Of the emails received what proportions are for home/family?
Of the emails received what proportions are for other purposes beside work and home/family?
Of the text/SMS messages received what proportions are for work?
Of the text/SMS messages received what proportions are for home/family?
Of the text/SMS messages received what proportions are for other purposes beside work and home/family?

Mobile phone usage and deficient self-regulation

I use my mobile phone so much it interferes with other activities						
Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly Agree
I get strong urges to be on the mobile phone						
Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly Agree
I have to keep using the mobile phone more and more to get my thrill						

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly Agree
I feel my mobile phone use is out of control;						
Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly Agree
I would miss my mobile phone if I no longer had access to it.						
Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly Agree
I often spend longer on the mobile phone than I intent to when I start						
Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly Agree
I would go out of my way to satisfy my mobile phone urges.						
Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly Agree

Work-family balance

Satisfaction with work									
My activities at work are rewarding in and of themselves.									
Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
I get a lot of satisfaction from carrying out my responsibilities at work.									
Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
I find my activities at work to be personally meaningful.									
Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
I love what I do at work.									
Strongly disagree		Disagree		Neutral		Agree		Strongly agree	

Generally speaking, I am very satisfied with this job.									
Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
I frequently think of quitting this job (reverse coded).									
Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
I am generally satisfied with the kind of work I do in this job.									
Strongly disagree		Disagree		Neutral		Agree		Strongly agree	

Satisfaction with home life									
My activities at home are rewarding in and of themselves.									
Extremely disagree		Disagree		Undecided		Agree		Extremely agree	
I get a lot of satisfaction from carrying out my responsibilities at home.									
Extremely disagree		Disagree		Undecided		Agree		Extremely agree	
I find my activities at home to be personally meaningful.									
Extremely disagree		Disagree		Undecided		Agree		Extremely agree	
I love what I do at home.									
Extremely disagree		Disagree		Undecided		Agree		Extremely agree	

Good functioning at work				
Help others who have been absent.				
Agree:		Disagree:		
Volunteer for things that are not required.				
Agree:		Disagree:		
Orient new people even though it is not required.				
Agree:		Disagree:		
Help others who have heavy workloads.				
Agree:		Disagree:		
Assist the supervisor with his or her work.				
Agree:		Disagree:		
Make innovative suggestions to improve the department.				

Agree:		Disagree:	

The Family Cohesion Scale									
Family members ask each other for help.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
We approve of each other's friends.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
We like to do things with just our immediate family.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
Family members feel closer to other family members than to people outside the family.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
Family members like to spend free time with each other.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
Family members feel very close to each other.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
When our family gets together for activities, everybody is present.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
We can easily think of things to do together as a family.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
Family members consult other family members on their decisions.									
Almost never		Once in a while		Sometimes		Frequently		Almost always	
Family togetherness is very important.									
Almost		Once in a while		Sometimes		Frequently		Almost always	

never									

Work-family conflict									
My job keeps me away from my family too much.									
Never		Rarely		Some of the time		Most of the time		Always:	
I feel I have more to do than I can handle comfortably.									
Never		Rarely		Some of the time		Most of the time		Always:	
I wish I had more time to do things for the family.									
Never		Rarely		Some of the time		Most of the time		Always:	
I feel physically drained when I get home from work.									
Never		Rarely		Some of the time		Most of the time		Always:	
I feel I have to rush to get everything done each day.									
Never		Rarely		Some of the time		Most of the time		Always:	
I feel I don’t have enough time for myself.									
Never		Rarely		Some of the time		Most of the time		Always:	
I feel emotionally drained when I get home from work.									
Never		Rarely		Some of the time		Most of the time		Always:	

Self-Esteem

I feel that I am a person of worth, at least on an equal plane with others.							
Strongly disagree		Disagree		Agree		Strongly agree	
I feel that I have a number of good qualities.							

Strongly disagree		Disagree		Agree		Strongly agree	
All in all, I am inclined to feel that I am a failure.							
Strongly disagree		Disagree		Agree		Strongly agree	
I am able to do things as well as most other people.							
Strongly disagree		Disagree		Agree		Strongly agree	
I feel I do not have much to be proud of.							
Strongly disagree		Disagree		Agree		Strongly agree	
I take a positive attitude toward myself.							
Strongly disagree		Disagree		Agree		Strongly agree	
On the whole, I am satisfied with myself.							
Strongly disagree		Disagree		Agree		Strongly agree	
I wish I could have more respect for myself.							
Strongly disagree		Disagree		Agree		Strongly agree	
I certainly feel useless at times.							
Strongly disagree		Disagree		Agree		Strongly agree	
At times I think I am no good at all.							
Strongly disagree		Disagree		Agree		Strongly agree	

APPENDIX D: INTERVIEW SCHEDULE

Mobile phone calls

What times do you consider to be working hours on your mobile phones for calls?

