

**TRACKING THE INCIVILITY FOOTPRINT:  
AN EXPERIENCE-SAMPLING SMARTPHONE APPLICATION  
MEASURING WORKPLACE INCIVILITY**

A thesis submitted to The University of Manchester for the degree of  
Doctor of Business Administration  
In the Faculty of Humanities

2017

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## TABLE OF CONTENTS

<b>TITLE PAGE</b>	<b>1</b>
<b>TABLE OF CONTENTS</b>	<b>2</b>
<b>LIST OF TABLES</b>	<b>8</b>
<b>LIST OF FIGURES</b>	<b>10</b>
<b>LIST OF DIAGRAMS</b>	<b>11</b>
<b>LIST OF ABBREVIATIONS</b>	<b>12</b>
<b>LIST OF APPENDICES</b>	<b>13</b>
<b>ABSTRACT</b>	<b>14</b>
<b>THESIS DECLARATION</b>	<b>15</b>
<b>COPYRIGHT STATEMENTS</b>	<b>16</b>
<b>ACKNOWLEDGEMENTS</b>	<b>17</b>
<b>SECTION ONE: BACKGROUND</b>	<b>18</b>
<b>CHAPTER 1 – INTRODUCTION</b>	<b>19</b>
<b>1.1 OVERVIEW</b>	<b>19</b>
<b>1.2 WORKPLACE INCIVILITY</b>	<b>19</b>
<b>1.3 AIMS OF THE RESEARCH</b>	<b>23</b>
<b>1.4 OVERVIEW OF THE RESEARCH APPROACH</b>	<b>25</b>
<b>1.5 POTENTIAL CONTRIBUTIONS OF THE RESEARCH</b>	<b>30</b>
<b>1.6 OVERVIEW OF THE THESIS STRUCTURE</b>	<b>31</b>
<b>1.6.1 Section One: Background</b>	<b>31</b>
<b>1.6.2 Section Two: Development of the App</b>	<b>33</b>
<b>1.6.3 Section Three: Main Study and General Discussion</b>	<b>34</b>
<b>CHAPTER 2 – THEORETICAL LITERATURE REVIEW</b>	<b>35</b>
<b>2.1 OVERVIEW</b>	<b>35</b>
<b>2.2 WORKPLACE INCIVILITY: THEORETICAL CONSTRUCT</b>	<b>35</b>
<b>2.2.1 Face-to-Face Workplace Incivility</b>	<b>35</b>
<b>2.2.2 Online Workplace Incivility</b>	<b>39</b>
<b>2.2.3 Prevalence of Workplace Incivility</b>	<b>41</b>
<b>2.2.4 Effects of Workplace Incivility</b>	<b>44</b>
<b>2.2.5 Instigators of Workplace Incivility</b>	<b>50</b>

2.2.6 Theoretical Framework	52
2.3 HYPOTHESES	59
CHAPTER 3 – METHODOLOGICAL LITERATURE REVIEW	69
3.1 OVERVIEW	69
3.2 LITERATURE CONCERNING METHODOLOGICAL APPROACH	70
3.2.1 Methods Used to Study Workplace Incivility	70
3.2.1.1 Workplace Incivility Scale (WIS)	72
3.2.1.2 Online Workplace Incivility	77
3.2.1.3 Instigated Workplace Incivility Scale (IWIS)	77
3.2.1.4 Uncivil Workplace Behavior Questionnaire (UWBQ)	78
3.2.1.5 Experimental Design Studies (EDS)	78
3.2.2 Current Limitations of Workplace Incivility Methods	79
3.2.3 Experience Sampling Methodology	81
3.2.4 Feasibility of App as Research Tools in Data Collection	86
3.2.5 Ethical Issues In Web and App Based Survey Approaches	93
3.3 THE CURRENT RESEARCH APPROACH	94
SECTION TWO: DEVELOPMENT OF THE APP	99
CHAPTER 4 – APP DEVELOPMENT STRATEGY	100
4.1 OVERVIEW	100
4.2 PROCESS OF DECIDING THE APP CONTENTS	100
4.2.1 Contents Based on Literature Review	100
4.2.2 Qualitative Interview	101
4.2.2.1 Rationale	102
4.2.2.2 Method	104
4.2.2.2.1 Participant	104
4.2.2.2.2 Interview Procedures	105
4.2.2.2.3 Analysis Strategy	105
4.2.2.3 Results	108
4.2.2.4 Discussion and Conclusions	111
4.3 PILOT 1: VALIDITY OF THE MEASURES	113
4.3.1 Rationale	113

<b>4.3.2 Measuring Workplace Incivility</b>	<b>114</b>
<b>4.3.3 Measuring Online Incivility</b>	<b>116</b>
<b>4.3.4 Further Considerations for the Web-Based Pilot Study</b>	<b>117</b>
<b>4.3.5 Validating Incivility Measures</b>	<b>118</b>
<b>4.3.6 Hypotheses of the Web-Base Pilot</b>	<b>119</b>
<b>4.3.7 Method</b>	<b>121</b>
<b>4.3.7.1 Participants</b>	<b>121</b>
<b>4.3.7.2 Ethics</b>	<b>122</b>
<b>4.3.7.3 Measures</b>	<b>122</b>
<b>4.3.7.3.1 Workplace Incivility Scale</b>	<b>124</b>
<b>4.3.7.3.2 Maslach Burnout Inventory, General Scale</b>	<b>125</b>
<b>4.3.7.3.3 Workplace Deviance Scale</b>	<b>126</b>
<b>4.3.7.3.4 Turnover Intention Scale</b>	<b>127</b>
<b>4.3.7.3.5 Perception of Fair Interpersonal Treatment Scale</b>	<b>127</b>
<b>4.3.7.3.6 Demographic Measures</b>	<b>128</b>
<b>4.3.7.4 Analysis Strategy</b>	<b>128</b>
<b>4.3.8 Results</b>	<b>129</b>
<b>4.3.8.1 Internal Consistency</b>	<b>129</b>
<b>4.3.8.2 Data Analyses</b>	<b>130</b>
<b>4.3.9 Discussion and Conclusions</b>	<b>136</b>
<b>4.4 DEVELOPMENT OF THE APP</b>	<b>140</b>
<b>4.4.1 Development Process</b>	<b>140</b>
<b>4.4.2 Appearance and Usability of the App</b>	<b>141</b>
<b>4.5 THE APP PROTOTYPE</b>	<b>142</b>
<b>4.6 PILOT 2: FEASIBILITY AND USABILITY OF THE APP</b>	<b>145</b>
<b>4.6.1 Rationale</b>	<b>145</b>
<b>4.6.2 Methods</b>	<b>145</b>
<b>4.6.3 Analysis Strategy</b>	<b>148</b>
<b>4.6.4 Results</b>	<b>148</b>
<b>4.6.5 Discussion and Conclusion</b>	<b>150</b>

<b>SECTION THREE: MAIN STUDY &amp; GENERAL DISCUSSION</b>	<b>154</b>
<b>CHAPTER 5 - MAIN APP-BASED RESEARCH STUDY</b>	<b>155</b>
<b>5.1 OVERVIEW</b>	<b>155</b>
<b>5.2 RATIONALE</b>	<b>156</b>
<b>5.3 METHOD</b>	<b>158</b>
<b>5.3.1 Participants</b>	<b>158</b>
<b>5.3.2 Ethics</b>	<b>159</b>
<b>5.3.3 Design</b>	<b>160</b>
<b>5.3.3.1 Compliance</b>	<b>161</b>
<b>5.3.4 Procedures</b>	<b>162</b>
<b>5.3.5 Measures for the App-Based Daily Observations</b>	<b>162</b>
<b>5.3.5.1 Predictor Variables: Face-to-Face &amp; Online Incivility</b>	<b>162</b>
<b>5.3.5.2 Possible Moderating Variable: Instigator Status</b>	<b>163</b>
<b>5.3.5.3 Possible Mediating Variables: Anger, Fear &amp; Rumination</b>	<b>164</b>
<b>5.3.5.4 Outcome Variables</b>	<b>165</b>
<b>5.3.5.4.1 Emotional Exhaustion</b>	<b>165</b>
<b>5.3.5.4.2 Intention to Quit</b>	<b>165</b>
<b>5.3.5.4.3 Reciprocation of Incivility</b>	<b>165</b>
<b>5.3.6 Measures for the Pre-Test</b>	<b>166</b>
<b>5.3.7 Analysis Strategy</b>	<b>167</b>
<b>5.3.7.1 Centring</b>	<b>171</b>
<b>5.3.7.2 Power</b>	<b>172</b>
<b>5.3.7.3 Missing Data</b>	<b>173</b>
<b>5.3.7.4 Testing the Hypotheses</b>	<b>174</b>
<b>5.3.7.4.1 Validating the Diary Measures</b>	<b>174</b>
<b>5.3.7.4.2 Forming the Basic Models</b>	<b>175</b>
<b>5.3.7.4.3 Hypothesis Testing</b>	<b>175</b>

<b>5.4 RESULTS</b>	<b>177</b>
<b>5.4.1 Reliability</b>	<b>177</b>
<b>5.4.2 Validity</b>	<b>179</b>
<b>5.4.3 Justification for Using Multilevel Modelling</b>	<b>180</b>
<b>5.4.4 Fixed and Random Effects Models</b>	<b>181</b>
<b>5.4.5 Temporal Effects</b>	<b>182</b>
<b>5.5 HYPOTHESIS-TESTING RESULTS</b>	<b>183</b>
<b>5.5.1 Hypotheses 1a</b>	<b>183</b>
<b>5.5.2 Hypotheses 1b</b>	<b>185</b>
<b>5.5.3 Hypothesis 2a</b>	<b>187</b>
<b>5.5.4 Hypothesis 2b</b>	<b>189</b>
<b>5.5.5 Hypothesis 3a</b>	<b>191</b>
<b>5.5.6 Hypothesis 3b</b>	<b>193</b>
<b>5.5.7 Hypothesis 4a</b>	<b>195</b>
<b>5.5.8 Hypothesis 4b</b>	<b>197</b>
<b>5.5.9 Hypothesis 5a</b>	<b>199</b>
<b>5.5.10 Hypothesis 5b</b>	<b>201</b>
<b>5.5.11 Hypothesis 6a</b>	<b>203</b>
<b>5.5.12 Hypothesis 6b</b>	<b>205</b>
<b>5.5.13 Hypothesis 7a</b>	<b>207</b>
<b>5.5.14 Hypothesis 7b</b>	<b>210</b>
<b>5.5.15 Hypothesis 8a</b>	<b>212</b>
<b>5.5.16 Hypothesis 8b</b>	<b>214</b>
<b>5.5.17 Hypothesis 9a</b>	<b>216</b>
<b>5.5.18 Hypothesis 9b</b>	<b>218</b>
<b>5.5.19 Hypothesis 10a</b>	<b>220</b>
<b>5.5.20 Hypothesis 10b</b>	<b>222</b>
<b>5.5.21 Hypothesis 11a</b>	<b>224</b>
<b>5.5.22 Hypothesis 11b</b>	<b>226</b>
<b>5.5.23 Prevalence of Face-to-Face &amp; Online Incivility</b>	<b>228</b>
<b>5.6 CONCLUSIONS</b>	<b>228</b>

<b>CHAPTER 6 – GENERAL DISCUSSION</b>	<b>231</b>
<b>6.1 OVERVIEW</b>	<b>231</b>
<b>6.2 DEVELOPING THE APP</b>	<b>231</b>
<b>6.3 APPLYING THE APP</b>	<b>232</b>
<b>6.4 CONTRIBUTIONS OF THE THESIS</b>	<b>240</b>
<b>6.4.1 Theoretical Contributions</b>	<b>240</b>
<b>6.4.2 Methodological Contributions</b>	<b>247</b>
<b>6.4.3 Practical Contributions</b>	<b>248</b>
<b>6.5 LIMITATIONS OF THE THESIS</b>	<b>259</b>
<b>6.6 FUTURE DIRECTIONS</b>	<b>261</b>
<b>6.7 CONCLUSIONS</b>	<b>264</b>
<b>BIBLIOGRAPHY</b>	<b>265</b>
<b>APPENDICES</b>	<b>293</b>

**Final word count = 69,861**

## LIST OF TABLES

TABLE 1. Construct & Item Specifications	123
TABLE 2. Online Workplace Incivility Scale	125
TABLE 3. Descriptive Statistics and Internal Consistency of Constructs	129
TABLE 4. Same-Sample <i>t</i> -Test	130
TABLE 5. Association between Demographics, Deviance & Turnover	131
TABLE 6. Association between Demographics and Burnout	132
TABLE 7. F2F and Online Incivility Correlations	133
TABLE 8. Regression Model: Incivility with Deviance and Turnover	134
TABLE 9. Regression Model: Incivility with Burnout	135
TABLE 10. Feasibility/Usability Construct & Item Specifications	147
TABLE 11. Feasibility and Usability Results	149
TABLE 12. Demographic Frequencies	159
TABLE 13. Reliability: Cronbach's $\alpha$	178
TABLE 14. Validity: Correlations between App and Pre-Test Measures	179
TABLE 15. Null Models: Variance by Level	180
TABLE 16. Goodness of Fit: Fixed Effects & Random Effects Models	181
TABLE 17. Temporal Effects: Longitudinal and Autoregressive	182
TABLE 18. Multilevel Main Effects Model: F2F Incivility & Emotional Exhaustion	184
TABLE 19. Multilevel Main Effects Model: Online Incivility & Emotional Exhaustion	186
TABLE 20. Multilevel Moderated-Mediation Model: F2F Incivility & Anger	188
TABLE 21. Multilevel Moderated-Mediation Model: Online Incivility & Anger	190
TABLE 22. Multilevel Moderated-Mediation Model: F2F Incivility & Fear	192
TABLE 23. Multilevel Moderated-Mediation Model: Online Incivility & Fear	194
TABLE 24. Multilevel Moderator Model: F2F Incivility & Emotional Exhaustion	196
TABLE 25. Multilevel Moderator Model: Online Incivility & Emotional Exhaustion	198



TABLE 26. Multilevel Main Effects Model: F2F Incivility & Intention to Quit	200
TABLE 27. Multilevel Main Effects Model: Online Incivility & Intention to Quit	202
TABLE 28. Multilevel Main Effects Model: F2F Incivility & F2F Behaviour in Kind	204
TABLE 29. Multilevel Main Effects Model: Online Incivility & Online Behaviour in Kind	206
TABLE 30. Multilevel Anger Mediation Model: F2F Incivility & Intention to Quit	209
TABLE 31. Multilevel Anger Mediation Model: Online Incivility & Intention to Quit	211
TABLE 32. Multilevel Fear Mediation Model: F2F Incivility & Intention to Quit	213
TABLE 33. Multilevel Fear Mediation Model: Online Incivility & Intention to Quit	215
TABLE 34. Multilevel Anger Mediation Model: F2F Incivility & F2F Behaviour in Kind	217
TABLE 35. Multilevel Anger Mediation Model: Online Incivility & Online Behaviour in Kind	219
TABLE 36. Multilevel Fear Mediation Model: F2F Incivility & F2F Behaviour in Kind	221
TABLE 37. Multilevel Fear Mediation Model: Online Incivility & Online Behaviour in Kind	223
TABLE 38. Multilevel Rumination Mediation Model: F2F Incivility & Emotional Exhaustion	225
TABLE 39. Multilevel Rumination Mediation Model: Online Incivility & Emotional Exhaustion	227
TABLE 40. Prevalence of Face-to-Face & Online Incivility	228

## LIST OF FIGURES

FIGURE 1: The Workplace Incivility Tracker

142

## **LIST OF DIAGRAMS**

DIAGRAM 1: Stimulus Organism Response Moderated-Mediation Model	55, 157
DIAGRAM 2: Stimulus Organism Response Mediation Model [S-O-R]	245

## LIST OF ABBREVIATIONS

AET	Affective Events Theory
APP	Application (e.g. Smartphone App)
BIC	Schwarz's Bayesian Criterion
COR	Conservation of Resources Theory
CMC	Computer Mediated Communications
ESM	Experience Sampling Methodology
F2F	Face-To-Face
L1	Level 1
L2	Level 2
MBI-GS	Maslach Burnout Inventory, General Scale
nVivo	Software Package for Qualitative Research
PFIT	Perception of Fair Interpersonal Treatment Scale
SOR	Stimulus-Organism-Response Theory
SPSS	Statistical Package for the Social Sciences
WIS	Workplace Incivility Scale

## LIST OF APPENDICES

APPENDIX 1: Consent Form for Interview	293
APPENDIX 2: Transcript of the Interview	294
APPENDIX 3: Informed Consent	300
APPENDIX 4: Web-Based Survey	301
APPENDIX 5: App-Based Survey (Beta Edition)	306
APPENDIX 6: Web-Based Feasibility Post-Test	308
APPENDIX 7: Main Study Informed Consent & Pre-Test	309
APPENDIX 8: App-Based Survey (Final Edition)	318
APPENDIX 9: Analysis Procedures & SPSS Syntax	346

## ABSTRACT

University of Manchester, Catherine M. Connolly, Psy.D., D.B.A.,  
Tracking the Incivility Footprint: An Experience-Sampling  
Smartphone Application Measuring Workplace Incivility. 2017.

On an everyday basis, employees may be subjected to low intensity negative behaviours from those they work with. Uncivil behaviours may cumulatively add up over time to have detrimental effects on employees' well-being and commitment to stay with their organisation. Since most of the research has been cross-sectional, capturing a snapshot in time, knowledge regarding the day-to-day effects of experiencing workplace incivility is limited. The broad aim of the present research was to develop a new data collection tool in the form of a digital diary Smartphone app, to explore these day-to-day effects, measuring face-to-face and online workplace incivility. Three studies were conducted to develop and test the app. The first pilot study sought to test the proposed measures for use in the app. In particular, the commonly used Workplace Incivility Scale (WIS) was adapted to apply to online as well as face-to-face interactions. Statistical analysis of this pilot confirmed that both the face-to-face and online versions of the WIS were reliable and valid, and determined that experiencing workplace incivility via both modes was significantly associated with emotional exhaustion, and intentions to quit. On the basis of the first pilot, the app was developed and its feasibility tested in a second pilot focusing on the usability of the new app, which resulted in minor design changes being implemented prior to the final launch. The main research study sought to validate the new app and test a series of hypotheses about the day-to-day effects of workplace incivility. Participants completed an initial web-based survey and were then instructed to complete the questions on the app for one month. Multilevel analyses revealed that employees experienced higher levels of emotional exhaustion, and intention to quit on days when they were exposed to face-to-face or online incivility. The amount of incivility that participants experience on a day-to-day basis (Level 1) predicts emotional exhaustion, and intention to quit on a daily basis, and the average amount of incivility (Level 2) that participants experience also predicts their emotional exhaustion, and intention to quit when not considering other factors. Anger and fear were found to mediate the relationship between both forms of incivility and intention to quit. For the rumination-mediated models, the relationship between both forms of workplace incivility and emotional exhaustion is significantly mediated by rumination. Theoretically, this research contributes by providing insight into workplace incivility and its effects on a daily basis. Methodologically, this research advances the field by providing a new reliable and valid repeated measures data collection tool that other researchers may share to overcome and build upon the limitations inherent in cross-sectional studies.

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## **ACKNOWLEDGEMENTS**

I want to take this opportunity to express my sincere gratitude for the belief Sandra Fielden had in me when she read my original thesis proposal and agreed to supervise me, accepting me into the University of Manchester DBA programme. I also want to thank my supervisors. Karen Niven has been by my side for the bulk of the work and has guided me more than I can express. My development as a researcher has also been expanded by the advice received from Catherine Cassell and the steady guidance from Helge Hoel. Thank you.

## **SECTION ONE: BACKGROUND**

## **CHAPTER 1 – INTRODUCTION**

### **1.1 OVERVIEW**

This chapter presents an introduction to workplace incivility as a research construct and practical problem, its prevalence and negative outcomes. The overall aim and potential contributions of the current research are briefly presented, followed by an outline of the structure of the thesis.

### **1.2 WORKPLACE INCIVILITY**

In the context of the business world, where productivity and the bottom line are often the primary focus, does it really matter whether people are exposed to low intensity negative behaviours, termed acts of ‘incivility’, from their coworkers or superiors? Many would argue that being put down by a supervisor or having a coworker make derogatory remarks is the personal cost of doing business in organisations today; the expectation is that employees should develop a sense of resilience and be able to shake off something as banal as a condescending remark. Although an organisational culture committed to interpersonally fair and civil treatment sounds ideal, and is often listed on many companies’ mission statements, in reality, this is not how many people experience life at work.

As indicated by Porath and Pearson (2009, 2013), incivility in the workplace is widespread; 98% of workers encounter rude and discourteous behaviours, with half experiencing it on a weekly basis. Furthermore, 60% report experiencing stress as a result of workplace incivility and 12% have even left their jobs because they were treated uncivilly. The average cost of replacing each of those employees is 1.5 to 2.5 times their annual salaries and the annual cost of job stress to US corporations is 300 billion dollars (Pearson and Porath, 2009).

So what is workplace incivility? According to Andersson and Pearson (1999), it can be defined as

“Low-intensity deviant behaviour with ambiguous intent to harm the target, in violation of workplace norms for mutual respect. Uncivil behaviours are characteristically rude and discourteous, displaying a lack of regard for others” (p. 457).

This definition of incivility in the workplace has been extensively endorsed by academics in the field (e.g., Aquino and Bradfield, 2000; Blau and Andersson, 2005; Cortina, 2008; Cortina and Magley, 2009; Hershcovis and Barling, 2010; Pearson *et al.*, 2000; Pearson and Porath, 2009; Porath and Erez, 2007; Caza and Cortina, 2007; Cortina *et al.*, 2001; Lim *et al.*, 2008; Penney and Spector, 2005; Schilpzand *et al.*, 2014).

Before the formal definition was widely adopted, several researchers were describing aspects of the phenomenon (Carter, 1988; Marks, 1996; Neuman &

Baron, 1997). They depicted behaviours of wrongful blaming, verbal attacks, rude comments, unfavorable work assignments, and preferential treatment. Baron and Neuman (1996) classified these acts as largely subtle, indirect, verbal, and passive acts rather than overt, direct, physical, and active behaviours.

Since adopting the formal definition, several researchers have helped clarify things with various examples of incivility in the workplace include but are not limited to writing offensive or demeaning correspondence, undermining a co-worker's credibility, treating individuals childishly, berating people for things they had no involvement in or responsibility for, the silent treatment, failing to greet certain people, ignoring legitimate requests for information or assistance, excluding people from important meetings they should have access to, interrupting people while they are speaking, publicly reprimands, groundless accusations, gossiping about someone, cutting people off while they are speaking, using demeaning language or tone, and answering mobile phones during meetings (Johnson and Indvik, 2001; Kunkel *et al.*, 2015; Pearson *et al.*, 2001).

Despite what deceptively appears to be benign behaviour, compared with overt workplace mistreatment, the consequences of workplace incivility have been significantly costly on multiple levels to both employers and employees, and cannot be safely ignored. According to Pearson and Porath (2009) the cost of this bad behaviour is highlighted by their case analysis of Cisco-Systems, a public multinational corporation that designs and sells communications and networking

technology, and ranked among Fortune's 100 Best Companies to work for. Although the researchers estimated that only 1% of their 49,000 employees experience incivility per year, astoundingly, the cost of incivility to their company was estimated at 8 million US dollars.

The thorough review of the research on workplace incivility found that consequences of being exposed to incivility, over long periods of time (e.g., six months or more), include: increased stress, lowered energy, decrements in performance across various domains, general dissatisfaction, depression, apathy, pessimism, increased emotionality, emotional labor, emotional exhaustion, negative emotions and affect (e.g., anger fear and sadness), reduced trust and sense of justice, problems in task-related memory recall (i.e., distraction), withdrawal, absenteeism, intentions to quit, retaliatory deviant or counterproductive actions, and additional negative effects of incivility that can spill over into personal life, well-being marriage and family life (Adams and Webster, 2013; Bunk and Magley, 2013; Cameron and Webster, 2011; Chen *et al.*, 2013; Cortina *et al.*, 2001; Ferguson, 2012; Giumetti *et al.*, 2013; Griffin, 2010; Kern and Grandey, 2009; Kim and Shapiro, 2008; Lim and Cortina, 2005; Lim *et al.*, 2008; Lim and Lee, 2011; Lim and Teo, 2009; Matin and Hine, 2005; Miner *et al.*, 2012; Miner-Rubino and Reed, 2010; Penney and Spector, 2005; Porath and Erez, 2007; Porath and Pearson, 2012; Sakurai and Jex, 2012; Schilpzand *et al.*, 2014; Sliter *et al.*, 2010; Sliter *et al.*, 2012a; Taylor *et al.*, 2012; Wilson and Holmvall, 2013).

Researchers have explored variables (e.g., age, and race) associated with exposure to incivility in the workplace and found young, individuals and/or members of a racial minority at higher risk of becoming the target of incivility in the workplace (Cortina *et al.*, 2013; Leiter *et al.*, 2010; Lim and Lee, 2011; Meier and Spector, 2013; Milam *et al.*, 2009; Sliter *et al.*, 2012b; Trudel and Reio, 2011). Some researchers also found gender to be an important demographic variable, but the findings of different studies are contradictory and its importance remains inconclusive, as a result (Schilpzand *et al.*, 2014).

A few studies on incivility have focused on ways to reduce it. For example, team-based interventions have been developed for increasing civility in the workplace, actions to significantly reduce the stress of workplace roles have been explored, and increases in workgroup norm civility have been encouraged (Leiter *et al.*, 2011, 2012; Laschinger *et al.*, 2012; Osatuke *et al.*, 2009; Taylor and Kluemper, 2012; Walsh *et al.*, 2012).

### **1.3 AIMS OF THE RESEARCH**

Existing literature contributes a great deal to our understanding of the prevalence and effects of incivility, but is limited by a few important issues (Andersson and Pearson, 1999; Aquino and Bradfield, 2000; Cortina, 2008; Cortina and Magley, 2009; Hershcovis and Barling, 2010; Pearson and Porath,

2009; and Schilpzand *et al.*, 2014). A key limitation is that, despite a small number of exceptions that used diary studies (e.g., Beattie and Griffin, 2014; and Totterdell *et al.*, 2012), research on incivility has tended to rely heavily upon cross-sectional survey methodologies. Estimates of the prevalence and effects of workplace incivility have therefore been based on participants' recall of these incidents reflecting back on prior months or years, which may be subject to retrospective recall biases. Additionally, cross-sectional retrospective recall methods fail to assess the dynamic process of workplace incivility exchanges as they unfold, instead merely measuring simple associations between antecedents and outcomes (Hershcovis and Reich, 2013). Thus, insight into the day-to-day effects of incivility has yet to be provided in the research literature.

The first aim of the present research was therefore *to create a tool to allow people to measure and explore day-to-day effects of workplace incivility in as close to real time as possible*. Using this tool, respondents would not have to rely on memory and could more accurately recall their responses to an uncivil event, enabling the researcher to examine events as they unfolded. Ultimately, this would allow researchers using the tool to overcome some of the issues associated with cross-sectional methods and causality identified in previous research.

Another important limitation of existing research on incivility is that conceptualisations of workplace incivility, defined fifteen years ago, typically focus on incidents that occur during face-to-face (f2f) communications in the



workplace. With the rise in computer-mediated technologies there has been a significant increase in online communications and incivility is no longer restricted to face-to-face interactions (Giumetti *et al.*, 2012; Giumetti *et al.*, 2013; Lim and Chin, 2006; and Lim and Teo, 2009). Thus, the true prevalence and effects of incivility may currently be underestimated.

The second aim of this research in the main study *was to provide an opportunity to determine whether different types of people respond differentially over time to experiences of incivility*. For example, some employees may have different affective, behavioral, and cognitive responses to experiencing incivility on a daily basis over time, which is captured using the smart phone app as a digital diary to determine if any of these variables mediated the relationship between experiencing incivility and emotional exhaustion or intention to quit.

#### **1.4 OVERVIEW OF THE RESEARCH APPROACH**

To accomplish the research aims identified above, a new smartphone app for data collection was developed and tested. The development of the app was informed by a triangulation of evidence based on a thorough review of the literature and relevant theories, and an exploratory qualitative interview to confirm which incivility behaviours and outcomes were important to include in the app. The Workplace Incivility Scale (WIS) was found to be a well-validated, useful and popular instrument in the field, but it failed to measure online forms of

workplace incivility. Many individuals attempted to develop variations on the WIS, but they failed to revalidate the new altered measures they created, which would be necessary before incorporating the items into an app (Cortina *et al.*, 2001; Kunkel *et al.*, 2015).

Three studies were conducted (i.e., an empirical pilot study, a feasibility pilot study, and a main research study) to develop the app and determine whether it produces reliable and valid data concerning face-to-face and online forms of workplace incivility. The first of two pilot studies involved a quantitative online survey to differentiate between face-to-face and online incivility in the workplace, while providing validation for both forms, and examining the relationship between workplace incivility, burnout, interpersonal deviance, organisational deviance and turnover intentions. Internal consistency was examined looking at scale alphas. The parameters of the constructs in question provided a basis for construct validity, which was examined using regression methods while also testing various hypotheses detailed below. Based on the results and in collaboration with an app developer, the contents and design of a prototype version of the app were decided upon and created. The goal was to keep the app survey brief, two minutes or less, while measuring face-to-face and online forms of incivility, in addition to the outcome variables of emotional exhaustion and intention to quit (i.e., 16 items of interest based on the triangulation of evidence). On the basis of this pilot, the app was then developed and its feasibility was further tested.

The second pilot was conducted with the prototype in order to test its feasibility and usability, which guided a final version of the app. Fifteen participants, with diverse demographics from various sectors in industry used the prototype each workday for two weeks and then answered a questionnaire providing feedback about their experience using the prototype. It covered various issues, such as any difficulty installing/launching the app, reading the items on their Smartphone, filling in answers, time needed to answer items, the daily signal to use the app, review of answers before submission, the relevance of the questions and intrusiveness into daily life. A sample of the participants was contacted for a Skype interview to further explore their experiences using the app. This study offered an opportunity for the researcher and Smartphone app developer to address any challenges with functional design, data quality, and technological issues prior to conducting a large-scale study assessing the app's reliability and validity. Overall the participants found the prototype easy to use, non-intrusive and relevant to their daily lives. The data was automatically formatted into a spreadsheet that was easily imported into SPSS. With respect to the design, there were several malfunctions that needed to be addressed. Unfortunately, the daily notifications did not always pop-up as designed. If a participant skipped over an item, they could not submit their other responses for the day, and they were not automatically notified that they skipped an item; thus, leaving it unclear as to why the submit button would not work. Additionally, the review function, giving participants an opportunity to change their mind before

submission, and not capturing the immediate response of the participant was eliminated. Also, an attempt was made to fix the notifications for the subsequent main study, but they never worked correctly and were eventually stripped from the app entirely. The final version was also changed so that users could skip any item they did not choose to answer while still submitting the remaining survey items, and there was no longer a requirement to review one's answers before submitting the survey.

It should be noted that throughout the entire research process, the literature review was continuous and ongoing. New studies, detailed below, were being published each year while advancing knowledge and theory in the field (Barsade and O'Neill, 2016; Kunkel *et al.*, 2015; Schilpzand *et al.*, 2014). Those studies suggested instigator status, anger, fear and rumination may play a role in workplace incivility, and acting in kind may be a possible outcome variable. This led to the decision to include these variables in the final version of the app.

After the piloting phase, the main study was conducted in which the final version of the app was applied using an empirical study with an experience-sampling design (i.e., daily repeated assessments by participants while functioning at work). The analysis used a multilevel modelling approach for the digital diary study whereby Level 1 was the observation level,  $n = 554$  (i.e. the daily measures collected on the app), which was nested within the person (i.e. person data) Level 2 data,  $n = 53$ . Prior to the app survey, participants were

directed to complete an initial web-based pre-test survey of person level data (i.e., Level 2) consisting of demographic, retrospective measures of online and face-to-face workplace incivility, as well as the full versions of measures of possible moderating, mediating and outcome variables in order to test the validity of the short forms used in the app.

The sample consisted of responses from 53 participants who were eighteen years of age or older, in various industries, across different levels of education, and occupations within the New York area. This main study allowed the researcher to look at the day-to-day effects of workplace incivility, including testing hypotheses regarding the mechanisms and possible moderators and/or mediators of the effects of incivility.

In summary, the first pilot study tested the reliability and validity of the measures, and second pilot tested the feasibility and usability of the app prototype. The main study tested the reliability and validity of the final version while looking at predictor variables (i.e., face-to-face and online workplace incivility and their prevalence), a possible moderator variable (i.e., instigator status), potential mediator variables (i.e., anger, fear and rumination), and outcome variables (i.e., emotional exhaustion, intentions to quit, and acting in kind).

## **1.5 POTENTIAL CONTRIBUTIONS OF THE RESEARCH**

The present research stands to make potential theoretical, methodological, and practical contributions. It proposes to fill the gap in the literature by extending the concept of workplace incivility to include experiencing online forms at the same time one captures the data, while providing insight into workplace incivility and its effects on a daily basis. In past retrospective research, between-person relationships of incivility and outcomes were established. The current study looks at within-persons, to see if these relationships exist when examined on a daily basis (e.g., whether participants have higher degrees of emotional exhaustion on days when treated uncivilly). This research provides knowledge about possible moderator (i.e., instigator status) and mediator variables (i.e., anger, fear and rumination) that are also investigated with respect to how they influence the outcomes.

Methodologically, this research should advance the field by providing a new user-friendly reliable and valid repeated measure data collection tool that overcomes many of the limitations inherent in cross-sectional studies. Practically, the app has the potential to increase workplace incivility awareness in individuals and the day-to-day operations of organisations, which may lead to changes in behaviours, culture, and the inclusion of the incivility measures in performance evaluations.

## **1.6 OVERVIEW OF THE THESIS STRUCTURE**

This thesis is divided into three key sections. The first section presents the theoretical and methodological literature search that contributes to the research presented in the thesis, culminating in an outline of the theoretical framework and research approach for the thesis. The second section details the work involved in developing the smartphone app that provides the new research tool for this thesis, including two pilot studies. The final section of the thesis focuses on the contributions of this new research tool, presenting the main research study and a general discussion of the findings of the thesis.

### **1.6.1 Section One: Background**

The first section of the thesis seeks to outline the theoretical and methodological background to this thesis, and consists of chapters one to three. The current chapter (chapter one) has delineated the area of study, outlined the objectives of the research, and detailed some potential contributions that may flow from it.

Chapter two delves more deeply into a thorough review of the incivility literature from a theoretical perspective. As a theoretical construct, workplace incivility is specified and its boundaries are distinguished from other concepts that are related but distinct. An argument is presented for further differentiating face-

to-face forms of incivility from online incivility in the workplace. This is followed by consideration of the instigator status of the individual perpetrating the act of incivility in the workplace, and a broad examination of the effects of workplace incivility on the individuals and organisations dealing with this phenomenon. Chapter two closes with a presentation of the theoretical framework through which incivility in the workplace can be conceptualized (i.e., a Stimulus Organism Response Moderated-Mediation Model) followed the justification for the study and development specific hypotheses to be tested using the new smartphone app in the main research study.

Chapter three presents a review of the literature identifying and focusing on methodological concerns related to incivility in the workplace. The more common cross-sectional approach to researching incivility in the workplace is critiqued. An alternative repeated measures experience sampling method is proposed along with arguments concerning the advantages and disadvantages of doing so, in general, and conducting the research with Smartphone app, in particular. The use of a Smartphone application as a research tool in data collection is further explored, including its feasibility and limitations, followed by a review of various ethical issues that arise when conducting web-based and app-based survey research. In closing, chapter three outlines the current research approach of this thesis and what it sets out to accomplish.



### **1.6.2 Section Two: Development of the App**

The second section of the thesis contains chapter four with its many subsections and describes the process through which the contents and design of the app were developed, including the methods used to pilot the measures involved and the app itself. The choices were informed by the theoretical literature review, a preliminary qualitative interview, and two pilot studies (i.e., a survey and an app pilot). The methods and findings from the interview and pilot studies are presented, which sought to develop and validate the measures proposed for use in the initial version of the smartphone app. In particular, the first pilot study examined the internal consistency reliability of the two measures of incivility adopted (i.e., face-to-face and online) and the associations between these measures and related outcomes (i.e., burnout, interpersonal deviance, organisational deviance and turnover intentions). It differentiated between face-to-face incivility in the workplace and online incivility in the workplace while providing validation for both forms, and examined the association between workplace incivility, burnout, interpersonal deviance, organisational deviance and turnover intentions. The results of statistical analyses are presented, and the implications for expanding the concept of workplace incivility to include online workplace incivility, in addition to face-to-face workplace incivility, are explored.

The reader is then taken through the process of actually developing the app with the development team. Once the initial app was developed, a second

pilot study was conducted which tested the feasibility and usability of the app. The results of this study are presented along with a discussion of changes made to the app for its final version.

### **1.6.3 Section Three: Main Study and General Discussion**

The third section of the thesis presents the main research study of the thesis, along with a discussion of the key contributions of this work. The section contains chapters five through six.

Chapter five focuses on the main research study of the thesis, a repeated measures diary approach to collecting data on incivility in the workplace. It then details the methods for the study, including an overview of the analysis approach. The results of the study include data on the reliability and validity of the app, and tests of the research hypotheses.

The final chapter, chapter six, forms the general discussion of the thesis. This discussion summarises the findings of the entire thesis, while outlining the theoretical, methodological and practical contributions of this research, in general, and development of the Smartphone app, in particular. Some limitations of the thesis are then presented, along with the implications of this research, and future directions for further study, closing with a summary and the final conclusions.

## **CHAPTER 2 – THEORETICAL LITERATURE REVIEW**

### **2.1 OVERVIEW**

This chapter presents a theoretical literature review focusing on workplace incivility. It begins by reviewing the literature seeking to define workplace incivility, including consideration of the overlaps and distinctions between incivility and related constructs, such as workplace bullying. It then goes on to consider incivility as a possible feature of online as well as face-to-face communications and reviews the relevant literature in this area. Following this, the literature on the prevalence and effects of incivility is reviewed, with particular attention to the range of possible outcomes, and likely moderators and mediators of those effects. The chapter culminates in the proposal of a theoretical framework for understanding what conditions may contribute to the negative outcomes associated with exposure to incivility in the workplace.

### **2.2 WORKPLACE INCIVILITY: THEORETICAL CONSTRUCT**

#### **2.2.1 Face-to-Face Workplace Incivility**

Irrespective of what we call it, mistreatment in the workplace is widespread, diverse in nature, and cuts across all cultures. It can range from subtle acts of minimal intensity to assault, rape and murder. Studies of mistreatment

have resulted in a proliferation of purportedly distinct constructs that appear to have common and overlying characteristics (Hershcovis, 2011). They include, but are not limited to, incivility, victimization, social undermining, emotional abuse, mobbing, sexual harassment, workplace violence, bullying, interpersonal conflict, and abusive supervision (Andersson and Pearson, 1999; Aquino *et al.*, 1999; Aquino and Lamertz, 2004; Duffy *et al.*, 2002; Keashly *et al.*, 1997; Leymann, 1990; McDonald, 2011; Neuman and Baron, 1998; Raynor, 1997; Rayner, *et al.*, 2002; Spector and Jex, 1998; Tepper, 2000).

While these constructs may sometimes overlap, they are distinguished from one another. Behaviours can be measured with respect to frequency, duration, intensity and intention. Workplace mistreatment may happen regularly or rarely. The instigator may make a passing uncivil comment or rant for an hour. The behaviour could be accidental or involve malicious intent. Furthermore, the intensity of the behaviour can range from workplace incivility to bullying or assault at the other end of the spectrum. If a researcher randomly asked people on the street if they ever experienced incivility in the workplace, the affirmative responses would likely group discourteous remarks along with physical assaults as a consequence of the construct not being defined for them.

Many of the constructs mentioned above can be subsumed under the general category of workplace mistreatment, but what differentiates workplace incivility from bullying and the other constructs is that in the former, there is a

low level of mistreatment and ambiguous intent to harm. In contrast, when one is bullied, mobbed, socially undermined, or sexually harassed, one is usually aware of the aggressor's desire to control the target, and do psychological and/or physical harm.

The construct of workplace incivility was introduced by Andersson and Pearson in the *Academy of Management Review* over fifteen years ago as characteristically showing disregard for others, rudeness and lacking courtesy, with ambiguous intentions displayed with such low-intensity aberrant behaviours (Andersson and Pearson, 1999). The authors further indicate that lack of intent or accidental harm might be due to an instigator's oversight, or the targets misinterpretation. In this sense, incivility is distinct from other forms of mistreatment, which tend to be more unequivocal and blatant. A chief characteristic is their focus on the ambiguity of intention with respect to one or more of the involved parties, whereas, the construct of aggression requires a clear intention to do physical or psychological harm (Baron and Richardson, 1994; Berkowitz, 1989; Neuman and Baron, 1997; Tedeschi and Felson, 1994). In contrast to purposeful aggression, acts of incivility lack the prerequisite clarity of intent (Andersson and Pearson, 1999).

Andersson and Pearson's (1999) definition was also guided by the prior work of Robinson and Bennett (1995), who studied various levels of deviant behaviour in the workplace, some more severe than others. Attacks on one's

character, threatening statements, and violent acts, were viewed as aggression, and were considered to be distinct from lack of consideration, insufficient respect, or other less intense behaviours viewed as uncivil (Andersson and Pearson, 1999). Examples of uncivil behaviours include taking credit for others efforts, passing blame for one's own mistakes, spreading rumours about colleagues, withholding information, shutting someone out of a network or team, taking resources that others need, throwing temper tantrums, excessive monitoring of your work (Pearson and Porath, 2009).