What times do you consider to be after hours on your mobile phones for calls?

Do you receive work-related mobile phone calls in after hours at home?

Do you answer the work-related mobile phone calls in after hours at home?

Why do you receive work-related mobile phone calls in after hours at home?

What does your spouse/partner say about your work-related mobile phone calls in after hours?

When will you answer a work-related mobile phone call at home?

Why will you answer a work-related mobile phone call at home?

When will you not answer a work-related mobile phone call at home?

Why will you not answer a work-related mobile phone call at home?

Do you view your mobile phone call usage as normal?

What do you think normal phone call usage is in, in hours and minutes per month?

Do you send and receive work-related phone calls in your vacation time?

What does your spouse/partner say about you making and receiving work-related phone calls in your vacation time on your mobile phone?

What are the consequences if any, for your excessive usage of making and receiving calls on your mobile phone?

What are the consequences if any, for your excessive usage of making and receiving calls on your mobile phone after hours at home?

Emails

Do you receive work-related mobile emails in after hours at home?

Do you answer the work-related mobile emails in after hours at home?

Why do you receive work-related mobile phone emails in after hours at home?

What does your spouse/partner say about your work-related mobile emails in after hours?

When will you answer a work-related mobile phone email at home?

Why will you answer a work-related mobile phone email at home?

When will you not answer a work-related mobile phone email at home?

Why will you not answer a work-related mobile phone email at home?

Do you view your mobile phone email usage as normal?

What do you think normal phone email usage is in, in hours and minutes per month?

Do you send and receive work-related phone emails in your vacation time?

What does your spouse/partner say about you sending and receiving work-related emails in your vacation time on your mobile phone?

What are the consequences if any, for your excessive usage of sending and receiving emails on your mobile phone?

What are the consequences if any, for your excessive usage of sending and receiving emails on your mobile phone after hours at home?

Text/SMS messages

Do you receive after-hours work-related mobile phone text/SMS messages at home?

Do you answer the after-hours work-related mobile phone text/SMS messages at home?

Why do you receive after-hours work-related mobile phone text/SMS messages at home?

What does your spouse/partner say about your after-hours work-related mobile phone text/SMS messages?

When will you answer a work-related mobile phone text/SMS message at home?

Why will you answer a work-related mobile phone text/SMS message at home?

When will you not answer a work-related mobile phone text/SMS message at home?

Why will you not answer a work-related mobile phone text/SMS message at home?

Do you view your mobile phone text/SMS message usage as normal?

What do you think normal mobile phone text/SMS message usage, in hours and minutes per month?

Do you send and receive work-related mobile phone text/SMS messages in your vacation time?

What does your spouse/partner say about you sending and receiving work-related mobile phone text/SMS messages in your vacation time?

What are the consequences, if any, of your excessive sending and receiving text/SMS messages on your mobile phone?

What are the consequences, if any, of your excessive after-hours sending and receiving text/SMS messages on your mobile phone?

APPENDIX E: MODERATOR VARIABLE

Self-regulation index

Table 76: Self-regulation index result

	Strongly Disagree	Disagree	Somewhat disagree	Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree	Total
I use my mobile phone so much it interferes with other activities								
N	30	40	18	22	36	26	8	180
%	16.7	**22.2**	10	12.2	20	14.4	4.4	100
I get strong urges to be on the mobile phone								
N	29	37	21	15	40	26	10	178
%	16.1	20.6	11.7	8.3	**22.2**	14.4	5.6	100
I have to keep using the mobile phone more and more to get my thrill								
N	63	35	21	29	21	9	2	180
%	35	**19.4**	11.7	16.1	11.7	5	1.1	100
I feel my mobile phone use is out of control; I would miss my mobile phone if I no longer had access to it.								
N	47	27	21	16	36	22	11	180
%	26.1	15	11.7	8.9	**20**	12.2	6.1	100
I often spend longer on my mobile phone than I intended to when I started								
N	33	29	14	20	35	36	13	180
%	18.3	16.1	7.8	11.1	19.4	**20**	7.2	100
I would go out of my way to satisfy my mobile phone urges.								
N	54	56	14	21	21	10	3	179
%	30	**31.1**	7.8	11.7	11.7	5.6	1.7	100

APPENDIX F: DEPENDENT VARIABLES

Satisfaction with work index

Table 77: Satisfaction with work results

	Strongly Disagree	Disagree	Somewhat disagree	Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree	Total
My activities at work are rewarding in and of themselves.								
N	6	3	11	17	32	89	22	180
%	3.3	1.7	6.1	9.4	17.8	**49.4**	12.2	100
I get a lot of satisfaction from carrying out my responsibilities at work.								
N	6	1	6	10	29	88	40	180
%	3.3	0.6	3.3	5.6	16.1	**48.9**	22.2	100
I find my activities at work to be personally meaningful.								
N	6	3	9	17	31	77	35	178
%	3.4	1.7	5.1	9.6	17.4	**43.3**	19.7	100
I love what I do at work.								
N	4	4	8	17	46	56	45	180
%	2.2	2.2	4.4	9.4	25.6	**31.1**	25	100
Generally speaking, I am very satisfied with this job								
N	3	10	9	13	36	74	35	180
%	1.7	5.6	5	7.2	20	**41.1**	19.4	100
I frequently think of quitting this job (reverse coded).								
N	36	67	-	43	-	21	13	180
%	20	**37.2**	-	23.9	-	11.7	7.2	100
I am generally satisfied with the kind of work I do in this job.								
N	7	3	10	13	36	81	30	180
%	3.9	1.9	5.6	7.2	20	**45**	16.7	100

Satisfaction with home life scale

Table 78: Satisfaction with home life results

	Strongly Disagree	Disagree	Somewhat disagree	Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree	Total
My activities at home are rewarding in and of themselves.								

N	1	3	3	12	30	77	54	180
%	0.6	1.7	1.7	6.7	16.7	**42.8**	30	100
I get a lot of satisfaction from carrying out my responsibilities at home.								
N	2	2	5	18	38	69	46	180
%	1.1	1.1	2.8	10	21.1	**38.3**	25.6	100
I find my activities at home to be personally meaningful.								
N	-	2	4	12	37	74	51	180
%	-	1.1	2.2	6.7	20.6	**41.1**	28.3	100
I love what I do at home.								
N	-	1	6	16	26	79	52	180
%	-	0.6	3.3	8.9	14.4	**43.9**	28.9	100

Good functioning at work scale

Table 79: Good functioning at work results

	Disagree	Agree	Total
Help others who have been absent.			
N	17	163	180
%	9.4	**90.6**	100
Volunteer for things that are not required.			
N	33	147	180
%	18.3	**81.7**	100
Orient new people even though it is not required.			
N	28	152	180
%	15.6	**84.4**	100
Help others who have heavy workloads.			
N	16	164	180
%	8.9	**91.1**	100
Assist the supervisor with his or her work.			
N	28	152	180
%	15.6	**84.4**	100
Make innovative suggestions to improve the department.			
N	10	170	180
%	5.6	**94.4**	100

Family Cohesion Scale

Table 80: Family Cohesion Scale results

	Almost never	Once in a while	Sometimes	Frequently	Almost Always	Total
N	6	13	40	82	39	180
%	3.3	7.2	22.2	**45.6**	21.7	100
N	4	6	45	76	49	480
%	2.2	3.3	25	**42.2**	27.2	100
N	8	18	40	74	40	180
%	4.4	10	22.2	**41.1**	22.2	100
N	8	18	43	64	47	180
%	4.4	10	23.9	**35.6**	26.1	100
N	6	11	47	80	36	180
%	3.3	6.1	26.1	**44.4**	20	100
N	7	7	23	81	62	180
%	3.9	3.9	12.8	**45**	34.4	100
N	7	18	47	62	46	180
%	3.9	10	26.1	**34.4**	25.6	100
N	8	17	46	60	49	180
%	4.4	9.4	25.6	**33.3**	27.2	100
N	9	23	39	73	36	180
%	5	12.8	21.7	**40.6**	20	100
N	6	9	15	55	95	180
%	3.3	5	8.3	30.6	**52.8**	100

Work-family conflict scale

Table 81: Work-family conflict scale results

	Always	Most of the time	Some of the time	Rarely	Never	Total
My job keeps me away from my family too much						
N	6	25	83	47	19	180
%	3.3	13.9	**46.1**	26.1	10.6	100
I feel I have more to do than I can handle comfortably						
N	17	25	82	48	8	180
%	9.4	13.9	**45.6**	26.7	4.4	100
I wish I had more time to do things for the family						
N	15	57	77	25	6	180
%	8.3	31.7	**42.8**	13.9	3.3	100
I feel physically drained when I get home from work						
N	17	50	82	25	6	180
%	9.4	27.8	**45.6**	13.9	3.3	100
I feel I have to rush to get everything done each day						
N	21	50	77	26	6	180
%	11.7	27.8	**42.8**	14.4	3.3	100
I feel I don’t have enough time for myself						
N	27	57	68	22	6	180
%	15	31.7	**37.8**	12.2	3.3	100
I feel emotionally drained when I get home from work						
N	14	46	81	30	9	180
%	7.8	25.6	**45**	16.7	5	100