The definition of incivility is broader than interactional injustice, which according to Cortina *et al.* (2001), is reserved for mistreatment perpetrated by supervisors, managers or other superiors. Incivility can be instigated by anyone, irrespective of his or her formal organisational position. Furthermore, the definition remains restricted to within the organisation rather than looking to outside sources, such as, customers or contractors (Cortina *et al.*, 2001).

In contrast with more extreme workplace mistreatment of the type often reported by mass media, incivility might remain overlooked and trivialized. Indeed, compared with more intense forms of mistreatment, incivility may at first glance appear banal, but its adverse impact on employees and organisations is not. Although distinct from constructs of aggression, Anderson and Pearson (1999) suggested that incivility incites reciprocal behaviour, and can spiral, escalating in negative outcomes, similar to the effects of more severe forms of workplace

mistreatment, adversely impacting both employees and the organisation.

To summarise those characteristics of the workplace incivility construct that clearly distinguishes it from other constructs, consider the following:

“Important definitional elements of workplace incivility that help to differentiate it from other negative interpersonal workplace behavioral constructs are its low intensity (aggression, violence, and bullying are more severe) and its ambiguous (rather than overt or clearly diagnosable) intent to harm. The seemingly related constructs of aggression, bullying, and abusive supervision are more overt, and therefore, targets of these behaviors more easily interpret them as purposely intended. The intentionality of incivility is more difficult to discern. A third characteristic that helps to differentiate incivility from negative leadership constructs such as abusive supervision is the specific source of the negative conduct. Incivility may be enacted not only by individuals in managerial jobs or supervisory roles but also by coworkers or customers. These distinctions are important, not only because incivility carves out a specific space in the domain of negative workplace behavior, but primarily because these characteristics likely cause different cognitions, emotions, and behaviors in the targets of incivility when compared with recipients of other negative workplace conduct. Moreover, it is also likely that the antecedents of incivility differ from those that incite more severe and/or intentional negative workplace behaviors” (Schilpzand *et al.*, 2014, p 1).

### **2.2.2 Online Workplace Incivility**

Although incivility in the workplace has previously been defined within the context of face-to-face interactions, the increase in computer mediated communication (CMC) in the workplace indicates that incivility is no longer restricted to in-person interactions. While Tu (2000) claimed that CMC plays a

positive role in organisational life by allowing organisational members to communicate more efficiently with others, both internally and externally, and providing for a global reach, Giumetti *et al.* (2012) argued that conveying information through electronic communication might be problematic. Verbal and nonverbal social cues, such as tone and inflection, present in face-to-face communications, are absent online and allow for greater misinterpretation that may invite an exchange of rude and discourteous communications, spiraling to more direct threats or personal assault.

Lim and Chin (2006) defined online incivility as communicative behaviours (e.g., texts, e-mails, and other forms of CMC) that are exhibited in the context of computer-mediated interactions that violate workplace norms for mutual respect with ambiguous intent to harm. Some examples of online incivility would include making demeaning or derogatory remarks about someone through emails, not replying to emails, forwarding and blindly cc'ing other employees with sensitive information, using online communication to say negative things about someone, or using online communications to cancel or schedule meetings on short notice. Unlike face-to-face communications, online incivilities are mostly text driven, and can be misinterpreted, redistributed to multiple employees, and include personal and sensitive information (Giumetti *et al.*, 2012). Given the anonymous nature of online communications with the instigator physically removed from the target, it may be easier to engage in rude communications. According to Mehrabian (1972), the absence of social contextual cues negatively



impact interpersonal communication and may result in uninhibited, hostile communications. Furthermore, because some online communications are often not in real time, Byron (2008) suggested it further complicates emotional exchanges in that delays in feedback increase ambiguity and reduce clarity in communication. Pearson and Porath (2005) have suggested that employees facing the challenges of multi-tasked environments do not have time to be ‘nice’ and that impersonal modes of contact do not require civil interactions.

Crucially, although there are few studies of the phenomenon, it appears that online incivility may be as prevalent, if not more so, than face-to-face incivility, and may also have detrimental effects for those exposed to it. For this reason, in the present thesis, both face-to-face and online incivility will be distinguished.

### **2.2.3 Prevalence of Workplace Incivility**

Measuring incidence of workplace incivility by tracking the number of formal complaints proves useless. Only 1% to 6% of employees file formal complaints about incivility (Cortina & Magley, 2009). Though often underreported, especially the more mild form of incivility with ambiguous intent, many employees report being exposed to workplace incivility on a regular basis (e.g., Cortina *et al.*, 2001; Pearson and Porath, 2009). As indicated by Porath and Pearson (2009, 2013), who polled thousands of workers over a decade, incivility

in the workplace is widespread; 98% of workers reported encountering rude and discourteous behaviours, with half experiencing it on a weekly basis. However, prevalence rates may be underestimated because previously the focus has only been on face-to-face interactions, and there has been scant research examining online forms. A new approach will be needed if organizations want to monitor this phenomenon accurately.

Weeks and Gilkes (2011) noted incivility was on the rise and people are generally more disrespectful. This is consistent with other reviews of incivility within various educational systems (Feldman, 2001; Ferriss, 2002; Galbraith, 2008; Galbraith and Jones, 2009, 2010). In an international study, Clark *et al.* (2010) found incivility in the nursing field to be a significant problem in both the US and China. Incivility in the workplace is not limited to western society. In a survey of nearly seven hundred Malaysian workers, being ignored was the most prevalent behavior reported among a number of other acts of incivility, such as, demeaning and derogatory remarks. Being addressed in an unprofessional manner was the least reported form of mistreatment, but incivility appears more common than not in the Malaysian workforce sampled (Ismail and Mohd-Zakuan, 2012).

Workplace incivility is not limited to face-to-face interactions and similarly, the subtlety of online incivility can lead people to view it as trivial but Sun (2005) found uncivil email exchanges were prevalent in organisations. With the expanded use of online communication replacing face-to-face business

transactions more opportunity for uncivil online exchanges emerge (Lim and Chin, 2006). This fast paced form of interaction may facilitate incivility. As noted by Pearson and Porath (2005) people,

“... believe that they don't have time to be 'nice' and that impersonal modes of contact do not require courtesies of interaction” (p. 7).

Novell (1997) found that half of the 1,043 employees surveyed reported experiencing online incivility and another quarter of the employees reported knowledge of coworkers who experience online incivility on a regular basis.

A survey designed to measure employee complaints about uncivil emails in the workplace found 20% of those who completed the survey reported this problem (Armour, 1999; Hunt *et al.* 2007). Lim and Teo (2009) studied workplace cyber incivility in Singapore. They found male supervisors tended to actively perpetrate cyber incivility while female supervisors passively engaged in the activity.

Lim and Chin (2006) investigated the prevalence and impact of receiving uncivil emails from supervisors in Singapore and found that 91% of the 174 respondents in their study experienced online incivility, and that males were more likely to engage in “active incivility” (e.g., put you down, saying something hurtful) at the workplace, and women were more inclined to engage in “passive incivility” (e.g., using emails for time sensitive messages, not replying to emails

at all). Giumetti *et al.*, (2012) also found individuals reported higher levels of online incivility from their supervisors.

#### **2.2.4 Effects of Workplace Incivility**

Considering the range of aggressive behaviors experienced in the workplace, one might easily dismiss the effects of experiencing incivility as having a significant impact on the individual or organization. However, research has demonstrated that incivility has been significantly associated with affective, attitudinal, cognitive and behavioral outcomes for targets. (Schilpzand *et al.*, 2014). Cortina *et al.* (2001) in their research on the impact of incivility found psychological distress associated with subjects who experienced frequent incivility, were less satisfied with their jobs, and considered leaving their jobs more frequently. Hershcovis and Barling (2010) have suggested that researchers consider the context of the relationship between the victim and perpetrator. For example, the instigator status, or task interdependence may moderate the effects of incivility and outcomes differently. Additionally, one study found indirect, covert incivilities result in more extensive trauma than acts of physical assault (Mayhew *et al.*, 2004).

Personal emotional outcomes include: increased stress, lowered energy, decrements in performance across various domains, general dissatisfaction, depression, apathy, pessimism, increased emotionality, emotional labor,

emotional exhaustion, negative emotions and affect (e.g., anger fear and sadness), reduced trust, less job satisfaction and commitment to work (Adams and Webster, 2013; Bunk and Magley, 2013; Cameron and Webster, 2011; Cortina *et al.*, 2001; Giumetti *et al.*, 2013; Griffin, 2010; Kern and Grandey, 2009; Kim and Shapiro, 2008; Lim and Cortina, 2005; Lim *et al.*, 2008; Lim and Teo, 2009; Miner *et al.*, 2012; Porath and Pearson, 2012; Sakurai and Jex, 2012; Sliter *et al.*, 2010; Sliter *et al.*, 2012a; Taylor *et al.*, 2012; Wilson and Holmval, 2013).

Spreitzer and Porath (2012) discovered that 50% of workers exposed to incivility in the workplace decreased their efforts intentionally, while 66% spent significant time avoiding the instigator, and a similar number reported a decline in their performance. Personal cognitive and/or behavioral outcomes that can have a direct negative effect on the organization include: problems in task-related memory recall (i.e., distraction), performance decrements across various domains, withdrawal, absenteeism, intentions to quit, reduced sense of justice and retaliatory deviant or counterproductive actions, intentions to quit and exiting the organization (Bunk and Magley, 2013; Chen *et al.*, 2013; Cortina *et al.*, 2001; Giumetti *et al.*, 2013; Griffin, 2010; Kim and Shapiro, 2008; Lim and Cortina, 2005; Lim *et al.*, 2008; Lim and Teo, 2009; Martin and Hine, 2005; Miner-Rubino and Reed, 2010; Penney and Spector, 2005; Porath and Erez, 2007; Porath and Pearson, 2012; Sliter *et al.*, 2012; Sliter *et al.*, 2012b; Taylor *et al.*, 2012; Wilson and Holmval, 2013). Anderson and Pearson (1999) suggested that incivility incites reciprocal behaviour, and can spiral, escalating in negative outcomes,

adversely impacting both employees and the organization.

Additional negative outcomes include a spill over into personal life, well-being, marriage and family life (Cortina *et al.*, 2001; Ferguson, 2012; Lim and Cortina, 2005, Lim *et al.*, 2008; Lim & Lee, 2011). It is also interesting to note, with respect to the cost of incivility, Porath and Pearson (2013) reported from a survey of 800 managers and employees in seventeen industries, 80% lost work time worrying about the incident.

While the topic of face-to-face incivility and its effects has been the focus of many prior studies, research on experiencing online incivility and its associated outcomes have emerged. Evans (2003) estimated that organisations had already spent five billion US dollars in health costs due to stress-related illnesses of the targets of online incivility. Lim and Chin (2006) found job satisfaction and commitment were negatively related to online incivility. The targets of online incivility tended to quit and/or engaged in deviant behaviour against their organization, at a higher rate. Giumetti *et al.*, (2012) found individuals who reported higher levels of online incivility from their supervisors were more likely to report higher levels of burnout, and thought about quitting their jobs more often.

Cortina (2008) indicated incivility may be used as a form of modern discrimination, in which employees, aware of policies reflecting well defined

discrimination laws, covertly discriminate against target members of specific groups on the basis of their sex and race, by hiding behind daily acts of incivility.

Barsade and O'Neill (2016) have found that organisational and personal problems result from businesses failing to pay sufficient attention to their emotional culture, which they define as,

“Feelings people have (and should have) at work, and which ones they keep to themselves” (Barsade and O'Neill, 2016, p. 61).

Research demonstrates that employee commitment, creativity, productivity, intentions to quit, decisions and quality of work, which impact the bottom line, are all influenced by emotions (Barsade and O'Neill, 2016). In terms of personal outcomes, incivility has been associated with certain emotional responses, such as fear, anger and sadness (Porath and Pearson, 2012). Using appraisal theories that state emotions result from peoples interpretations of events, and account for individual variances of emotional reactions to the same event.

In the case of experiencing incivility, relative status of targets and instigators may play a role in an individual's appraisal and emotional reaction to the situation. As prior research has indicated, target appraisals become more negative as the instigators are more powerful (Cortina and Magley, 2009). One would expect targets to express weakness-reinforcing emotions such as fear and sadness when experiencing incivility from the top down, in contrast to a strength

reinforcing emotion like anger, which is permitted by higher status individuals. Likewise, Cortina and Magley (2009) indicated that low status targets self-efficacy is negatively impacted by incivility, and employees who experience a sense of powerlessness believe their actions will be of little consequence.

While studies have documented how incivility in the workplace can lead to negative emotional and behavioural outcomes, a dispositional characteristic that may influence how targets respond to incivility is the cognitive response style of rumination. Empirical studies have investigated whether the effects of workplace stress are moderated by certain dispositional traits, such as rumination, and found it is a maladaptive response style associated with negative outcomes (Denson, 2009; Grandey, 2000; Niven *et al.*, 2013a, 2013b). Rumination is considered a form of perseverative cognition following job stressors and psychophysiological reactivity. It is characterized by a persistent focus and revisiting of a stressful event, keeping it alive in one's mind, and associated with negative emotions and poor adjustment (Rydstedt *et al.*, 2011). This may fluctuate depending on whether rumination as a cognitive regulation strategy is used occasionally (i.e., state rumination) or an enduring response style (i.e., trait rumination). However, because a characteristic of incivility includes an ambiguous intent to harm, it is often unclear to the target whether the instigator intended to harm, and the ambiguity may drive the process of rumination. Thus, in order to make sense of the event an employee continues to revisit it with the associated negative emotions and negative self-appraisals, resulting in a depletion



of personal resources, amplifying the strain (i.e., emotional exhaustion). Rumination has been associated with delayed recovery after exposure to job stressors (Roger and Najarian, 1998). This form of cognitive distraction depletes employees of cognitive resources to attend to task role and demands. Rather than focusing on one's job, targets may ruminate about the experience spending cognitive resources on thinking about avoiding the instigator or preventing the incivility from escalating. If the primary emotion associated with rumination is negative, it may create additional strain and expressions in response to disagreeable interactions at work.

Not all the negative effects of workplace incivility exposure appear to be well established, but certain ones are and remain the focus of this thesis (i.e., burnout, emotional exhaustion, interpersonal deviance, organisational deviance, turnover intentions, retaliation and acting in kind). Schilpzand *et al.* (2014) noted that the research on negative outcomes is extensive but they call for more work in less investigated areas of workplace incivility, such as, the role of possible moderators and/or mediators. Instigator status, negative emotions (i.e., anger, fear), and cognitive rumination are given full attention in the main study.

A full explanation of the theoretical model proposed for this thesis will be presented later in this chapter, detailing how the predictor variables (e.g., face-to-face and online workplace incivility), possible moderator variable (e.g., instigator status), mediator variables (e.g., anger, fear and rumination), and outcome

variables (i.e., emotional exhaustion, intentions to quit, and acting in kind) fit into the model.

### **2.2.5 Instigators of Workplace Incivility**

Porath and Pearson (2013) found that targets of workplace incivility may try and avoid the instigator and it follows that the status of the instigator may be important. When people with formal power to control sanctions and rewards, act uncivilly toward employees, the target may lack the capacity to adequately respond and experience related feelings of helplessness (Pfeffer, 1981; Tepper, 2000; Thacker & Ferris, 1991; Thacker, 1996; Cortina & Magley, 2009). Target appraisals become more negative as the instigators are more powerful (Cortina and Magley, 2009). One would expect targets to express weakness-reinforcing emotions such as fear and sadness when experiencing incivility from the top down, in contrast to a strength reinforcing emotion like anger, which is permitted by higher status individuals. Likewise, Cortina and Magley (2009) indicated that low status targets self-efficacy is negatively impacted by incivility, and employees who experience a sense of powerlessness believe their actions will be of little consequence. From the theoretical framework that follows, the degree of appraised threat from a situation can effect outcomes and it follows that the status of the instigator of workplace incivility (e.g., boss or coworker) with different degrees of ability to control rewards and punishments, will impact that appraisal.

In a recent qualitative meta-analytic review Schilpzand *et al.* (2014) suggested one of the limitations of the research is it groups supervisor and coworker instigated incivility together, without considering the different impact of each source. Hershcovis & Barling (2010) completed a meta-analysis of the research and detailed several reasons why it is essential to consider the source of workplace aggression and this may hold true for incivility in the workplace, as well. They reasoned that when the research method fails to distinguish the instigator, it assumes workplace aggression does not vary due to the perpetrator. Accordingly, different sources may result in different effect magnitudes. Thus, the true effects of incivility in the workplace may be overestimated or underestimated when not considering the source. In theory, moderators, mediators and outcome responses that are instigator-specific may also be missed. In practice, different sources of incivility in the workplace (e.g., supervisor or coworker) may call for different responses from the target, in order to cope, or from the organisation, in order to prevent future occurrences. Consequently, the outcomes from these different sources are unable to be assessed. Research has shown that supervisory-instigated incivility has adverse impact on the target, as employees depend on their evaluations and extrinsic rewards, such as salary and promotions (Cortina and Magley, 2009) However, it may be that some employees value intrinsic rewards such as a sense of camaraderie and being accepted by their team of co-workers. Therefore, being ignored and dismissed by a co-worker could potentially be more harmful than being disregarded by a supervisor.

### 2.2.6 Theoretical Framework

Various conceptual frameworks have attempted to explain peoples' experience of incivility in the workplace including (COR) conservation of resources theory, (AET) and affective events theory (Hobfoll, 1989; Weiss and Cropanzano, 1996). Specifically, conservation of resources theory suggests that stress results from the threat or actual loss of resources resulting from a lack of social support and interpersonal conflict. Accordingly, experiencing stress as a consequence of incivility, like other stressors, may reduce energy resources causing burnout and other negative outcomes. Furthermore, incivility is negatively related to energy levels for engaging in social, emotional, and cognitive tasks, (i.e., stress depletes energy resources) supporting conservation of resources theory (Giumetti *et al.*, 2012; Hobfoll, 1989, 2011; Hobfoll *et al.*, 2012).

Building upon cognitive appraisal models, affective events theory attempts to explain work behaviours by focusing on mood, emotions, and cognitions, among other psychology constructs. Affective events theory assumes affect and work satisfaction are distinct but related constructs, and that emotions negatively interfere with one's motivation, attention span, concentration and cognitive processing capacities. The process is assumed to be ever changing as work events change, resulting in varying degrees of affect, and positive and/or negative reactions. Both instantaneous affect driven, and delayed judgment driven

behaviours are theorized (Ashton-James and Ashkanasy, 2005; Carlson *et al.*, 2011; Fisher, 2002; Grandey *et al.*, 2002; Hartel *et al.*, 1998; Lazarus, 1991; Lazarus and Cohen-Charash, 2001; Ohly and Schmitt, 2015; Paterson and Cary, 2002; Weiss and Cropanzano, 1996; Weiss and Beal, 2005; Weiss *et al.*, 1999).

For parsimonious reasons, the theory developed to guide this research grew out of the most basic Stimulus-Organism-Response (S-O-R) model used in cognitive psychology and augmented, herein, with a postulated moderation process between the stimulus and organism. S-O-R models depict a process in which the organism actively interposes between the stimulus and subsequent response (Baron and Kenny, 1986). The detailed S-O-R model described below also relies upon appraisal theory, and notions of mediation and moderation.

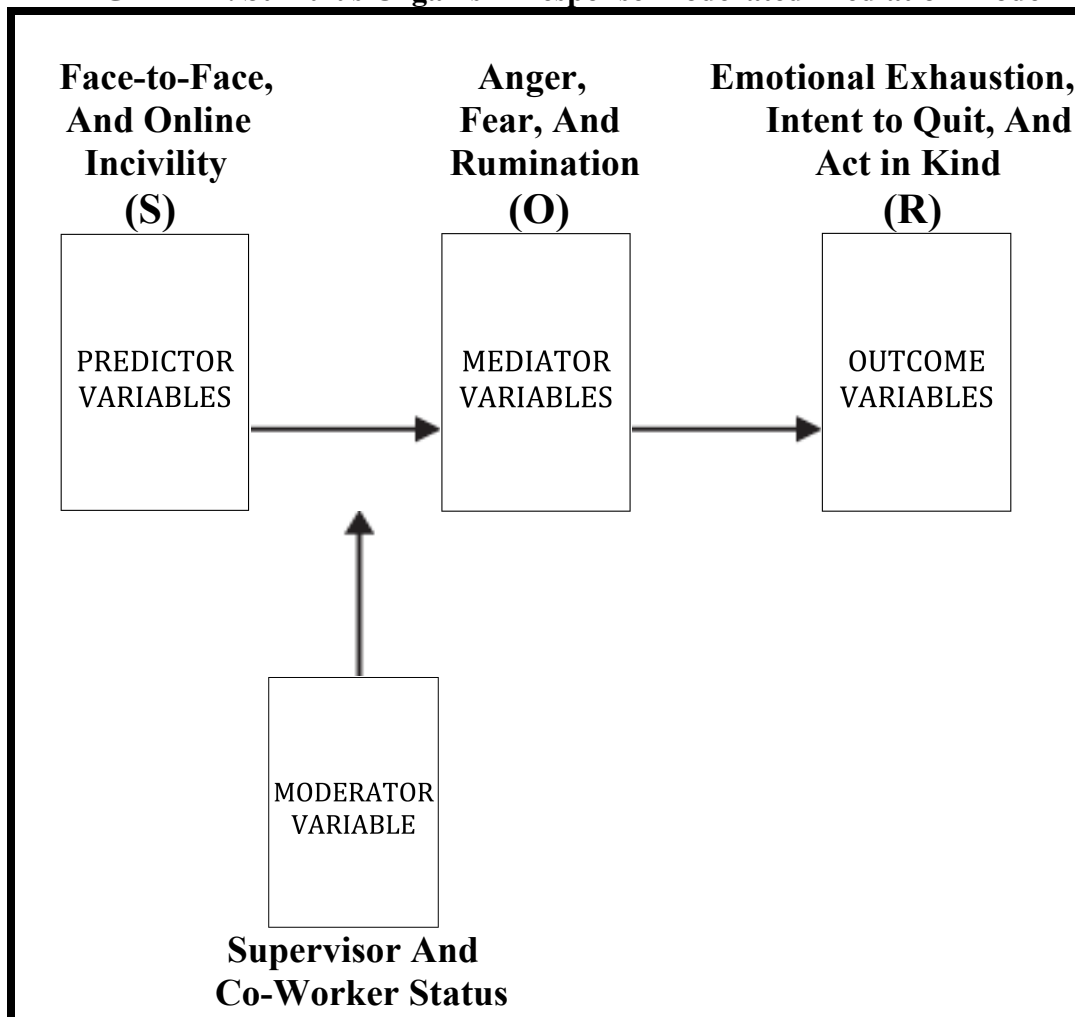
A theoretical framework that conceptualizes the relationship between emotional and behavioural responses to incivility has been called a stressor-strain-appraisal theory. According to this two-step model, workplace incivility can be perceived as an individual interpersonal stressor, while strain is defined by the individual's psychological and physiological response to the stressor (Lazarus, 1999; Lazarus and Folkman, 1984). For instance, when one appraises a situation as threatening, and a person perceives it as important to respond, but does not have an appropriate response (i.e., appraisal) this can cause negative affect, (e.g., anger or fear), resulting in an increased strain, (i.e., emotional exhaustion). During the appraisal process, Porath and Pearson (2012) have suggested in the

case of incivility, the appraisal process leads to an emotional reaction, influencing the victim's behavioural responses. What is also of particular note is how relative status may affect emotional responses during the appraisal process and influence outcomes. Specifically, with regard to outcomes, they found targets of lower status and who experienced fear were more likely to exit their organization. Research found supervisor instigated incivility strongly associated with adverse outcomes in both face-to-face and online conditions (Cortina and Magley, 2009; Herscovis and Barling, 2010; Lim and Chin, 2006). Keltner *et al.* (2003) suggested that victims respond differently depending on their relative level of power. They found power to be associated with positive affect whereas reduced power associated with negative affect, attention to threat and punishment. The theoretical framework outlined by Niven *et al.* (2013b) was conceptualized as the combined stressor-strain response styles model. Accordingly, when exposed to incivility in the workplace, individuals are likely to first appraise the stressful encounter along with their own abilities to cope effectively. If the conclusion is that he or she cannot cope effectively, negative feelings occur.

As mentioned above, the current research relies upon appraisal theory and argues that emotions result from peoples' interpretation of events, and account for individual variances of emotional reactions to the same events. Different aspects of the incivility event or predictor variable (e.g., the status of the instigator of workplace incivility) may moderate or affect the direction and/or strength of the relation between the event and the outcome variable, and individual differences in

how people internally process/respond to an external event (e.g., reacting with anger, fear or rumination) may partially or fully mediate (i.e., determine) individual differences in their outcome measures (e.g., emotional exhaustion, intentions to quit, or act in kind). See diagram 1.

**DIAGRAM 1. Stimulus Organism Response Moderated-Mediation Model**



Individuals, who experience workplace incivility, can react in various ways. The stressor-strain appraisal model theorizes that when workers encounter a potential stressor, an internal cognitive and emotional process unfolds evaluating the stressor (Lazarus, 1999; Lazarus and Folkman, 1984; Porath and Pearson, 2012). Thus, employees assess the situation to determine the likely negative

impact, which leads to an emotional reaction that guides their responses (Andersson and Pearson, 1999; Lazarus, 1999; Lim *et al.*, 2008; Porath and Pearson, 2012). Their assessments and reactions can depend on features of the individuals and the environments they encounter (e.g., Compas and Orosan, 1993; Cortina and Magley, 2009; Kim *et al.*, 2005; Porath and Pearson, 2012). Specifically, in a S-O-R model it is the internal appraisal of the stimulus that directly guides the response, not the external stimulus, itself. For example, if workplace slights are appraised as insignificant events to be ignored in favour of the overall tasks at work, they are likely to have a different impact than if they are repeatedly ruminated about as significant attacks. Thus, the outcome is likely to be mediated by rumination.

The differences between moderation and mediation aspects of the model have historical underpinnings, which can be clarified as follows. According to Jose (2013) moderation models can be traced back to the works of Fisher (1935, 1950), which led to methods for analysing mean group differences given the variability associated with each mean (e.g., the use of *t*-tests, and ANOVA that can look at both main and interaction effects). In contrast, mediation models can be traced back to the works of Galton (1869/1962), which led to methods for analysing associations (e.g., correlation, and regression). According to Jose (2013) Galton was most likely one of the first individuals to be rebuked for confounding correlation and causality. Although both moderation and mediation computations can be performed in regression, the former derives from the effort



in statistics on ANOVA, and the latter derives from the effort in statistics on correlation and regression (Jose, 2013).

Wright (1921) depicted a path analysis for measuring direct and indirect effects among groups of variables, and although he never used the term mediation, his procedures were in essence a mediated model. He even alluded to the possibility of “interacting variables” also being represented in the path analysis. Although he did not use the term moderation, and did not explain the role of interaction, his path analysis can be viewed as the precursor to contemporary moderated-mediation and/or mediated-moderation models. Psychologists, rather than statisticians coined the terms mediation and mediators around the same time as the work on path analysis (Jose, 2013). Warren (1920) referred to the nervous system as the “mediator” between an organism’s body and the environment.

In Thorndike’s (1932) Stimulus-Organism-Response (S-O-R) model, the organism is impacted by the environment and then using its cognition, emotions, motivation, goals and etc., the organism creates a response. According to Tolman (1938) and Hull (1943) the organism is an intervening variable between the stimulus and the response or between the predictor variables and the outcome variables. With the expansion of cognitive psychology some six decades ago, process models became more central (Jose, 2013). Then Kenny (1979) proposed formal path analysis describing mediation as a variable interposed between two

others in a path model. Subsequently, more social scientists began to use the term mediation, referring to indirect effects in path models, and the article by Baron and Kenny (1986) titled “*The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations*”, has become one of the most widely cited articles in the field of psychology. Mediators act as a mechanism through which the predictor variable impacts the outcome variable. They explain how external factors take on psychic significance and the reason certain effects result (Jose, 2013). Stimulus-Response (S-R) models, fail to look inside the black box and have little use for mediators (Skinner, 1938). Stimulus-Organism-Response (S-O-R) models do depict a mediation process in which the organism actively interposes between the stimulus and subsequent response (Baron and Kenny, 1986).

In a parallel development, attention to moderators grew out of a focus on blending path modelling methods of multiple regression with the ANOVA conception of statistical interactions (Abrahams and Alf, 1972; Allison, 1977; Cohen, 1978; Cooley and Keeseey, 1981; Sockloff, 1976; Southwood, 1978; Zedeck, 1971). Moderators act to partition the predictor variable into subcategories that depict its extent of effectiveness regarding the outcome variable. Interaction models statistically represent moderator effects (Jose, 2013).

The theoretical framework developed for this thesis and depicted in diagram 1 is presented to explain the negative effects of exposure to face-to-face

and online workplace incivility. It will be further detailed with the presentation of the hypotheses of the main study in the following section.

### **2.3 HYPOTHESES**

The theoretical framework used in this thesis is based on the literature reviewed and developed from the Lazarus and Folkman (1984) stressor-strain appraisal model, which conceptualizes the relationship between emotional, cognitive, and behavioural responses to various forms of stressors, including incivility. According to this model when people perceive a potential stressor, they try to understand it and appraise both the stressor (e.g., its degree of severity), and their ability to manage the potential threat (e.g., effectively or not). If this appraisal process determines the stress is significant and difficult or impossible to cope with, unpleasant emotions are aroused. As Porath and Pearson (2012) indicate, how individuals initially appraise a situation is dependent on characteristics of the person and the environment.

Although incivility in the workplace has been associated with emotional exhaustion, and intention to quit on a between-persons level of analysis, Beattie and Griffin (2014) have indicated that work stress shows intra-individual variation in persons and affective experiences. From the stressor-strain appraising model workplace incivility is most likely to be perceived as a job-related stressor, while strain is defined by the individual's emotional and behavioural response to the

stressor. For example, experiencing incivility either face-to-face or online may be perceived as a negative organisational interpersonal stressor, increasing strain (i.e. emotional exhaustion) in response to the perceived threat. Repeated stress such as incivility in the workplace has been associated with negative employee outcomes, such as, psychological distress and emotional exhaustion. (Houkes *et. al.*, 2003; Lim *et. al.*, 2008). Characterized by feeling emotionally depleted, and unable to cope with additional stressors, emotional exhaustion has been identified as the significant factor of employee burnout and one of the outcomes associated with workplace incivility (Maslach and Jackson, 1986). The consequences of emotional exhaustion are costly for the organisation and employees, resulting in less than optimal job performance (Lloyd *et. al.*, 2015). As mentioned in previous chapters, cross-sectional research has looked at emotional exhaustion as one of the outcomes of workplace incivility, and this study will extend on the previous research by collecting data beyond a snapshot in time.

**Hypothesis 1a:** Employees will experience higher levels of emotional exhaustion on days when they are treated more uncivilly face-to-face.

**Hypothesis 1b:** Employees will experience higher levels of emotional exhaustion on days when they are treated more uncivilly online.

Although some of the research examining incivility in the workplace has focused on the relationship between instigator and target, the majority of the research fails to distinguish the relative hierarchical status between them (Porath and Pearson, 2012). In a recent qualitative meta-analytic review, Schilpzand *et al.*, (2014) suggested a limitation of the research was that it grouped incivility

instigated by supervisor and co-worker together, without considering the different impact of each source. Hershcovis and Barling (2010) completed a meta-analysis of the research and detailed several reasons why it is essential to consider the source of workplace aggression and this may hold true for workplace incivility, as well. They reasoned that when the research method fails to distinguish the instigator, it assumes that workplace aggression does not vary due to the perpetrator. Yet it is possible that different sources may result in different effect magnitudes, meaning that the true effects of incivility in the workplace may be overestimated or underestimated when not considering the source. In practice, different sources of workplace incivility (e.g., supervisor or co-worker) may also call for different responses (i.e., both internal emotional responses and external outcomes) from the target in order to cope (Hershcovis and Barling, 2010). According to Porath and Pearson (2012), workplace incivility (e.g., instigated by a supervisor or coworker) can trigger negative internal emotional responses including anger and fear. As such, one would expect instigator status to moderate the relationship between these two forms of incivility and these two internal emotional responses.

**Hypothesis 2a:** Instigator status will moderate the relationship between face-to-face incivility and anger, such that there will be a stronger relationship between face-to-face incivility and anger when the instigator is a supervisor.

**Hypotheses 2b:** Instigator status will moderate the relationship between online incivility and anger, such that there will be a stronger relationship between online incivility and anger when the instigator is a supervisor.

**Hypothesis 3a:** Instigator status will moderate the relationship between face-to-face incivility and fear, such that there will be a stronger relationship between face-to-face incivility and fear when the instigator is a supervisor.

**Hypotheses 3b:** Instigator status will moderate the relationship between online incivility and fear, such that there will be a stronger relationship between online incivility and fear when the instigator is a supervisor.

Pearson and Porath (2012) have indicated incivility tends to be a top down phenomenon, whereby the instigator has more legitimate power than the target. Herscovis and Barling (2010) found that supervisor aggression had a stronger negative relationship with workplace attitudes (i.e., job satisfaction, and intention to quit) than co-worker aggression. When it comes to appraisal, Cortina and Magley (2009) have suggested that employees experiencing incivility from instigators who have supervisory power over the target will appraise the situation more negatively. For example, experiencing a rude or uncivil remark may be appraised as less threatening from a co-worker of equal status, than from a supervisor who has legitimate power from the organisation to determine rewards and punishments. Consequently, the target may appraise the event more negatively, feeling helpless to respond, thus increasing their emotional strain. One would expect the effect on strain would vary depending on the status of the instigator.

**Hypothesis 4a:** Instigator status will moderate the relationship between face-to-face incivility and emotional exhaustion, such that there will be a stronger relationship between face-to-face incivility and emotional exhaustion when the instigator is a supervisor.

**Hypotheses 4b:** Instigator status will moderate the relationship between online incivility and emotional exhaustion, such that there will be a stronger relationship between online incivility and emotional exhaustion when the instigator is a supervisor.

Two very distinctive behavioural outcomes to experiencing incivility that have been discussed in the literature are reciprocation and turnover intentions. Schilpzand (2014) criticized the methodological shortcomings of incivility research that utilized isolated interactions between workers, without exploring the on-going reciprocal escalation of incivility that unfolds in real time based on the original theoretical conceptualizations of Anderson and Pearson (1999). According to the concept of reciprocity and social exchange theory, people tend to give what they receive (Cropanzo and Mitchell, 2005). With this in mind, one can see how roles over time can be exchanged, whereby targets become instigators and vice-a-versa. Hershcovis and Reich (2013) suggested these findings question whether these labels are theoretically meaningful, noting that instigators and targets often share common characteristics, and often occupy both roles. Acting in kind to workplace incivility may perpetuate the cycle and hurt the bottom-line. While people sometimes choose to reciprocate incivility this is not always the case. It has been noted that incivility in the workplace is also related to intentions to quit (Jiménez *et al.*, 2015; Laschinger *et al.*, 2009; Lim *et al.*, 2008; Ghosh *et al.*, 2013; Pearson and Porath, 2009).

Turnover impacts the bottom-line in various respects, including:

“Leave capitalization, recruitment costs, reference checks, security clearance, temporary worker costs, relocation costs, formal training costs and induction expenses. Invisible costs involve enlarged HR and payroll administration, loss of productivity, and informal training. Other hidden costs comprise missed deadlines, loss of organizational knowledge, low motivation as a result of overwork, loss of clients and chain reaction turnover (Alkahtani, 2015, p. 152).

Loss of key employees can be extremely detrimental to an organisation. Andrew Carnegie, a famous 19th century industrialist, once stated,

“Take away my factories, my plants; take away my railroads, my ships, my transportation, take away my money; strip me of all of these but leave me my key employees, and in two or three years, I will have them all again” (Gupta and Srivastava, 2007, p. 1).

According to Rust *et al.* (1996) turnover also negatively impacts customer-employee relationships that remain central to returning business. The retained people that have not left, can feel discouraged, demoralized, dissatisfied, less productive, and may also look for better opportunities elsewhere (Alkahtani, 2015).

**Hypothesis 5a:** Employees will experience higher levels of intention to quit on days when they are treated more uncivilly face-to-face.

**Hypothesis 5b:** Employees will experience higher levels of intention to quit on days when they are treated more uncivilly online.

**Hypothesis 6a:** Employees will experience higher levels of acting in kind on days when they are treated more uncivilly face-to-face.

**Hypothesis 6b:** Employees will experience higher levels of acting in kind on days when they are treated more uncivilly online.

One factor that might explain why people do reciprocate and others do not is their emotional response to incivility. Experiences of a workplace stressor such as incivility can trigger negative emotions (e.g., anger and fear). Porath and Pearson (2012) cited that anger is a negative emotion and can be characterized by



appraisals of strength, and confrontational behaviours. In contrast, fear has been associated with appraisals of weakness, withdrawal, and avoidance behaviours. From an evolutionary perspective, actions taken toward the aggressor (i.e., fight response) or actions taken to avoid the aggressor (i.e., flight response) were considered adaptive responses when responding to threat. However, in an organisational setting, these two responses have been associated with costly negative consequences. In their investigation of emotional and behavioural responses to workplace incivility Porath and Pearson (2012) found anger was associated with more direct aggression against the instigator, whereas fear was more likely associated with intention to quit. The target's emotional response (i.e., fear v. anger) is likely to influence the behavioural response, as to whether one retaliates by acting in kind, or engages in turnover intentions.

According to Hirschmann's (1970) theory outlined in his book *Exit, Voice and Loyalty*, if you provide a forum for people to voice complaints, rather than exit, there is a reduction in the discontent. It may be that in an organisational culture where tit-for-tat is the norm, and anger and dissatisfaction can be registered without it escalating to violence, fewer people exit. Alternatively, if the incivility is instigated from the top down, and legitimate avenues for voicing objection are barred, the only alternative for those who are afraid of challenging incivility may be to leave the organisation.

If employees become fearful because their assessment of the uncivil situation is that it is too stressful, or that they will no longer be able to cope effectively, it follows that flight will be more likely. Note, turnover intention is distinguished from job turnover but they are related. According to Yang *et al.*, (2014) job turnover refers to the actual behaviour of leaving an organisation and Robbins and Judge (2013) defined job turnover as employees' voluntary or involuntary permanent departure from organisations. In contrast, turnover intentions include turnover attitudes and ideas with regard to pursuing alternative employment (Miller *et al.*, 1979). Turnover intentions are indicators of job turnover i.e., the degree to which individuals' turnover intentions determine their subsequent turnover behaviours (Mobley, 1977). Research studies have employed the theory of job turnover to demonstrate that turnover intentions are the optimal predictors of whether an employee will leave an organisation (Steel, 2002).

Turnover intention is characterized as the final step in the decision making process before an employee actually exits the organisation (Bester, 2012). It makes sense that from the stressor strain model, those employees responding to incivility in the workplace with fear are more likely to have intentions to quit as an avoidance coping strategy to escape an uncivil work environment, rather than confronting the instigator.

**Hypothesis 7a:** Anger will mediate the relationship between face-to-face incivility and intention to quit, such that the effect of face-to-face incivility on intention to quit will disappear or be reduced when included in the regression with anger.

**Hypothesis 7b:** Anger will mediate the relationship between online incivility and intention to quit, such that the effect of online incivility on intention to quit will disappear or be reduced when included in the regression with anger.

**Hypothesis 8a:** Fear will mediate the relationship between face-to-face incivility and intention to quit, such that the effect of face-to-face incivility on intention to quit will disappear or be reduced when included in the regression with fear.

**Hypothesis 8b:** Fear will mediate the relationship between online incivility and intention to quit, such that the effect of online incivility on intention to quit will disappear or be reduced when included in the regression with fear.

**Hypothesis 9a:** Anger will mediate the relationship between face-to-face incivility and behaviour in kind, such that the effect of face-to-face incivility on behaviour in kind will disappear or be reduced when included in the regression with anger.

**Hypothesis 9b:** Anger will mediate the relationship between online incivility and behaviour in kind, such that the effect of online incivility on behaviour in kind will disappear or be reduced when included in the regression with anger.

**Hypothesis 10a:** Fear will mediate the relationship between face-to-face incivility and behaviour in kind, such that the effect of face-to-face incivility on behaviour in kind will disappear or be reduced when included in the regression with fear.

**Hypothesis 10b:** Fear will mediate the relationship between online incivility and behaviour in kind, such that the effect of online incivility on behaviour in kind will disappear or be reduced when included in the regression with fear.

The effect on strain may also depend on the cognitive response style of the target, specifically whether they engage in rumination. Nolen-Hoeksema (2008) response styles theory can be used to explain a maladaptive response style to experiencing incivility. She has suggested that when people are distressed they may respond adaptively, such as, altering their environment, and increasing social support. Conversely, she indicated their responses could be maladaptive, as is the case with rumination. As cited before, associations between maladaptive response styles (e.g., ruminations about workplace stress) and negative outcomes have been

demonstrated (Denson, 2009; Grandey, 2000; Niven *et al.*, 2013a, 2013b). Rydstedt *et al.* (2011) considers rumination a form of perseverative cognition, continuing to focus on experienced stress or psycho-physiological reactivity, and it has been associated with poor adjustment, and negative emotions. because a characteristic of incivility includes an ambiguous intent to harm, it is often unclear to the target whether the instigator intended to harm, and the ambiguity may drive the process of rumination. In order to make sense of incivility in the workplace, especially with its ambiguous intent to harm, perceived slights may live rent-free in employees' heads, revisiting it with the associated negative emotions and negative appraisals, depleting personal resources, and increasing emotional exhaustion. Roger and Najarian (1998) found rumination associated with delayed recovery after experiencing job stress. With this in mind the following hypotheses were formulated.

**Hypothesis 11a:** Rumination will mediate the relationship between face-to-face incivility and emotional exhaustion, such that the effect of face-to-face on emotional exhaustion will disappear or be reduced when included in the regression with rumination.

**Hypothesis 11b:** Rumination will mediate the relationship between online incivility and emotional exhaustion, such that the effect of online incivility on emotional exhaustion will disappear or be reduced when included in the regression with rumination.

An argument will be forwarded in the next chapter concerning the best way to investigate these hypotheses and the theoretical framework proposed, herein.

## **CHAPTER 3 – METHODOLOGICAL LITERATURE REVIEW**

### **3.1 OVERVIEW**

Consistent with Symon's proposal, prior to selecting a methodology, researchers should consider what they are interested in finding out, and what is the most appropriate method for conducting their research. (Symon, 2004; Symon and Cassell, 2012). This chapter presents a review of the literature identifying and focusing on methodological concerns related to incivility in the workplace. An extensive portion of the literature on incivility in the workplace is based on cross-sectional studies; the focus of the current review is to discuss the limitations of this type of research. An alternative repeated measures experience sampling method is proposed. The feasibility, rationale, and methodological advantages of using experience sampling research procedures are considered. The use of Smartphone applications as a research tool in data collection is further explored, including its feasibility and limitations, followed by a review of various ethical issues that arise when conducting web-based and app-based survey research. In closing, chapter three outlines the current research approach of this thesis and what it sets out to accomplish.

## **3.2 LITERATURE CONCERNING METHODOLOGICAL APPROACH**

### **3.2.1 Methods Used to Study Workplace Incivility**

Before deciding on a proper and well-justified methodology for measuring incivility in the workplace, it was essential to review the available measures, determine their relative merits, and consider possible solutions for any observed shortcomings.

Kunkel *et al.* (2015) conducted a qualitative analysis of 55 articles in order to determine the relevant dimensions of instruments attempting to measure incivility and they identified three: content (i.e., particular perceptions and behaviours included in test items that investigators believe to be consistent with the theoretical construct of incivility), format (i.e., the number of test items, the response scales, the language used to describe incivility, the perspective or role from which the incivility is experienced, and the period of time over which respondents need to recall prior acts of incivility for the test instrument), and context (i.e., the different circumstances under which incivility is measured). They concluded, separate from experimental design approaches to examining incivility in the workplace, there were only three instruments that have been developed to measure workplace incivility, to date. Cortina *et al.* (2001) introduced the Workplace Incivility Scale (WIS), often adapted in different forms. Then Blau and Andersson (2005) developed the Instigated Workplace Incivility

Scale (IWIS), yet another adaptation of the WIS, while Martin and Hine (2005) introduced the Uncivil Workplace Behavior Questionnaire (UWBQ).

Although Kunkel *et al.* (2015) criticize the field for a failure to consistently use an operationalized measure of the workplace incivility construct (i.e., often making changes in the original WIS without subsequent validation of the new versions), Schilpzand *et al.* (2014) acknowledge some advantages to this diverse and growing body of knowledge.

“The use of only one specific methodology may be too broad or insufficiently inclusive to capture the construct’s true domain. In the field of workplace incivility, researchers applied the important notion of convergence of operations (different methods, measures, and operationalizations) to show the effects of incivility, which makes the credibility of workplace incivility findings especially persuasive. .... In sum, we believe that the study of incivility with many different methodologies that converge to indicate the antecedents and impacts of incivility in a wide array of domains represents a strength of this literature.” (Schilpzand *et al.*, 2014, p. 7).

Relevant theoretical outcomes (e.g., performance, retaliations, and helpfulness) have been demonstrated with the use of critical incident methods, and experimental manipulation, as alternatives to cross-sectional research (Giumetti *et al.*, 2013; Kim and Shapiro, 2008; Porath and Erez, 2007). Assessments of incivility at the organisational level or at group norm levels, also demonstrate effects on outcome variables (e.g., turnover intentions and job satisfaction) that are driven by theory (Griffin, 2010; Walsh *et al.*, 2012). When varied research operations (e.g., cognitive, behavioural, psychological,

observational, interview, or survey) yield similar conclusions about the relationships between constructs, the evidence of these converging operations becomes all the more convincing (Cronbach, 1960; Cronbach and Meehl, 1955).

### **3.2.1.1 Workplace Incivility Scale (WIS)**

Items for the Workplace Incivility Scale (WIS), by Cortina *et al.* (2001), were derived from the earlier work of Einarsen *et al.* (1994) that identified negative behaviours that occurred most frequently in the workplace. Item development was also guided by Andersson and Pearson's (2001) definition mentioned earlier that emphasized low intensity behaviours with ambiguous intentions to harm. With confirmatory factor analysis, investigating 1,662 employees of The United States Court of Appeals for the Eighth Circuit, Cortina *et al.* (2001) identified seven items that appropriately fit a single factor model. Their research produced the Workplace Incivility Scale (WIS), a seven-item scale with five response choices from "Not at all" [1] to "Very often" [5] (i.e., scores can range from 1 to 35, reflecting low to severe experiences workplace incivility), and an alpha coefficient of 0.89.

According to Kunkel *et al.* (2015), more often than not, the Workplace Incivility Scale (WIS) is the measure that is utilized when attempting to investigate incivility in the workplace, though rarely, if ever, in its original format. Furthermore, of the forty-six studies that made subsequent modifications



to the original Workplace Incivility Scale (WIS), Kunkel *et al.* (2015) concluded that they all failed to re-validate the new instruments. This is a shortcoming the present study intends to overcome, but first it is important to examine the WIS more closely.

Kunkel *et al.* (2015) attempted to make an argument that people have inappropriately expanded the construct of incivility in the workplace beyond the original definition by using the Workplace Incivility Scale (WIS) in combination with other instruments that tap into different constructs. As examples of these, presumably inappropriate practices, they cited Lim and Cortina's (2005), and Miner-Rubino and Cortina's (2007) use of the Sexual Experiences Questionnaire, the use of the Daily Racist Hassles Scale by Miner *et al.* (2012), Penny and Spector's (2005) use of the Lehman Inventory of Physical Aggression, and the Workplace Aggression Questionnaire. Looking at relationships between different constructs is something the present research also engages in but doing so does not necessarily move the boundaries of the constructs' definitions, but merely provides knowledge about their relatedness, or lack thereof.

Although alterations in the format of the original Workplace Incivility Scale (WIS) appears to be the rule, rather than the exception, this undertaking should not be entered into lightly. Changes should be guided by theoretical and practical concerns, while taking steps to validate the new instruments before drawing any conclusions from the data they produce, even when the alterations

appear minor based on face value. Unfortunately, this latter point has not been fully actualized in many of the following cited studies. Failure to remain true to the original scale with respect to format, such as, 4- or 5-point Likert scales, with varying wording (e.g., Never *v.* Not at All, or Frequently *v.* All the Time) may be purposeful, but may also be due to a lack of familiarity with the original scale, opting to rely on imprecise descriptions of it in journal articles (Lim and Lee, 2011; Lim and Teo, 2009; Taylor and Kluemper, 2012).

Given the original scale asked people to rate the extent of exposure to incivility in the workplace over the past five [5] years, and the problems with recall bias even in retrospective studies using smaller windows of time, it is not surprising that many adaptations have altered the reference period (Caza and Cortina, 2007; Miner-Rubino and Cortina, 2007; Porath *et al.*, 2010; Schilpzand *et al.*, 2014; Taylor and Klemperer, 2012). Some have reduced the period to one year (Chen *et al.*, 2013; Cortina *et al.*, 2001; Ferguson, 2012; Walsh *et al.*, 2012). Others limit it to a half-year (Wilson and Holmvall, 2013), four months (Blau, 2007), three months (Scott *et al.*, 2013), one month (Leiter *et al.*, 2011; Sakurai and Jex, 2012; Sliter *et al.*, 2012a; Van Jaarsveld, 2010), and some ask about incivility experiences over the past two weeks (Kern and Grandey, 2009), while others do not specify a reference period at all (Griffin, 2010; Sliter *et al.*, 2010).

The vast majority of research on incivility in the workplace has focused on incidents over a period of months or years, examining the impact of workplace

incivility on behaviors and attitudes that are long-term (Schilpzand *et al.*, 2014). According to Mitchell and James (2001), by shifting the focus of this research to short-term, more immediate effects of incivility in the workplace, better knowledge concerning causal links leading to more precise explanatory theory will follow. As noted below, experimental design studies have contributed in this area (Porath and Erez, 2007, 2009). The methodological advantages of the current research, with its repeated measures experience sampling approach, are also promising.

Opting for fewer items from a scale that fits a single factor model, as was done by Miner-Rubino and Cortina (2007) may streamline the survey and reduce participant burden, but a seven-item survey is already relatively brief. Alterations in the instrument from the original role perspective of the target, to that of the workplace incivility instigator, were made by Blau and Andersson (2005), while Miner and Eiseid (2012) altered the instrument to capture the perspective of a third party witness.

The Workplace Incivility Scale (WIS) has been used in a variety of contexts and generalisability of the results remains an issue. Both broad-based and relatively circumscribed locals have been utilized. They have included cross-sections of diverse industries, online data collection services, and specific organisations or industrial sectors. As noted earlier, the original study was with the US Federal Court System. It was expanded to also include other Court

systems, law enforcement, military and general government employees. (Cortina *et al.*, 2001; Cortina *et al.*, 2002; Cortina *et al.*, 2013; Cortina and Magley, 2009; Lim and Cortina, 2005; Lim *et al.*, 2008; Walsh *et al.*, 2012). Much of the research has been conducting in the United States (Schilpzand *et al.*, 2014). Some researchers sampled from a diverse spectrum of industries (Cameron and Webster, 2011; Caza and Cortina, 2007; Meier and Spector, 2013; Milam *et al.*, 2009; Taylor and Kluemper, 2012). Others focused on specific industries or geographical locales, such as: Canada (Leiter *et al.*, 2011; Leiter *et al.*, 2010; Oore *et al.*, 2010; Laschinger *et al.*, 2009; Laschinger *et al.*, 2012; Van Jaarsveld *et al.*, 2010); the United Kingdom (Totterdell *et al.*, 2012); and the Asian and Pacific region (Chen *et al.*, 2013; Griffin, 2010; Kim and Shapiro, 2008; Kirk *et al.*, 2011; Lim and Lee, 2011; Lim and Teo, 2009; Martin and Hine 2005; Scott *et al.*, 2013; Wu *et al.*, 2013). The healthcare industry and nursing have been well represented by the research (Laschinger *et al.*, 2009; Laschinger *et al.*, 2012; Leiter *et al.*, 2010; Leiter *et al.*, 2011; Leiter *et al.*, 2012; Oore *et al.*, 2010; Smith *et al.*, 2010; Trudel and Reio, 2011). Business sectors including banking, finance, property management, manufacturing and retail, have also been investigated (Chen *et al.*, 2013; Diefendorff and Croyle, 2008; Kern and Grandey, 2009; Lim and Teo, 2009; Miner *et al.*, 2012; Miner-Rubino and Reed, 2010; Sliter *et al.*, 2010; Sliter *et al.*, 2012a; Wilson and Holmvall, 2013; Wu *et al.*, 2013). As with other academic research, students (i.e., employed students in these cases) have been heavily relied upon (Giumetti *et al.*, 2013; Penney and Spector, 2005; Porath and Erez, 2007; Porath and Pearson, 2012; Porath *et al.*, 2008; Sliter *et al.*, 2012a;

Taylor *et al.*, 2012).

### **3.2.1.2 Online Workplace Incivility**

Lim and Chin (2006) adapted parts of the WIS (e.g., “*Put you down or was condescending to you in some way through email*”) and added a few additional items (e.g., “*Did not personally acknowledge receipt of your emails even when an acknowledgment of receipt was specifically requested for*”) in order to create a measure of online workplace incivility. Like many of the adaptations of the WIS, they failed to validate their new measure and little research has been done with it since.

### **3.2.1.3 Instigated Workplace Incivility Scale (IWIS)**

In order to examine the role of the instigator, Blau and Andersson (2005) adapted the Workplace Incivility Scale (WIS), asking the questions from the instigator’s perspective rather than from the target’s perspective. For example, the first of the seven items asks to what extent in the past year have you “*Put others down or were condescending to them*”. Unlike other adaptations of the Workplace Incivility Scale (WIS) Blau and Andersson (2005) validated their Instigated Workplace Incivility Scale (IWIS) with factor analytic techniques. The scale obtained a Cronbach’s alpha of 0.87 and its reliability was 0.89. They also grounding their 4-point Likert scale from “Once every few months or less” to “At

least once a day”. Meier and Semmer (2012) subsequently adapted the Instigated Workplace Incivility Scale (IWIS) to be supervisor and co-worker specific, and utilized a 7-point Likert scale. The IWIS has been used with cross-section workplaces, with employed students and/or their recruits, and with online data collection services (Kunkel *et al.*, 2015). Instigator status is a variable that will be discussed at greater length in a separate section below.

#### **3.2.1.4 Uncivil Workplace Behavior Questionnaire (UWBQ)**

The Uncivil Workplace Behavior Questionnaire (UWBQ) was developed by Martin and Hine (2005) and categorizes incivility into various dimensions, including: hostility; privacy invasion; exclusionary practice; and gossiping. With a one-year recall period they used a 5-point Likert scale and each item was uniquely different from the Workplace Incivility Scale (WIS).

#### **3.2.1.5 Experimental Design Studies (EDS)**

Using Experimental Design Studies (EDS), Porath *et al.* (2010), Porath and Erez, (2007 and 2009), and Porath and Pearson (2012), manipulated exposure to incivility in the form of witnessing exchanges between confederates in order to study its impact on various behaviors. Niven *et al.* (2013b) manipulated exposure using simulated violence in video format.

### 3.2.2 Current Limitations of Workplace Incivility Methods

Except for a few diary studies, review of the literature concerning workplace incivility have been mostly quantitative cross-sectional surveys asking participants to summarise their experiences over given periods of time, usually covering several months or years (Andersson and Pearson, 1999; Aquino and Bradfield, 2000; Beattie and Griffin, 2014; Cortina, 2008; Cortina and Magley, 2009; Hershcovis and Barling, 2010; Kunkel *et al.*, 2015; Pearson and Porath, 2009; and Schilpzand *et al.*, 2014; Totterdell *et al.*, 2012). Although cross-sectional studies have been commonly used to investigate incivility in the workplace, there are at least three important limitations with this approach to measurement. First, cross-sectional measures are unable to answer questions that go beyond self-report measurement at one point in time, which prevents them from capturing the contextual and dynamic aspect of incivility. From a social interaction model, Andersson and Pearson (1999) argued incivility in the workplace could spiral, starting with one employee perceiving behaviour as uncivil, then countering with a reciprocal act of incivility, which escalates into an exchange that results in a tipping point of coercive actions. Hershcovis and Reich (2013) have further explained how this evolves providing evidence that individuals often occupy both roles with the target becoming instigator and vice versa. They also suggest that the labels of perpetrator and target may have little practical meaning and may depend on the point of time or cross-section when data are captured. In summary, cross-sectional retrospective recall methods fail to

assess the dynamic process of workplace incivility exchanges as they unfold, instead merely measuring simple associations between antecedents and outcomes (Hershcovis and Reich, 2013). Thus, substantial insight into the day-to-day effects of incivility has yet to be provided in the research literature.

Second, the cross-sectional survey approach typically relies of the use of retrospective measures, which mean that participants can fall victim to recall bias. Recalling information is a reconstructive process influenced by a variety of factors that contribute to recall bias including the time interval since exposure (Coughlin, 1989). The inability of people to provide accurate retrospective information, has led to dissatisfaction with a large body of research, and created the need for an alternate approach. For example, with the Workplace Incivility Scale (WIS) developed by Cortina *et al.* (2001), respondents are asked to report the frequency with which they have been the targets of incivility during the preceding five years. Bradburn *et al.* (1987) has suggested that because people forget the details associated with particular events, respondents resort to inferences that use partial information from memory to construct an answer. Trull *et al.* (2009) give several examples by noting how individuals are more likely to recall or report experiences that seem more personally relevant (i.e., the personal heuristics effect), that occurred more recently (i.e., the recency effect) that stand out as significant or unusual (i.e., the salience or novelty effect), or that are consistent with their current mood state (i.e., the mood-congruent memory effect). Thus, estimates of the prevalence and effects of workplace incivility have



therefore been based on participants' recall of these incidents reflecting inaccuracies.

Third, the use of cross-sectional measurement means that predictors and outcomes are simultaneously assessed and thus that one cannot determine cause and effect. The researcher may determine that there is an association between witnessing incivility and emotional exhaustion, but there is no evidence that the predictor caused the outcome or vice versa. Correlation does not imply causation, however, as described below in a discussion of mediation act as a mechanism through which the predictor variable impacts the outcome variable. They explain how external factors take on psychic and/or emotional significance and the reason certain effects result (Jose, 2013).

### **3.2.3 Experience Sampling Methodology**

An alternative approach to measurement that has the potential to address some of the methodological challenges discussed above, while capturing a more complete picture of incivility in the workplace, is experience sampling methodology (ESM). According to Scollon *et al.* (2003),

“ESM refers to a method of data collection in which participants respond to repeated assessments at moments over the course of time while functioning in their natural setting” (p. 5).

Assessments can either be taken at regular intervals (e.g., hourly, daily,

weekly) or prompted by particular events (e.g., immediately following an incident of incivility). The first ESM study can be traced to Flugel's (1925) thirty-day study of mood where nine subjects kept a detailed record of their affective life for thirty days tracking the intensity and feelings that were experienced and the qualitative nature of the chief affective mental states. More recently, ESM has been adopted in the social sciences, and is associated with Csikszentmihalyi (1978). Inspired by Husserl's (1989) "*pure phenomenology*", with his focus on the events represented in our individual stream of consciousness, Csikszentmihalyi developed his work on "*systematic phenomenology*" (Csikszentmihalyi, 2000; Csikszentmihalyi and Larson, 1987). His central procedural challenge was to devise a reliable measure of events as they occurred in the stream of consciousness over time. In his own words,

"To provide a more complete view of what human behavior and experience entail, it is necessary to begin observing what people do and what happens to them when they are not confined to the couch or the laboratory, but are involved in their normal lives in real ecological settings" (Csikszentmihalyi and Csikszentmihalyi, 1988).

As of December 2013, a literature search on PsychINFO yielded 1900 results for ESM. One reason for the growth in popularity in ESM is the advances in technology-enhanced data collection tools (e.g., Smartphones), which provide ease and ready availability for data collection.

One of the main advantages of using ESM over static single snapshots of

retrospective self-reports is that this method can be used to focus the research on a process perspective. Conducting an ESM study to explore incivility will provide an opportunity to capture events close to when they occur, thus reducing the probability of recall bias. In addition, capturing the event within the context of a real working environment increases ecological validity. Multiple measurements facilitate the study of the social dynamic and contextual features in the incivility process. For instance, as unpleasant interactions are exchanged over time, does the victim eventually become the perpetrator and respond in kind? While cross-sectional studies explain between-person differences, an ESM study can answer questions concerning within-person variability.

When using cross-sectional methods to distinguish affective responses to unpleasant encounters, the researcher is limited to each individual's momentary response for the given situation (Mroczek *et al.*, 2003). But how an employee's affect changes in response to incivility may fluctuate or not throughout a month or year based on stressors or support systems available to him or her, and this may not be captured by cross-sectional research. ESM is more likely to capture possible trends in which employees adapt to uncivil environments or become overwhelmed to the accumulation of unpleasant encounters. Thus, within-person variability may vary significantly across time and across situations (Mroczek *et al.*, 2003).

Compared with cross-sectional studies, experience-sampling methods

permit a researcher to empirically depict a participant's overall pattern of behaviour or experience by aggregating across trials statistically. They permit contextual analysis with intensive, repeated-measure designs, and can generate longitudinal studies. Experience-sampling procedures also permit the analysis of occurrences that cannot be practically or ethically examined in a laboratory experiment (Barrett and Barrett, 2001).

While there are benefits to experience sampling methods, limitations should be considered as well. Participant burden and attrition may be particularly salient in ESM studies. Experience sampling is time intensive, and respondents may endorse incidents of incivility more than once. Respondent burden may result in attrition if the ESM design is perceived as intrusive and time consuming. Andrews *et al.* (2011) noted that the fatigue of respondents cause ESM research studies to have historically high dropout rates that negatively impact data quality. Csikszentmihalyi (2012) stated that some individuals might perceive an ESM study as overly intrusive. To reduce such potential concerns and threats to data quality, the present study will conform to researchers' recommendations that measures collected during ESM studies should not exceed five minutes in duration and participants will only be asked to complete weekly measures (Bolger *et al.*, 2003; Scollon *et al.*, 2003).

Sampling bias in another consideration the researcher should be aware of with respect to ESM. Bolger *et al.* (2003) note that while advanced technologies

have made data collection more accessible, the risk remains of perpetuating a “digital divide,” directing research towards accessible populations and away from economically challenged participants. Demographics such as age, income, level of education, can have a bearing on access to the Internet, Smartphones, and the quality of connectivity.

Another possible issue concerns reactivity. Repeated measuring of incidents of incivility may cause reactivity bias (Reidiger, 2010). Because ESM involves repeated measures of the same constructs, there is a danger of reactivity, such that respondents may become hyper alert to their behaviours and internal states. Mehl and Conner (2012) reported conditions when reactivity is more likely to occur, such as the monitoring of a single behaviour, explicit instructions or expectations for change, and providing feedback. The issue of reactivity is particularly important because it can lead to changes in behaviour prompted by the very act of being monitored. Scollon *et al.* (2003) gives the example of how a seven times per day frequency for a repeated measure of a mood survey lead the individual to conclude, “I am the kind of person who is sad a lot,” or “I am happy when I am with my friends,” which may lead to changes in behaviours (e.g., becoming more social) and subsequent mood. Similarly, Collins *et al.* (1998) found that individuals engaging in excessive alcohol consumption decreased their drinking during real time monitoring. In the present case, use of ESM to capture incivility experiences may well lead to participants reflecting on and adjusting their own behaviour. As such, any significant and substantial linear trends in

reactivity or behavioural change over time were tested for as possible threats to research validity, as per the recommendation of Barta *et al.* (2012). There were none. Any statistically significant temporal effects were too small in magnitude to be of any practical concern.

### **3.2.4 Feasibility of App as Research Tools in Data Collection**

Incivility continues to be a problem in the workplace associated with negative outcomes for both the individual and the organisation. A majority of the research in this area has relied on retrospective questionnaires for data collection. In cross-sectional survey research, recall problems may occur, resulting in less accurate data. Smartphone users have regular access to report their activities in close to real time. As a result, there are fewer recall problems (Raento *et al.*, 2009; Sonck and Fernee, 2013).

The recent development of interactive communication technologies, such as Smartphones and apps as survey tools to collect data has extended the feasibility of experience sampling methods. Prior to these recent technologies, daily experiences were recorded through pen and pencil questionnaires. Given the widespread use of Smartphones and knowledge about downloading apps in the working population, participants may find the portability and flexibility of using an electronic diary less burdensome than previous methods of reporting data.

Tracking incivility in the workplace as it occurs in close to real time can become feasible if it is done in a manner that keeps the expenses within a reasonable range, and does not become such an onerous task as to result in low response rates among respondents. Based on a few studies in the field of time use research (i.e., studying how people make use of their time throughout the day by completing diaries with Smartphones), Sonck and Fernee (2013) concluded the method is too expensive and overly burdensome to be of any practical use. Historically, using a Smartphone method that is not app-based created numerous difficulties (Abraham *et al.*, 2006, 2009; Sonck and Fernee, 2013; Stoop, 2007; Van Ingen *et al.*, 2009). Website surveys accessed with a Smartphone require continuous Internet connectivity while completing the task. The process requires an excessive number of minutes that have to be purchased from mobile phone carriers. With weak connections respondents have to wait while the survey uploads from a website onto the Smartphone screen. Then becoming disconnected in the middle of a survey can be frustrating for the respondent who often gives up trying under such circumstances. There are hundreds of web-based survey product including but not limited to: SurveyMonkey, e-Questionnaire, ClickSurvey, SmartSurveys, MobileSurvey, Websurveyor, ZipSurvey and Web-Based Survey.<sup>1</sup> Several researchers have commented about problems with web-based surveys on Smartphones because different phones have different browsers, system configurations, Internet services or transmission capabilities, which display the survey questions differently (Buskirk and Andrus, 2012; Buskirk *et al.*, 2011;

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<sup>1</sup> See the following website for details, last accessed 20<sup>th</sup> December, 2015:  
<http://www.websm.org>

Callegaro, 2010; Couper, 2000, 2010; Couper *et al.*, 2004; Fan and Yan, 2010; Hargittai, 2002; Peytchev and Hill, 2010). This can result in a mode effect (i.e., the different presentations of the survey causing bias in the results).

From a methodological perspective, ESM Smartphone technology can extend data collection tools and improve ecological validity by improving accessibility and reducing the intrusiveness of data collection. Raento (2009) argues that Smartphones have become an integrated and nonintrusive part of life and they permit behavioural data not previously available and it is accomplished without direct observation by the investigator or reliance on retrospective self-reports.

As noted by Sonck and Fernee (2013) for the purposes of time use research, a mobile application (i.e., app) can be installed on a Smartphone.

“[An] app enables respondents to see the survey contents in exactly the same way as intended by the researcher. Furthermore, apps only have to be downloaded once in order to be accessed several times, and they also work offline, which means the respondent can [complete the task] anywhere at any time, independent of Internet accessibility. Indeed, permanent Internet access is not necessary when working with apps, as the completed survey data can be sent to the research institute automatically whenever there is [an Internet] connection ... Furthermore, an app allows short messages to be displayed on the telephone screen, reminding the respondent to fill in the ... pop-up survey questions” (Sonck and Fernee, 2013).

Use of an app for incivility in the workplace research should overcome the



shortcomings experienced using web-based surveys accessed with Smartphones in the past. As also noted by Sonck and Fernee (2013) information about a respondent's experience or emotions can be assessed with the 'beeping' method (i.e., sometimes called an Experience Sampling Method or EMS). By beeping respondents with some brief questions about mood, well-being, or other aspects of their life, such as experiences of incivility in the workplace, a great deal of data can be obtained without the recall problems of traditional cross-sectional surveys. Beeping can also be used as a reminder for the respondents to complete the app-based survey so as to increase response rates.

A current example of the benefits and feasibility of this technology is the Mappiness research study being conducted at the London School of Economics (LSE). They offer a free app for iPhones that invites participants throughout the United Kingdom to respond when paged to indicate their current feelings, who they are with, where they are, what they are doing, and take a photo. The information is sent and consolidated as part of a research study mapping how the environment affects peoples' happiness (MacKerron, 2012).

While there are benefits to this technology, threats to reliability and validity apply for computerized experience sampling as well. There are technological and practical issues that are uniquely associated with computerized sampling. Conducting research on the Internet creates challenges one must contemplate such as coverage, nonresponse error, and measurement error.

One of the main issues is connectivity. If a network is unavailable, the response rate may be inconsistent, or participants may lose interest and not be motivated to complete the study. With respect to participant burden, one could argue that using a mobile phone is inconspicuous compared with pen and pencil techniques. However, if the study design required a participant to be continually signalled throughout the working day a Smartphone could become intrusive at the very least. Raento (2009) also notes that while the willingness of people to carry phones is the key argument for using them for data collection, it also introduces threats that are particular to the skills and practices of using the phone.

Nonresponse error arises through the fact that not all people included in the sample are willing or able to complete the survey. As with coverage error, nonresponse error is a function of both the rate of nonresponse and of the differences between respondents and non-respondents on the variables of interest. Standardized instructions with clear explanations on how to complete the survey can improve the average level of respondent performance (Fowler, 2009).

Systematic demographic differences in ownership and skills using the phone may introduce selection and other biases that raise the question of validity of data collection with this method. When considering how completely the sampling frame covers the target population, one must consider selection bias as one of the main challenges to the comprehensiveness of the sampling. Disparities

in income, education, and ethnicity contribute to gaps in access and use of the Internet and electronic resources, which can induce sample biases to any online research (Fleming and Bowden, 2009).

According to Sonck and Fernee (2013) every new survey method deals with selection bias difficulties. With the relatively new development of Smartphone data collection, selection bias remains a crucial problem to be overcome. More often than not, the owners of Smartphones tended to be a select group of highly educated, young white urban males with sufficient income. Most research concerning the digital divide focuses the demographic differences among those who have access and/or use various digital forms of communication and those who do not (Austen, 2000; NTIA, 2000).

Since the millennium, those differences have blurred. As with any new technology, the use is spreading, the digital divide is diminishing, and selection bias is less of an issue (Fuchs and Busse, 2009; PewInternet, 2014). Recently, digital inequality (i.e., the different skill levels ranging from mobile phone use to coding and/or hacking abilities) has become more of an issue. People in their late teens and early twenties can more easily maneuver the Internet with agility compared with older adults, but even seniors can learn to be skillful at basic functions (Fan and Yan, 2010). With respect to app use, the findings of Sonck and Fernee (2013) demonstrated no differences between adept Smartphone users and those with little experience when it came to their abilities to feasibly download,

install and utilize a Smartphone app-based survey once provided a manual with instructions along with a YouTube video demonstration. Apparently, for relatively simple tasks (e.g., the use of an app-based survey) an instruction manual can create a level playing field where digital inequalities once existed.

Poorly designed self-administered app-based surveys can also be prone to respondent measurement error. When working with a developer one needs to consider practical aspects for the Smartphone human interface design. The balance between an engaging interface design and ease of use will have implications for how participants interact and respond to the survey. To minimize this kind of error, the survey must be simple to understand and reduce participant burden. Visual design is key in creating a mobile device survey that will reduce participants burden from excessive scrolling, and zooming.

Additional factors impacting response rate to Smartphone surveys include: survey sponsorship, the relevance of the survey topic to the respondents' lives, and the length of the survey (Fan and Yan, 2010). Research has demonstrated that response rates increase when official academic institution rather than commercial entities, sponsors surveys. To this end, the current study's sponsor is clearly identified as a DBA candidate at the University of Manchester, Alliance Manchester Business School. Relevant topics also increase response rates and it is hoped that workers will find incivility in the workplace germane to their lives.

### **3.2.5 Ethical Issues In Web and App Based Survey Approaches**

Surveys should be designed to provide informed consent and avoid risks. Prior to initiating any survey, a consent form should be the first item the participant views, informing participants of the name of the organisation that is carrying out the research, a brief description of the research, a statement of the extent of confidentiality, in addition to the risks and benefits (Fowler, 2009).

Causing no harm to potential participants (i.e., non-maleficence) remained an utmost concern. Even with surveys that have no expected risks, it is wise to include a statement indicating, if any participant is feeling distressed it is recommended the person seeks assistance from their health care provider (Fowler, 2009). Standard university research ethics guidelines help avoid unnecessary problem. Surveys are relatively non-intrusive forms of research, especially when the confidential nature of the response is insured, as was done in the present design. It is best to avoid any identifying information that could be linked back to participants. Their free autonomous consent should be obtain in order to proceed to the survey questions, and participants should always free to choose to discontinue their participation at any point (i.e. autonomy). Risks and benefits should be transparent. Few risks, with even a small benefit to the participants, meets with the justice criterion. Ultimately, the goal of the research is to do good (i.e., beneficence) by providing new knowledge.

### **3.3 THE CURRENT RESEARCH APPROACH**

The methodology utilized for this research progressed in a stepwise fashion starting with a thorough literature review and the development of a theoretical framework leading to the design of a preliminary qualitative interview, and the two pilot studies, which sought to validate the measures proposed for use in the initial version of the smartphone app. The feasibility and usability of the app was checked prior to launching the final version, subsequently evaluating its reliability and validity in the main study, and then using it to look at the prevalence and effects of workplace incivility exposure on a day-to-day basis.

Specifically, the aim of the interview was to obtain detailed knowledge about acts and outcomes of workplace incivility in an interview setting that when combined with theory and the results from the literature review, could help guide subsequent decisions about what empirically based instruments to use, or items to develop, in future app creation.

The first pilot study examined the internal consistency reliability of the two measures of incivility adopted (i.e., face-to-face and online) and the relationships between these measures and related constructs (i.e., burnout, interpersonal deviance, organisational deviance and turnover intentions), in order to provide evidence of validity. Multiple linear regression analyses were used to examine the effects of predictor variables (i.e., face-to-face and online workplace

incivility) on outcome variables as indicated by interpersonal deviance, organisational deviance, turnover, emotional exhaustion, cynicism, and personal efficacy. The demographics were entered in Step 1 of the regression analysis (tables 5 and 6). Because of the high correlation between face-to-face and online workplace incivility (table 7), Step 2 of the regression analysis, controlling for the demographics, was repeated separately for face-to-face, and online incivility, respectively (tables 8 and 9). Scales of interpersonal deviance and organisational deviance were not normally distributed and a log transformation was done when they were treated as outcome variable. Assumptions of normality and equal variance for multiple linear regressions were checked by inspection of the residuals. Histograms and Quantile-Quantile Plots of residuals were used to check for normality. A Scatter Plot of residuals was used to check assumptions of linearity and homoscedacity. Model assumptions were met by the data.

The process of developing the app with the development team followed. Then the second pilot study, which tested the feasibility and usability of the app beta version, was conducted.

The main study used an experience-sampling method to investigate the theoretical framework outlined in the previous chapter (chapter two). Conner and Lehman indicated,

“An essential step in designing a study is to choose the frequency and timing of observations (as called the sampling strategy)” (Conner and Lehman, 2012, p. 95).

They describe four sampling strategies with guidelines for when to use each: 1) Variable time-based responding when signalled at variable intervals, 2) Fixed time-based responding at agreed upon time intervals, 3) Event-based responding after a predefined event, and 4) Continuous responding recording activities continuously over a specified period of time. The second sampling strategy, fixed time-based, is most appropriate when the behaviours or experiences are not susceptible to memory bias and can be easily recalled given the defined time intervals. Because of the context of the workplace you do not want workflow interrupted by random sampling or continuously recording of activities as in the first and fourth sampling strategy, respectively. Participants should be able to accurately recall the events of the day and indicate whether or not they experienced incivility in the workplace.

The research design for the main study consisted of multilevel data being collected. Level 1 was the within-person data and Level 2 was the between-person data collected using the app-based digital diary survey. Participants were directed to complete daily workday surveys, which measured face-to-face and online workplace incivility, various possible moderators or mediators, and outcome variables.

The specific approach taken in this thesis was built upon recent technological advances to use Smartphone and web-based technologies to alert



participants on a daily basis and capture data in close to real time. As no such research tool currently existed, a new application ('app') was developed and tested.

As well as using the app to conduct an experience sampling study investigating the theoretical framework of the thesis, the app itself makes a key contribution as a research tool for the future. Thus, the reliability and validity of both forms of workplace incivility were tested in the first pilot study, and the reliability and validity of the data produced in the main study was also tested to assess the quality of the app. The reliability of a scale indicates how free it is from random error. Two frequently used indicators of a scale's reliability are test-retest reliability and internal consistency. Internal consistency is the degree to which the items that make up the scale are all measuring the same underlying construct. This was assessed by calculating Cronbach's Alpha (DeVellis, 2012).

Campbell and Fiske (1959) identify convergent validity (i.e., the extent the measure converges with other similar or theoretically correlated measures) and discriminant validity (i.e., the extent the measure does not converge with theoretically unrelated measures) as the two requisite components to establish a measure's construct validity. Similar to the web-based pilot, participants' responses to the app in the main study should also correlate with similar measures (e.g., the initial web-based version completed prior to downloading and using the app).

To further evaluate construct validity, the Perception of Fair Interpersonal Treatment Scale (PFIT) is used, which has well established high reliability and validity in the field measuring the quality of a workplace. High negative correlations between the survey and the PFIT, establishes construct validity of the former scale (Aaker *et al.*, 2012; Cortina, 2008; Craig and Douglas, 2005; Donovan *et al.*, 1998; Fowler, 2009; Malhotra, 1999; Oppenheim, 2005; Proctor, 2005). As with the web-based measures of workplace incivility in the pilot, if the app-based measures of workplace incivility in the main study are also negatively correlated with the perception of fair interpersonal treatment scale, it will provide validity for the new app-based measures.

To demonstrate criterion validity, whether the instrument is measuring what it claims to measure, a direct correlation measure between the Smartphone app (i.e., the new tool) and the Workplace Incivility Scale (i.e., the standard tool) is conducted (Field, 2009). If results of Pearson's correlation coefficient demonstrate a strong relationship between the adapted items on the Smartphone app and the WIS, it provides evidence of criterion validity. Comparisons are also made between the Smartphone app and the data from the web-based survey completed prior to downloading the app.

## **SECTION TWO: DEVELOPMENT OF THE APP**

## **CHAPTER 4 – APP DEVELOPMENT STRATEGY**

### **4.1 OVERVIEW**

This chapter presents the methodology and key findings from the preliminary qualitative interview and the two pilot studies of this thesis, which sought to validate the measures proposed for use in the initial version of the smartphone app. In particular, the first pilot study examined the internal consistency reliability of the two measures of incivility adopted (i.e., face-to-face and online) and the relationships between these measures and related constructs (i.e., burnout, interpersonal deviance, organisational deviance and turnover intentions), in order to provide evidence of validity. The process of developing the app with the development team follows. Then the second pilot study, which tested the feasibility and usability of the app beta version, is presented. The chapter concludes with a summary of key findings and implications for the contents of the app.

### **4.2 PROCESS OF DECIDING THE APP CONTENTS**

#### **4.2.1 Contents Based on Literature Review**

After reviewing the literature, the measurement instruments being considered for use in this thesis research included items focused on incivility

(e.g., putting you down, ignoring you, making demeaning remarks, addressing you unprofessionally, excluding you, doubting your judgment, and/or getting inappropriately personal), feelings in response (e.g., feeling drained, angry, fearful, emotional exhausted, used up, tired, strained, unmotivated, and/or burned out), and cognitive/behavioural reactions (e.g., rumination, intent to quit, looking for a new job, retaliation in kind by saying uncivil things, publicly embarrassing others, working less, and etc.). A preliminary qualitative interview was planned and conducted in order to further explore incivility behaviours (f2f and/or online), and outcomes previously identified in the literature. It should be made clear to the reader that the qualitative interview was not at the core of the research; rather it played an exploratory role in one phase of the project to see if template analysis of the interview and themes provided converging or diverging data when compared with the literature review, thus, narrowing the variables that were important to include or exclude during the app development phase (Denzin and Lincoln, 2011). Ultimately, the inclusion of this exploratory phase within the overall research study was in response to Creswell's call for coalescing qualitative approaches with quantitative methods when the combination can provide greater understanding than each alone (Creswell, 2009).

#### **4.2.2 Qualitative Interview**

What follows is single qualitative interview, which was viewed as a preliminary exploratory step following the literature review in an overall

programme of research leading to the development and validation of a Smartphone application to track incivility in the workplace. The aim was to obtain detailed knowledge about acts and outcomes of workplace incivility in an interview setting that when combined with theory and the results from the literature review, could help guide subsequent decisions about what empirically based instruments to use, or items to develop, in future app creation. The initial research question focuses on how an individual currently experiences and reacts to workplace incivility and it was hoped the interview could further explore these issues already identified by the literature review, providing converging and/or diverging information concerning same (Denzin and Lincoln, 2011). The rationale, method and key results follow.

#### **4.2.2.1 Rationale**

After reviewing the literature, the measurement instruments being considered for use in this thesis research included items focused on incivility (e.g., putting you down, ignoring you, making demeaning remarks, addressing you unprofessionally, excluding you, doubting your judgment, and/or getting inappropriately personal), feelings in response (e.g., feeling drained, angry, fearful, emotional exhausted, used up, tired, strained, unmotivated, and/or burned out), and cognitive/behavioural reactions (e.g., rumination, intent to quit, looking for a new job, retaliation in kind by saying uncivil things, publicly embarrassing

others, working less, and etc.). The pilot interview was planned and conducted in order to explore which incivility behaviours, albeit face-to-face or online, and outcomes may be consistent with the literature

Bryman (1974) suggested there might be an epistemological conflict when combining qualitative and quantitative approaches. The positivist tradition, with its quantitative approach rooted in the natural sciences, supports an objectivist understanding of the science and the world. From this viewpoint reality is best described as a concrete structure defined by sum of its parts. In contrast, qualitative investigation is rooted in an ontological foundation that depicts reality as an imaginative projection or social construction that is studied with subjective phenomenological processes and the science of meanings. At the extremes, these different assumptions about the constitution of knowledge provide little room for compromise, but pragmatic individuals fall somewhere in the middle of the spectrum between these polar positions (Schell, 1992). Although some would question the use of a case study as a form of generalisable and explanatory research, many including more positivistic advocates, endorse a single participant case method for exploratory purposes, especially when used with other multiple sources of information including quantitative data for triangulation purposes (Cassell and Symon, 2004; Creswell, 2007, 2011; Creswell and Plano, 2007; Eisenhardt, 1989; Flyvbjerg, 2006; Gibbons *et al.*, 1994; Hodgkinson *et al.*, 2001; McCandless, 2009; Miles, 1979; Miles and Huberman, 1984; Mills, 2010; Schell, 1992; Symon and Cassell, 2012; Thomas, 2011; Yin, 1981, 2014).