APPENDIX G: EXPLORATORY VARIABLE

Self-esteem scale

Table 82: Self-esteem results

	Strongly Disagree	Disagree	Agree	Total
I feel that I am a person of worth, at least on an equal plane with others.				
N	3	12	164	179
%	1.7	6.7	**91.6**	100
I feel that I have a number of good qualities.				
N	2	2	175	179
%	1.1	1.1	**97.8**	100
All in all, I am inclined to feel that I am a failure. **(RC)**				
N	80	75	24	179
%	**44.7**	**41.9**	13.4	100
I am able to do things as well as most other people.				
N	2	6	171	179
%	1.1	3.4	**95.5**	100
I feel I do not have much to be proud of. **(RC)**				
N	77	73	29	179
%	43	**40.8**	16.2	100
I take a positive attitude toward myself.				
N	2	20	157	179
%	1.1	11.2	**87.7**	100
On the whole, I am satisfied with myself.				
N	2	21	156	179
%	1.1	11.7	**87.2**	100
I wish I could have more respect for myself. **(RC)**				
N	46	78	55	179
%	25.7	**43.6**	30.6	100
I certainly feel useless at times. **(RC)**				
N	57	71	51	179
%	31.8	**39.7**	28.5	100
At times, I think I am no good at all.				
N	68	68	43	179
%	**38**	**38**	23.9	100

The four negatively worded questions were reverse coded and indicated with a **RC** next to them.

APPENDIX H: EMAIL INVITATION

PARTICIPATE AND WIN

30 Minute Questionnaire

85 Questions

You can find the questionnaire here: https://www.surveymonkey.com/s/VDGGZWN



Your partner keeps pestering you about your constant mobile/cell phone usage, because as you are sitting and eating dinner with them you are also diligently answering endless e-mails, text messages and calls from work. **This study hopes to better understand the concept of "home" and "work" time and determine if the usage of mobile phones can result in an imbalance.**

Edward White is conducting this study for his PhD in psychology at the University of the Witwatersrand, Johannesburg. The study requires roughly 400 participants, who can be from any country, doing any profession.

In order to participate, you must meet the following criteria:

1) Be in middle-to-upper management.

2) Own a smart mobile phone.

You can find the questionnaire here: https://www.surveymonkey.com/s/VDGGZWN

PARTICIPATE AND WIN!

For partaking in this study, you stand a chance to win an Amazon Kindle (Wi-Fi, 6-inch monitor, with an E-Ink display), which will be couriered to one lucky participant.

There will also be a second Kindle on offer for those who are willing to provide about 45 minutes of their time to participate in a one-on-one interview with Edward. About 40 participants are requried for these interviews, and they must be living in Johannesburg, Pretoria, or the surrounding areas in Gauteng, South Africa.

Please note that all the answers are confidential. We ask for details at the end of the survey so that participants can win an Amazon Kindle. This study has been passed by the WITS ethics committee.

The winners will be announced once the required amount of participants have been met.

For further information, visit www.facebook.com/MobilePhoneUsageQuestionnaire
or contact Edward White at phreakingout@gmail.com

APPENDIX I: ORIGINAL AND ADAPTED SELF-REGULATION SCALE

The original 7 questions used by LaRose et al. (2003) are as follows:

1. I use the Internet so much it interferes with other activities;
2. I get strong urges to be on the Internet;
3. I have to keep using the Internet more and more to get my thrill;
4. I feel my Internet use is out of control;
5. I would miss the Internet if I could no longer go online;
6. I often spend longer on the Internet than I intent to when I start;
7. I would go out of my way to satisfy my Internet urges.

The adapted 6 questions used for this study:

1. I use my mobile phone so much it interferes with other activities
2. I get strong urges to be on the mobile phone
3. I have to keep using the mobile phone more and more to get my thrill
4. I feel my mobile phone use is out of control; I would miss my mobile phone if I no longer had access to it.
5. I often spend longer on the mobile phone than I intend to when I start
6. I would go out of my way to satisfy my mobile phone urges.