Picking a single case from typical, critical or deviant cases may form the basis of research. When choosing a single case, the typical average case is not always the best source of information. An outlier rife with critical examples of the phenomenon in question can reveal more information than an average representative case (Hakim, 1987, 2000; Schell, 1992). Thus, a critical case was decided upon. The individual was chosen because she is highly professional, yet she indicated she was having difficulty coping with the extensive incivility at her place of work. Clearly, workplace incivility had been rampant, frequently directed at the participant, and negatively impacted the well-educated professional. Thus, the following method was employed to help provide triangulated evidence to confirm that the constructs, planned for measurement, were appropriate to be included in the app.

#### **4.2.2.2 Method**

##### **4.2.2.2.1 Participant**

The interviewee was a 40-year old, former White House Fellow, and highly educated professional woman with a Masters degree in social work, and a Juris Doctor degree in law. She was brought into her organization (i.e., a centre for healthy aging) as a co-director tasked with replacing the then current director who was to be unknowingly replaced. At the time of the interview, she had been



with the organization three years. Since the time of the interview, she has since resigned in favour of a new position elsewhere.

#### **4.2.2.2.2 Interview Procedures**

The interview method was utilized in order to obtain an initial, detailed, and complex appreciation of the issue (i.e., workplace incivility). Specifically, a semi-structured interview was chosen because it is one of the most flexible of all research designs, allowing the researcher to investigate a contemporary phenomenon within its real-life context (Yin, 1984).

Following an informed consent (see Appendix 1), the interview was conducted via Skype, and was digitally recorded and transcribed using the Livescribe Echo Pen. The interview lasted approximately 20 minutes. The overall aim of the interview was to explore how the interviewee experienced and responded to incivility in her workplace. She spoke at a rapid rate, thus the length of the transcription may be longer than usual for a 20-minute sequence (see Appendix 2).

#### **4.2.2.2.3 Analysis Strategy**

A template analysis approach was chosen to analyse the data for this study. Template analysis is currently entrenched in the field of healthcare (King,

2004; Crabtree and Miller, 1999). According to King (2004), template analysis is not a distinct, solitary well-defined research technique; rather, it is a diverse set of procedures for organising textual data thematically to facilitate analysis. King (2012) suggests the template analytical technique evenly weighs a high level of structure for data analysis, along with a flexibility to adapt to the needs of an individual case. The approach Waring and Wainwright (2008) used, adapted from King (2004) and Crabtree and Miller (1999), builds a more rigorous analytic approach for vast amounts of rich textual data. Engagement in the data is an indispensable characteristic of the interpretive method. Specifically, the structure of the coding (i.e., a method for indexing text in relationship with themes) is flexible and inspires broad theme development from the richest data in reaction to the research questions.

Following an extensive review of workplace incivility research, the themes from the literature were narrowed down, a theoretical framework was developed, and both guided the creation of the template. Although there were many themes to explore, it was decided that superimposing too many themes guided by the literature would restrict the participant's responses, and be counterproductive. As King (2012) recommends, although coding of a hierarchical nature enables interview analysis at varying levels, too many levels may hinder analytical clarity. Following the interview, the transcript was reread and the template was modified as follows, adding additional themes and sub-themes based on the participant's responses.

**1. Experience of Incivility in the Workplace**

- 1.1 Narrative of Incivility in the Workplace.
- 1.2 Location: Face-to-Face or Online.
- 1.3 Status of Instigator.
- 1.4 Frequency.

**2. Types/Examples of Workplace Incivilities Experienced**

- 2.1 (filled in from interview data).
- 2.2
- 2.3

**3. Cognitive Responses to Workplace Incivility:**

- 3.1 Ruminations.

**4. Emotional Responses to Workplace Incivility:**

- 4.1 Anger.
- 4.2 Fear.

**5. Impact of Workplace Incivility:**

- 5.1 Burnout.
- 5.2 Intentions to Quit.
- 5.3 Reciprocating in Kind.

Utilizing the transcript, the interviewee's responses were placed next to the coded template to illustrate the transparency of the interpretation (See Appendix 2). Like the collaborative approach put forth by Creswell (2007), the coded template, transcript, and preliminary analysis were shared with the interviewee for review and comment. She was in agreement with how it told her story.

“To further de-emphasize a power relationship, we may collaborate directly with the participants by having them review our research questions, or by having them collaborate with us during the data analysis and interpretation phases of research” (Creswell, 2007, p. 40).

#### 4.2.2.3 Results

As is apparent from the template analysis that follows, the types of workplace incivility (and worse forms of workplace mistreatment) that were experienced included trash talk, screaming, discrediting of work, spreading of rumours, sending hostile emails, physical threats, false accusations, refusing to share information, not listening, refusing to engage in a meaningful way, refusing to engage in a collegial manner, dismissive behaviour, and uncooperative behaviour. Reactions to the above-mentioned exposure to workplace incivility may have included ruminations, anger, anxiety, fear, burnout, emotional exhaustion, responding in kind and less commitment to remaining with the organisation.

The overall impact of workplace incivility on the participant is reflected in her expressed intent to leave the organisation. As she stated “I will say that I do not feel as invested in my job because of what I think was a poor response by the administration. I think that they just mishandled the situation so badly, that I don’t feel that... I just don’t feel that they supported me, and I fell less invested. I sort of feel like I won’t be quickly looking for the next thing, but I won’t feel bad about leaving there. They just didn’t treat me very well.”

## **Template Analysis**

### **1. Experience of Incivility in the Workplace**

1.1 Narrative of incivility in the workplace: (see attached transcript from complete digital recording using Livescribe echo digital recording pen from Skype Interview).

1.2 Location: f2f or online: Both: She was getting me very anxious, and at one point, she called me into her office. And then he made these allegations that I had created a hostile work place, and wrote these crazy and hostile emails, nothing threatening me. In the end they said it was my word against his.

1.3 Frequency: But it was very hostile, and M. hung around for three months and refused to leave, and kept telling everyone, as soon as she was gone, everyone would be fired. Like six months. I started there in March, and things really blew up in October.

### **2. Types/Examples of Workplace Incivilities Experienced**

2.1 Trash Talk: But she would also, I've never seen this before, she would absolutely trash colleagues, saying really terrible things about the quality of their work, and literally she would be in a staff meeting or a manager's meeting and talking about peoples colleagues.

We all work together, and the person she would be talking about wouldn't be there; saying things like he really blew this, didn't do his work,

2.2 Screaming: she had this blow out fight, just screaming, like fuck you.

2.3 Discrediting Work: And also, she was going to colleagues within the organisation and trying to discredit me, and saying things about me, which some of which got back to me.

2.4 Spreading Rumours: But she started spreading the word, I had staged this coup

2.5 Physically threatening: This was about a week after M was fired and came into my office and threatened to punch me. He said, you know if you were a man I would punch you in your fucking face. He was really aggressive and approaching my desk as he was saying these things.

2.6 False Accusations through email: . And then he made these allegations that I had created a hostile work place, and wrote these crazy and hostile emails, nothing threatening me.

2.7 Refusing to share information: Like she won't tell me, she won't share her calendar, won't tell me who she is meeting with.

2.8 Not listening: I don't even think you are hearing me because you are so dug into your position that you are not even listening. I can see you are already responding while I'm still talking

2.9 Refusing to engage in a meaningful way about work. She doesn't engage in a meaningful way about the work we are doing

2.10 Refusing to engage in a friendly collegial manner: She doesn't engage in a meaningful way about the work we are doing

2.11 Dismissive behaviour: And I ask him for a deadline, and he says yes, and then doesn't even tell me that he's not going to make the deadline. Like the work doesn't get done and he doesn't tell me about it. He doesn't treat me like he works for me.

2.12 Uncooperative behaviour: And he will repeatedly schedules those meetings, and doesn't tell me till the day of the meeting. And with my calendar, then there is no way I can be there. At a couple of staff meetings, and N would roll her eyes, and m would write notes to her, and Mt used the word Fuck this about something under his breath. In the case of my fiscal director, he had been lying to me about the budget, on M's behalf, and it turns out there was a whole pile of money I didn't know about, that he put into a separate account.

### **3. Cognitive Responses to Workplace Incivility:**

3.1 Ruminations: Like I can't even believe I work here; I don't sleep thinking about it.

### **4. Emotional Responses to Workplace Incivility:**

4.1 Anger: Everybody is so afraid

4.2 Fear: Real anxious.

4.3 Looking at their hands and feeling uncomfortable.

4.4 Like everyone was hiding in their offices.

4.5 I was freaked out.

4.6 It was a little like we were in suspended animation.

### **5. Impact of Workplace Incivility:**

5.1 Burnout: Really unpleasant.

5.2 Incredibly stressful, I lost weight, I lost sleep, I was anxious.

5.3 It was really one of the hardest times of my life; very difficult and stressful.

5.4 Intentions to Quit: They were really nervous I was going to quit and for good reason.

5.5 If M is still here, frankly, I will be gone.

5.6 I was getting like I'm out of here.

5.7 I do not feel as invested in my job.

5.8 I won't feel bad about leaving there.

5.9 Reciprocating in Kind: Blow out fight, just screaming.

5.10 It's probably not the best response, but I was like "Really B, tell me how you REALLY FEEL"

#### 4.2.2.4 Discussion and Conclusions

This case clearly illustrated how workplace incivility was not just a personal issue, but marked the initial discord between two individuals that spilled over, and eventually disrupted the work, functioning, and effectiveness of the organisation. Although the incivilities the target experienced initially were low level, such as withholding information, spreading false rumours and accusations, they spiralled and escalated into workplace aggression whereby the target was physically threatened. This and outside stressors in the interviewee's life may confound any conclusions about the precise link between workplace incivility and outcomes.

The negative impact of incivility among fellow colleagues was also demonstrated with the co-director, M, publically deriding the work of colleagues at staff meetings, resulting in an erosion of morale. Consistent with the literature,

“There are additional ways in which incivility can cascade, affecting those outside the instigator-target dyad. Fellow workers or subordinates may be affected when an instigator dismisses or ridicules another's contribution. As basic standards of respect are violated, the impact cascades through the organization” (Pearson *et al.*, 2000, p. 132).

Similar to the work of Yyelland (2012) the qualitative interview detailed herein reveals a strong relationship between human emotions and organisational culture. The culture may facilitate, or constrain, but either way it impacts the emotions of its work force. In turn, the workforce impacts organisational culture via their expressed emotions and the emotions they encourage their co-workers to express.

Also consistent with the literature:

“What we have learned about the target exit is particularly important because the link between incivility and departure is often missed by organizations for two reasons. First, targets who left their workplaces because of an uncivil incident told us that they took their time finding the right fit in a new job (after all, as targets, they had not violated any norms and, therefore, their jobs were in no way jeopardized). Often, they spent months, a year, or more between the uncivil event and departure. As a result of this time lag, it is unlikely that the link between the event and the outcome is perceived by the organization. Second, those who exit told us that they tended to depart quietly; they did not cite incivility as the cause when they left” (Pearson *et al.*, 2000, p. 130).

Ultimately, the results helped feed into the development of the main data collection tool. There is an additional advantage when very different sources of evidence are combined in a robust methodology. The diverse sources (e.g., literature review, interview, cross-sectional survey and diary study) offer more strength to the conclusions if all the evidence points in the same direction. The interview identified the same sorts of incivility that the WIS items emphasize. Stress, rumination, and emotional reactions of anger and fear emerged. Consistent with the literature review, the interview identified emotional exhaustion, responding in kind, and intentions to quit as important outcomes. The status of the instigator also appeared to play a role that may need more study. In the case study the lack of clarity regarding roles seemed to be the issue rather than the clear power structure cited in the literature. In summary, the pilot interview gave further support to my decision to use an adapted version of the WIS in the web-



based pilot, to consider the role of rumination, and to look at emotional exhaustion, responses in kind, and intentions to quit as outcomes.

### **4.3 PILOT 1: VALIDITY OF THE MEASURES**

#### **4.3.1 Rationale**

The aim of the web-based pilot study was to differentiate between face-to-face incivility in the workplace and online incivility in the workplace, while providing validation for both forms, and examining the relationship between workplace incivility, burnout, workplace deviance and turnover intentions.

The association of face-to-face and online incivility with burnout, workplace deviance and turnover intentions, were examined in the context of prior research that suggested a possible relationship. Participants (N = 284) in the online survey were randomly sampled from employees across various occupations within the United States. Construct validity was demonstrated for the incivility scales. Multiple regression analyses revealed that after controlling for age, sex, education, ethnicity and position, both face-to-face and online workplace incivility had significant and positive association with exhaustion, cynicism, interpersonal deviance, organisational deviance, and turnover. Online workplace incivility was significantly and negatively associated with personal efficacy. This association did not remain significant for face-to-face model. The findings show that both face-to-face and online incivilities are associated with burnout,

workplace deviance and turnover intentions. The findings of the web-based pilot study fed into the development of a mobile phone app with a dashboard of indicators that reflect employee experiences of incivility in the workplace in real time. Additionally, online-deviant behaviours have emerged as a new problem deserving further exploration.

### **4.3.2 Measuring Workplace Incivility**

When making decisions about what items to include in the app for measuring face-to-face workplace incivility it is important to review the available instruments and related evidence. Research by Cortina *et al.* (2001) produced the Workplace Incivility Scale (WIS), a seven-item scale with an alpha coefficient of 0.89. It is the measure that is most utilized when attempting to investigate incivility in the workplace, though rarely, if ever, in its original format, and of the 46 researchers who made subsequent modification (e.g., changing the number of items, changing the format or wording of the Likert scales, or changing the reference period within which the incivility took place) Kunkel *et al.* (2015) found no one who ever re-validated the new measures. One goal of the current research is to develop a tool that overcomes the recall bias of cross-sectional research. By changing the reference period to the short-term close to real time, more immediate effects of incivility in the workplace are expected along with better knowledge concerning causal and theory (Mitchell and James, 2001).

Some experimental design studies have contributed to the knowledge in the field (Niven *et al.*, 2013b; Porath *et al.*, 2010; Porath and Erez, 2007 and 2009; Porath and Pearson, 2012). Niven *et al.* (2013b) found that a distraction condition following exposure to simulated violence on video resulted in a quicker repair of the resulting negative affect compared to those who did not have such a condition. An experimental design including a distracting video game on the app was considered but proved to be too much of a financial burden at this time. The concept can always be revisited in the future. The possibility of using fewer items from the scale, in order to keep the burden low, was also considered but a seven-item survey is already relatively brief.

Blau and Andersson's (2005) development of the Instigated Workplace Incivility Scale (IWIS) underscored the importance of the instigator's perspective but it was decided not to address this issue in the pilot given the focus was on the target's experience and not the instigator's. Instigator status is a variable that will be discussed at greater length in the next chapter. The Uncivil Workplace Behavior Questionnaire (UWBQ), developed by Martin and Hine (2005), also has promise but little research has been done with the UWBQ, and too long to fit the time-frame guidelines for item selection on the app, therefore, dropped from consideration.

### 4.3.3 Measuring Online Incivility

Based on the review of available instruments it was determined the Workplace Incivility Scale (WIS) was a reliable and valid measure in its original format, but it was developed for face-to-face incivility (Cortina *et al.*, 2001). Though the WIS has a history of being adapted for various uses, those changes were not always directed by theoretical and practical concerns, and failed to validate the new instruments before making conclusions based on the data they generated. Although Lim and Chin (2006) developed an 8-item measure of online incivility, they also failed to validate it and little research has been done with the new measure since its inception. Given the lack of a validated measure of online incivility and the paucity of research on this construct, it was not really known if online incivility was important enough to study as distinct from face-to-face incivility. One goal of the first pilot study was to help inform the distinction. With the extensive work done with the WIS and its solid reliability and validity as a measure of face-to-face incivility and the goal of validating whatever new measure of online incivility was used in the current research, it was decided to create a new instrument that was more closely linked to the instrument created by Cortina *et al.* (2001), but more suited for repeated measures in close to real time. Hence, development and validation of a new online form appeared to be theoretically called for and changes in the time span appeared necessary given issues with recall bias. As indicated above, the aim of the web-based pilot study was to differentiate between face-to-face incivility in the workplace and online

incivility in the workplace, while providing validation for both forms, and examining the relationship between incivility in the workplace, burnout, interpersonal deviance, organisational deviance and turnover intentions.

Thus, the web-based pilot study attempted to broaden the measure so it could also be used to assess online incivility. Adapted versions of the WIS, including both face-to-face and online communications, were used to measure experiences of disrespectful, rude or dismissive behaviours from superiors or co-workers. The adaptations altered the time from the original 5-year span to within the past year. The online version utilized all the same questions as the face-to-face version; however, the instructions were modified to ask the participants to answer with respect to experiences “online” rather than face-to-face.

#### **4.3.4 Further Considerations for the Web-Based Pilot Study**

Prior to incivility in the workplace being defined by Andersson and Pearson (1999), Robinson and Bennett (1995, 1997) defined workplace deviance as voluntary behaviour, violating significant norms of an organisation that risks the wellbeing of the workers and/or the organisation. Their workplace deviance scale measures organisational and interpersonal deviance. As with the WIS, the Interpersonal Deviance Scale Items can be adapted to capture online and face-to-face acts of workplace incivility.

The relationship of incivility in the workplace and poor health needs further study. Experiences of incivility at work whether face-to-face or through online communications have been related to adverse employee and organisational outcomes. About half of workers intentionally decrease their effort when exposed to incivility in the workplace, and even more will have a decrease in performance, and/or try to avoid the source of the incivility (Spreitzer and Porath, 2012). The negative health effects of stress have been well established in other areas of research. However, it has not been extensively explored in the area of incivility. According to stress theory, our bodies are not designed to tolerate chronic low to moderate stress. Sapolsky (1989) explains that when people live with chronic low-level stressors like incivility it adversely impacts their immune system. Stress is associated with fatigue, headaches, gastro-intestinal illness, high blood pressure, muscle tension and sleep disturbances. Simply ruminating about stressful events, results in elevated glucocorticoid levels throughout the day, leading to a host of health problems. Burnout is also related to workplace stress (Leiter and Maslach, 2005a, 2005b; Maslach, 2003; Maslach and Leiter, 2008; Maslach *et al.*, 2009; Maslach *et al.*, 2012).

#### **4.3.5 Validating Incivility Measures**

The first step in validating the measures is to test the internal consistency of the scales to assess their reliability. The second step is to test the construct validity of the scales by seeing how the incivility scales relate to other relevant measures. Based on the literature review, exposure to workplace incivility is

expected to have three key outcomes: poor well-being, reduced commitment to stay in the organisation, and likelihood of reciprocation. When a work event is appraised negatively as workplace incivility is, negative things happen and these outcomes were consistently found to be associated with exposure as was detailed above. For this pilot, measures were selected to represent each of these key outcomes (i.e., burnout, intention to quit, and deviance, respectively) and will be assessed based on whether both measures of incivility relate, as would be expected, with these outcome measures.

To further evaluate construct validity, the Perception of Fair Interpersonal Treatment Scale (PFIT) is used, which has well established high reliability and validity in the field measuring the quality of a workplace. One would expect that if an employee experiences a lot of incivility, the employee would have a reduced perception of working in a fair environment. High negative correlations between the measures of workplace incivility, and the PFIT, establishes construct validity of the former scales (Aaker *et al.*, 2012; Cortina, 2008; Craig and Douglas, 2005; Donovan *et al.*, 1998; Fowler, 2009; Malhotra, 1999; Oppenheim, 2005; Proctor, 2005).

#### **4.3.6 Hypotheses of the Web-Base Pilot**

Based on the literature review and theoretical framework presented in section one of this thesis, both forms of incivility were expected to be positively associated with negative outcomes, such as: burnout, workplace deviance and

turnover intentions (Leiter and Maslach, 2005a, 2005b; Maslach, 2003; Maslach and Leiter, 2008; Maslach *et al.*, 2009; Maslach *et al.*, 2012; Robinson and Bennett, 1995, 1997; Schilpzand *et al.*, 2014). Additionally, similar to the Cortina (2008) study that validated the WIS, the new measures of incivility adapted from the original measure were also expected to have a negative association with the Donovan *et al.* (1998) Perception of Fair Interpersonal Treatment scale.

**Hypothesis 1:** Face-to-Face Workplace Incivility will be positively associated with burnout.

**Hypothesis 2:** Online Workplace Incivility will be positively associated with burnout.

**Hypothesis 3:** Face-to-Face Workplace Incivility will be positively associated with workplace deviance.

**Hypothesis 4:** Online Workplace Incivility will be positively associated with workplace deviance.

**Hypothesis 5:** Face-to-Face Workplace Incivility will be positively associated with turnover intention.

**Hypothesis 6:** Online Workplace Incivility will be positively associated with turnover intention.

**Hypothesis 7:** Face-to-Face Workplace Incivility will be negatively associated with Perception of Fair Interpersonal Treatment.

**Hypothesis 8:** Online Workplace Incivility will be negatively associated with Perception of Fair Interpersonal Treatment.



### **4.3.7 Method**

#### **4.3.7.1 Participants**

Access was limited so the services of SurveyMonkey were utilized to obtain a random sample of 350 employees across various industries and occupational levels in the US.<sup>2</sup> Participants were assured of the confidentiality of their responses. Of the 350 participants contacted by SurveyMonkey, 284 questionnaires were completed resulting in a response rate of 81.1%. The age of participants ranged from 13 to 85 with an average of 45.5 years. One hundred and thirty-one participants were female (46%) and one hundred and fifty-two were male (53.5%). A majority of the participants were White (84.9%), with the remainder including: Asian (6.3%), Black (6.7%) and Other (2.1%).

More than half of participants had a college degree or above (63%), and the remaining participants (37%) had some college or below. The majority of those sampled were full-time employees (81.3%) representing a broad spectrum of occupations, at various levels, across a diversity of industries in the United States.

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<sup>2</sup> For more information concerning SurveyMonkey please refer: <http://www.surveymonkey.com>

#### **4.3.7.2 Ethics**

Causing no harm to potential participants (i.e., non-maleficence) remained my utmost concern. Standard university research ethics guidelines were followed. Surveys are relatively non-intrusive forms of research, especially when the anonymous nature of the response is insured, as was done in the present design. Participants did not have to provide any identifying information that could be linked back to them and they were provided with informed consent. Their free autonomous consent was required in order for them to proceed to the survey questions and they were always free to choose to discontinue their participation at any point (i.e. autonomy). Answering questionnaires tend not create risk of any significance and participants received a small fee for completing the survey. Thus, risks and benefits were transparent. Although there were few risks, there were only small benefits to the participants, which met the justice criterion. Ultimately, the goal of the research is to do good (i.e., beneficence) by providing new knowledge.

#### **4.3.7.3 Measures**

A one-off web-based survey approach was employed to collect data from a large sample of people in order to test the measures for the app. The test instruments used in the web-base pilot study are described, herein. They include: 1) Demographic Questionnaire (Sprigg *et al.*, 2008); 2) The Workplace Incivility

Scale (WIS) and an adapted version for online workplace incivility (Cortina *et al.*, 2001; Lim and Chin, 2006); 3) Open-ended Incivility Question (Connolly, 2012b); 4) The Maslach Burnout Inventory, General Scale (Maslach *et al.*, 2012); 5) The Workplace Deviant Scale (Bennett and Robinson, 2000); 6) Perception of Fair Interpersonal Treatment (Cortina, 2008; Donovan *et al.*, 1998); and 4) The Turnover Intention Scale (Cummann *et al.* 1979). The parameters of the constructs in question can provide a basis for construct validity. Table 1 details the research constructs, the measurement items in the web-based pilot study, and sources from which they were adapted.

**Table 1. Construct and Item Specifications <sup>a</sup>.**

<b>Research Construct</b>	<b>Measurement Items</b>	<b>Definition (Sources)</b>
1. Demographics	1. 1, 2, 3, 4, 5, 6	(Connolly, 2012b; Sprigg <i>et al.</i> , 2010)
2. F2F & Online Workplace Incivility	2. 7, 8	(Connolly, 2012b; Cortina <i>et al.</i> , 2001; Lim & Chin, 2006)
3. Other Forms of Incivility	3. 9	(Connolly, 2012b)
4. Burnout Inventory	4. 10	(Leiter & Maslach, 2005a, 2005b; Maslach, 2003; Maslach & Leiter, 2008; Maslach <i>et al.</i> , 2009; Maslach <i>et al.</i> , 2012)
5. Workplace Deviance (Organisational)	5. 11	(Connolly, 2012b; Bennett & Robinson, 2000)
6. Perception of Fair Interpersonal Treatment	6. 12	(Cortina, 2008; Donovan <i>et al.</i> , 1998)
7. Intent to Change Jobs	7. 13	(Connolly, 2012b)

a. See Appendix 4 for specific wording of each item listed.

All the constructs used in the web-based pilot study were adapted from previous studies that used multiple-item scales. Workers responded to an online survey that measures perceived workplace incivility, burnout, interpersonal and

organisational deviance, and perception of fair interpersonal treatment. Demographic data includes gender, age, race, education and occupation. Missing data was not an issue, since true mean scores were utilized rather than total mean scores, also making it easier to translate results into the various scale anchors. True mean scores were calculated by dividing the total score by the number of items completed per scale. The informed consent is presented in Appendix 3 and the Survey is presented in Appendix 4.

#### **4.3.7.3.1 Workplace Incivility Scale**

Face-to-face (f2f) workplace incivility can be assessed with an existing measure, the Workplace Incivility Scale (WIS), developed by Cortina *et al.* (2001). As mentioned above, the Online Workplace Incivility was measured by adapting the original scale, prefacing in the instructions, whether the participants' experiences of incivility occurred "online". The Workplace Incivility Scale (WIS) measures the frequency of participants' experiences of rude, condescending and disrespectful behaviours from superiors or co-workers within the past five years, however, the web-based pilot study examined participants' experiences within the past year. Face-to-face and online versions of the incivility scale consist of seven items each presented in a five-point Likert-like scale ranging from *never* to *every day*. For example, the first item asks to what extent your superiors or co-workers "*Put you down or was condescending to you*". Please refer to Table 2.

**Table 2. Online Workplace Incivility Scale**

**8. We are going to present you with a list of things that may or may not have happened to you over the last year in ONLINE communication (e.g., over email, instant messenger services, social networking websites). Please indicate to what extent your superiors or coworkers subjected you to the following behaviors during the past year.**

	Not at all	Rarely	Sometimes	Often	Very often
Put you down or was condescending to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paid little attention to your statement or showed little interest in your opinion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made demeaning or derogatory remarks about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressed you in unprofessional terms, either publically or privately?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ignored or excluded you from professional camaraderie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doubted your judgment on a matter over which you have responsibility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made unwanted attempts to draw you into a discussion of personal matters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 4.3.7.3.2 Maslach Burnout Inventory, General Scale

Burnout can be assessed with the Maslach Burnout Inventory, General Scale (MBI-GS) (Maslach *et al.*, 2012). The Maslach Burnout Inventory measures respondents' relationship with their work on a continuum from engagement to burnout. The MBI-GS has three subscales that measure Emotional Exhaustion, Cynicism, and Personal Efficacy.

The MBI-GS scale presents sixteen items with a seven-point Likert scale response format ranging from *never* to *every day*. For example, the first item on Exhaustion asks how frequently you feel this way about your job, “*I feel emotionally drained from my work*”. The first item on Cynicism asks how frequently you feel this way about your job, “*I’ve become less interested in my work since I started this job*”. The first item on Personal Efficacy asks how frequently you feel this way about your job, “*I can effectively solve the problems that arise in my work*”.

#### **4.3.7.3.3 Workplace Deviance Scale**

Workplace Deviance can be measured with an existing measure developed by Bennett and Robinson (2000). The Workplace Deviance Scale has two subscales, a 12-item scale of organisational deviance measuring behaviours directly harmful to the organisation, and a 7-item scale of interpersonal deviance measuring behaviours harmful to other individuals within the organisation. The scales ranged from *never* to *daily*. For example, the first item on Interpersonal Deviance asks how often you engaged in the following behaviour, “*Made fun of someone at work*”. The first item on Organisational Deviance asks how often you engaged in the following behaviour, “*Taken property from work without permission*”.

#### **4.3.7.3.4 Turnover Intention Scale**

Turnover Intention can be measured from three items on the Michigan Organizational Assessment Questionnaire, Cummann *et al.* (1979). The three items are presented and responses recorded on a 5-point Likert style format ranging from *strongly disagree* to *strongly agree*. For example, the first statement to rate is, “*I will actively look for a new job in the next year*”.

#### **4.3.7.3.5 Perception of Fair Interpersonal Treatment Scale**

Donovan *et al.* (1998) developed the Perception of Fair Interpersonal Treatment Scale (PFIT), and Cortina (2008) has used it in order to demonstrate construct validity for the WIS. The PFIT measures the quality of a workplace and is made up of an 18 items forced choice response format (i.e., yes, no or undecided), half of which require reverse scoring. High scores reflect fairer treatment. For example, the first item states, “*Employees are praised for good work*”, and asks for a rating of how your organisation is most of the time. The PFIT has well established high reliability and validity in the field measuring the quality of a workplace. Highly negative correlations were obtained between the WIS and the PFIT, which establish construct validity of the former scale (Aaker *et al.*, 2012; Cortina, 2008; Craig and Douglas, 2005; Donovan *et al.*, 1998; Fowler, 2009; Malhotra, 1999; Oppenheim, 2005; Proctor, 2005).

#### **4.3.7.3.6 Demographic Measures**

The demographics (i.e., age, sex, race, education and position) were coded as follows: Age = Years; Sex, 1 = Female and 2 = Male; Race, 1 = White and 2 = Other; Education, 1 = Some College Or Below and 2 = Graduate Degree Or Above.

#### **4.3.7.4 Analysis Strategy**

Scale alphas are used to examine internal consistency regression procedures are used to test hypotheses and examine construct validity. The quantitative analysis utilizes SPSS (version 20) to describe frequencies, and conduct inferential statistics (Field, 2009; Malhotra, 1999; Pallant, 2010).

Assumptions of normality and equal variance for multiple linear regressions are checked by inspection of the residuals. Histograms and Quantile-Quantile Plots of residuals are used to check for normality. A Scatter Plot of residuals is used to check assumptions of linearity and homoscedacity (Field, 2009).



## 4.3.8 Results

### 4.3.8.1 Internal Consistency

Alphas suggest good internal consistency reliability for all of the scales used (table 3) with reliabilities ranging from 0.89 to 0.97. The Perception of the Fair Interpersonal Treatment scale does not have an alpha because of the response scale it employs. Descriptive statistics for the measures are presented in table 3.

**Table 3. Descriptive Statistics & Internal Consistency of Constructs**

Construct	No. items	Response scale	<i>M</i> <sup>e</sup>	Min. <sup>e</sup>	Max. <sup>e</sup>	<i>SD</i>	$\alpha$ <sup>f</sup>
WIS F2F <sup>a</sup>	7	1-5 <sup>a</sup>	1.9	1.0	4.9	0.94	<b>0.94</b>
WIS ONLINE <sup>a</sup>	7	1-5	1.6	1.0	4.9	0.92	<b>0.97</b>
MBI-EMOTIONAL EXHAUSTION <sup>b</sup>	5	0-6 <sup>b</sup>	2.2	0.0	6.0	1.70	<b>0.94</b>
MBI-CYNICISM <sup>b</sup>	5	0-6	2.2	0.0	6.0	1.71	<b>0.89</b>
MBI-PERSONAL EFFICACY <sup>b</sup>	6	0-6	4.3	0.0	6.0	1.70	<b>0.93</b>
INTERPERSONAL DEVIANCE <sup>c</sup>	7	1-7 <sup>c</sup>	1.9	1.0	6.9	1.30	<b>0.95</b>
ORGANISATIONAL DEVIANCE <sup>c</sup>	12	1-7	1.9	1.0	6.5	1.30	<b>0.96</b>
TURNOVER INTENTIONS <sup>d</sup>	3	1-5 <sup>d</sup>	2.5	1.0	5.0	1.30	<b>0.92</b>

- a. Response Options on all 1-5 scales for WIS ranged from *not at all* to *very often*.
- b. Response Options on 0-6 scales for Maslach Burnout Inventory (MBI) ranged from *never* to *every day*.
- c. Response Options on all 1-7 scales for Workplace Deviance ranged from *never* to *daily*.
- d. Response Options on all 1-7 scales for Turnover Intentions ranged from *Strongly disagree* to *Strongly agree*.
- e. Based on true scores rather than total scores.
- f. Cronbach's Alpha.

Specifically, the incivility measure demonstrated good internal consistency (table 3) for both the face-to-face and online versions ( $\alpha = 0.94$  and  $0.97$ , respectively). With respect to burnout, the MBI demonstrated good internal consistency (table 3) for emotional exhaustion, cynicism, and personal efficacy ( $\alpha$

= 0.94, 0.89 and 0.93, respectively). The Workplace Deviance Scale demonstrated good internal consistency (table 3) for interpersonal and organisational deviance ( $\alpha = 0.95$  and  $0.97$ , respectively). Good internal consistency (table 3) was also demonstrated for the Turnover Intention scale ( $\alpha = 0.92$ ).

#### 4.3.8.2 Data Analyses

Frequency statistics indicated that 76.8% of employees reported they had been exposed to one of the seven acts of face-to-face workplace incivility, at least rarely, and 45.4% have experienced one of the acts of online incivility, at least rarely. For face-to-face workplace incivility the true mean score was 1.9 and the online incivility true mean score was 1.6 (the range of scores were 1 to 4.9).

A same sample *t*-Test was performed to determine if there was a significant difference between the means of the two distinct constructs (i.e., face-to-face and online incivility). See table 4. The *t*-statistic is significant (2 tailed,  $p \leq 0.01$ ).

**Table 4. Same-Sample *t*-Test**

	Test Value = 1.617 <sup>a</sup>					
	<i>t</i>	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
<b>F2F – Incivility<sup>b</sup></b>	<b>5.230</b>	272	<b>0.000</b>	<b>0.29770</b>	0.1856	0.4098

a. The Workplace Incivility Scale-Online.

b. The Workplace Incivility Scale-F2F (face-to-face).

Interpersonal deviance had a true mean score of 1.9 with a range from 1 to 6.9. Organisational deviance had a true mean score of 1.9 with a range from 1 to 6.5. Turnover intentions had a true mean score of 2.5 with a range from 1 to 5. In table 5, all three variables were negatively related to age ( $p \leq 0.01$ ), and organisational deviance had a positive relationship with race ( $p \leq 0.05$ ). Note the categorical variables had to be coded into just two categories for statistical correlation or regression purposes (i.e. Age = Years; Sex, 1 = Female and 2 = Male; Race, 1 = White and 2 = Other; Education, 1 = Some College Or Below and 2 = Graduate Degree Or Above).

**Table 5. Association Between Demographics, Deviance and Turnover (N=284)**

	Interpersonal Deviance <sup>a</sup>		Organisational Deviance <sup>a</sup>		Turnover Intentions <sup>b</sup>	
	$\beta$	$p$	$\beta$	$p$	$\beta$	$p$
<b>Sex</b>	0.21	0.19	0.12	0.46	0.13	0.93
<b>Age</b>	<b>-0.03</b>	<b>0.00</b>	<b>-0.03</b>	<b>0.00</b>	<b>-0.03</b>	<b>0.00</b>
<b>Education</b>	-0.75	0.66	0.05	0.77	0.16	0.32
<b>Race</b>	0.29	0.19	<b>0.46</b>	<b>0.03</b>	0.20	0.35
<b>Position</b>	-0.41	0.11	-0.25	0.30	0.22	0.36

a. The Workplace Deviance Scale is made up of two [2] subscales: 1). Interpersonal Deviance, and 2). Organisational Deviance.

b. The Turnover Intentions 3-item scale measures intentions to resign.

Maslach Burnout Inventory subscale of exhaustion, cynicism and personal efficacy had true mean scores of 2.2, 2.2, and 4.4, respectively. The scores for the subscales all ranged from 0 to 6. . In table 6, emotional exhaustion and cynicism

were negatively related to age ( $p \leq 0.01$ ). Personal efficacy had a positive relationship with age ( $p \leq 0.01$ ) and a negative relationship with sex ( $p \leq 0.05$ ).

**Table 6. Association Between Demographics and Burnout (N = 284)**

Burnout <sup>a</sup>	Emotional Exhaustion		Cynicism		Personal Efficacy	
	$\beta$	$p$	$\beta$	$p$	$\beta$	$p$
<b>Sex</b>	-0.10	0.64	-0.04	0.87	<b>-0.38</b>	<b>0.05</b>
<b>Age</b>	<b>-0.03</b>	<b>0.00</b>	<b>-0.02</b>	<b>0.00</b>	<b>0.03</b>	<b>0.00</b>
<b>Education</b>	0.13	0.57	0.20	0.63	-0.38	0.06
<b>Race</b>	0.26	0.37	0.40	0.18	-0.30	0.25
<b>Position</b>	0.19	0.58	0.31	0.36	0.03	0.91

a. The Maslach Burnout Inventory – General Scale [MBI-GS] is made up of three [3] subscales: 1). Emotional Exhaustion, 2). Cynicism, and 3). Personal Efficacy.

b. The Workplace Incivility Scale-F2F (face-to-face); Workplace Incivility Scale-Online.

c. Analysis done using simple and multivariate linear regression. The multivariate models adjusted for age, sex, ethnicity, education and position.

Table 7 shows the Pearson Correlation for face-to-face and online workplace incivility is 0.765 (2 tailed,  $p \leq 0.01$ ). As a result, Step 2 of the regression analysis, controlling for the demographics, was repeated separately for face-to-face and online incivility, respectively (tables 8 and 9). The problem of singularity would be an issue if the variables were perfectly correlated. They are not.

**Table 7. Face-To-Face and Online Incivility Correlations**

		<b>F2F – Incivility<sup>a</sup></b>	<b>Online – Incivility<sup>a</sup></b>
<b>F2F – Incivility<sup>a</sup></b>	Pearson Correlation	1	<b>.765**</b>
	Sig. (2-tailed)		<b>.000</b>
<b>Online – Incivility<sup>a</sup></b>	Pearson Correlation	<b>.765**</b>	1
	Sig. (2-tailed)	<b>.000</b>	

a. The Workplace Incivility Scale-F2F (face-to-face); Workplace Incivility Scale-Online.  
 \*\*: (2-tailed)  $p \leq 0.01$

Multiple regression analyses revealed that both face-to-face and online workplace incivility significantly predicted interpersonal deviance, organisational deviance, turnover, exhaustion, and cynicism (tables 8 and 9).

It was found that after controlling for age, sex, education, ethnicity and position, both face-to-face and online workplace incivility had significant and positive association with exhaustion (f2f:  $\beta = 0.96$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.25$ ; and online WIS:  $\beta = 0.69$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.13$ ), cynicism (f2f:  $\beta = 0.91$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.23$ ; and online WIS:  $\beta = 0.70$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.13$ ), interpersonal deviance (f2f:  $\beta = 0.85$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.33$ ; and online WIS:  $\beta = 0.93$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.38$ ), organisational deviance (f2f:  $\beta = 0.79$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.30$ ; and online WIS:  $\beta = 0.84$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.34$ ), and turnover (f2f:  $\beta = 0.50$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.12$ ; and online WIS:  $\beta = 0.32$ ,  $p$ -value = 0.00,  $\Delta R^2 = 0.05$ ). Online workplace incivility was significantly and negatively associated with personal efficacy ( $\beta = -0.25$ ,  $p$  value 0.00,  $\Delta R^2 = 0.02$ ). This association did not remain significant for face-to-face in the model.

The regression model for face-to-face workplace incivility, controlling for age, sex, ethnicity, education and position, accounted for 46% of the variance for interpersonal deviance, 45% of the variance for organisational deviance, and 31% of the variance for turnover intentions (table 8). The regression model for online incivility, adjusting for age, sex, ethnicity, education and position, accounted for 50% of the variance for interpersonal deviance, 48% of the variance for organisational deviance, and 23% of the variance for turnover intentions (table 8). Thus, hypothesis 2 was confirmed. Experiencing or witnessing incivility in the workplace perpetuates incivility in the form of interpersonal and organisational deviance.

**Table 8. Regression Model: Incivility with Deviance and Turnover (N = 284)**

	Interpersonal Deviance <sup>a</sup>				Organisational Deviance <sup>a</sup>				Turnover Intention <sup>b</sup>			
	$\beta$	$p$	$R^2$	$\Delta R^2$	$\beta$	$p$	$R^2$	$\Delta R^2$	$\beta$	$p$	$R^2$	$\Delta R^2$
<b>F2F – Incivility<sup>c</sup></b>												
Adjusted <sup>d</sup>	<b>0.85</b>	<b>0.00</b>	<b>0.46</b>	<b>0.33</b>	<b>0.79</b>	<b>0.00</b>	<b>0.45</b>	<b>0.30</b>	<b>0.50</b>	<b>0.00</b>	<b>0.31</b>	<b>0.12</b>
<b>Online – Incivility<sup>c</sup></b>												
Adjusted <sup>d</sup>	<b>0.93</b>	<b>0.00</b>	<b>0.50</b>	<b>0.38</b>	<b>0.84</b>	<b>0.00</b>	<b>0.48</b>	<b>0.34</b>	<b>0.32</b>	<b>0.00</b>	<b>0.23</b>	<b>0.05</b>

a. The Workplace Deviance Scale is made up of two [2] subscales: 1). Interpersonal Deviance, and 2). Organisational Deviance.

b. The Turnover Intention 3-item scale measures intentions to resign.

c. The Workplace Incivility Scale-F2F (face-to-face); Workplace Incivility Scale-Online.

d. Analysis done using simple and multivariate linear regression. The multivariate models added incivility in step 2 after controlling for age, sex, ethnicity, education and position in step one.

The regression model for face-to-face workplace incivility, adjusting for age, sex, ethnicity, education and position, accounted for 33% of the variance for exhaustion, 30% of the variance for cynicism, and 15% of the variance for personal efficacy in the Maslach Burnout Inventory (table 9). The regression model for online incivility, adjusting for age, sex, ethnicity, education and position, accounted for 20% of the variance for exhaustion, 20% of the variance for cynicism, and 16% of the variance for personal efficacy in the Maslach Burnout Inventory (table 9). Thus, hypothesis 3 was also confirmed. Exposure to chronic incivility in the workplace is related to burnout in the form of increased emotional exhaustion and cynicism, and reduced personal efficacy. It is also related to increased turnover intentions.

**Table 9. Regression Model: Incivility with Burnout (N = 284)**

Burnout <sup>a</sup>	Emotional Exhaustion				Cynicism				Personal Efficacy			
	$\beta$	$p$	$R^2$	$\Delta R^2$	$\beta$	$p$	$R^2$	$\Delta R^2$	$\beta$	$p$	$R^2$	$\Delta R^2$
<b>F2F – Incivility<sup>b</sup></b>												
Adjusted <sup>c</sup>	<b>0.96</b>	<b>0.00</b>	<b>0.33</b>	<b>0.25</b>	<b>0.91</b>	<b>0.00</b>	<b>0.30</b>	<b>0.23</b>	<b>-0.13</b>	<b>0.21</b>	<b>0.15</b>	<b>0.01</b>
<b>Online – Incivility<sup>b</sup></b>												
Adjusted <sup>c</sup>	<b>0.69</b>	<b>0.00</b>	<b>0.20</b>	<b>0.13</b>	<b>0.70</b>	<b>.000</b>	<b>0.20</b>	<b>0.13</b>	<b>-0.25</b>	<b>0.02</b>	<b>0.16</b>	<b>0.02</b>

a. The Maslach Burnout Inventory – General Scale [MBI-GS] is made up of three [3] subscales: 1). Emotional Exhaustion, 2). Cynicism, and 3). Personal Efficacy.

b. The Workplace Incivility Scale-F2F (face-to-face); Workplace Incivility Scale-Online.

c. Analysis done using simple and multivariate linear regression. The multivariate models added incivility in step 2 after controlling for age, sex, ethnicity, education and position in step one.

Pearson correlations between the Perception of the Fair Interpersonal Treatment Scale (PFIT) and the face-to-face and online workplace incivility measures were significant and negative (i.e., -0.633 and -0.461, respectively) providing construct validity for both scales (Aaker *et al.*, 2012; Cortina, 2008; Craig and Douglas, 2005; Donovan *et al.*, 1998; Fowler, 2009; Malhotra, 1999; Oppenheim, 2005; Proctor, 2005).

#### **4.3.9 Discussion and Conclusion**

The web-based pilot study related to the development of the app by highlighting that online workplace incivility may be just as important to consider as face-to-face forms, and therefore is important to include in the app. The first pilot study not only extended the literature by broadening the context to include the online domain, it examined relationships between incivility in the workplace, burnout, workplace deviance and turnover intention. The statistical analyses provided support for the hypotheses that experiencing face-to-face, and online workplace incivility remain substantial problems involving significant relationships with negative personal and organisational outcomes. Exposure to chronic incivility in the workplace is associated with further incivility in the form of personal and organisational deviance. It is also related to burnout and intentions to quit.

Specifically, those employees who experienced incivility were more likely



to report emotional exhaustion from their job, cynicism reflecting a distant attitude towards work, less confidence about effectively meeting occupational demands, and thoughts about resigning from their position. These findings are consistent with Pearson and Porath's (2009) results.

“More than 60% of people who worked in highly uncivil environments experienced stress and more than 80% felt used up at the end of the day, and strong majorities also reported feeling emotionally exhausted, being burned out and having lost enthusiasm for their work” (Pearson and Porath, 2009, p. 72).

These related to the development of the app by highlighting the importance of burnout as an outcome measure. Because it is believed the app needs to be brief in order to be usable in a repeated measures format, it was decided to use the emotional exhaustion portion of the scale to test in the app. It should be noted that burnout is not a singular variable. The emotional exhaustion scale measures the depletion of emotional energy differentiated from mental fatigue or physical exhaustion (Maslach *et al.*, 2012).

The results from this web-based pilot study also related to the development of the app by highlighting the relationship between experiencing incivility in the workplace and a climate of employee mistreatment, whereby respondents were more inclined to disregard organisational norms, engaging in deviant behaviours. Explaining these relationships is not a simple task when utilizing correlation procedures. Cause and effect cannot be determined. Indeed, we may be looking at an ongoing reciprocal dynamic in which experience of

incivility leads to deviant behaviours, burnout, and intentions to quit. In turn, a work environment in which employees are increasingly engaging in deviant behaviours, suffering from burnout, and planning to quit, may facilitate further incivility. Leiter (2013) has suggested that what perpetuates this unpleasant social dynamic reflects reciprocity. Andersson and Pearson (1999) describe a spiral dynamic.

“When interacting with someone who is displaying a clear emotion, people readily adopt a similar emotional tone. This emotional contagion provides a mechanism through which incivility has an impact on observers who are not directly participating in a specific encounter” (Andersson and Pearson, 1999).

Again, in order to keep the app brief and manageable, adding items concerning reciprocally acting uncivilly in kind were considered. For the second pilot they were left out to keep the pilot test very basic. For the final version of the app a slide question was added for each form of incivility.

The results of current relationships between both forms of incivility in the workplace and turnover intentions related to the development of the app by highlighting that they were found to be consistent with earlier findings by Pearson and Porath (2009) in which they found that half of employees who are treated uncivilly consider leaving their jobs. However, since many employees don't leave their jobs immediately the link between incivility and turnover is often lost in cross-sectional research. Nevertheless, based on the results it was decided that the

app include and test an abbreviated one item slider question on intentions to quit.

As a result of the cross-sectional approach and correlational nature of the research, causal inferences were unable to be made. Longitudinal, repeated measures studies may provide more useful information providing a causal chain between incivility in the workplace and outcome.

The three goals of this first pilot were accomplished. Face-to-face incivility in the workplace was differentiated from online incivility in the workplace. Validation was provided for both forms of incivility. The relationships between workplace incivility, burnout, workplace deviance and turnover intentions were examined and have informed the development of the app. This web-based pilot study was the first step in expanding the definition of incivility in the workplace to online encounters as well as face-to-face. Up to this point, measures of incivility have been limited to a person's estimate of prior experiences rather than documentation of those experiences in close to real time. In the next step, I hope to avoid this limitation by developing a mobile phone app that measures both face-to-face and online incivility in close to real time, similar to a daily digital journal.

## **4.4 DEVELOPMENT OF THE APP**

### **4.4.1 Development Process**

The app-based survey was designed to be brief and nonintrusive, but the development process was not without setbacks that needed to be overcome. An external company was commissioned to develop the app based on the requirements and specifications mentioned above. This was an iterative process with numerous versions being continually improved upon until a version was ready for piloting. Then a few additional improvements were made before the final version emerged for use in the main study.

The first step was contacting the University of Manchester Intellectual Property (IP) Department to discuss logistics for app development in 2012. This proceeded slowly and in 2013 the study was referred out to the CODIKI company and the salient issues with respect to app development were worked out with the CODIKI Manager for University Sector App Concepts. During this period, additional companies were consulted based on iTunes App Store recommendations, including but not limited to Troy Apps. By May 2014, the process had stalled. CODIKI had been absorbed into a new organisation and for reasons never made clear, all direct app development was discontinued. A new action plan was developed in collaboration with Troy Apps. A team of engineers was brought together and the work began creating an app to the specifications

provided. The team stayed in daily communications using online software called “Base Camp” in which the entire team could collaborate and a copy of all communications documenting the process was maintained on the webserver. This is where the iterative process unfolded. Prior to testing the app in a feasibility study, various beta editions were tested by the App Development Team. The feasibility study was launched the 9<sup>th</sup> of June 2014.

#### **4.4.2 Appearance and Usability of the App**

As noted above, Smartphone methods need to be app-based in order to overcome certain difficulties such as, connectivity problems, and browser configuration differences resulting in mode effects, and these tools need to be well designed with standard instructions, simple and not burdensome, to reduce respondent measurement errors and dropout rates (Abraham *et al.*, 2006, 2009; Buskirk and Andrus, 2012; Buskirk *et al.*, 2011; Callegaro, 2010; Couper, 2000, 2010; Couper *et al.*, 2004; Fan and Yan, 2010; Hargittai, 2002; Peytchev and Hill, 2010; Raento, 2009; Sonck and Fernee, 2013; Stoop, 2007; Van Ingen *et al.*, 2009). To overcome the problems associated with cross-sectional research the app needs to be in a repeated measures format that assesses incivility and related issues in close to real time, reducing recall bias, without being overly intrusive. The digital divide has not proven as significant since the millennium, especially within the workforce that tends to have widespread knowledge about downloading and using software applications (Raento *et al.*, 2009). These factors

were all considered during the development phase but ultimately the results from the feasibility/usability pilot would confirm the decisions and/or guide changes in the app, as is detailed in the main study of this thesis, which in turn may lead to additional improvements for future research.

#### 4.5 THE APP PROTOTYPE

The Smartphone app was developed with a dashboard of indicators and signalling capacity to remind participants to complete the daily 16-item survey (i.e., pop-up messaging). See figure 1.

**Figure 1. The Incivility Tracker**



The face-to-face and online versions of the incivility scale used in the app prototype (i.e., previously validated in the first pilot study) and represented in appendix 5 consist of seven items each presented in a five-point Likert-like scale ranging from “*never*” to “*every day*”. For example, the first item asks to what extent your superiors or co-workers subjected you to the following behaviours today: “*Put you down or was condescending to you*”. Two outcome measures were also added. These questions use an eleven-point slider format that can indicate the extent to which the person felt emotionally exhausted that day (i.e., from “not at all exhausted” to “extremely exhausted”), and the extent to which the person intended to quit his/her job that day (i.e., from “no intention to quit at all” to “strong intention to quit”). These outcome measures were adapted from longer versions made up of more items (i.e., also used in the first pilot), but they were cut down to reduce undue burden and limit participant dropout. As noted earlier, these decisions were based on a triangulation of the evidence including an ongoing review of the literature, the qualitative case interview, and the results from the first pilot study. For the purposes of the feasibility study, the app was kept short and basic in its prototype form (See Appendix 5).

When an individual taps on the one large button on the home screen the app takes them to the first question in the face-to-face section. After answering all seven questions the app advances to the online section. After answering all of these seven questions the app advances to the two slider questions. Once all

questions are answered the consultant can tap on the Home button at the top of the slider section (i.e., emotional exhaustion and intention to quit). At the home screen, the consultant can tap the “Review and Submit” button. At the next screen they can review all of their answers with a scroll bar, and once satisfied, they can tap the “Submit” button. The data is formatted into a spreadsheet and forwarded to the researcher via email.

After submitting the first survey, all answers are removed from the app, and it is ready for the second survey to be taken at the end of the next workday. The subsequent surveys were identical to the first except after submitting the final survey (i.e., Friday of second week), the Feasibility/Usability Evaluation survey was displayed (See Appendix 6). The consultant answers these questions including the ninth question, which was a text area for them to type any comment they may have had. After dismissing the keyboard, a Submit button was visible which when tapped, ended the survey.

The app was set for alerts to appear to remind the consultants to complete the surveys on workday afternoons at 4:00 PM based on local time of the app user. Based on the second pilot, the app was subsequently tweaked for the main app-based research study (See Chapter 5).



## **4.6 PILOT 2: FEASIBILITY AND USABILITY OF THE APP**

### **4.6.1 Rationale**

In the following study the app beta version is piloted, primarily with a view toward checking the usability and feasibility of the app as a research tool, and the quality of the data it produced. The first goal was to evaluate the usability of the app with respect to ease of use and functionality as a data collection tool. Specifically, could the user download and install the app properly? Could they receive a signal to remind them to use the app? Were they able to register their responses with ease and accuracy, and could the data be uploaded to the server in an uncorrupted manner so it was usable for statistical analysis. The second goal was to evaluate the quality of data collected on the workplace incivility app, specifically with regard to variability of responses, and whether the data collected complemented more traditional web-based survey methods.

### **4.6.2 Methods**

A convenience sample was used made up of twenty working participants (i.e., 5 male and eleven female) from various sectors in industry, with various levels of seniority, diverse demographics. Their mean age was 47 years, ranging from 24 to 69. In order to determine the utility and ease of use, participants were

directed to a web-based informed consent agreement (See Appendix 3), If they agreed, they were directed to fill out the web-based pre-test survey (i.e., taking approximately ten minutes to complete) followed by instructions for how to download, install and use the app. The pre-test was adapted from the web-based pilot study. The reason for including the pre-test in the feasibility pilot was so participants followed similar procedures for downloading and using the app as would be used in the subsequent main study. Specifically, the demographic questions were retained, as were the face-to-face and online workplace incivility scales, the intention to quite scale, and the emotional exhaustion sub-scale of the Maslach (2003) Burnout Scale; however, the timeline for these scales were changed from “the past year” to “the past half-year”. The Donovan *et al.* (1998) Perception of Fair Interpersonal Treatment (PFIT) scale was retained without any changes (See Appendix 4).

The app measures were as described in section 4.5 and presented in appendix 5. Once downloaded, participants completed the app each working day over a period of 14 days. The goal was to keep it extensive enough to assess burden and other aspects of the app, but simple enough given it was only a pilot study. After the two-week period, participants completed a one-off app-based questionnaire providing feedback about their experience. It included questions about how difficult it was to download and launch the app, readability on the Smartphone, ease of filling in the questions, timespan for answering questions, potential problems being signalled, intrusiveness, ease of reviewing answers, and

relevance to one’s life (See Appendix 6). The feasibility/usability construct is specified in table 10 along with the definition and item sources.

**Table 10. Feasibility/Usability Construct and Item Specifications**

<b>Research Construct &amp; Related Items</b>	<b>Definition &amp; Item Sources</b>
<b>Ease of Installation:</b> 1. How difficult was it to install and launch the app?	(Fan and Yan, 2010; Sonck and Fernee, 2013).
<b>Readability:</b> 2. How difficult was it to read the questions on your Smartphone?	(Buskirk and Andrus, 2012; Buskirk <i>et al.</i> , 2011; Callegaro, 2010; Couper, 2000, 2010; Couper <i>et al.</i> , 2004; Fan and Yan, 2010; Hargittai, 2002; Peytchev and Hill, 2010; Sonck and Fernee, 2013).
<b>User-Friendly Response Mode:</b> 3. How difficult was it to fill in the answers to the questions?	(Buskirk and Andrus, 2012; Buskirk <i>et al.</i> , 2011; Callegaro, 2010; Couper, 2000, 2010; Couper <i>et al.</i> , 2004; Fan and Yan, 2010; Hargittai, 2002; Peytchev and Hill, 2010; Sonck and Fernee, 2013).
<b>Brevity:</b> 4. How difficult was it to answer questions in a reasonable timespan?	(Fan and Yan, 2010; Sonck and Fernee, 2013).
<b>Intrusiveness of Signal:</b> 5. How difficult was it to be signaled in order to use the app?	(Fan and Yan, 2010; Sonck and Fernee, 2013).
<b>Ease of Navigation:</b> 6. How difficult was it to review the results of your answers on the app?	(Sonck and Fernee, 2013).
<b>Relevance:</b> 7. Was this tool relevant to your day-to-day life?	(Fan and Yan, 2010).
<b>Overall Intrusiveness of App:</b> 8. Was the app intrusive in your daily life?	(Fan and Yan, 2010; Sonck and Fernee, 2013).

A sample of the participants was contacted for a Skype interview to further explore their experiences using the app.

### **4.6.3 Analysis Strategy**

In order to determine the utility of the app for experienced and inexperienced app users, the online feedback questionnaires were analysed for information about the users' experience. In addition, the content of the follow-up Skype interviews was analysed. This offered an opportunity for the researcher and Smartphone app developer to address any challenges with functional design, data quality, and technological issues prior to launch.

Data quality involves things like missing data, dropout rate, and the range of individual differences across each item and will be assessed with SPSS. If the items are too burdensome and people skip over too many items as a result, the app would have less utility. Likewise, if the burden results in a high dropout rate the utility would suffer. Finally, if no individual differences were found for some or all the items, there would be little or no value in including them in the measurement tool.

### **4.6.4 Results**

There were 120 uses, totalling 1,920 items to be answered of which only 8 were left blank. Of the original 20 potential participants, 16 downloaded the app and completed the pilot. There was a 20% dropout rate after the initial contact.

Once the sixteen remaining participants started the study, no one dropped out, however, there was diversity in the number of times the app was used in the fourteen-day period, ranging from 4 uses to 13. Of the fourteen items with possible scores from 1 to 5, two items had a range of 3, seven items had a range of 4, and five items had a range of 5. Of the two items with possible scores of 0 to 10, both had a range of 10. Clearly the test items measure individual differences.

For the descriptive statistics concerning the feasibility/usability results, please refer to table 11.

**Table 11. Feasibility and Usability Results**

<b>DESCRIPTIVE TABLE:</b>	<b>very easy</b>	<b>easy</b>	<b>neutral</b>	<b>difficult</b>	<b>very difficult</b>
* Results are in percentage					
How difficult was it to install and launch the app?	66.7 (10)	20.0 (3)	6.7 (1)	6.7 (1)	0
How difficult was it to read the questions on your Smartphone?	86.7 (13)	13.3 (2)	0	0	0
How difficult was it to fill in the answers to the questions?	85.7 (12)	14.3 (2)	0	0	0
How difficult was it to answer questions in a reasonable timespan?	73.3 (11)	26.7 (4)	0	0	0
How difficult was it to be signaled in order to use the app?	53.3 (8)	20.0 (3)	13.3 (2)	6.7 (1)	6.7 (1)
How difficult was it to review the results of your answers on the app?	73.3 (11)	13.3 (2)	13.3 (2)	0	0
	<b>very relevant</b>	<b>relevant</b>	<b>neutral</b>	<b>irrelevant</b>	<b>very irrelevant</b>
Was this tool relevant to your day-to-day life?	20 (3)	60 (9)	13.3 (2)	6.7 (1)	0
	<b>always intrusive</b>	<b>rarely intrusive</b>	<b>neutral</b>	<b>sometimes intrusive</b>	<b>never intrusive</b>
Was the app intrusive in your daily life?	6.7 (1)	0	13.3 (2)	33.3 (5)	46.7 (7)

Table 11 shows that 86.7% of the respondents found the app easy or very easy to install and launch. Only one person found it difficult. Everyone found it easy or very easy to read and answer the items in a reasonable timespan. Eighty

percent found the app to be relevant or very relevant to their daily workday life and only one person found it to be intrusive.

Qualitative comments from participants comprised the following four themes that were derived from the data: 1) “It definitely made me more aware of incivility in my own workplace!” 2) “The app was very relevant to my day-to-day life. Situations arose and I became more aware of other people's behaviour, how they reacted to big and small crises, or just normal circumstances relevant to my occupation. Since I was answering the app, it made me look at my own behaviour very closely and made me think of how I reacted in the past to similar moments. It felt good to say vent (digitally) if something arose at work.” 3) “I received more than one notice to update a day. It would be helpful to be able to see my historic submissions so that I would know I had successfully completed 10 submissions. It would also be helpful to add a comment for the day so that if special situations arose for a given day I would be able to recall on submissions.” 4) “When I submitted the survey I would receive reminders to make more submissions. I enjoyed being a part of the survey.”

#### **4.6.5 Discussion and Conclusions**

The sample size and composition raises some issues concerning the generalisability conclusions, but the goal here was to merely conduct a small pilot study to help guide the direction of the main study to follow. The results

demonstrated a minimal amount of missing data; thus this was not a significant problem. The app questions were not so difficult or burdensome as to motivate participants to skip over items.

The dropout rate was 20%. This was not due to the task appearing to be difficult. The four people who did not follow through on downloading the app had Android Smartphones, which the app prototype could not accommodate. Doing so will involve a greater financial investment following validation of the app with the main study.

The variability in the number of times the participants used the app in the two-week period of the pilot was not due to any aspect of the apps design or content. Rather, it was due to the fact that some participants were part-time workers and others were full-time.

The range of scores for each item clearly demonstrates that the test items measure individual differences among participants. This is necessary for the app to have value.

From the results in table 11, it can be concluded that the app is both feasible and usable in its design and content as a measurement tool. It is relatively easy to download and use, and it is relevant to workday experiences.

Qualitative review of participants' comments also illustrated how the app was relevant to their daily work life and made them more aware of incivilities during the process. This raised the need to consider possible temporal effects, which was then included in the main study detailed in the next chapter. The qualitative comments also underscored the initial problem with the daily notifications that were not working correctly and needed adjustments in the app coding.

This study offered an opportunity for the researcher and Smartphone app developer to address any challenges with functional design, data quality, and technological issues prior to conducting a large-scale study assessing the app's reliability and validity. The Smartphone application proved to be of adequate utility and relatively easy to use. Only minor adjustments were decided on for the final version. Certain decisions from the first pilot study did not need to be changed as a result of the second pilot. Both forms of the incivility measure were retained, as were the emotional exhaustion, and intention to quit outcome measures. Based on the results of the feasibility pilot, the usability of the app appeared to be so successful it was decided additional items could be added without creating significant additional burden. Consistent with theory and the literature review it was decided slide questions would be added for each form of incivility, one asking about the instigator status (i.e., supervisor or coworker), and the other asking about acting in kind.



Finally, the first, the beta version of the app allowed the participants to review their data prior to submitting it. Reviewing the data before submitting it proved time consuming in the pilot. In order to save time and make room for additional questions, this function was deleted. Additionally, research has indicated if given the option, the majority of people do not bother to review their answers before submitting them, and of those that do review their answers, less than 5% actually make a change. (Leeson, 2006; Revuelta *et al.*, 2003).

### **SECTION THREE: CONTRIBUTIONS OF THE APP**

## **CHAPTER 5 - MAIN APP-BASED RESEARCH STUDY**

### **5.1 OVERVIEW**

In the first section of the thesis, the need for a new data collection tool to allow for repeated measures of incivility and its effects over time was outlined. The second section of the thesis then described the development process of the new research tool, a smartphone app, including a preliminary qualitative interview and two pilot studies to inform and refine the contents and design of the app. In this chapter, the app is validated and applied to provide insight into the prevalence and effects of workplace incivility. In particular, the study presented in this chapter seeks to examine the effects of two predictor variables (i.e., face-to-face and online incivility) on three outcomes variables (i.e., emotional exhaustion, intention to quit one's job, and reciprocation of incivility acting in kind). Instigator status is examined as a possible moderating variable, and rumination is examined as a possible mediating variable between incivility and emotional exhaustion. Anger and fear mediated-models are also investigated looking at the relationships between incivility, intentions to quit and acting in kind.

This chapter begins by outlining the rationale for the present study, along with the theory development and hypotheses to be tested in this main study. The diary study methods used are then detailed alongside ethical considerations, and the multilevel modelling analysis strategy is presented. The results of the study

are then considered in detail and interpreted in light of the hypotheses. The chapter concludes with a summary of the key findings.

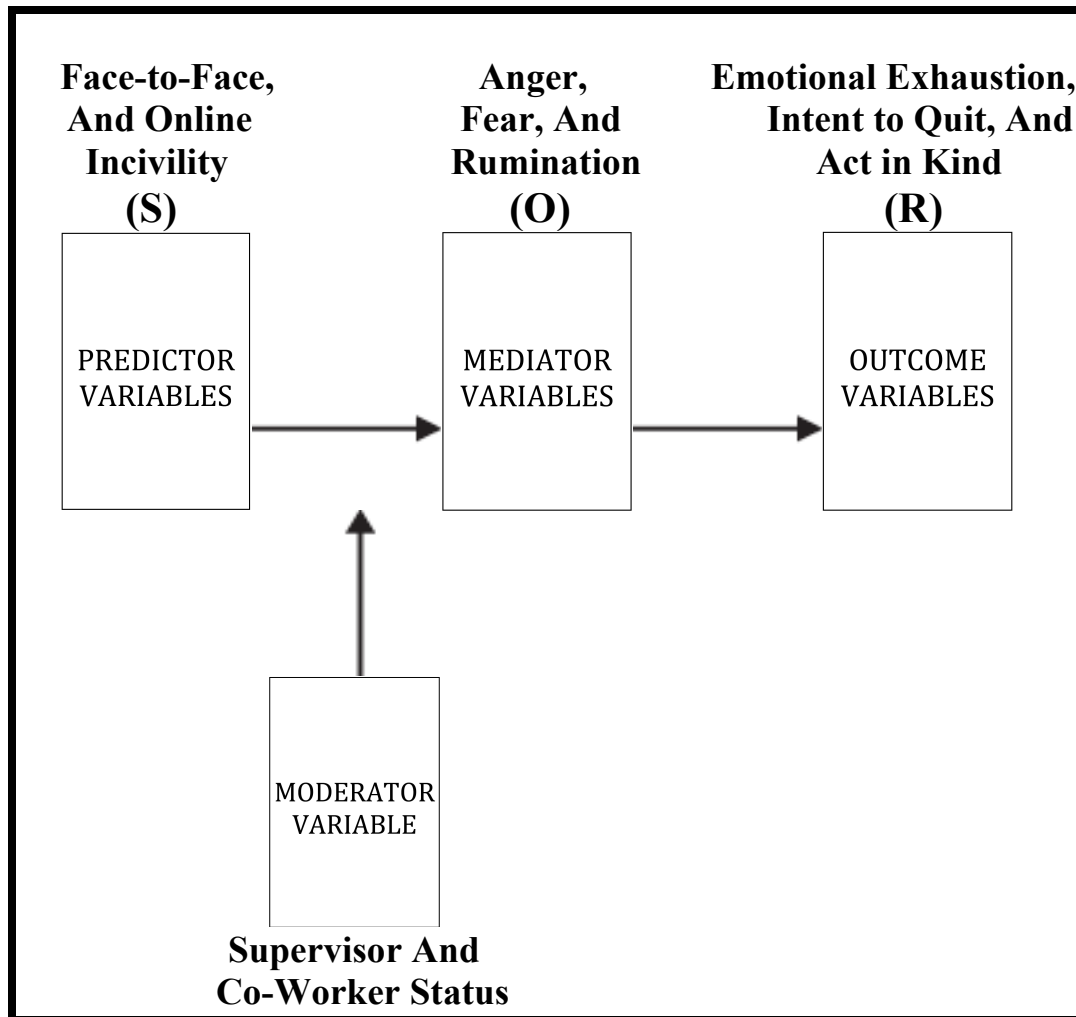
## **5.2 RATIONALE**

So far, a new data collection tool has been developed, which appears to be usable and provide quality data, but the measures have not been re-validated in their new digital format and the app's research capabilities have yet to be demonstrated in terms of what questions it can be used to answer. The purpose of this main study is to apply the new smartphone app to investigating the theoretical framework detailed in chapter two.

As mentioned in chapter two, the current research relies upon appraisal theory and argues that emotions result from peoples' interpretation of events, and account for individual variances of emotional reactions to the same events. Different aspects of the incivility event or predictor variable (e.g., the status of the instigator of workplace incivility) may moderate or affect the direction and/or strength of the relation between the event and the outcome variable, and individual differences in how people internally process/respond to an external event (e.g., reacting with anger, fear or rumination) may partially or fully mediate (i.e., determine) individual differences in their outcome measures (e.g., emotional exhaustion, intentions to quit, or act in kind).

Please refer to diagram 1, which is reintroduced here, in order to refresh the reader's memories about the key constructs involved.

**DIAGRAM 1 Stimulus Organism Response Moderated-Mediation Model**



Part of the rationale for why a new data collection tool is needed, also focuses on prevalence of incivility and the fact that we can't get an accurate understanding of prevalence if we rely on retrospective surveys, whereas the app should offer more precise data concerning prevalence. A key beneficial function of the app is to get a more accurate sense of how often incivility actually occurs.

## **5.3 METHOD**

### **5.3.1 Participants**

Attempting to obtain a broad sample across many professions, participants were recruited through Columbia University Teachers College Graduate Education web site, where the researcher had access to as a member of the alumni, and former Adjunct Assistant Professor for the college. Graduate schools of education offer specialised training in most subjects drawing students from all the different professions in the arts and sciences. Specifically, the sample consisted of participants who were eighteen years of age or older, in various industries, across different levels of education, and occupations within the New York area. The majority of participants were full-time employees (52.8%), male (79.2%), and between the ages of 25 and 29 (41.5%). Participation was voluntary and a \$30.00 gift certificate was offered for those participants who completed the project (i.e., informed consent, pre-test survey, downloading and using the app for up to a month).

The demographic frequencies, using full data files of 53 participants who used the app 5 or more times, are presented in table 12. There were 42 males and 11 females. Ethnic diversity included: 49.1% White, 3.8% Black, 43.4% Asian and 3.8% Other. Education included: 9.4% Grade School, 45.3% Undergraduate

degree, 43.4% Postgraduate degree and 1.9% Other. Full-time employees made up 52.8% of the sample and Part-time employees were the remaining 47.2%.

**Table 12. Demographic Frequencies**

	Frequency	Percentage
<b>Gender</b>		
Male	42	79.2
Female	11	20.8
<b>Age</b>		
< 25	20	37.7
25 - 29	22	41.5
30 - 34	6	11.3
35 - 39	1	1.9
40 - 44	1	1.9
45 - 49	1	1.9
50 +	2	3.8
<b>Ethnicity</b>		
White	26	49.1
Black	2	3.8
Asian	23	43.4
Other	2	3.8
<b>Education</b>		
Grade School	5	9.4
Undergraduate Degree	24	45.3
Postgraduate Degree	23	43.4
Other	1	1.9
<b>Position</b>		
Part-Time Employee	25	47.2
Full-Time Employee	28	52.8

### 5.3.2 Ethics

The same ethical principles that guided the pilot studies steered the main study. The working principles underlying the ethical considerations dealt with when designing the procedures were the same ones that guided the pilot

studies: 1) non-maleficence; 2) beneficence; 3) autonomy; and 4) justice. Participants were instructed to go to a web page in which they were presented with a consent form (Appendix 7) and given a code number to protect their anonymity for the pre-test and app survey responses. The single consent form covered the details for consent concerning both the web-based pre-test survey, in addition to the workplace incivility app that was subsequently downloaded and used for the purposes of the app-based research study. Participants were always free to withdraw from the study at any point.

### **5.3.3 Design**

The research design consisted of a multilevel digital diary study, with two types of data being collected. Within-person and between-person data (referred to as Level 1 and 2 respectively in multilevel method terminology) are collected using the app-based digital diary survey. Participants are directed to complete daily workday surveys, which measure face-to-face and online workplace incivility, various possible moderator or mediators, and outcome variables. They were to be signaled by the app in the late afternoon to complete the app-based survey if they worked that day. It was decided that reporting within the same day period as the events was close to real time, compared with reporting about past months or years and reduced recall bias. The study proceeded for one month. Given that some participants worked part-time, the number of uses varied across individuals.



Prior to the app survey, participants were directed to complete an initial web-based pre-test survey of person level data (i.e., Level 2) consisting of demographic, retrospective measures of online and face-to-face workplace incivility, as well as the full versions of measures of possible moderating and outcome variables. The pretest Level 2 data from previously well established instruments is then compared with the app-based Level 2 data to examine the validity of the app data.

#### **5.3.3.1 Compliance**

Participation was voluntary and a \$30.00 gift certificate was offered for those participants who completed the project in order to facilitate compliance (i.e., informed consent, pre-test survey, downloading and using the app for up to a month). In one instance this appeared to have an adverse effect. Eyeballing the data as it started to come in revealed that an individual kept taking the pre-test repeatedly, and inputting identical data, always choosing the first answer to each item. (i.e., probably in some misguided attempt to receive the \$30 incentive multiple times). As such, the data was deleted from the study. The goal was to obtain at least 50 participants who used the app 5 or more times within the one-month period of time. Fifty-three participants, out of 62 who responded to the recruitment notice posted on the Columbia University Teachers College Graduate

Education web site completed the study within the prescribed time period, indicating a compliance rate of 85.5%.

#### **5.3.4 Procedures**

After completion of the single consent form, participants were directed to a web-based pre-test survey, which took them approximately twelve minutes to complete (see Appendix 7). The pre-test survey consisted of measures of face-to-face and online workplace incivility, the PFIT, emotional exhaustion, turnover intentions, and a measure of trait rumination, as well as included several demographic items. After completing the pre-test (which was automatically uploaded to an Excel spreadsheet and available to the researcher), participants were directed to download the app and instructed to use the app at the end of each workday. Photocopies of each page of the final version of the app showing the measurement items can be found in Appendix 8. The app data was also uploaded to an Excel spreadsheet that could be downloaded by the researcher.

#### **5.3.5 Measures for the App-Based Daily Observations**

##### **5.3.5.1 Predictor Variables: Face-to-Face & Online Incivility**

The app face-to-face and online incivility measures consisted of seven items adapted from the Workplace Incivility Scale (WIS) created by Cortina *et*

*al.*, (2001). The extent to which participants were subjected to uncivil behaviours was measured on a five-point scale from “*not at all*” to “*very often*”. A reliability coefficient was calculated for Level 1 face-to-face incivility, and Level 1 online incivility (Cronbach’s  $\alpha = .900$  and  $.927$ , respectively). Concerning validity, the correlations between previously established measures of workplace incivility and the app measures were significantly strong (Pearson's  $R = .620$  and  $.435$ ,  $p \leq 0.01$ , respectively).

#### **5.3.5.2 Possible Moderating Variable: Instigator Status**

Based on the success of the feasibility pilot, it was decided additional items could be added without creating significant additional burden. Consistent with theory and the literature review it was decided a slider question would be added for each form of incivility asking about the instigator status (i.e., supervisor or coworker). A review of the literature revealed no well established measure of this variable to be include in the pre-test for validation purposes.

Participants were asked to indicate on the touch screen if they experienced any of these face-to-face, or online behaviours today, who were they from? Participants could respond whether the instigator was a “*supervisor*”, “*co-worker*” or *both*.

### 5.3.5.3 Possible Mediating Variables: Anger, Fear & Rumination

Based on the success of the feasibility pilot, there was room for a few more items. Consistent with theory and the literature review it was decided slider questions would be added to measure possible mediating variables. As Porath and Pearson (2012) had suggested, emotional responses to incivility such as anger and fear had a negative impact on outcome variables, and were subsequently chosen as measures of negative emotions.

The emotional responses of the targets were measured with two items (i.e., whether participants felt “*afraid*”, or “*angry*” at the time of the incident). Agreement with the items, were measured on an eleven-point sliding scale from “*not at all*” to “*a great deal*”.

As noted earlier, review of the literature remains an ongoing process starting at inception of a possible project but continuing through its completion. The first pilot study was conducted in 2012, but additional research emerged the following year, which highlighted the possible importance of rumination, so it was added to the final version of the app (Niven *et al.*, 2013b).

Rumination was measured asking targets to indicate the extent to which they continued to think about their superiors’ or co-workers’ uncivil behaviours

towards them using an eleven-point sliding scale indicating “*not at all*” to “*a great deal*”.

#### **5.3.5.4 Outcome Variables**

##### **5.3.5.4.1 Emotional Exhaustion**

Emotional Exhaustion was retained in the final version of the app using an eleven-point slider indicating the extent today to which they felt emotionally exhausted. Agreement with the items was measured from “*not at all*” to “*a great deal*”.

##### **5.3.5.4.2 Intention to Quit**

Intention to quit was also retained in the final version of the app using an eleven-point sliding scale indicating the extent that day to which participants intended to quit their job. Agreement with the items was measured from “*not at all*” to “*a great deal*”.

##### **5.3.5.4.3 Reciprocation of Incivility**

Based on the success of the feasibility pilot, there was room for two more items. Consistent with theory and the literature review it was decided slider

questions would be added to measure and additional outcome variable. Granted, the incivility spiral proposed by Andersson and Pearson (1999) where a target becomes an instigator remains mostly theoretical, it was hoped the repeated measures capacity of the app could shed some light on the issue.

To capture behavioural reciprocation in face-to-face and online communications, whereby the target may become the instigator, two items were added asking participants to indicate the extent to which they acted in kind, either face-to-face or online. The response was measured with an eleven-point sliding scale from “*not at all*” to “*a great deal*”.

### **5.3.6 Measures for the Pre-Test**

All the pre-test measures had acceptable to good internal consistency reliability with Cronbach Alpha ranging from .765 to .850. These well established measures were used to validate the app. Certain measures for the pretest remained unchanged from first pilot study and were detailed in chapter 4 (i.e., adapted versions of the WIS for both face-to-face and online forms, the Perception of Fair Interpersonal Treatment scale, and Turnover Intention measured by 3 items on the Michigan Organizational Assessment Questionnaire). The additional constructs of emotional exhaustion, anger and fear were made of subsets of items contained within instruments in the first pilot that measured more than these constructs, per se (i.e., the Maslach Burnout Inventory, General Scale, and the Positive and

Negative Affect Scale), respectively).

Rumination had not been included in the first pilot but was included, herewith. It was measured using the nine-item stress-reactive rumination scale (Robinson & Alloy, 2003). Participants were asked to what extent have they ruminated about their experience of workplace incivility over the past month. The items were present on a 5-point Likert scale from “*not at all*” to “*a great deal*”. For example, the first item asks to what extent over, the past month, have “*you thought about how the stressful events are all your fault*”.

### **5.3.7 Analysis Strategy**

The analysis used a multilevel modelling approach for the diary study because the collected data formed two levels that were measured. This was a multilevel design whereby Level 1 was the observation level,  $n = 554$  (i.e. the daily measures collected on the app), which was nested within the person (i.e. person data) Level 2 data,  $n = 53$ . The appropriateness of multilevel modelling and the specific procedures utilized are addressed as follows. Different statistical procedures may be appropriate or not in different circumstances and need to meet certain basic assumptions. As noted by Field (2013) in his chapter on multilevel modelling, data can be hierarchical (i.e., some variables can be nested or clustered in other variables). The two-level situation is the most basic one calling for a multilevel modelling approach to the data. A repeated measures study that takes

several measures over time is a common example of this basic situation in which the individual cases are the contextual variables. Thus, the app measures at different points in time are at Level 1, and they are nested within individuals at Level 2 (Field, 2013).

The contextual variables (i.e., individual cases) in the hierarchy introduce dependency in the data. Thus, the residuals will be correlated. Normally this might cause a problem for models that assume errors that are independent, but by factoring the contextual variables into the multilevel analysis, this problem can be overcome. The interclass correlation (ICC) estimates the dependency between scores. For example, if the ICC determines the variability within individuals in a repeated measures design is small, but the variability between individuals is large, it is a good indicator of whether a contextual variable has an effect on the outcome (Field, 2005, 2013). Additionally, multilevel modelling does not require homogeneity of the regression slope (i.e., homoscedasticity or the assumption that regression slopes are the same across participants) because estimates of the variability in the regression slope can be included in multilevel models. In summary, multilevel modelling is an elaborate regression, which allows either the intercepts or slopes, or both, to vary across different contexts. An advantage in multilevel modelling is that for every random parameter, there is an estimate of the variability of that parameter in addition to the parameter itself (Field, 2013; Wilcox, 2010).



Irrespective of the shape of sample data, central limits theorem assumes normality in various situations (Lumley *et al.*, 2002). The sampling distributions approximates normal as the sample size increases. If the sample size is large enough, the sampling distribution becomes normal even if the population of scores were non-normal. In order to estimate the parameters of the model normality is not an issue. To construct confidence intervals around those parameters or compute significance tests relating to those parameters, the assumption of normality can be a problem with small samples, but according to the central limit theorem it stops becoming a problem with samples of 30 or more. In practical terms, outliers are a more pressing concern than normality. Outliers can dramatically reduce the power of significance tests (Field, 2013).

In order to reduce the bias of outliers that may threaten the basic assumption of normality, the data was eyeballed. It was discovered that one individual tried to participate in the study over a dozen times with identical and erroneous responses (i.e., always endorsing the first choice to every question). Thus, all of the data from the individual outlier was removed from the overall data set.

It is appropriate to analyse data with hierarchical configuration using multilevel modelling (i.e., similar to regression with random effects, which permits the parameters to vary). Normally, in regression with fixed effects, parameters do not vary but have a fixed value, which is estimated from the

sample. By estimating the linear model for each person in a repeated measures study (i.e., within each context or person), instead of estimating it for the sample as a whole, the assumption will be that the slopes and/or intercepts for these models will vary (i.e., a random slopes model and/or a random intercepts model, respectively). A covariance structure is often assumed for these random effects models, and an autoregressive structure (AR1) is often assumed when the data are measured over time (Field, 2013).

As in logistic regression, the overall fit of a multilevel model is tested using a chi-square likelihood ratio test. SPSS reports the deviance, which is minus twice the log-likelihood ( $-2LL$ ). Essentially, the smaller log-likelihood values are better. SPSS also produces four adjusted versions of the log-likelihood value. All of these can be interpreted in the same way. The Schwarz's Bayesian Criterion (BIC) is one of them, and a goodness-of-fit measure that corrects for model complexity (i.e., it takes into account how many parameters have been estimated) and is slightly more conservative than the other three versions of the log-likelihood value (i.e., it corrects more harshly for the number of parameters being estimated) and is appropriate for the purposes of the current research (Field, 2013).

Multilevel modelling has two other assumptions related to random coefficients. First, the random slopes model and random intercepts model, assume that the slopes and/or intercepts in the different contexts are normally distributed.

As noted above, this becomes less of a problem as the sample size grows. Second, if the interactions cross-different levels in the hierarchical data structure, multicollinearity can be a particular concern in multilevel modelling. However, according to Field (2013) and Kreft and de Leeuw (1998) before him, centring predictors combined with having more than 20 contexts in the higher level variable (i.e., people in a repeated measures study) corrects for this problem, which can also help if the predictor does not have a meaningful zero point.

### **5.3.7.1 Centring**

When preparing to conduct multilevel analysis one must first centre any predictor variables. Predictor variables may be at Level 1, the observation level, or Level 2, the person level. Field (2013) defines centring as,

“The process of transforming a variable into deviations around a fixed point. One such fixed point is the mean of the variable (grand mean centring). This form of centring is used in multilevel models too, but sometimes group mean centring is used instead. Group mean centring occurs when for a given variable we take each score and subtract from it the mean of the scores (for that variable) within a given group. For multilevel models, it is usually only Level 1 predictors that are centred. If group mean centring is used then a Level 1 variable is typically centred on means of a Level 2 variable” (Field, 2013, p. 829).

Centring predictors in multilevel models allows estimates to be treated as mostly independent while helping with stability (Enders and Tofighi, 2007; Field,

2013; Kreft and de Leeuw, 1998; Kreft, de Leeuw and Aiken, 1995; Ohly *et. al.*, 2010).

Enders and Tofighi (2007) offer four rules of thumb for deciding whether to use grand mean centring, or group mean centring when analysing data with a two-level hierarchical structure. First, if the primary interest is in an association between variables measured at Level 1, then use group mean centring. Second, if the primary interest is in the Level 2 variable but you want to control for the Level 1 covariate, then use grand mean centring. Third, if you want to look at the differential influence of a variable at Level 1 and Level 2, then either group mean centring, or grand mean centring can be used. Finally, if you want to examine cross-level interactions, then group mean centring is preferable. As such, group mean centring was decided upon for centring any predictor variables (including control variables, moderating or mediating variables) that were at the lowest level of analysis (i.e., Level 1) and grand-mean centring for centring any Level 2 predictor variables. For a detailed step-by-step describing of the analysis procedures, including SPSS syntax, please refer to Appendix 9.

### **5.3.7.2 Power**

Despite the increase in using multilevel modelling in organisational research, little advice is available for organisational researchers when determining sample size. Power is the probability of detecting an effect when it does exist

(Scherbaum and Ferrerter, 2009). Sample size needs to be large enough so the estimates of the regression coefficients, the components of variance, and the standard errors are accurate and unbiased. The development of formulas for calculating power and required sample sizes at different levels in multilevel modelling, is a budding industry that is mathematically complex, usually requiring information that is not available before the data have been collected (Hayes, 2006). Maas and Hox (2006) recommend a minimum sample of 50 at Level 2, and this study consisted of 53 participants at Level 2 while there were 554 observations at the daily level, which is adequate for a diary study (Hayes, 2006; Hox, 2002; Jackson and Brashers, 1994; Kreft and de Leeuw, 1998; Moerbeek *et al.*, 2000; Raudenbush, 1997; Raudenbush and Bryk, 2002; Snijders and Bosker, 1999).

### **5.3.7.3 Missing Data**

Furthermore, multilevel modelling does not require complete data sets. Normally, one must correct for missing data. As noted by Yang *et al.* (2008) these techniques that correct for, and input missing data are usually complicated. In repeated measures designs, if a single point-in-time is missing the whole case often needs to be deleted. In contrast, missing data in multilevel models does not need to be corrected for and inputted, nor does the whole case need to be deleted. Alternatively, effective parameters can be estimated with the available data, offering a relatively easy solution (Field, 2013).

The level of missing data was negligible in keeping with Tabachnick and Fidell (2007) recommendations. In the rare instance when an item on a measure was left blank, rather than substituting the individual's average score, which tends to shift things toward the mean, a decision was made to leave it out (e.g., giving slightly more weight to the remaining 6 out of 7 items on the incivility scale).

### **5.3.7.4 Testing the Hypotheses**

#### **5.3.7.4.1 Validating the Diary Measures**

An important step involved in diary study research is to validate the diary measures. The repeated measures nature of diary research designs means that measures often need to be vastly reduced in length to make the research practically viable to run, so such validation is an important step in the analytic process. That is why the full-length equivalents of all the diary measures were used in the pre-test to validate them against. Here, this validation was performed by running multilevel models with the diary measures of variables as Level 1 dependent variables, and the grand-mean centred pre-test survey measures of the equivalent variables as Level 2 predictor variables. A significant effect would indicate that the reduced length diary measure is a valid indicator of the full-length measure. This was done for the following measures included in the app (i.e., face-to-face and online incivility, anger, fear, rumination, emotional exhaustion, intention to quit, and acting in kind).

#### **5.3.7.4.2 Forming the Basic Models**

In order to set up the models for testing the hypotheses, several initial steps were taken to form the models. First, null models were run in which no predictor variables were entered (only the dependent variables), in order to estimate the amount of variance at both levels of the data for each outcome variable and thus establish whether a multilevel modelling approach was appropriate for the data analysis. Second, longitudinal and autoregressive temporal effects were assessed within these null models according to the process described in the last two paragraphs in appendix 9. A longitudinal significant attenuating or amplifying effect of meaningful magnitude would need to be controlled for. Similarly, if the correlation between two time-steps significantly decreases by a meaningful magnitude as the distance between those time-steps increases, this would also need to be controlled for. Third, demographic variables from the pre-test survey (e.g., age, gender, and work tenure) were entered into the models in order to identify which of these variables was important to control for in the hypothesis-testing analyses.

#### **5.3.7.4.3 Hypothesis Testing**

To test the hypotheses, first main effects models were run looking at fixed effects, and then the models were repeated also including random effects. Data

can be clustered or grouped into higher-level units. One challenge for modelling these data occurs when the outcome variable exhibits group-level variation beyond what can be explained by the predictor variables alone. As such, fitting a standard linear regression model or generalized linear model, without accounting for the grouped type of observations may lead to poorly fitting models and inaccurate estimates of outcome variable effects (Beck and Katz 1995; Greene 2012).

When looking at fixed effects you are assuming that the relationship between the independent variables and dependent variables will be the same for each person. If one also looks at random effects, the relationship may be different. Thus, for some employees incivility may be positively associated with emotional exhaustion, and for others it may not be. Thus, to determine whether a fixed or random effects model is a better fit, they were run both ways, comparing the Schwarz's Bayesian Criterion (BIC).

The rationale and details for this are furthered in Appendix 9 (Niven, 2015). Fixed effects assumed that while observations at the lower level might have differed in their baseline/mean levels of the outcome variable, the relationships between predictor variables and outcome variables were the same for each lower level observation, regardless of data clustering. By including random effects in the model, it allowed for the possibility that there may have been different relationships between predictor variables and outcome variables. In the daily app survey, this would mean that different people might have had



different relationships between predictor variables and outcome variables. To analyse for random effects, the code below was used, substituting as directed above (see highlighting below). Note that random effects were only calculated for Level 1 variables that is so the group mean for our Level 1 predictor variables and the grand-mean centred Level 2 continuous predictor were not included as random effects (Niven, 2015).

Moderation analyses were then conducted, following Baron and Kenny's (1986) recommended procedure. Specifically, interaction terms (the product of the centred independent and moderator variables) were added to models in which the respective independent and moderator variables were already entered as predictors in a previous step. Significance of the interaction term would indicate support for a moderated effect. Mediation analyses were also conducted, following the Baron and Kenny (1986) recommended procedure.

## **5.4 RESULTS**

### **5.4.1 Reliability**

Generally speaking, all the reliability coefficients are greater than 0.7, which is considered high. Thus, they are very reliable constructs. At Level 1 (i.e., at the diary entry level) reliability coefficients were calculated for face-to-face incivility and online incivility. The alpha values were 0.900 and 0.927, respectively (i.e., the reliability coefficients in the first column of table 13). The number of items is presented in the next column, and consists of the number of questions grouped together to make up the construct. There were 7 items each for

face-to-face and online incivility, respectively. The third column is the number of cases utilized in the analysis (i.e., face-to-face incivility = 554 cases, and online incivility = 548 cases). At Level 1, the remaining constructs consisted of one slider question each (i.e., source of the instigator, emotional exhaustion, intention to quit, anger, fear, rumination, and acting in kind) rather than multi-item scales. Thus, Cronbach's Alpha could not be calculated.

At Level 2 (i.e., at the pre-test entry level) the constructs consisted of between 3 and 18 items each. Reliability coefficients were calculated for face-to-face incivility, online incivility, emotional exhaustion, intention to quit, anger, fear, rumination, and the PFIT. They range from 0.859 to 0.923 and are presented in column 1 of table 13. Note that 4 of the 53 participants failed to complete all 18 items of the PFIT. Thus, they were not included in the analysis.

**Table 13. Reliability: Cronbach's  $\alpha$**

	$\alpha$	N Items	N Cases
Level 1 (Daily Diary)			
Face-to-Face Incivility	0.900	7	554
Online Incivility	0.927	7	548
Level2 (Individual)			
Face-to-Face Incivility	0.863	7	53
Online Incivility	0.859	7	53
Emotional Exhaustion	0.893	5	53
Intention to Quit	0.828	3	53
Anger	0.922	3	53
Fear	0.923	3	53
Rumination	0.922	9	53
PFIT	0.882	18	49

## 5.4.2 Validity

For the purposes of analysing the validity of the app measures, the data from the pre-test was examined to see if it predicted the app data. In table 14 the column, labelled Daily Data Person Means, averages each individual's scores for each construct across each day. The column labelled Pre-Test Measures consists of scores of constructs that have all been previously validated. The correlations between the previously established constructs and the app are all strong (i.e., ranging from 0.348 to 0.620) except for anger, fear and intention to quit (i.e., ranging from 0.145 to 0.238). Note, anger and fear are subscales of the PANAS and only the subscales were used in the pre-test. The PFIT was negatively correlated with both face-to face incivility and online incivility (i.e., -0.456 and -0.376, respectively).

**Table 14. Validity: Correlations between App and Pre-Test Measures**

Diary Data Person Means	Pre-Test Measures	Pearson's R	<i>p</i>
Person Mean Face-to-Face Incivility	Face-to-Face Incivility	0.620	< 0.001
Person Mean Face-to-Face Incivility	PFIT	-0.456	0.001
Person Mean Online Incivility	Online Incivility	0.435	0.001
Person Mean Online Incivility	PFIT	-0.376	0.006
Person Mean Anger	Anger	0.145	0.366
Person Mean Fear	Fear	0.238	0.241
Person Mean Rumination	Rumination	0.375	0.019
Person Mean Emotional Exhaustion	Emotional Exhaustion	0.348	0.012
Person Mean Intention to Quit	Intention to Quit	0.182	0.311

### 5.4.3 Justification for Using Multilevel Modelling

Table 15 comprises four distinct but similar analyses. Running a multilevel model without independent variables creates a table of covariance parameters in the SPSS output that provides estimates of the variance with an intercept piece (i.e., associated with Level 1) and a residual piece (i.e., associated with Level 2). See columns 1 and 2, respectively. The Intra-Class Coefficient (ICC) in column 3 represents how much of the variance in a two level model comes from Level 1 (i.e.,  $[\text{Column 1} \div \{\text{Column 1} + \text{Column 2}\}] = \text{ICC}$ ). If the information from daily entry to daily entry was relatively consistent and the variance small, there would be no justification for using multilevel modelling and standard regression would suffice. In this case, more than half the variance is coming from Level 1. Thus, there is substantial justification for looking at things at the daily diary level instead of just looking at the individual level. In Emotional Exhaustion 61.7% of the overall variance is expressed at Level 1 and comes from the information in the daily diaries. For Intention to Quit 54.5% of the overall variance is expressed at Level 1. For Acting In Kind Face-to-Face, and Online 72.8% and 80.5% of the overall variance is expressed at Level 1, respectively. Using multilevel modelling is substantially justified.

**Table 15. Null Models: Variance by Level**

	$\sigma^2$ Level 1	$\sigma^2$ Level 2	ICC
Emotional Exhaustion	4.526	2.805	0.617
Intention to Quit	3.329	2.780	0.545
Acting In Kind (F-2-F)	6.633	2.479	0.728
Acting In Kind (Online)	6.767	1.639	0.805

#### 5.4.4 Fixed and Random Effects Models

The analysis used 6 base types of models. They involved the different combinations of one of two independent variables (i.e., face-to-face, or online incivility), and one of three dependent variables (i.e., emotional exhaustion, intent to quit, or acting in kind). To determine whether it was justified to use a random effects model, both fixed and random effects models were examined using the base models. The information criteria, goodness of fit parameters (i.e., Schwarz's Bayesian Criterion) were compared across fixed and random effects to look for the better fit (i.e., the model with the smaller numbers). The results suggest no clear advantages to using random effects modelling (i.e., the numbers were essentially the same with all but one slightly smaller for fixed effects), therefore the more parsimonious fixed effects models are used. See table 16.

**Table 16. Goodness of Fit: Fixed Effects & Random Effects Models**

<b>Independent Variable</b>	<b>Dependent Variable</b>	<b>Fixed (BIC) Schwarz's Bayesian Criterion</b>	<b>Random (BIC) Schwarz's Bayesian Criterion</b>
F2F Incivility	Emotional Exhaustion	1547.863	1556.122
Online Incivility	Emotional Exhaustion	1544.265	1551.290
F2F Incivility	Intention to Quit	714.390	720.228
Online Incivility	Intention to Quit	719.476	727.323
F2F Incivility	Acting in Kind	1159.562	1155.258
Online Incivility	Acting in Kind	879.106	890.028

### 5.4.5 Temporal Effects

Table 17 presents data on longitudinal and autoregressive temporal effects for the dependent variables. For emotional exhaustion there may have been a significant attenuation effect, but the magnitude of that effect was for all practical purposes meaningless (i.e.,  $B = -0.06$ ;  $p \leq 0.02$ ). For intention to quit there was a significant growth effect, the size of which was also virtually meaningless (i.e.,  $B = 0.07$ ;  $p \leq 0.05$ ).

The autoregressive piece is similar to the longitudinal piece but it is not looking to fit a line to the overall time data. It asks instead whether the answer participants give today, is a better predictor of the answer they give tomorrow, compared with the answer they are going to give next week. Basically, does the correlation between two time-steps decrease as the distance between those time-steps increase? These things can go up and down over time, and is it recent history that matters, or just history? The AR1 rho is significant for emotional exhaustion, and face-to-face behaviour in kind (i.e.,  $p \leq 0.05$  and  $p \leq 0.01$ , respectively).

**Table 17. Temporal Effects: Longitudinal and Autoregressive.**

	Longitudinal			Autoregressive		
	B	SE	Sig.	AR1 rho	SE	Sig.
Emotional Exhaustion	-0.06	0.02	0.02	0.17	0.08	0.05
Intention to Quit	0.07	0.04	0.05	0.20	0.10	0.06
F2F Behaviour In Kind	0.01	0.03	0.63	0.20	0.08	0.01
Online Behaviour In Kind	-0.01	0.02	0.59	-	-	-

## 5.5 HYPOTHESIS-TESTING RESULTS

### 5.5.1 Hypothesis 1a

Table 18 illustrates the results of analyses testing hypothesis 1a, relating to the effects of face-to-face incivility on emotional exhaustion. In the table there is the B coefficient indicating how strong the effect is, the standard error, and the *t*-value. Significant findings at the 0.05 level are indicated by one star next to the *t*-value, and significant findings at the 0.01 level are indicated by two stars. Note, there are no results for Time Step 19 because there was only one participant who completed the app 19 times. Thus, SPSS could not make the calculation.

For the main effects model, both Level 1 and Level 2 face-to-face incivility were significant predictors of emotional exhaustion (i.e.,  $p \leq 0.01$ ). The amount of face-to-face incivility that participants experience on a day-to-day basis predicts emotional exhaustion on a daily basis, and the average amount of face-to-face incivility that participants experience also predicts their emotional exhaustion. Hypothesis 1a was therefore supported (i.e., Employees experience higher levels of emotional exhaustion on days when they are treated more uncivilly face-to-face).

**Table 18. Multilevel Main Effects Model:  
F2F Incivility and Emotional Exhaustion**

Variable	Main effects model		
	B	SE	t
Level 1			
Intercept	0.28	2.00	0.14
Time 1	1.00	1.76	0.57
Time 2	0.81	1.76	0.46
Time 3	0.70	1.76	0.40
Time 4	0.59	1.76	0.34
Time 5	0.39	1.76	0.22
Time 6	0.65	1.77	0.37
Time 7	0.54	1.77	0.30
Time 8	0.44	1.77	0.25
Time 9	0.10	1.79	0.06
Time 10	0.76	1.78	0.43
Time 11	-0.05	1.79	-0.03
Time 12	0.22	1.81	0.12
Time 13	-0.06	1.80	-0.03
Time 14	0.47	1.83	0.26
Time 15	0.48	1.86	0.26
Time 16	-0.08	2.09	-0.04
Time 17	0.92	2.09	0.44
Time 18	-1.00	2.39	-0.42
Time 19	-	-	-
Daily Incivility	0.63	0.21	2.94**
Level 2 - Direct Effects			
Daily Incivility (person mean)	2.24	0.69	3.27**
Gender	-0.13	0.33	-0.38
Age	-0.03	0.37	-0.07
Work Tenure	-0.12	0.34	-0.36

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$



### **5.5.2 Hypothesis 1b**

Table 19 is structured similar to table 18, but for online incivility. The results are also similar with slight differences. For the main effects model, both Level 1 and Level 2 daily online incivility were significant predictors of emotional exhaustion (i.e., Level 1,  $p \leq 0.01$ ; and Level 2,  $p \leq 0.05$ ). The amount of online incivility that participants experience day-to-day, predicts emotional exhaustion, and the average amount of online incivility experienced also predicts emotional exhaustion when not considering other factors. Hypothesis 1b was therefore supported (i.e., Employees experience higher levels of emotional exhaustion on days when they are treated more uncivilly online).

**Table 19. Multilevel Main Effects Model:  
Online Incivility and Emotional Exhaustion**

Variable	Main effects model		
	B	SE	t
Level 1			
Intercept	0.80	1.99	0.40
Time 1	1.13	1.74	0.65
Time 2	0.87	1.74	0.50
Time 3	0.69	1.74	0.40
Time 4	0.68	1.74	0.39
Time 5	0.44	1.74	0.25
Time 6	0.78	1.75	0.45
Time 7	0.59	1.75	0.34
Time 8	0.56	1.75	0.32
Time 9	0.04	1.77	0.02
Time 10	0.85	1.76	0.48
Time 11	0.04	1.77	0.02
Time 12	0.53	1.79	0.30
Time 13	-0.02	1.78	-0.01
Time 14	0.49	1.81	0.27
Time 15	0.15	1.84	0.08
Time 16	-0.17	2.06	-0.08
Time 17	0.98	2.06	0.48
Time 18	-1.00	2.36	-0.42
Time 19	-	-	-
Daily Incivility	0.87	0.22	3.94**
Level 2 - Direct Effects			
Daily Incivility	2.06	0.78	2.65*
Gender	-0.14	0.35	-0.40
Age	-0.06	0.38	-0.15
Work Tenure	-0.10	0.36	-0.29

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

### 5.5.3 Hypothesis 2a

Table 20 shows the moderated-mediation analyses testing hypothesis 2a, which predicted that the status of the instigator (co-worker or supervisor) would moderate the effects of face-to-face incivility on anger.

For the instigator-moderated relationship, the interaction effect is not statistically significant either at Level 1 or Level 2. Thus, instigator status does not moderate the effects of face-to-face incivility on anger. In other words, the impact of incivility for employees' anger levels does not vary depending on whom the incivility comes from. Hypothesis 2a was therefore not supported. Note, the analysis only used information from participants who indicated the instigator was a supervisor *or* a co-worker. Those who reported neither or both were not included in the analysis.

**Table 20. Multilevel Moderated-Mediation Model: F2F Incivility and Anger**

Variable	Instigator moderation model		
	B	SE	t
Level 1			
Intercept	3.04	1.87	1.62
Time 1	-2.99	1.40	-2.14*
Time 2	-2.80	1.37	-2.00*
Time 3	-2.84	1.42	-2.01*
Time 4	-1.82	1.40	-1.34
Time 5	-2.92	1.38	-2.11*
Time 6	-2.40	1.38	-1.74
Time 7	-2.26	1.45	-1.57
Time 8	-1.08	1.42	-0.76
Time 9	-2.78	1.46	-1.91
Time 10	-4.01	1.48	-2.71**
Time 11	-2.89	1.48	-1.96
Time 12	-1.13	1.54	-0.74
Time 13	-3.30	1.66	-1.95
Time 14	-	-	-
Time 15	-	-	-
Time 16	-	-	-
Time 17	-	-	-
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	0.74	0.31	2.34*
Level 2 - Direct Effects			
Daily Incivility (person mean)	1.86	0.81	2.28*
Gender	0.31	0.40	0.78
Age	0.10	0.39	0.25
Work Tenure	-0.12	0.37	-0.05
Instigator status	0.71	1.63	0.44
Level 2 - Interaction Effects			
Moderator x Daily Incivility (within-person)	-0.49	0.35	-1.41
Moderator x Daily Incivility (between-people)	-0.49	0.95	-0.52

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

#### **5.5.4 Hypothesis 2b**

Table 21 shows the moderated-mediation analyses testing hypothesis 2b, which predicted that the status of the instigator (co-worker or supervisor) would moderate the effects of online incivility on anger.

For the instigator-moderated relationship, the interaction effect is not statistically significant either at Level 1 or Level 2. Thus, instigator status does not moderate the effects of online incivility on anger. In other words, the impact of incivility for employees' anger levels does not vary depending on whom the incivility comes from. Hypothesis 2b was therefore not supported. As before, the analysis only used information from participants who indicated the instigator was a supervisor *or* a co-worker. Those who reported neither or both were not included in the analysis.

**Table 21. Multilevel Moderated-Mediation Model: Online Incivility and Anger**

Variable	Instigator moderation model		
	B	SE	t
Level 1			
Intercept	3.87	2.50	1.55
Time 1	-1.36	2.21	-0.62
Time 2	-0.87	2.15	-0.41
Time 3	-1.00	2.19	-0.46
Time 4	-0.98	2.13	-0.46
Time 5	-1.50	2.13	-0.70
Time 6	-1.32	2.19	-0.60
Time 7	-0.70	2.21	-0.32
Time 8	-0.02	2.42	-0.01
Time 9	-1.25	2.30	-0.54
Time 10	-2.57	2.30	-1.12
Time 11	-1.05	2.25	-0.47
Time 12	0.03	2.46	0.01
Time 13	-1.14	2.62	-0.44
Time 14	-1.09	2.70	-0.40
Time 15	-	-	-
Time 16	-	-	-
Time 17	-	-	-
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	-0.41	0.54	-0.76
Level 2 - Direct Effects			
Daily Incivility (person mean)	0.89	0.89	0.10
Gender	-0.02	0.40	-0.05
Age	0.93	0.52	1.77
Work Tenure	0.04	0.38	0.11
Instigator status	-1.46	1.71	-0.85
Level 2 - Interaction Effects			
Moderator x Daily Incivility (within-person)	0.13	0.58	0.22
Moderator x Daily Incivility (between-people)	0.46	1.06	0.44

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

### 5.5.5 Hypothesis 3a

Table 22 shows the moderated-mediation analyses testing hypothesis 3a, which predicted that the status of the instigator (co-worker or supervisor) would moderate the effects of face-to-face incivility on fear.

For the instigator-moderated relationship, the interaction effect is not statistically significant either at Level 1 or Level 2. Thus, instigator status does not moderate the effects of face-to-face incivility on fear. In other words, the impact of incivility for employees' fear levels does not vary depending on whom the incivility comes from. Hypothesis 3a was therefore not supported. As before, the analysis only used information from participants who indicated the instigator was a supervisor *or* a co-worker. Those who reported neither or both were not included in the analysis.

**Table 22. Multilevel Moderated-Mediation Model: F2F Incivility and Fear**

Variable	Instigator moderation model		
	B	SE	t
Level 1			
Intercept	2.08	1.96	1.06
Time 1	0.01	1.44	0.01
Time 2	0.10	1.40	0.07
Time 3	0.31	1.38	0.23
Time 4	0.91	1.40	0.66
Time 5	0.33	1.42	0.23
Time 6	0.64	1.40	0.46
Time 7	-1.02	1.50	-0.68
Time 8	0.60	1.42	0.43
Time 9	0.97	1.57	0.62
Time 10	-0.94	1.47	-0.64
Time 11	0.27	1.50	0.18
Time 12	-0.49	1.50	-0.33
Time 13	0.42	1.79	0.23
Time 14	-	-	-
Time 15	-	-	-
Time 16	-	-	-
Time 17	-	-	-
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	0.23	0.51	0.43
Level 2 - Direct Effects			
Daily Incivility (person mean)	0.54	0.79	0.68
Gender	-0.40	0.57	-0.69
Age	0.70	0.54	-0.69
Work Tenure	0.32	1.22	0.26
Instigator status	0.08	1.81	0.04
Level 2 - Interaction Effects			
Moderator x Daily Incivility (within-person)	-0.18	0.53	-0.35
Moderator x Daily Incivility (between-people)	0.12	1.02	0.12

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$



### 5.5.6 Hypothesis 3b

Table 23 shows the moderated-mediation analyses testing hypothesis 3b, which predicted that the status of the instigator (co-worker or supervisor) would moderate the effects of online incivility on fear.

For the instigator-moderated relationship, the interaction effect is not statistically significant either at Level 1 or Level 2. Thus, instigator status does not moderate the effects of online incivility on fear. In other words, the impact of incivility for employees' fear levels does not vary depending on whom the incivility comes from. Hypothesis 3b was therefore not supported. As before, the analysis only used information from participants who indicated the instigator was a supervisor *or* a co-worker. Those who reported neither or both were not included in the analysis.

**Table 23. Multilevel Moderated-Mediation Model: Online Incivility and Fear**

Variable	Instigator moderation model		
	B	SE	t
Level 1			
Intercept	-0.29	2.24	-0.13
Time 1	1.17	1.85	0.63
Time 2	1.69	1.76	0.96
Time 3	1.79	1.74	1.03
Time 4	2.14	1.80	1.19
Time 5	1.54	1.80	0.86
Time 6	1.83	1.79	1.03
Time 7	0.45	1.74	0.26
Time 8	0.85	1.85	0.46
Time 9	1.58	2.04	0.77
Time 10	0.11	1.81	0.06
Time 11	1.82	1.85	0.98
Time 12	0.14	1.95	0.07
Time 13	3.31	2.46	1.35
Time 14	0.99	2.12	0.47
Time 15	-	-	-
Time 16	-	-	-
Time 17	-	-	-
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	0.28	0.56	0.50
Level 2 - Direct Effects			
Daily Incivility (person mean)	1.30	0.86	1.51
Gender	-0.09	0.53	-0.18
Age	1.98	0.71	2.77*
Work Tenure	-0.46	1.22	-0.38
Instigator status	1.67	1.76	0.95
Level 2 - Interaction Effects			
Moderator x Daily Incivility (within-person)	-0.31	0.57	-0.55
Moderator x Daily Incivility (between-people)	-0.88	1.00	-0.87

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

### 5.5.7 Hypothesis 4a

Table 24 shows the moderation analyses testing hypothesis 4a, which predicted that the status of the instigator (co-worker or supervisor) would moderate the effects of face-to-face incivility on emotional exhaustion.

For the instigator-moderated relationship, the interaction effect is not statistically significant either at Level 1 or Level 2. Thus, instigator status does not moderate the effects of face-to-face incivility on emotional exhaustion. In other words, the impact of incivility for employees' exhaustion levels does not vary depending on whom the incivility comes from. Hypothesis 4a was therefore not supported. Interestingly, in this model the main effect of daily incivility is no longer present, suggesting that when the source of incivility is controlled for incivility itself does not have a negative impact (except at the person-level). As before, the analysis only used information from participants who indicated the instigator was a supervisor *or* a co-worker. Those who reported neither or both were not included in the analysis.

**Table 24. Multilevel Moderator Model:  
F2F Incivility and Emotional Exhaustion**

Variable	Instigator moderation model		
	B	SE	t
Level 1			
Intercept	1.89	2.44	0.78
Time 1	-2.10	2.07	-1.02
Time 2	-1.85	2.04	-0.91
Time 3	-1.59	2.04	-0.78
Time 4	-1.20	2.05	-0.58
Time 5	-1.89	2.09	-0.90
Time 6	-2.33	2.07	-1.12
Time 7	-1.92	2.13	-0.90
Time 8	-1.39	2.10	-0.66
Time 9	-2.14	2.15	-1.00
Time 10	-2.27	2.15	-1.06
Time 11	-2.56	2.15	-1.19
Time 12	-1.97	2.15	-0.91
Time 13	-3.35	2.17	-1.54
Time 14	-4.85	2.89	-1.68
Time 15	-0.53	2.42	-0.22
Time 16	-	-	-
Time 17	-	-	-
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	0.53	0.29	1.83
Level 2 - Direct Effects			
Daily Incivility (person mean)	2.98	0.85	3.52**
Gender	0.02	0.42	0.05
Age	0.19	0.38	0.50
Work Tenure	-0.10	0.40	-0.26
Instigator status	1.96	1.49	1.32
Level 2 - Interaction Effects			
Moderator x Daily Incivility (within-person)	-0.49	0.32	-1.53
Moderator x Daily Incivility (between-people)	-1.55	0.88	-1.77

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

### 5.5.8 Hypothesis 4b

Table 25 shows the moderation analyses testing hypothesis 4b, which predicted that the status of the instigator (co-worker or supervisor) would moderate the effects of online incivility on emotional exhaustion.

For the instigator-moderated relationship, the interaction effect is not statistically significant either at Level 1 or Level 2. Thus, instigator status does not moderate the effects of online incivility on emotional exhaustion. In other words, the impact of incivility for employees' exhaustion levels does not vary depending on whom the incivility comes from. Hypothesis 4b was therefore not supported. Interestingly, in this model the Level 2 average daily online incivility remains important (i.e.,  $p \leq 0.05$ ). Thus, how much online incivility a participant generally experiences predicts his/her daily level of emotional exhaustion for the instigator-moderated model. Similar to face-to-face incivility, the daily piece (i.e., Level 1) is no longer significant for online incivility for the instigator-moderated model.

**Table 25. Multilevel Moderator Model:  
Online Incivility and Emotional Exhaustion**

Variable	Instigator moderation model		
	B	SE	t
Level 1			
Intercept	0.13	2.38	0.06
Time 1	1.47	1.96	0.75
Time 2	1.24	1.92	0.64
Time 3	1.39	1.91	0.72
Time 4	1.19	1.92	0.62
Time 5	1.35	1.93	0.70
Time 6	0.80	1.96	0.41
Time 7	1.18	1.98	0.59
Time 8	1.10	2.00	0.55
Time 9	0.14	2.03	0.07
Time 10	-0.21	2.05	-0.10
Time 11	-0.57	2.02	-0.28
Time 12	0.23	2.09	0.11
Time 13	-0.47	2.02	-0.23
Time 14	-1.69	2.22	-0.76
Time 15	-	-	-
Time 16	-	-	-
Time 17	-	-	-
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	0.67	0.42	1.59
Level 2 - Direct Effects			
Daily Incivility	2.40	0.97	2.47*
Gender	-0.35	0.48	-0.72
Age	0.36	0.61	0.59
Work Tenure	-0.01	0.47	-0.02
Instigator	0.83	1.41	0.59
Level 2 - Interaction Effects			
Moderator x Daily Incivility (within-person)	-0.86	0.45	-1.91
Moderator x Daily Incivility (between-people)	-1.02	0.87	-1.17

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

### 5.5.9 Hypothesis 5a

Table 26 is structured in a similar format at table 18, but for intention to quit rather than emotional exhaustion, and there is no moderated model proposed. For the main effects model, both Level 1 and Level 2 daily face-to-face incivility were significant predictors of intention to quit (i.e., Level 1,  $p \leq 0.01$ ; and Level 2,  $p \leq 0.05$ ). The amount of face-to-face incivility that participants experience day-to-day predicts intention to quit, and the average amount of face-to-face incivility experienced also predicts intention to quit when not considering other factors. Hypothesis 5a was therefore supported (i.e., Employees experience higher levels of intention to quit on days when they are treated more uncivilly face-to-face).

**Table 26. Multilevel Main Effects Model: F2F Incivility & Intention to Quit**

Variable	Main effects model		
	B	SE	t
Level 1			
Intercept	2.71	1.52	1.78
Time 1	-2.17	1.12	-1.93
Time 2	-2.41	1.10	-2.19*
Time 3	-2.60	1.12	-2.33*
Time 4	-1.88	1.10	-1.71
Time 5	-2.16	1.10	-1.96
Time 6	-1.87	1.10	-1.70
Time 7	-2.07	1.13	-1.84
Time 8	-1.41	1.12	-1.26
Time 9	-1.28	1.17	-1.10
Time 10	-2.31	1.13	-2.04*
Time 11	-1.64	1.19	-1.37
Time 12	-1.64	1.21	-1.36
Time 13	-2.63	1.31	-2.00*
Time 14	-3.33	1.53	-2.18*
Time 15	-	-	-
Time 16	-	-	-
Time 17	-	-	-
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	0.39	0.10	4.07**
Level 2 - Direct Effects			
Daily Incivility	1.81	0.70	2.60*
Gender	0.34	0.37	0.91
Age	-0.39	0.44	-0.90
Work Tenure	0.01	0.40	0.03

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$



### **5.5.10 Hypothesis 5b**

Table 27 is structured similar to table 26, but for online incivility. The results are also similar. For the main effects model, both Level 1 and Level 2 daily online incivility were significant predictors of intention to quit (i.e., Level 1,  $p \leq 0.01$ ; and Level 2,  $p \leq 0.05$ ). The amount of online incivility that participants experience day-to-day predicts intention to quit, and the average amount of online incivility experienced also predicts intention to quit when not considering other factors. Hypothesis 5b was therefore supported (i.e., Employees experience higher levels of intention to quit on days when they are treated more uncivilly online).

**Table 27. Multilevel Main Effects Model: Online Incivility & Intention to Quit**

Variable	Main effects model		
	B	SE	t
Level 1			
Intercept	2.61	1.51	1.73
Time 1	-1.28	1.17	-1.09
Time 2	-1.65	1.14	-1.44
Time 3	-2.02	1.15	-1.75
Time 4	-1.23	1.14	-1.08
Time 5	-1.41	1.14	-1.23
Time 6	-1.16	1.15	-1.00
Time 7	-1.22	1.16	-1.05
Time 8	-0.53	1.17	-0.46
Time 9	-0.69	1.19	-0.58
Time 10	-1.38	1.17	-1.19
Time 11	-0.76	1.23	-0.62
Time 12	-0.35	1.25	-0.28
Time 13	-1.97	1.35	-1.45
Time 14	-2.55	1.56	-1.63
Time 15	-	-	-
Time 16	-	-	-
Time 17	-	-	-
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	0.30	0.09	3.52**
Level 2 - Direct Effects			
Daily Incivility	1.60	0.74	2.17*
Gender	0.24	0.38	0.64
Age	-0.32	0.45	-0.71
Work Tenure	0.04	0.41	0.09

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

### 5.5.11 Hypothesis 6a

Table 28 is also structured in a similar format at table 26, but for acting in kind rather than intention to quit. For the main effects model, only Level 1 daily face-to-face incivility was a significant predictor of behaviour in kind (i.e.,  $p \leq 0.01$ ). Level 2 average daily face-to-face incivility was not significant. Hypothesis 6a was therefore supported to the extent that daily face-to-face incivility was a significant predictor of behaviour in kind (i.e., Employees experience higher levels of acting in kind on days when they are treated more uncivilly face-to-face).

As an aside note, keeping in mind 90.5% of the participants were under the age of 35, age and work tenure demographics were significant, albeit, offsetting statistically (i.e.,  $p \leq 0.05$ ). As age increased the tendency to act in kind reduced but as work tenure increased, so did the tendency to act in kind. The younger employees with more tenure are more likely to act in kind to face-to-face incivility.

**Table 28. Multilevel Main Effects Model: F2F Incivility & F2F Behaviour in Kind**

Variable	Main effects model		
	B	SE	t
Level 1			
Intercept	8.72	2.03	4.29**
Time 1	-1.34	1.56	-0.86
Time 2	-1.61	1.57	-1.03
Time 3	-1.97	1.57	-1.26
Time 4	-1.61	1.57	-1.02
Time 5	-1.60	1.57	-1.02
Time 6	-2.26	1.57	-1.44
Time 7	-1.89	1.58	-1.20
Time 8	-0.89	1.58	-0.57
Time 9	-1.18	1.58	-0.74
Time 10	-1.34	1.59	-0.85
Time 11	-1.36	1.62	-0.84
Time 12	-1.68	1.62	-1.04
Time 13	-1.65	1.62	-1.02
Time 14	-1.77	1.62	-1.09
Time 15	-1.07	1.67	-0.64
Time 16	-0.28	1.85	-0.15
Time 17	0.00	2.11	0.00
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	-0.27	0.09	-2.87**
Level 2 - Direct Effects			
Daily Incivility	-0.92	0.88	-1.05
Gender	-0.31	0.46	-0.67
Age	-1.30	0.51	-2.57*
Work Tenure	1.03	0.48	2.15*

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

### 5.5.12 Hypothesis 6b

Table 29 is structured in a similar format at table 28, but for online incivility rather than face-to-face. For the main effects model, neither Level 1 nor Level 2 daily online incivility were significant predictors of behaviour in kind, but age and work tenure were (i.e.,  $p \leq 0.05$ ). Hypothesis 6b was therefore not supported (i.e., Employees did not experience higher levels of acting in kind on days when they are treated more uncivilly online).

Similar to face-to-face incivility, as age increased the tendency to act in kind reduced, but as work tenure increased, so did the tendency to act in kind. As with face-to-face incivility, the younger employees with more tenure are more likely to act in kind to online incivility.

**Table 29. Multilevel Main Effects Model:  
Online Incivility & Online Behaviour in Kind**

Variable	Main effects model		
	B	SE	t
Level 1			
Intercept	8.55	1.81	4.72**
Time 1	-1.10	1.31	-0.84
Time 2	-1.21	1.31	-0.93
Time 3	-1.42	1.31	-1.08
Time 4	-1.21	1.31	-0.92
Time 5	-1.21	1.31	-0.92
Time 6	-1.35	1.32	-1.03
Time 7	-1.85	1.32	-1.40
Time 8	-1.52	1.32	-1.15
Time 9	-1.18	1.33	-0.89
Time 10	-1.29	1.34	-0.97
Time 11	-1.26	1.36	-0.92
Time 12	-1.35	1.38	-0.98
Time 13	-0.87	1.36	-0.64
Time 14	-1.45	1.36	-1.07
Time 15	-1.29	1.43	-0.90
Time 16	0.00	1.76	0.00
Time 17	0.00	1.76	0.00
Time 18	-	-	-
Time 19	-	-	-
Daily Incivility	-0.03	0.08	-0.41
Level 2 - Direct Effects			
Daily Incivility	-1.07	0.94	-1.14
Gender	-0.62	0.48	-1.31
Age	-1.62	0.67	-2.43*
Work Tenure	1.10	0.50	2.21*

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$

### 5.5.13 Hypothesis 7a

All the following mediated-model tables follow the Baron and Kenny (1986) procedures. Step 1 represents the relationship of independent variable and mediator. Step 2 represents the relationships between the independent variables and the dependent variable, while step 3 is the relationship of the mediator and dependent variable. Assuming the relationships in the first 3 steps are significant, then we move to the last column. In the fourth step, if the effects of the independent variables on the dependent variable are reduced or disappear when included in the regression with the mediating variable, it is concluded that the relationship is either partially or fully mediated respectively.

Table 30 depicts the mediation model in which the independent variable is face-to-face incivility, the mediator is anger, and the dependent variable is intention to quit. The first column represents step one. The anger mediation model for face-to-face incivility predicting intention to quit succeeds in the relationship between Level 1 and Level 2 face-to-face incivility, and anger at step 1 (i.e., Level 1 and Level 2,  $p \leq 0.01$ ). Step 2 succeeds in the relationships between Level 1 and Level 2 face-to-face incivility, and intention to quit (i.e., Level 1,  $p \leq 0.001$ ; Level 2,  $p \leq 0.05$ ). Step 3 also succeeds for anger and intention to quit (i.e., Level 1 and Level 2,  $p \leq 0.001$ ). In step 4, the effect of Level 2 face-to-face incivility, on the intention to quit disappears when included in the regression with Level 2 anger. Thus it is concluded that the relationship is fully mediated at Level 2.

However, the effect of Level 1 face-to-face incivility, on the intention to quit reduces slightly but does not disappear when included in the regression with anger. Thus it is concluded that the relationship is partially mediated at Level 1. Hypothesis 7a was therefore supported (i.e., Anger mediated the relationship between face-to-face incivility and intention to quit, such that the effect of face-to-face incivility on intention to quit disappeared or reduced when included in the regression with anger).



**Table 30. Multilevel Anger Mediation Model:  
F2F Incivility vs. Intention to Quit**

Variable	Anger mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	1.73	2.71	1.87	1.80
Time 1	-1.73	-2.17	-1.44	-1.53
Time 2	-1.84	-2.41*	-1.59	-1.66
Time 3	-1.38	-2.60*	-2.2	-2.13
Time 4	-0.95	-1.88	-1.54	-1.35
Time 5	-1.17	-2.16	-1.28	-1.52
Time 6	-0.62	-1.87	-1.82	-1.68
Time 7	-1.32	-2.07	-1.54	-1.75
Time 8	-0.20	-1.41	-0.95	-1.05
Time 9	-1.76	-1.28	-0.81	-1.48
Time 10	-1.80	-2.31*	-1.07	-1.43
Time 11	-0.93	-1.64	-1.39	-1.65
Time 12	-0.32	-1.64	-2.36	-3.00*
Time 13	-1.76	-2.63*	-2.62	-2.37
Time 14	-1.28	-3.33*	-2.23	-2.76
Time 15	-	-	-	-
Time 16	-	-	-	-
Time 17	-	-	-	-
Time 18	-	-	-	-
Time 19	-	-	-	-
Daily Incivility	0.73**	0.95***		0.93**
Mediator			0.4***	0.33***
Level 2				
Daily Incivility	1.89**	1.81*		-0.08
Gender	0.00	0.34	0.25	0.31
Age	0.05	-0.39	0.25	0.13
Work Tenure	0.07	0.01	-0.29	-0.20
Mediator			0.91***	0.33***

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

#### 5.5.14 Hypothesis 7b

Table 31 depicts the mediation model in which the independent variable is online incivility, the mediator is anger, and the dependent variable is intention to quit, similar to table 30 but for online incivility rather than face-to-face. The first column represents step one. The anger mediation model for online incivility predicting intention to quit succeeds at step 1 for Level 2 ( $p \leq 0.01$ ), but fails for Level 1. Logically, steps 2-4 did not need to be run for Level 1 since it fails at step 1. Step 2, succeeds in the relationships between Level 1 and Level 2 online incivility, and intention to quit (i.e., Level 1,  $p \leq 0.001$ ; Level 2,  $p \leq 0.05$ ). Step 3 also succeeds (i.e., Level 1 and Level 2,  $p \leq 0.001$ ). In step 4, the effect of Level 2 online incivility, on the intention to quit disappears when included in the regression with anger. Thus it is concluded that the relationship is fully mediated at Level 2. Hypothesis 7b was therefore supported at Level 2. Thinking of Level 1 and Level 2 as a continuum of one construct rather than two distinct constructs, it is concluded that anger mediated the relationship between online incivility and intention to quit, such that the effect of online incivility on intention to quit disappeared or reduced when included in the regression with anger.

**Table 31. Multilevel Anger Mediation Model:  
Online Incivility vs. Intention to Quit**

Variable	Anger mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	2.21	2.61	1.87	0.98
Time 1	-1.53	-1.28	-1.44	-0.60
Time 2	-1.68	-1.65	-1.59	-0.87
Time 3	-1.28	-2.02	-2.20	-1.61
Time 4	-0.85	-1.23	-1.54	-0.75
Time 5	-0.97	-1.41	-1.28	-0.63
Time 6	-0.46	-1.16	-1.82	-0.99
Time 7	-1.14	-1.22	-1.54	-0.89
Time 8	0.08	-0.53	-0.95	-0.28
Time 9	-1.40	-0.69	-0.81	-0.77
Time 10	-1.50	-1.38	-1.07	-0.57
Time 11	-0.61	-0.76	-1.39	-0.75
Time 12	0.54	-0.35	-2.36	-1.40
Time 13	-1.86	-1.97	-2.62	-1.71
Time 14	-1.21	-2.55	-2.23	-1.87
Time 15	-	-	-	-
Time 16	-	-	-	-
Time 17	-	-	-	-
Time 18	-	-	-	-
Time 19	-	-	-	-
Daily Incivility	0.19	0.80***		0.73**
Mediator			0.40***	0.39***
Level 2				
Daily Incivility	1.70**	1.60*		0.13
Gender	-0.08	0.24	0.25	0.28
Age	0.06	-0.32	0.25	0.17
Work Tenure	0.07	0.04	-0.29	-0.21
Mediator			0.91***	0.39***

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### 5.5.15 Hypothesis 8a

The columns in table 32 represent steps 1, 2, 3, and 4 in the fear-mediated model. The fear mediation model for face-to-face incivility predicting intention to quit succeeds at step 1 (i.e.,  $p \leq 0.001$  and  $p \leq 0.05$ , respectively). Step 2 succeeds in the relationships between Level 1 and Level 2 face-to-face incivility, and intention to quit (i.e., Level 1,  $p \leq 0.001$ ; Level 2,  $p \leq 0.05$ ). Step 3 also succeeds (i.e., Level 1,  $p \leq 0.001$ ; Level 2,  $p \leq 0.01$ ). In step 4, the effect of Level 1 and Level 2 face-to-face incivility, on the intention to quit disappears when included in the regression with fear. Thus it is concluded that the relationships are fully mediated on both levels. Hypothesis 8a was therefore supported (i.e., Fear mediated the relationship between face-to-face incivility and intention to quit, such that the effect of face-to-face incivility on intention to quit disappeared or reduced when included in the regression with fear).

**Table 32. Multilevel Fear Mediation Model:  
F2F Incivility vs. Intention to Quit**

Variable	Fear mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	0.88	2.71	3.81*	3.19
Time 1	0.00	-2.17	-2.91*	-2.94*
Time 2	0.35	-2.41*	-3.13*	-3.11*
Time 3	0.86	-2.60*	-3.88**	-3.88**
Time 4	0.39	-1.88	-2.96*	-2.91*
Time 5	0.00	-2.16	-2.92*	-2.92*
Time 6	0.44	-1.87	-3.74**	-3.72**
Time 7	-0.98	-2.07	-2.65	-2.69
Time 8	0.29	-1.41	-2.62	-2.64
Time 9	-0.41	-1.28	-1.97	-2.06
Time 10	-0.96	-2.31*	-4.36**	-4.45**
Time 11	0.45	-1.64	-3.12	-3.17
Time 12	-0.60	-1.64	-3.55*	-3.55*
Time 13	0.62	-2.63*	-4.96**	-4.89**
Time 14	0.73	-3.33*	-4.05	-4.14
Time 15	-	-	-	-
Time 16	-	-	-	-
Time 17	-	-	-	-
Time 18	-	-	-	-
Time 19	-	-	-	-
Daily Incivility	1.13***	0.95***		0.13
Mediator			0.53***	0.51***
Level 2				
Daily Incivility	1.42*	1.81*		0.43
Gender	-0.40	0.34	0.03	0.10
Age	0.71	-0.39	0.80	0.96
Work Tenure	0.24	0.01	-1.27	-1.56
Mediator			0.95**	0.90*

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### 5.5.16 Hypothesis 8b

Table 33 represents steps 1, 2, 3, and 4 in the fear-mediation model for online incivility predicting intention to quit. Step 1 succeeds for Level 1 ( $p \leq 0.001$ ), but fails for Level 2. Logically, steps 2-4 did not need to be run for Level 2 since it fails at step 1. Step 2, succeeds in the relationships between Level 1 and Level 2 online incivility, and intention to quit (i.e., Level 1,  $p \leq 0.001$ ; Level 2,  $p \leq 0.05$ ). Step 3 also succeeds (i.e.,  $p \leq 0.001$  and  $p \leq 0.01$ , respectively). In step 4, the effect of Level 1 and Level 2 online incivility, on the intention to quit disappears when included in the regression with fear. Thus it is concluded that the relationships are fully mediated at Level 1. Hypothesis 8b was therefore supported at Level 1. Thinking of Level 1 and Level 2 as a continuum of one construct rather than two distinct constructs, it is concluded that fear mediated the relationship between online incivility and intention to quit, such that the effect of online incivility on intention to quit disappeared or reduced when included in the regression with fear.

**Table 33. Multilevel Fear Mediation Model:  
Online Incivility vs. Intention to Quit**

Variable	Fear mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	-0.11	2.61	3.81*	2.51
Time 1	1.77	-1.28	-2.91*	-2.06
Time 2	1.75	-1.65	-3.13*	-2.33
Time 3	2.14	-2.02	-3.88**	-3.19*
Time 4	1.96	-1.23	-2.96*	-2.02
Time 5	1.56	-1.41	-2.92*	-2.13
Time 6	2.03	-1.16	-3.74**	-2.80
Time 7	0.55	-1.22	-2.65	-2.00
Time 8	1.84	-0.53	-2.62	-1.88
Time 9	1.11	-0.69	-1.97	-1.67
Time 10	0.82	-1.38	-4.36**	-3.69*
Time 11	2.40	-0.76	-3.12	-2.45
Time 12	1.04	-0.35	-3.55*	-2.76
Time 13	1.98	-1.97	-4.96**	-4.02*
Time 14	1.95	-2.55	-4.05	-3.59
Time 15	-	-	-	-
Time 16	-	-	-	-
Time 17	-	-	-	-
Time 18	-	-	-	-
Time 19	-	-	-	-
Daily Incivility	1.05***	0.80***		0.52
Mediator			0.53***	0.46***
Level 2				
Daily Incivility	1.24	1.60*		0.37
Gender	-0.47	0.24	0.03	0.06
Age	0.88	-0.32	0.80	0.97
Work Tenure	0.19	0.04	-1.27	-1.50
Mediator			0.95**	0.91**

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### 5.5.17 Hypothesis 9a

Table 34 depicts the mediation model in which the independent variable is face-to-face incivility, the mediator is anger, and the dependent variable is face-to-face behaviour in kind. Step 1 of the anger mediation model for face-to-face incivility predicting face-to-face behaviour in kind succeeds (i.e., Level 1 and Level 2,  $p \leq 0.01$ ). Step 2 succeeds in the relationships between Level 1 face-to-face incivility, and face-to-face behaviour in kind (i.e.,  $p \leq 0.01$ ), but failed for Level 2. The decision was made to continue but step 3 failed for Level 1 and Level 2. Logically, step 4 did not need to be run. The relationship between Level 1 and Level 2 face-to-face incivility, and face-to-face behaviour in kind are not mediated by anger. Hypothesis 9a was therefore not supported (i.e., Anger did not mediate the relationship between face-to-face incivility and behaviour in kind).



**Table 34. Multilevel Anger Mediation Model:  
F2F Incivility & F2F Behaviour in Kind**

Variable	Anger mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	1.73	8.72***	4.70**	6.01**
Time 1	-1.73	-1.34	0.23	0.36
Time 2	-1.84	-1.61	0.26	0.37
Time 3	-1.38	-1.97	-0.44	-0.35
Time 4	-0.95	-1.61	-0.32	-0.26
Time 5	-1.17	-1.6	0.19	0.28
Time 6	-0.62	-2.26	-1.19	-1.14
Time 7	-1.32	-1.89	-0.31	-0.17
Time 8	-0.20	-0.89	-0.01	0.22
Time 9	-1.76	-1.18	0.38	0.70
Time 10	-1.80	-1.34	-0.31	-0.05
Time 11	-0.93	-1.36	-0.62	-0.44
Time 12	-0.32	-1.68	-0.04	-0.08
Time 13	-1.76	-1.65	-1.69	-1.70
Time 14	-1.28	-1.77	0.03	0.04
Time 15	-	-1.07	-	-
Time 16	-	-0.28	-	-
Time 17	-	0.00	-	-
Time 18	-	-	-	-
Time 19	-	-	-	-
Daily Incivility	0.73**	-0.65**		-0.36
Mediator			0.01	0.04
Level 2				
Daily Incivility	1.89**	-0.92		-1.11
Gender	0.00	-0.31	-0.17	-0.27
Age	0.05	-1.30*	-1.51**	-1.38*
Work Tenure	0.07	1.03*	1.18*	1.09*
Mediator			0.19	0.04

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### **5.5.18 Hypothesis 9b**

Table 35 depicts the mediation model in which the independent variable is online incivility, the mediator is anger, and the dependent variable is online behaviour in kind. Step 1 succeeds in the relationships between Level 2 online incivility, and online behaviour in kind (i.e.,  $p \leq 0.01$ ), but failed for Level 1. The decision was made to continue but step 2, which fails in the relationships between Level 1 and Level 2 online incivility, and online behaviour in kind. Logically, step 3 and 4 did not need to be run for the anger-mediated model. The relationship between Level 1 and Level 2 online incivility, and online behaviour in kind are not mediated by anger. Hypothesis 9b was therefore not supported (i.e., Anger did not mediate the relationship between online incivility and behaviour in kind).

**Table 35. Multilevel Anger Mediation Model:  
Online Incivility vs. Online Behaviour in Kind**

Variable	Anger mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	2.21	8.55***	3.86*	5.7**
Time 1	-1.53	-1.10	1.16	1.02
Time 2	-1.68	-1.21	0.89	0.73
Time 3	-1.28	-1.42	0.17	0.05
Time 4	-0.85	-1.21	0.69	0.60
Time 5	-0.97	-1.21	1.07	0.99
Time 6	-0.46	-1.35	0.45	0.33
Time 7	-1.14	-1.85	-0.16	-0.28
Time 8	0.08	-1.52	0.41	0.29
Time 9	-1.40	-1.18	0.48	0.42
Time 10	-1.50	-1.29	0.13	0.08
Time 11	-0.61	-1.26	-0.22	-0.28
Time 12	0.54	-1.35	-1.22	-1.39
Time 13	-1.86	-0.87	0.88	0.79
Time 14	-1.21	-1.45	0.07	0.00
Time 15	-	-	-	-
Time 16	-	-	-	-
Time 17	-	-	-	-
Time 18	-	-	-	-
Time 19	-	-	-	-
Daily Incivility	0.19	-0.08		-0.07
Mediator			0.03	0.04
Level 2				
Daily Incivility	1.70**	-1.07		-1.73
Gender	-0.08	-0.62	-0.56	-0.57
Age	0.06	-1.62*	-1.80*	-1.70*
Work Tenure	0.07	1.10*	1.18*	1.06*
Mediator			0.33	0.04

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### 5.5.19 Hypothesis 10a

Table 36 represents steps 1, 2, 3, and 4 in the fear-mediated model. The fear-mediation model for face-to-face incivility predicting face-to-face behaviour in kind succeeds at step 1 (i.e., Level 1,  $p \leq 0.001$ ; and Level 2,  $p \leq 0.05$ ). Step 2 succeeds in the relationships between Level 1 face-to-face incivility, and face-to-face behaviour in kind (i.e.,  $p \leq 0.01$ ), but failed for Level 2. The decision was made to continue but step 3, which failed. Logically, step 4 did not need to be run. The relationship between Level 1 and Level 2 face-to-face incivility, and face-to-face behaviour in kind are not mediated by fear. Hypothesis 10a was therefore not supported (i.e., Fear did not mediate the relationship between face-to-face incivility and behaviour in kind).

**Table 36. Multilevel Fear Mediation Model:  
F2F Incivility & F2F Behaviour in Kind**

Variable	Fear mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	0.88	8.72***	3.36	4.29
Time 1	0.00	-1.34	-0.16	-0.19
Time 2	0.35	-1.61	0.19	0.18
Time 3	0.86	-1.97	-0.06	-0.04
Time 4	0.39	-1.61	0.31	0.34
Time 5	0.00	-1.6	-0.10	-0.10
Time 6	0.44	-2.26	-0.82	-0.8
Time 7	-0.98	-1.89	-0.12	-0.16
Time 8	0.29	-0.89	0.11	0.02
Time 9	-0.41	-1.18	0.32	0.12
Time 10	-0.96	-1.34	-0.63	-0.74
Time 11	0.45	-1.36	0.25	0.11
Time 12	-0.60	-1.68	-0.26	-0.27
Time 13	0.62	-1.65	-1.55	-1.47
Time 14	0.73	-1.77	0.06	0.11
Time 15	-	-1.07	-	-
Time 16	-	-0.28	-	-
Time 17	-	0.00	-	-
Time 18	-	-	-	-
Time 19	-	-	-	-
Daily Incivility	1.13***	-0.65**		0.24
Mediator			-0.11	-0.13
Level 2				
Daily Incivility	1.42*	-0.92		-0.79
Gender	-0.40	-0.31	-0.21	-0.36
Age	0.71	-1.30*	-0.65	-0.84
Work Tenure	0.24	1.03*	-0.60	-0.18
Mediator			0.42	0.56

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### 5.5.20 Hypothesis 10b

Table 37 depicts the mediation model in which the independent variable is online incivility, the mediator is fear, and the dependent variable is online behaviour in kind. Step 1 succeeds in the relationships between Level 1 online incivility, and online behaviour in kind (i.e.,  $p \leq 0.001$ ), but failed for Level 2. The decision was made to continue but step 2, which fails in the relationships between Level 1 and Level 2 online incivility, and online behaviour in kind. Logically, step 3 and 4 did not need to be run for the anger-mediated model. The relationship between Level 1 and Level 2 online incivility, and online behaviour in kind are not mediated by fear. Hypothesis 10b was therefore not supported (i.e., Fear did not mediate the relationship between online incivility and behaviour in kind).

**Table 37. Multilevel Fear Mediation Model:  
Online Incivility vs. Online Behaviour in Kind**

Variable	Fear mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	-0.11	8.55***	3.30	4.89
Time 1	1.77	-1.10	-0.59	-0.78
Time 2	1.75	-1.21	0.60	0.44
Time 3	2.14	-1.42	0.48	0.33
Time 4	1.96	-1.21	0.51	0.32
Time 5	1.56	-1.21	0.58	0.41
Time 6	2.03	-1.35	0.37	0.19
Time 7	0.55	-1.85	-0.09	-0.23
Time 8	1.84	-1.52	0.07	-0.05
Time 9	1.11	-1.18	0.28	0.18
Time 10	0.82	-1.29	0.43	0.33
Time 11	2.40	-1.26	-0.31	-0.46
Time 12	1.04	-1.35	-1.23	-1.42
Time 13	1.98	-0.87	0.77	0.58
Time 14	1.95	-1.45	0.00	-0.14
Time 15	-	-	-	-
Time 16	-	-	-	-
Time 17	-	-	-	-
Time 18	-	-	-	-
Time 19	-	-	-	-
Daily Incivility	1.05***	-0.08		-0.10
Mediator			-0.01	0.01
Level 2				
Daily Incivility	1.24	-1.07		-1.17
Gender	-0.47	-0.62	-0.63	-0.89
Age	0.88	-1.62*	-0.02	-0.50
Work Tenure	0.19	1.10*	-1.06	-0.17
Mediator			0.39	0.55

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### 5.5.21 Hypothesis 11a

Table 38 depicts the mediation model in which the independent variable is face-to-face incivility, the mediator is rumination, and the dependent variable is emotional exhaustion. Step 1 succeeds for Level 1 and Level 2 face-to-face incivility and rumination (i.e.,  $p \leq 0.001$ ). Step 2 succeeds for Level 1 and Level 2 face-to-face incivility and emotional exhaustion (i.e.,  $p \leq 0.01$ ). Step 3 succeeds for rumination and emotional exhaustion at Level 2 (i.e.,  $p \leq 0.001$ ), but not Level 1. Logically, steps 4 did not need to be run for Level 1 since it fails at step 3. In step 4, the effects of Level 1 and Level 2 face-to-face incivility, on the emotional exhaustion disappear when included in the regression but only Level 2 rumination succeeded (i.e.,  $p \leq 0.01$ ). Thus, the relationship is fully mediated by the rumination construct at Level 2. Hypothesis 11a was therefore supported at Level 2. Thinking of Level 1 and Level 2 as a continuum of one construct rather than two distinct constructs, it is concluded that rumination mediated the relationship between face-to-face incivility and emotional exhaustion, such that the effect of face-to-face on emotional exhaustion disappeared or was reduced when included in the regression with rumination.



**Table 38. Multilevel Rumination Mediation Model:  
F2F Incivility & Emotional Exhaustion**

Variable	Rumination mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	0.37	0.28	2.07	1.63
Time 1	-1.40	1.00	0.02	-0.05
Time 2	-1.08	0.81	-0.07	-0.11
Time 3	-1.02	0.70	0.62	0.59
Time 4	0.02	0.59	0.02	0.04
Time 5	-0.24	0.39	-0.07	-0.12
Time 6	-0.14	0.65	-0.71	-0.73
Time 7	-0.24	0.54	-0.04	-0.11
Time 8	-0.28	0.44	-0.11	-0.18
Time 9	-0.77	0.10	-0.18	-0.32
Time 10	-0.09	0.76	-0.15	-0.25
Time 11	-0.83	-0.05	0.43	0.19
Time 12	-0.85	0.22	0.77	0.51
Time 13	-2.19	-0.06	-1.33	-1.27
Time 14	-1.37	0.47	-0.45	-0.34
Time 15	-	0.48	-	-
Time 16	-	-0.08	-	-
Time 17	-	0.92	-	-
Time 18	-	-1.00	-	-
Time 19	-	-	-	-
Daily Incivility	0.93***	0.63**		0.37
Mediator			0.16	0.13
Level 2				
Daily Incivility	2.18***	2.24**		0.41
Gender	0.02	-0.13	-0.18	-0.17
Age	-0.20	-0.03	0.20	0.17
Work Tenure	0.25	-0.12	-0.23	-0.23
Mediator			0.82***	0.76**

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### 5.5.22 Hypothesis 11b

Table 39 is similar to table 38 but for online incivility rather than face-to-face. It depicts the mediation model in which the independent variable is online incivility, the mediator is rumination, and the dependent variable is emotional exhaustion. The columns in table 39 represent steps 1, 2, 3, and 4 in the rumination-mediated model. Step 1 succeeds for Level 2 online incivility and rumination (i.e.,  $p \leq 0.01$ ) but fails at Level 1. Logically, steps 2-4 did not need to be run for Level 1 since it fails at step 1. Step 2 succeeds for Level 1 and Level 2 online incivility and emotional exhaustion (i.e., Level 1,  $p \leq 0.001$ ; Level 2,  $p \leq 0.05$ ). Step 3 succeeds for rumination and emotional exhaustion at Level 2 (i.e.,  $p \leq 0.001$ ) but fails at Level 1. In step 4, the effect of Level 2 online incivility, on the emotional exhaustion disappears when included in the regression with rumination. Thus it is concluded that the relationship is fully mediated at Level 2. Hypothesis 11b was therefore supported at Level 2. Thinking of Level 1 and Level 2 as a continuum of one construct rather than two distinct constructs, it is concluded that rumination mediated the relationship between online incivility and emotional exhaustion, such that the effect of online incivility on emotional exhaustion disappeared or was reduced when included in the regression with rumination.

**Table 39. Multilevel Rumination Mediation Model:  
Online Incivility vs. Emotional Exhaustion**

Variable	Rumination mediation model			
	Step 1	Step 2	Step 3	Step 4
Level 1				
Intercept	0.82	0.80	2.07	1.52
Time 1	-0.92	1.13	0.02	0.70
Time 2	-0.63	0.87	-0.07	0.53
Time 3	-0.59	0.69	0.62	1.09
Time 4	0.27	0.68	0.02	0.76
Time 5	0.17	0.44	-0.07	0.54
Time 6	0.31	0.78	-0.71	0.02
Time 7	0.24	0.59	-0.04	0.61
Time 8	0.24	0.56	-0.11	0.51
Time 9	-0.23	0.04	-0.18	0.10
Time 10	0.49	0.85	-0.15	0.35
Time 11	-0.20	0.04	0.43	0.84
Time 12	0.56	0.53	0.77	1.85
Time 13	-2.09	-0.02	-1.33	-0.63
Time 14	-1.25	0.49	-0.45	0.48
Time 15	-	0.15	-	-
Time 16	-	-0.17	-	-
Time 17	-	0.98	-	-
Time 18	-	-1.00	-	-
Time 19	-	-	-	-
Daily Incivility	0.50	0.87***		0.76**
Mediator			0.16	0.11
Level 2				
Daily Incivility	1.89**	2.06*		-0.10
Gender	-0.02	-0.14	-0.18	-0.17
Age	-0.20	-0.06	0.20	0.16
Work Tenure	0.31	-0.10	-0.23	-0.23
Mediator			0.82***	0.82**

\*:  $p \leq 0.05$ ; \*\*:  $p \leq 0.01$ ; \*\*\*:  $p \leq 0.001$

### 5.5.23 Prevalence of Face-to-Face & Online Incivility

Table 40 shows the mean, range, standard deviation and variance of the daily face-to-face and online incivility measures for all 554 observations. With respect to daily prevalence of exposure means fell somewhere between “rarely” and “sometimes”. Thus, on average participants were exposed to some sort of workplace incivility each day. The range was from “not at all” to “very often”.

**Table 40. Prevalence of Face-to-Face & Online Incivility**

<b>Statistic</b>	<b>F2F</b>	<b>Online</b>
N	554	554
Mean	1.35	1.22
Range	5.00	5.00
Std Dev	.621	.576
Var	.386	.332

## 5.6 CONCLUSIONS

The daily prevalence of exposure to workplace incivility was likely underestimated by prior cross-sectional studies. For example, Porath and Pearson (2009, 2013) reported incivility in the workplace to be widespread with half of the 98% being exposed, experiencing it on a weekly basis. In contrast, exposure appears to be on a daily basis.

Hypotheses 1a and 1b were fully substantiated in that employees experienced higher levels of emotional exhaustion on days when they were exposed to more face-to-face or online incivility. The amount of incivility that participants experience on a day-to-day basis predicts emotional exhaustion on a

daily basis, and the average amount of incivility that participants experience also predicts their emotional exhaustion when not considering other factors.

Hypotheses 2a, 2b, 3a, 3b, 4a and 4b involving instigator status all failed. Instigator status did not moderate the relationship between face-to-face or online incivility, and anger, fear or emotional exhaustion. The analyses for this model only used information from participants when they indicated the instigator was a supervisor or a co-worker. Data on days where they reported instigation from neither or both are not included so the power is lower.

Hypotheses 5a and 5b were supported (i.e., Employees experience higher levels of intention to quit on days when they are treated more uncivilly, face-to-face or online). The amount of incivility that participants experience day-to-day predicted intention to quit, and the average amount of incivility experienced also predicts intention to quit when not considering other factors.

Hypotheses 6a was supported to the extent that daily face-to-face incivility was a significant predictor of face-to-face behaviour in kind at Level 1 but not Level 2 (i.e., Employees experience higher levels of acting in kind on days when they are treated more uncivilly face-to-face). Hypotheses 6b was not supported at Level 1 or Level 2. Online incivility was not a significant predictor of online acting in kind. For both forms of incivility, age and tenure were significant (i.e., younger employees with more tenure were more likely to act in kind to incivility).

Hypothesis 7a was supported at both Level 1 and Level 2 face-to-face incivility and Hypothesis 7b was supported at Level 2 online incivility (i.e., anger was found to mediate the relationship between both forms of incivility and intention to quit, such that the effect of incivility on intention to quit disappeared or reduced when included in the regression with anger).

Hypothesis 8a was supported at both Level 1 and Level 2 face-to-face incivility and Hypothesis 8b was supported at Level 1 online incivility (i.e., fear was found to mediate the relationship between both forms of incivility and intention to quit, such that the effect of incivility on intention to quit disappeared or reduced when included in the regression with fear).

Hypotheses 9a, 9b, 10a, and 10b were not supported (i.e., anger and fear did not mediate the relationship between incivility and behaviour in kind).

Hypotheses 11a and 11b, involving rumination were supported at Level 2 (i.e., rumination mediated the relationship between both forms of incivility and emotional exhaustion, such that the effects of incivility on emotional exhaustion disappeared or were reduced when included in the regression with rumination). For the rumination-mediated models, when participants spend time thinking about workplace incivility, this becomes more important in predicting their emotional exhaustion than how often they report Level 2 face-to-face or online workplace incivility. The relationship between workplace incivility and emotional exhaustion is significantly mediated by rumination.

## **CHAPTER 6 – GENERAL DISCUSSION**

### **6.1 OVERVIEW**

This chapter contains a general discussion, which defines workplace incivility, summarizes mostly cross-sectional research on its prevalence and effects along with limitations of the results, incorporates the findings of the entire thesis, while outlining the theoretical, methodological and practical contributions of this thesis, in general, and development of the “*Workplace Incivility Tracker*”, in particular. Some limitations of the thesis are then presented, along with some specific implications derived from this research, the limitations, and future directions for further study, closing with a summary and the final conclusions.

### **6.2 DEVELOPING THE APP**

The project began with a review of the literature to determine what research questions would be salient to include in the app. Contacting several app developers consisted of many hours of communication and a story board regarding the details required for the final vision of the project. After discussion with several app developers, and some false starts, Troy Apps was commissioned to develop the app based on the requirements and specifications mentioned above. A team of engineers was brought together and the work began creating an app to the specifications provided. The team stayed in daily communications using online software called “Base Camp” in which the entire team could collaborate

and a copy of all communications documenting the process was maintained on the webserver. This was an iterative process with numerous versions being continually improved. Prior to testing the app in a feasibility study, various beta editions were tested by the App Development Team. The feasibility study was launched the 9<sup>th</sup> of June 2014. Then a few additional improvements were made before the final version emerged for use in the main study.

### **6.3 APPLYING THE APP**

This thesis began with a question. In the context of the business world, where productivity and the bottom line are often the primary focus, does it really matter whether people are exposed to low intensity negative behaviors, termed acts of ‘incivility’, from their coworkers or superiors? Cross-sectional research suggested exposure to workplace incivility was on a regular basis but the daily prevalence of exposure was likely underestimated by prior cross-sectional studies. Porath and Pearson (2009, 2013) reported incivility in the workplace to be widespread with half of the 98% being exposed, experiencing it on a weekly basis. In contrast, exposure as measured with the app appears to be on a daily basis.

Current research tells us that these uncivil behaviours may cumulatively add up over time to have detrimental effects on employees’ well-being and commitment to stay working in their organisation. The facts suggest workplace



incivility is extensive and detrimental to both the individual and the organization. It was determined that workers encounter rude and discourteous behaviours, with half experiencing it on a weekly basis. Furthermore, more than half report experiencing stress as a result of workplace incivility and 12% have even left their jobs because they were treated uncivilly. The average cost of replacing each of those employees is 1.5 to 2.5 times their annual salaries and the annual cost of job stress to US corporations is 300 billion dollars (Porath and Pearson, 2009, 2013).

Workplace incivility was defined as:

“Low-intensity deviant behaviour with ambiguous intent to harm the target, in violation of workplace norms for mutual respect. Uncivil behaviours are characteristically rude and discourteous, displaying a lack of regard for others” (Andersson and Pearson, 1999, p. 457).

The literature review has establish that this definition of incivility in the workplace is the one that has been extensively endorsed by academics in the field (e.g., Aquino and Bradfield, 2000; Blau and Andersson, 2005; Cortina, 2008; Cortina and Magley, 2009; Hershcovis and Barling, 2010; Pearson *et al.*, 2000; Pearson and Porath, 2009; Porath and Erez, 2007; Caza and Cortina, 2007; Cortina *et al.*, 2001; Lim *et al.*, 2008; Penney and Spector, 2005; Schilpzand *et al.*, 2014). Some examples of incivility in the workplace include writing offensive or demeaning correspondence, undermining a co-worker’s credibility, treating individuals childishly, berating people for things they had no involvement in or responsibility for, engaging in the silent treatment, failing to greet certain people, ignoring legitimate requests for information or assistance, excluding people from

important meetings they should have access to, interrupting people while they are speaking, publicly reprimanding people, making groundless accusations, gossiping about someone, cutting people off while they are speaking, using demeaning language or tone, and answering mobile phones during meetings (Johnson and Indvik, 2001; Kunkel *et al.*, 2015; Pearson *et al.*, 2001).

The review of the research found that consequences of being exposed to workplace incivility, over long periods of time (e.g., six months or more), include: increased stress, lowered energy, decrements in performance across various domains, general dissatisfaction, depression, apathy, pessimism, increased emotionality, emotional labor, emotional exhaustion, negative emotions and affect (e.g., anger fear and sadness), reduced trust and sense of justice, problems in task-related memory recall (i.e., distraction), withdrawal, absenteeism, intentions to quit, retaliatory deviant or counterproductive actions, and additional negative effects of incivility that can spill over into personal life, well-being marriage and family life (Adams and Webster, 2013; Bunk and Magley, 2013; Cameron and Webster, 2011; Chen *et al.*, 2013; Cortina *et al.*, 2001; Ferguson, 2012; Giumetti *et al.*, 2013; Griffin, 2010; Kern and Grandey, 2009; Kim and Shapiro, 2008; Lim and Cortina, 2005; Lim *et al.*, 2008; Lim and Lee, 2011; Lim and Teo, 2009; Matin and Hine, 2005; Miner *et al.*, 2012; Miner-Rubino and Reed, 2010; Penney and Spector, 2005; Porath and Erez, 2007; Porath and Pearson, 2012; Sakurai and Jex, 2012; Schilpzand *et al.*, 2014; Sliter *et al.*, 2010; Sliter *et al.*, 2012a; Taylor *et al.*, 2012; Wilson and Holmvall, 2013).

In spite of all this research, little was known about the day-to-day effects of experiencing face-to-face or online workplace incivility. One of the broad aims of this thesis that was accomplished was the investigation of those day-to-day effects, through the development, validation, and use of a new Smartphone application data collection tool that extended the research by also examining intra-individual and inter-individual differences to workplace incivility. Existing literature contributed a great deal to our understanding of the prevalence and effects of incivility, but was limited by a few important issues (Andersson and Pearson, 1999; Aquino and Bradfield, 2000; Cortina, 2008; Cortina and Magley, 2009; Hershcovis and Barling, 2010; Pearson and Porath, 2009; and Schilpzand *et al.*, 2014). First of all, many of the studies utilized adaptations of the Workplace Incivility Scale (WIS) with significant changes in the original test items, without re-validating the new measures (Kunkel *et al.*, 2015). Another key limitation was that, despite a small number of exceptions that used diary studies (e.g., Beattie and Griffin, 2014; and Totterdell *et al.*, 2012), research on incivility had tended to rely heavily upon cross-sectional survey methodologies. Estimates of the prevalence and effects of workplace incivility had therefore been based on participants' recall of these incidents reflecting back on prior months or years, which may have been subject to retrospective recall biases. Additionally, cross-sectional retrospective recall methods failed to assess the dynamic process of workplace incivility exchanges as they unfolded, instead merely measuring simple associations between antecedents and outcomes (Hershcovis and Reich, 2013).

Three studies were conducted for this thesis (i.e., an empirical pilot study, a feasibility pilot study, and a main research study) in order to develop a user-friendly app, and determine whether it produced reliable and valid data concerning face-to-face and online forms of workplace incivility. The empirical pilot study tested the proposed measures for use in the app. In particular, the commonly used Workplace Incivility Scale (WIS) was adapted to apply to online as well as face-to-face interactions. Statistical analysis of data collected using an online survey in this study confirmed that both the face-to-face and online versions of the WIS were reliable and valid, and determined exposure to chronic incivility in the workplace by either mode of communication was related to emotional exhaustion and intentions to quit the organization. It was also associated with further incivility in the form of personal and organisational deviance. On the basis of the first pilot, a stripped down beta version of the app was developed measuring both forms of incivility in a check-off format, and emotional exhaustion and intentions to quit in a slider format, and the app's feasibility was tested in a second pilot study. Other measures were left out of the beta version to keep it simple. The feasibility pilot focused, in particular, on the usability of the new app, and resulted in minor design changes being implemented (i.e., including additional individual slider format items to measure instigator status, anger, fear, rumination and acting in kind) prior to the final launch. The main research study validated, and applied the new app in close to real-time to test a series of hypotheses about the day-to-day effects of exposure to workplace incivility.

The “*Workplace Incivility Tracker*” succeeded in several areas. It addressed methodological concerns pertaining to cross-sectional research. Using this tool, respondents did not have to rely on memory and could more accurately recall their responses to an uncivil event, enabling the researcher to examine events as they unfolded. The app also overcame some of the issues associated with causality claims in cross-sectional research. Another important limitation of prior research on incivility was that its conceptualisations of workplace incivility, defined fifteen years ago, typically focused on incidents that occurred during face-to-face (F2F) communications in the workplace. With the rise in computer-mediated technologies there had been a significant increase in online communications. Incivility is no longer restricted to face-to-face interactions. The current research filled the gap in the literature by extending the concept of workplace incivility to include a validated measure of online workplace incivility, as well a face-to-face form.

Using a newly developed and validated Smartphone application for measurement, “*The Workplace Incivility Tracker*”, multilevel analyses revealed that exposure to both face-to-face and online incivility predicted participants’ levels of emotional exhaustion, and also predicted participants’ intention to quit their organisation. The results of current investigation of main effects within and between participants, are consistent with a previous diary study by Beattie and Griffin (2014) in that the adverse effects of incivility in the workplace between individuals (Level 2 of the analysis) was also marked for the within person

analysis (Level 1). For the current main study, employees experienced higher levels of emotional exhaustion, and intention to quit on days they were treated uncivilly in both modes of communication in the workplace beyond their general level of stress. It should also be noted that those employees who were treated uncivilly face-to-face were more likely in general to act in kind. This was not true for the online condition, suggesting that in the online condition, the lack of direct social cues may heighten the ambiguity, and social distance may provide a sense of relative safety that may diffuse an immediate response of acting in kind. Alternatively, due to a social desirability response set, participants may simply be reluctant to admit their tendency to act in kind.

As indicated in previous studies, the targets status relative to the instigator should be taken into consideration, suggesting that target appraisals becomes more negative as instigators become more powerful, and instigator status may be a key variable in moderating the targets responses to incivility (Cortina and Magley, 2009; Pearson and Porath, 2005). In the current study, the hypotheses that instigator status would have a significant moderating effect on the mediators of anger and fear, or on the outcome measure of emotional exhaustion were not substantiated. This result may be more of a function of how instigator status was measure than the veracity of the hypotheses. Collected data fell into one of four categories: A) Supervisor instigated incivility; B) Co-worker instigated incivility; C) Incivility instigated by both; and D) Neither. Given the analysis only utilized the supervisor or co-worker options, all those who answered both or neither were dropped from the calculus, significantly reducing the size of the sample and the

power of the statistical analyses. Further study will be required in order to answer the questions posed concerning instigator status as measured with the app.

Despite the emphasis of corporate culture being cognitively driven, recent research by Pearson and Porath (2012), Barsade and O'Neill (2016) have suggested that the emotional culture and increasing awareness of how emotional responses impact behavioral responses at work are important to consider, which provided the rationale for investigating whether the emotions of anger or fear mediated the relationship between incivility and outcomes. For example, Pearson and Porath's findings indicated employees who experienced greater incivility reported greater anger and fear. The anger response was distinguished from the fear response in that anger was associated with more direct aggression against the instigator, and fear was associated with indirect acts of aggression such as exit and being absent. The current study looked at the emotional responses of anger and fear as possible mediators between face-to-face and online forms of workplace incivility, and how they impacted outcome measures of intention to quit, and acting in kind. What was interesting to note was that consistent with Pearson and Porath's (2012) research, the findings of the current study demonstrated that anger and fear clearly mediated between exposure to both forms of workplace incivility and intentions to quit. This was not true for acting in kind. Once again, a social desirability response set may be at play. Participants may simply be reluctant to admit their tendency to act in kind.

The current study also looked at rumination as a possible mediator between face-to-face and online forms of workplace incivility, and the outcome measure of emotional exhaustion. For the rumination-mediated models, when participants spend time thinking about workplace incivility, this becomes more important in predicting their emotional exhaustion than how often they report workplace incivility. The relationship between workplace incivility and emotional exhaustion is significantly mediated by rumination.

## **6.4 CONTRIBUTIONS OF THE THESIS**

### **6.4.1 Theoretical Contributions**

Theoretically, the study expanded the construct to include online forms of workplace incivility, and provided individual differences data and support for a conceptual framework that helps explain incivility in the workplace and its effects. It was determined that employees experience higher levels of emotional exhaustion and intention to quit on days when they are treated uncivilly in face-to-face or online encounters.

In the initial web-based pilot study, online incivility was measured and validated. It was a step in expanding the definition of incivility in the workplace to `online encounters, broadening the literature to include the online domain, and examining relationships between both face-to-face and online incivility in the



workplace, burnout, workplace deviance, and turnover intention. The results support the conclusion that experiencing face-to-face and online incivility in the workplace remains a substantial problem involving significant relationships with negative personal and organisational outcomes. Exposure to chronic incivility in the workplace is associated with further incivility in the form of personal and organisational deviance. It is also related to burnout and intentions to quit.

Specifically, those employees who experienced incivility were more likely to report emotional exhaustion from their job, cynicism reflecting a distant attitude towards work, less confidence about effectively meeting occupational demands, and thoughts about resigning from their position. These findings are consistent with the findings of Pearson and Porath (2009) in which over 60% of individual exposed to significant amounts of workplace incivility are stressed, and over 80% felt used up by the time the workday ended.

The web-based pilot study established a relationship between experiencing incivility in the workplace and a climate of employee mistreatment, whereby respondents were more inclined to disregard organisational norms, engaging in deviant behaviours. However, given the limitations of cross-sectional procedures in the web-based pilot study, cause and effect relationships could not be determined. There might have been an ongoing reciprocal dynamic in which experience of incivility lead to deviant behaviours, burnout, and intentions to quit. In turn, a work environment in which employees are increasingly engaging in

deviant behaviours, suffering from burnout, and planning to quit, may have facilitated further incivility. Leiter (2013) has suggested that what perpetuates this unpleasant social dynamic reflects reciprocity, and Andersson and Pearson (1999) describe a spiral dynamic. The current main study did not find a conclusive relationship between exposure to workplace incivility and acting in kind, but that may have been due to how acting in kind was measured with only one item for each form of incivility, while limiting the options for retaliation to the same method they had been targeted with. If a person responded to a face-to-face slight by sending off an uncivil email, the measurement tool would not have picked it up. A social desirability bias may also have been a factor when answering the one item.

The relationship between incivility in the workplace and turnover intentions in the web-based pilot study was consistent with earlier findings by Pearson and Porath (2009) that employees who are treated uncivilly consider leaving their jobs.

Building upon the web-based pilot study, the app beta version was created. The app-based pilot study accomplished its aim of examining the general utility of the new app for the purpose of assessing the relationship between incivility in the workplace and emotional exhaustion, and turnover intentions. Its feasibility and usability were established in this app-based pilot study, which guided a final version of the app.

The original plan for the thesis was to develop and validate app-based measures of face-to-face and online incivility. That was accomplished. The final version went further and implemented new technology to extend the research by using a digital diary design that examined the effect of face-to-face and online incivility on three outcomes: emotional exhaustion, intention to quit ones job, and acting in kind. The source of the incivility (i.e., supervisor, or colleague) was examined as a possible moderating variable, and a few possible mediating variables were also identified and investigated (i.e., anger, fear, and rumination).

Employees experienced higher levels of emotional exhaustion on days when they were exposed to incivility in the workplace. The incivility that they experience predicts their emotional exhaustion when not considering other factors. Although instigator status failed to moderate the relationship, the rumination-mediated model was of interest, and clearly impacts the relationship between incivility and emotional exhaustion. For the rumination-mediated model, when participants spend time thinking about their perceived slights, this becomes more important in predicting their emotional exhaustion than how often they report face-to-face workplace incivility. What participants are reporting on a day-to-day basis, and what they are reporting on average, both pale in comparison to whether they tend to worry or obsess about it or not, and rumination plays an important role between both forms of incivility and the outcome variable of emotional exhaustion. Indeed, the relationship between incivility in the workplace and emotional exhaustion is significantly mediated by rumination.

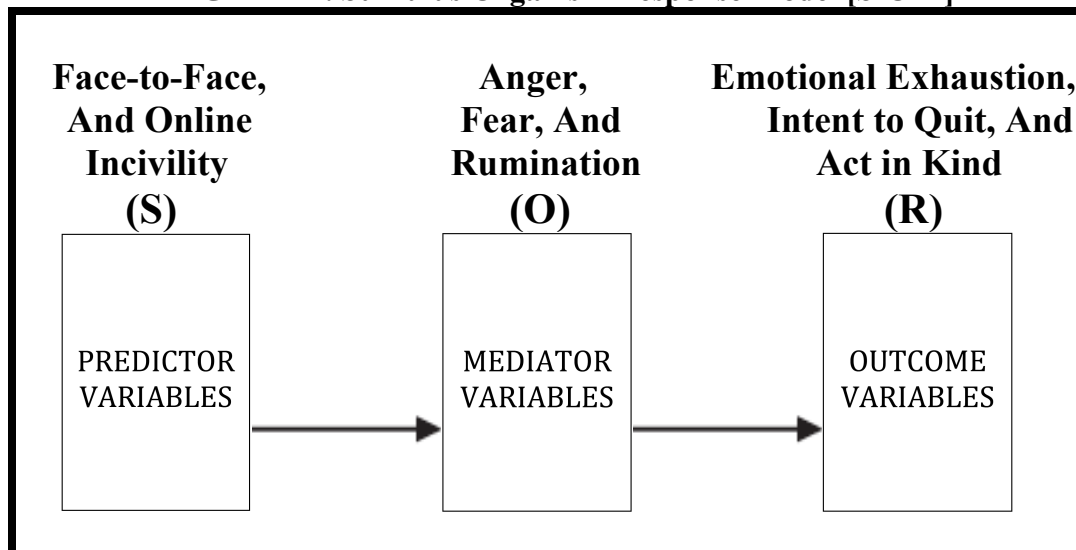
Employees have greater intentions to quit on days when they were exposed to incivility in the workplace. Although, anger and fear significantly mediate this relationship, they fail to impact the relationship between incivility in the workplace, and acting in kind behaviour. In contrast, age and tenure appear to play a role here. The younger employees with more tenure were more likely to act in kind to incivility.

The theory originally developed to guide this research grew out of a Stimulus-Organism-Response (S-O-R) model used in cognitive psychology and augmented, herein, with a postulated moderation process between the stimulus and organism. Other theories, such as conservation of resources theory, and affective events theory were considered but for parsimonious reasons the simpler S-O-R model, augmented with a postulated moderator, was presented. See diagram 1 for the S-O-R moderated-mediation model. However, the results of the current thesis support the more rudimentary S-O-R model without any moderation process. Because of the limitations encountered in sample size and statistical power when measuring instigator status in the present research, it may prove necessary to add the moderation process back into the model at some latter date. For now, the basic model needs only to depict a process in which the organism actively interposes between the stimulus and subsequent response (Baron and Kenny, 1986). The S-O-R mediation model described below relies upon appraisal theory in addition to notions of mediation. According to this model, when

exposed to incivility in the workplace individuals are likely to first appraise the stressful encounter along with their own abilities to cope effectively. If the conclusion is that he or she cannot cope effectively, negative feelings occur.

Emotions result from peoples' interpretation of events, and account for individual variances of emotional reactions to the same events and internal psychic/emotional realities prove to be more important in determining outcomes than external realities. While one person may be so focused on work tasks that workplace slights are barely noticed, others may ruminate about such slights throughout the day, reiterating the experience over and over again in the mind. Individual differences in how people internally process/respond to an external event (e.g., with rumination or not) may partially or fully mediate (i.e., determine) individual differences in their outcome measures (e.g., emotional exhaustion). See diagram 2.

**DIAGRAM 2. Stimulus Organism Response Model [S-O-R]**



Individuals, who experience workplace incivility, can react in various ways. The current research also shows that some may experience anger, while others experience fear. Specifically, in a S-O-R mediation model it is the internal appraisal of the stimulus that directly guides the response, not the external stimulus, itself. For example, if workplace slights are appraised as significant events to be afraid of or angry about, they are likely to have a different impact than if they are viewed as insignificant attacks.

Mediation models have been traced back to the works of Galton (1869/1962), which led to methods for analysing associations (e.g., correlation, and regression). According to Jose (2013) Galton was most likely one of the first individuals to be rebuked for confounding correlation and causality. Mediation computations can be performed in regression, and derives from the efforts in statistics on correlation and regression (Jose, 2013). Wright (1921) depicted a path analysis for measuring direct and indirect effects among groups of variables, and although he never used the term mediation, his procedures were in essence a mediated model. Psychologists, rather than statisticians coined the terms mediation and mediators around the same time as the work on path analysis (Jose, 2013). Warren (1920) referred to the nervous system as the “mediator” between an organism’s body and the environment.

In Thorndike’s (1932) Stimulus-Organism-Response (S-O-R) model, the environment affects the organism and then using its cognition, emotions,

motivation, goals and etc., the organism creates a response. According to Tolman (1938) and Hull (1943) the organism is an intervening variable between the stimulus and the response or between the predictor variables and the outcome variables. With the expansion of cognitive psychology some six decades ago, process models became more central (Jose, 2013). Then Kenny (1979) proposed formal path analysis describing mediation as a variable interposed between two others in a path model. Subsequently, more social scientists began to use the term mediation, referring to indirect effects in path models, and the article by Baron and Kenny (1986) titled "*The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations*", has become one of the most widely cited articles in the field of psychology. Mediators act as a mechanism through which the predictor variable impacts the outcome variable. They explain how external factors take on psychic and/or emotional significance and the reason certain effects result (Jose, 2013). Stimulus-Response (S-R) models, fail to look inside the black box and have little use for mediators (Skinner, 1938). Stimulus-Organism-Response (S-O-R) models do depict a mediation process in which the organism actively interposes between the stimulus and subsequent response (Baron and Kenny, 1986).

#### **6.4.2 Methodological Contributions**

Methodologically, this research advanced the field by providing a new repeated measures data collection tool that overcame many of the limitations

inherent in cross-sectional studies, and provided an alternative to the burden of standard diary studies, which had been few in the past (e.g., Beattie and Griffin, 2014; Totterdell *et al.*, 2012). Respondents do not have to rely on memory and can quickly and more accurately recall their responses to an uncivil event, allowing researchers who utilize the app to examine events as they unfold. Historically, the overuses of cross-sectional designs have limited the breath and scope of workplace incivility research. In contrast, the app repeated measures design captures intra-individual variability in exposure to incivility in the workplace. Additionally, the app is able to track and collect multiple data points of within-person changes in affect (i.e., changes in fear, anger, and sadness) and thinking (i.e., tendencies toward rumination) over time.

Unlike most adapted measures of workplace incivility that followed after the WIS by incorporating major alterations in the scale without re-validating the new instrument, the app measures of incivility have been well validated and produce good quality data in a user-friendly manner. The app is now ready for download and use by other researchers in the field and should prove prolific in this regard.

### **6.4.3 Practical Contributions**

Aside from the theoretical and methodological advantages of this research, mentioned above, there are anticipated practical advantages of the “*Workplace*



*Incivility Tracker*” in applied settings, such as, in human resource screenings for hiring new staff, training current staff to be more civil, changing organisational culture and improving 360 performance reviews. When implemented in an organisation, the “*Workplace Incivility Tracker*” has the capacity to increase awareness, facilitating insight and real change.

The current study clearly demonstrates that face-to-face and online forms of incivility have negative outcomes at work, including emotional exhaustion and intention to quit. These findings are consistent with all prior evidence cited above that suggests incivility in the workplace is detrimental to organisations and their employees. The current findings support the need for intervention to ameliorate these problems. Studies have shown that methods for tracking workplace incivility (of which the app can be added to), along with team-based interventions and civil workgroup norms related to reducing workplace incivility, should provide practical advantages (Laschinger *et al.*, 2012; Leiter *et al.*, 2011, 2012; Schilpzand *et al.*, 2014). The app increases awareness of incivility in the workplace for staff and the day-to-day operations of organisations. This may help to improve morale, behavior, and performance, while adding value and making positive changes in the organisational culture. It should also be noted that while some cultures are more outspoken and verbose, one must guard against using the app to marginalize legitimate normative differences. Practical applications may include measures of workplace incivility in most aspects of human resource management (e.g., in talent searches, hiring practices, succession plans, leadership

training, performance evaluations, disciplinary actions, and compensation and reward decisions).

Performance evaluations have been defined as follows:

“The appraisal rating of individuals’ work performance and their behaviors by management, covering a specific time period, applied to all employees or specific groups of employees whose participation is typically mandatory or alternatively motivated by access to extrinsic reward, and where results in the form of ratings are stored by the organization to be used for purposes that require differentiation of employees (Kunkel and Davidson, 2014, p. 2).

Hartle (1997) proposed the use of these procedures in order to maintain a competitive advantage by improving employee performance, and DeWaal (2002) argued that behavior improvement is the central goal of performance management systems, and many others are in agreement (Armstrong, 2000; Brown and Armstrong, 1999; and Newton 1998). Further, Armstrong and Baron (2006) accentuated the practical advantages of strategically managing worker success with an integrated approach of providing feedback to improve performance of staff, and work teams.

Periodic formal assessment of staff behaviours can help organisations accomplish their goals and provide an understanding of what is to be achieved, and advancements or impediments to that end, which are shared within the organisation. Typically these performance appraisals include assessments of skills and abilities (Kunkel and Davidson, 2014). Over 75% of businesses in the United States utilize some sort of formal appraisal system that assesses performance

(Coens and Jenkins, 2002).

These evaluation procedures are instituted to specify desirable workplace behaviours within a system of performance management, and can become either implicit or explicit norms for an organisation, and an integral part of its cultural expectations; however, systematic assessment of incivility in the workplace remains the exception, rather than the rule. Kunkel and Davidson (2014) conducted a qualitative review of standard performance appraisals across educational, government and private industry sectors, and out of 132 sampled organisations, only 1.5% included a question assessing incivility in their performance evaluations. Education was the sector that included incivility; government and private industry did not.

Unlike traditional appraisals by one's manager, multi-source assessments, better known as 360-degree performance reviews, include self-assessment, peer-assessment, assessments by subordinates, and may also include appraisals by customers, suppliers and/or other stakeholder. Originally, used mainly for internal development purposes, there has been an ongoing debate whether or not to also use multi-source assessments for compensation and advancement purposes (Maylett, 2009). For decades, research studies have found that in order to accentuate equality in the workplace, and minimize the legal ramifications of unfair practices, managers increasingly rely on subordinate's performance assessments when making promotion decisions (Castilla and Bernard, 2010;

Greenhaus *et al.*, 1990; Kleiman and Durham, 1981; Lyness and Heilman, 2006).

Kunkel and Davidson (2014) have considered some of the practical ramifications of utilizing incivility in dismissal procedures, or for purposes of other sanctions, and they provide some guidance in this area. Unlike overt, direct, physical, and active behaviours that call out for sanctions, incivility in the workplace is more difficult to recognize and less obvious. Kunkel and Davidson (2014) have pointed out that sexual harassment and bullying behaviours were once overlooked and did not offer grounds for complaint. After laws were passed, organisations became responsible for the hostile work environments they helped create. In their study of education, government and private sectors they unearthed procedures that universities employ that may benefit the later sectors. By incorporating the need for congeniality and similar civil behavior requirements in handbooks, bylaws, employment contracts, or similar regulations governing staff behaviours, universities have protected themselves against lawsuits when denying tenure to professors on the basis of incivility, decisions that have stood up on appeal, even against free speech counter-arguments.

For fear of reprisals, most employees remain reluctant to report incivility.

“Incivility ‘from above’ could be particularly distressing, as targets may feel unable to resist or protest poor treatment by superiors, and they might worry about the situation escalating into more serious violations of social or professional norms. These findings echo those from the literatures on workplace bullying, harassment, and abuse, which also find that behavior

variety, behavior duration, and power imbalances are key determinants of negative outcomes” (Cortina, 2008).

However, providing education to employees in understanding the five bases of power; legitimate, reward, expert, referent or coercive may be a mediating factor in the appraisal process in determining how individuals cope with incivility in deciding whether to accept or reject the base of power being used (French and Raven, 1959).

Though few in number, there have been several calls for intervention programs. As examples, the preventative, proactive and educational workplace intervention approaches of Cortina (2008) have promise over reactive complaint mechanisms. Hunt *et al.* (2007) emphasize the socialization process of training programs, and the need to guard against practices that preserve dysfunctional organizational culture that endorses discriminatory behaviour. Online incivility also results in negative consequences for both individuals and organizations, and steps have been recommended to train employees, and to develop appropriate policies discouraging online incivility (Lim and Chin, 2006; Lim and Teo, 2009).

Organizational context is another factor that needs to be taken into account when considering intervention strategies. Interventions based on the Osatuke *et al.* (2009) CREW process consultation model may prove useful as an overall strategy. A flexible approach for in-group and follow-up processes, adapting to local culture-based definitions of civility, seemed most useful. The impact of a 6-month CREW intervention program investigated by Leiter *et al.* (2011), found

significant interactions indicating greater improvements in the “intervention groups” were found for co-worker civility, supervisor incivility, respect, cynicism, job satisfaction, management trust, and absences, compared with the “contrast groups”. The results suggest that this employee-based civility intervention can improve collegiality and enhance health care provider outcomes.

Additionally, promoting emotional self-efficacy programs may be useful in helping people modulate negative affect and reduce incivility. Kirk *et al.* (2011) investigated the effects of an expressive writing intervention program and demonstrated that compared with controls, participants initially low or moderate in emotional self-efficacy showed increased self-efficacy at post-test. Promoting resiliency strategies for employees to increase resiliency strategies to cope with incivility may be promising. Niven *et al.* (2013b) found that a distraction condition that interferes with rumination can help with recovery. In addition to using a phone app as a tool to track incivility in the workplace, it might be used as a prevention strategy to modulate affect. Research has shown that computer games may be an accessible non-invasive cognitive intervention to reduce stress and prevent rumination and memory consolidation of unpleasant experiences (Holmes *et al.*, 2009).

Practically speaking, if an organisation decides to focus on increasing awareness of workplace incivility, adopts practices to inform and monitor behaviours, integrates requirements for civility within its policies, it should be

able to use the practices for both employee development, and for compensation and reward purposes (Kunkel and Davidson, 2014).

As noted by Martins and Tabiti (2015) the most careful recruitment and selection process cannot guarantee effective employee performance. New hires with the greatest experience and the highest potential may fail at the job if they are not trained in what a particular organisation needs them to do. Human resource departments are often tasked with the critical role of implementing employee training and development initiatives (Armstrong, 2015).

Based on the current findings combined with literature reviewed previously, incivility is highly prevalent in the workplace, negatively impacting cognitive, emotional and behavioural functions, and costs a great deal in numerous ways. Barsade and O'Neill's (2016) solution for a dysfunctional emotional culture of an organisation may provide some guidance for incivility in the workplace, as well.

“Once you have a handle on your existing emotional culture, you can shape it in several ways. Explicitly say which emotions will help the organization thrive, channel the feelings that people have and express naturally, and cultivate the ones you want through emotional contagion and the power of ‘deep acting’ ” (Barsade and O'Neill, 2016, p. 61).

The work of Laschinger *et al.* (2012) and Leiter *et al.* (2011, 2012) provide support for interventions to reduce incivility in the workplace. However,

these are only a few developments in this applied area. The United States Veterans Health Administration has developed a training program that utilizes workgroups to identify workplace incivility strengths and weaknesses, forming and implementing innovative interventions in their work setting (Osatuke *et al.*, 2009).

This nationwide initiative for organisational development aimed to effectively deal with workplace incivility, but actually focused on civility rather than incivility (Osatuke *et al.*, 2009). This has practical implications because it is often easier to develop new behaviours (i.e., increasing the frequency, duration and intensity), than stop unwanted behaviours. The climate for accomplishing the former, which can be rewarded, tends to be more positive than the punitive climate when attempting to accomplish the latter. They defined civility as,

“Courteous and considerate workplace behaviors within the workgroup (the group of people who work together and report to the same supervisor). More specific dimensions understood to express civil behaviour are coworkers’ personal and respect toward each other; coworkers’ cooperation or teamwork; fair resolution of conflicts; and valuing of differences among individuals, both by coworkers and by the supervisor” (Osatuke *et al.*, 2009, pp. 384-385).

Andersson and Pearson (1999) pointed out that in American culture, acting with civility has been viewed as an instrumental behaviour and source of power in order to assert cultural superiority and gain favour (i.e., a ploy for gaining advantage). They also point out that acting with civility is based on “Love of thy neighbour” and has morale implications. Yet in today’s culture of



“whatever”, people tend to shy away from imposing standards for maintaining etiquette. Apparently, this *laissez-faire* attitude has slipped into the business world as well, which had been previously described as “one of the last bastions of civility” (Andersson and Pearson, 1999, pp. 452-453).

Irrespective of culture wars, Osatuke *et al.* (2009) believe civility, interpersonally valuing and being valued by others, remains central to organisational development and others underscore its economic value (Mohr *et al.*, 2007; Moore *et al.*, 2008; Nagy *et al.*, 2007). Osatuke *et al.* (2009) focus on impacting the workgroup and encourage the group to generate ideas about how to increase interactions that reflect workplace civility. The next step, and this is where the “*Workplace Incivility Tracker*” may add value, involves data collection to clarify where behaviours can be improved.

Effective organisations normally invest vast resources into the training and development of their employees and leaders. Organisational benefits are materialized through increased performance and productivity, leaders more quickly achieve their goals, and staff benefit through personal growth, career advancement, rewards, and compensation (Armstrong, 2012; Goldstein and Ford, 2002; Martins and Tabiti, 2015).

Organisations need to keep up with new technologies, information advances, globalization, and e-commerce. Furthermore, they need to take steps to

attract, retain, and motivate quality workforces. Training is a requirement, not an indulgence (Armstrong, 2012). Given the cost of incivility in the workplace, both to the organisations where it occurs, and to the individuals who are exposed, procedures that increase awareness should be a welcome first step.

“Training prepares employees to use new technologies, function in new work systems such as virtual teams, and communicate and cooperate with peers, customers, and stakeholders who may be from different cultural backgrounds. With any type of training, it is critical that the activities are linked with all human resource management practices within an organisation. In addition to enhancing an employee’s performance (through goal setting and performance management), training should also align with recruitment (through orientation programs), retention (effective and meaningful opportunities for skill development), succession planning (forecasting the correct competencies required by employees to ensure the on-going viability of the organisation), and workplace health and safety issues (legal compliance)” (Martins and Tabiti, 2015, pp. 7-8).

Once committed to addressing this problem, an organisation should be able to quickly implement a programme for identifying on-target and off-target behavioural goals of civility, and it is anticipated that the “*Workplace Incivility Tracker*” will work as a tool that can be adapted to help meet these objectives.

Based of the findings of the current study, both face-to-face and online forms of incivility in the workplace need to be addressed. Reducing these forms of incivility should go a long way towards correcting the problem, but incivility does not need to be the only focus for interventions. Anger, fear and rumination clearly mediate some of the negative outcomes. By targeting levels of anger and

fear in an organization, the current findings suggest one might be able to reverse the negative reactions of workers exposed to incivility that intend to quit.

Furthermore, The findings clearly demonstrate the role of rumination as a mediator between incivility exposure and emotional exhaustion. By targeting workers' propensity to ruminate with interventions that provide alternative coping mechanisms that divert attention and concentration to more productive tasks, emotional exhaustion may be significantly reduced for these individuals. Going forward, evidence-based interventions will need to be developed and tested.

## **6.5 LIMITATIONS OF THE THESIS**

Some limitations of this research include sampling problems and generalisability issues. For example, this sample was limited to iPhone users. The next step will include development of an Android platform. The sample was heavily weighted with males. Future studies will want to include more females and explore a greater diversity of people and industrial segments. The problem of sample size resulting from the current response choices for measuring instigator status was already detailed above. Although this was a step forward from cross-sectional research, we still face the limitations of subjects' reluctance to participate in studies that require consistent engagement over a period of time.

Another problem with repeated measuring of incidents of incivility, is that

it may cause reactivity bias (Reidiger, 2010). Respondents may become hyper alert to their behaviours and internal states. Although magnitude of the longitudinal and growth effects of using the app over time were of no practical importance during the month of the study, it is possible that over a longer period of time they would become important. Additionally, any diary study can increase participant burden, even if only a 2-minute daily survey. That is one reason for attempting to limit the burden. For example, a single slider question to measure acting in kind may not have been sufficient. Some participants may have had a different definition of acting in kind. Thus, if a worker calls in sick because of their level of emotional exhaustion, is that acting in kind? According to Pearson and Porath (2009) workers exposed to workplace incivility can respond in overt or covert ways and if the worker becomes fearful he or she may respond with avoidance. Similarly, the worker who becomes angry as a result may wait and interfere with productivity at work, rather than directly responding in kind. Furthermore, like all surveys the app remains a self-report instrument. Social desirability can come into play, which might reduce the reporting of acting in kind behaviour.

Some of the items added to the workplace incivility app, will require additional study before making them available to other researchers (e.g., constructs represented by one-item slider scales). However, the seven-item face-to-face and online app-scales of incivility in the workplace are reliable, valid, and ready for distribution and use in this investigative field.

## 6.6 FUTURE DIRECTIONS

Research in the area of workplace incivility is relatively new and much of it has been based on measures that were not properly validated. The “*Workplace Incivility Tracker*” is available for future researchers to download and use going forward. The ease of use should prove fruitful in expanding our knowledge of workplace incivility and related variables. Its repeated measures capabilities should enable further investigation into work relationships over time in a more dynamic manner.

The way organizations treat their human resources matters. It matters because as we have seen from both cross-sectional research, and from digital diary studies, workplace incivility is costly on an individual and organizational level. Creating a civil workplace environment requires a deliberate and sustained effort in quantitative benchmarking to increase knowledge and explore systematically the impact of incivility in the workplace. Additionally, periodic formal assessment of expected norms and staff behaviours can help organisations accomplish their goals and provide an understanding of what is to be achieved, which are shared within the organisation. The “*Workplace Incivility Tracker*” should prove helpful in this regard, increasing awareness, leading to constructive discussions and mutually developed plans for increasing awareness of behaviours and the emotional, cognitive, and behavioral responses of workplace incivility, providing feedback to improve performance in this area that is sustainable over

time. Leaders of human resource performance management systems, should be well positioned to review current practices, develop programmes for facilitating civility throughout the organisation, changing culture at the higher levels, and specific behaviours at the individual and workgroup levels. This may help to improve morale and performance, adding value and maintaining a competitive advantage, while improving employee performance. Practical applications may include measures of workplace incivility in most aspects of human resource management (e.g., in talent searches, hiring practices, succession plans, leadership training, performance evaluations, disciplinary actions, and compensation and reward decisions). If an organisation decides to focus on increasing awareness of workplace incivility, adopts practices to inform and monitor behaviours, integrates requirements for civility within its policies, it should be able to use the practices for both employee development, and for compensation and reward purposes. Given the cost of incivility in the workplace, both to the organisations where it occurs, and to the individuals who are exposed, procedures that increase awareness should be a welcome first step.

Future studies with the app may expand to an experimental design by using cognitive control training. Siegle *et al.* (2007) have used customized computer-based games to activate the prefrontal regions of the brain to help increase cognitive control, decrease rumination, and reduce vulnerability to negative emotions. For example, an experimental design with the app would include the added feature of downloading the brain training in the experimental

condition. With two randomly selected groups, the first group of participants using the app would be directed to download and use a brain game specifically designed to decrease rumination. The control group would not be offered the option.

Beyond the realm of workplace incivility, per se, this study raises important questions concerning the role of rumination and negative emotions, such as anger and fear. As mentioned earlier, rumination may be triggered by the ambiguous nature of the intent to harm aspect of incivility. With regard to emotional response styles, anger (approach) and fear (avoidance) have implications on how organisations are attune to, and manage their emotional culture.

Answering these questions will be critically important to the development of more effective prevention and intervention programs for workplace incivility. Although such a focus may help individuals better cope when exposed to workplace incivility, a change in workplace culture and policies to reduce or eliminate workplace incivility should have broader benefits. Going forward, this research may help employees become more aware of their own and others' role concerning incivility in the workplace. A useful application may consider implementing the tool in 360 performance reviews by increasing awareness, setting the tone and standards in organisational culture.

## 6.7 CONCLUSIONS

This newly developed Smartphone app (i.e., the “*Workplace Incivility Tracker*”) is a reliable, and valid research tool for assessing incivility in the workplace and other related issues. The tracker provides an extensive amount of data that can be collected in approximately two minutes. The three-fold aims at the onset of this thesis were theoretical, methodological and practical.

In summary, this thesis has contributed to all three areas. Theoretically, this research contributed by expanding the construct of incivility to include online forms of workplace incivility, provided insight into workplace incivility and its effects on a daily basis, and supported a basic S-O-R mediation model. Methodologically, this research advanced the field by providing a new reliable and valid repeated measures data collection tool that overcame many of the limitations inherent in cross-sectional studies. Practically, the app increased workplace incivility awareness in individuals using it, and may impact day-to-day operations of organisations, leading to changes in behaviours, culture, and the inclusion of the incivility measures in performance evaluations.



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## APPENDIX 1: Consent Form

I want to thank you for taking the time to meet with me today. My name is Catherine Connolly and I would like to talk to you about your current experiences or witnessing incivility in your workplace among members of your organisation. Specifically, as a DBA candidate at the University of Manchester the aim of this research project is to explore how employees are experiencing or witnessing incivility in their workplace and how it impacts them over time. The interview should take approximately twenty minutes. I will be taping the session because I don't want to miss any of your comments. Although I will be taking some notes during the session, I can't possibly write fast enough to get it all down. Because we're on tape, please be sure to speak up so that I don't miss your comments. All responses will be kept confidential. This means that your interview responses will only be shared with the research team members and we will ensure that any information we include in my report does not identify you as the respondent. Remember, you don't have to talk about anything you don't want to and you may end the interview at any time.

Are there any questions about what I have just explained?

Are you willing to participate in this interview?

\_\_\_\_\_  
Interviewee Name                      Signature                      Date                      \_\_\_\_\_

\_\_\_\_\_  
Witness Name                              Signature                              Date                              \_\_\_\_\_

## APPENDIX 2: Transcript of the Interview <sup>3</sup>

**Thank you for agreeing to participate in the interview. Was there anything in the consent form that was unclear?**

No, it was fine.

**So why don't we begin by you telling me about your background with regard to your education and working experience.**

I have a Master's in Social Work and a Law Degree, and admitted to the Bar in New York and New Jersey, and practiced Law at \_\_\_\_\_, and also worked as a Project Director running \_\_\_\_\_ for adolescents, and another serving older people who were incapacitated. And then most recently, I have an academic appointment from \_\_\_\_\_ College as Director to run \_\_\_\_\_, [a centre with healthy aging as its mission] and I have been there for almost three years.

So, although I have experienced Incivility in all of the jobs I've ever had, I think the most recent one was the most sort of jarring so that's the one I would use as an example.

**The experience you would like to talk about now is your experience of incivility at the center?**

Yes. So the \_\_\_\_\_ research and training and technical assistance for older adults. It is a combination of salaried employees, and academic staff.

When I arrived there, so I should back up. I was recruited to go there to become the Director. But there was already a Director there, and although the President of the University was unhappy with her performance, they really didn't tell her that she was being replaced. So I was brought in as a co-director, and what I was told was that she was aware that she needed to move on, and that I was going to be the director. But she was completely not on board with that plan. So when I first got there, I found out pretty quickly that she had done a fair amount of preparation for my arrival by basically telling people not to give me information, and not to talk to me basically. Like the budget director wouldn't tell me what the budget was, and people, basically, people were afraid to meet with me, even though I was co-director, I would have to meet with M first. And she was withholding all sorts of information.

And another thing I noticed. She is a very compelling person. She would have these staff meetings, and she's very grandiose. She would talk about herself and her accomplishments. But she would also, I've never seen this before, she would absolutely trash colleagues, saying really terrible things about the quality of their work, and literally she would be in a staff meeting or a manager's meeting and talking about peoples' colleague. We all work together, and the person she would be talking about wouldn't be there; saying things like he really blew this, didn't do his work, and people would be real anxious, looking at their hands and feeling uncomfortable. But no one would say anything. And on one occasion the person she was talking about, actually walked into the meeting in the middle of her tirade, and she just sort of changed course. It was so awkward because people who worked for him were at that meeting. So she was trash talking him to his people, but not with him in the room. I was sort of stunned. I've never seen anything that overt about talking about a colleague in that way. There was nothing constructive, or helpful. It was just.

So that was the beginning. I was sort of amazed, and after that meeting, a colleague came to my office, and was sort of, things get out of hand here sometimes and it happens, but they were aware it was weird and creepy, but did not know how to deal with it directly. And she did that, and at one point, he and she had this blow out fight, just screaming, like fuck you. Like everyone was hiding in their offices and closing their doors. It was really freaky.

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<sup>3</sup> To protect anonymity, some the information has been redacted.

So she did all of this, and during the meantime, she was being incredibly undermining and hostile to me. And basically telling everyone, I wasn't going to be staying. So like don't hitch your wagon to her, because she's basically out of here. And also, she was going to colleagues within the organisation and trying to discredit me, and saying things about me, which some of which got back to me. She would actually say things to colleagues outside of the organisation that were my primary colleagues. They would be calling me and saying Wow you have a problem. So, it kind of went on that way for a while, and then I was like this is not working for me.

**When you say awhile, how long did it go on for?**

Like six months. I started there in March, and things really blew up in October. But things blew up because, I sort of said. You know everyone was nervous that I was going to quit, because she was just so unpleasant, and I was like surprised, and didn't really know how to deal with it. I was told she was leaving, and she clearly wasn't leaving. And she had no intention of leaving. She was trying to drive me out.

And everyone could see that; the president of the university, the chair of my board. And they were really nervous I was going to quit. So at one point, we were moving to new offices, and I was looking at the floor plan, and they kept on inviting me to meetings and not her. And then she would find out and be all mad. And I was look, I was invited by the president, you don't really say no to that. She was getting me very anxious, and at one point, she called me into her office and said "I heard about your meeting today", and I said, you mean the meeting with B? And she said yea. This is a really small place and there are no secrets here, J. I hear about things. And I said, you know M, I got invited to that meeting; I had no idea who was going to be there, and it wasn't really a secret. It was a meeting I was invited to attend. She would be creepy about it.

And then we were planning this move and we were looking at offices, and I was looking at it with someone, and I assigned the big corner office to M; my co-director. And the person from the President's office said, "Why are you doing that" And I said, we're moving a year from now, and if M is still here, frankly, I will be gone., so that will be her office.

So then without telling me, they just called her up one morning in October and fired her, and said you're no longer the co-director, J's the director, you're out of here. And I don't know what they thought would happen, but she just went crazy. And just stayed in her office, and wouldn't go. She's also a tenured professor, so she was only being relieved of this directorship. She was still going to have the professorship at the college. But she started spreading the word; I had staged this coup, and at the same time, had fired. There is this founding director of the organisation who had an honorary place, and had an office and a small salary, but was 90 years old and essentially not doing very much. At the same time, she was being urged by her daughters to quit, M. spread the word that I had had her fired and M fired. And then her colleague, this guy who is a very odd person anyway. In retrospect, I think this is what happened. She said this to him, and he was sort of stewing, and then he came to my office. This was about a week after M was fired and came into my office and threatened to punch me. He said, you know if you were a man I would punch you in your fucking face. He was really aggressive and approaching my desk as he was saying these things. And I was saying, it's probably not the best response, but I was like really B, tell me how you REALLY FEEL. And he was like, you fucking bitch, I can't believe you did this, I forget what else he said, but he was screaming, and people were coming out of their doors. It was creepy, and then he just sort of stormed away. It was really jarring. I didn't know what to do. So I closed my door, because I didn't know if he was still in the building, and locked it, and called someone at the President's office. So I called the campus police, and made a report to them, but it was really disappointing in that no one ever did anything. Supposedly, they were going to investigate it, but the thing is, everybody is so afraid of tenured professors. And then he made these allegations that I had created a hostile work place, and wrote these crazy and hostile emails, nothing threatening me. In the end they said it was

your word against his. He still works in my building, and he supposedly has been told not to approach me. I just felt in most environments when someone did something like that, they would be walked to the door with their box of things. But I think in academic settings, it's often this idea that there is freedom of speech, and academic freedom, and people will say really unpleasant things and just claim, I'm just expressing myself. But it was very hostile, and M. hung around for three months and refused to leave, and kept telling everyone, as soon as she was gone, everyone would be fired. And people would be coming to me saying; I hear I'm going to be fired, and I would keep saying I'm not firing you, but I guess the only way you'll know for sure is when M leaves, and you're not fired. She was just spreading all this swirling discord, and B, who threatened to punch me in the face, was sort of lurking around, and would show up when I wasn't there and hear that he had shown up in the office. You know, I had to walk past his office to get to mine. It was just creepy, and I felt the administration was incredibly unresponsive to it and I was getting like I'm out of here. And M totally disavowed, she would say I have nothing to do with that, I don't know where that came from, I never even told him anything, but it was clear to me that he felt he was taking her part, and he was defending her. It was really unpleasant, and stressful and everybody was freaked out because they all thought they were going to be fired if M got fired, and she had these PhD people that were her people, and I sort of inherited them. And they still are very unpleasant to work with and hostile.

#### **In what way? What did they do?**

Like there's this one woman, who basically just refuses to engage. Like she won't tell me, she won't share her calendar, won't tell me who she is meeting with. I have called her on this. Anything I say, she takes the reverse position. And she can't even hear me. I actually said this to her once. I don't even think you are hearing me because you are so dug into your position that you are not even listening. I can see you are already responding while I'm still talking. It was obvious that she feels that I am not qualified to be her supervisor that I don't understand how her research works. And I run a whole organisation which does a lot of things, and one part of that I research, and I always say, I'm not a researcher, that is true, but I do know the value of it, and I get why and how to do it, and I understand how to get the money for it. That's why we have a research department, because we do the research. She just feels that I have discounted the research piece, and that she still works with M, and doesn't tell me when she does that work. I've said to her you don't have to be happy about it, but you do have to work with me, I am your boss. I actually do get to know who you are meeting with and what you're doing because you work for me, and she gets really angry. I know I work for you, and you've told me that before but She doesn't engage in a meaningful way about the work we are doing, and it's frustrating, and she never ever lets herself have a moment of friendliness or collegiality. If there is any danger of there being any pleasantries between us, she just shuts it down. She just can't go there. So it's stressful to work with her.

And there is another colleague that was M's? He's dismissive and uncooperative.

#### **Can you give me an example of how he was dismissive and uncooperative?**

He knows, and I've said when there's a meeting with the Department of Health, which he runs a contract. I need to be there to establish those relationships for other projects we have going. And he will repeatedly schedules those meetings, and doesn't tell me till the day of the meeting. And with my calendar, then there is no way I can be there. And I ask him for a deadline, and he says yes, and then doesn't even tell me that he's not going to make the deadline. Like the work doesn't get done and he doesn't tell me about it. He doesn't treat me like he works for me. And it's hard. It's constant. With M. gone and the crazy guy B gone, it is much better because they felt they were more powerful than me, so they felt they could say and do things that were overtly hostile. Now With N and Mt and Fiscal director, it is a much more subtle thing, because they do know they work for me, but it was incredibly stressful.



**How did you respond?**

Well for the people on the research side, when M was there, I just didn't deal with them. I went to each of them and said I'm not firing anyone, and I want to work with you, but I'm going to wait for the dust to settle, and for the moment you still work with M..And for the people who didn't work for M, the direct reports to me, I met with everyone and said I am not firing anyone despite what you've heard, and these are the questions I have for you.

In the case of my fiscal director, he had been lying to me about the budget, on M's behalf, and it turns out there was a whole pile of money I didn't know about, that he put into a separate account. I called him on it, and wrote a memo to his personnel file.

**So you actually reported it.**

Well, his response was that she told me not to tell you. And I said well we were co-directors, and I asked you a direct question, and you told me there weren't any other accounts, and that's a lie. That was untrue, and that's not OK. I expect to get a direct answer from my questions. At that time, he thought M was going to prevail and that I would be out of there, and he just picked the wrong person. I was pretty confrontational with him, because I thought lying about our budget is pretty major. It would never be OK, and I pretty much said that to him, that you get one more chance. If this ever happens again, I'm going to fire you. And I don't think it's going to happen again. He did take it to heart. So there were some people I was confrontational with, with others I let the dust settle, and then after M was gone, I met with them again, and said this was crazy but I'm not firing anyone, and asked for their cooperation, and asked for them to give me a chance to revive things, because it was pretty dead. Nobody did anything when this was all happening.

**Sometimes when they take the instigator out of the workplace, there is a level of incivility that remains. It's almost contagious, and I'm wondering if that occurred where you were.**

I think so, less so because I said, even when M was still there...Once I found my feet, And once I was in these meetings, a couple of times she started to go off, and I said. One time she used the word plagiarism and it clearly wasn't. She accused someone of stealing someone's ideas. And I said, "Can we not use that word", because that is pretty confrontational and I'm not sure that's where we want to go with it. And I made it clear to people at the meeting; I wasn't going to tolerate meetings where people were shamed for no reason. So that hasn't happened in the public forum.

What has happened in the private back room conversations, rumours, I know M still talks to people on staff and still trash talks me, and it get back to me. On the whole, things are much more civil than they were, but I wouldn't say it's ideal. Whenever incivility happens, it tends to happen in individual meetings, as opposed to group meetings.

**And why do you think that is the case?**

Well, because I made it clear that it wasn't ok. And I think the people who were doing it, were the Academics, and they are gone. Like the Professors, wacky, no filter, M. and B. are gone. I think it was really driven by M. And with them gone, I don't think anyone was comfortable with those public kind of trash talking cogwigs. I think on some level people are relieved that that doesn't happen anymore. She would just go ballistic, like once in a while she would just lose her shit over something, and in the office, privately but loud, and publicly to some extent would punish people, and that was something people had become accustomed to, but I don't think that anyone is sorry that that doesn't happen anymore.

**So would you say that there were feeling rules in the organisation with her that are very different than the feeling rules that are in place now with you running the organisation?**

I mean I would say so.

**How would you say they were different?**

Well I think that there just weren't any rules. I think that she was a force of will. I think she was a natural disaster happening all the time. Sometimes that was a benevolent thing and sometimes it wasn't.

I would say if, if you were someone that doesn't like me, they would say I am too subdued, kind of not passionate enough about things. But I think people are relieved not to have the M show every week after the staff meeting, and they actually get to talk about their stuff. So I make an effort to let people talk about their own work as opposed to talk just about what I do.

I think that rules are now. I have these two people N and Mt. When M first left, we were at a couple of staff meetings, and N would roll her eyes, and m would write notes to her, and Mt used the word Fuck this about something under his breath. On those occasions, I went to them separately after the meeting and said, That's just not acceptable behaviour. You have junior staff watching you. You are a supervisor. N denied it, and I said great, then it will never happen again. They have never done it again.

They're not happy, but they have to behave. I think it's so crazy, these are people in their 30's, and maybe 40's that don't know how to act in a staff meeting. Things were so out of hand there, that that seemed acceptable to them to act bad. So I think things are more civil, but I'm surprised that people have to be told how to act.

**Just two more questions.****How did you cope with this? Physically, emotionally when this was going on.**

You know, it was very stressful. I think it was a very difficult time. It also happened that my brother was diagnosed with leukaemia, so it was hard to separate out. I lost weight. I lost sleep. I was anxious. It was really one of the hardest times of my life.

You get to a new job, it's exciting, interesting. And I have this really brief honeymoon, and then realized I really made the wrong decision. And I was already unhappy with that. And then when this thing with M went down, and that guy threatening me, it felt like a disaster. Like I can't even believe I work here; I don't sleep thinking about it. It was very difficult and stressful. And it took about six months to get some equilibrium.

**How did you do that?**

Well M left after about three months, and I had to do a lot of negotiating about money and time. Once she left, no one got fired, and the sky didn't fall. That made a big difference. I'd say eighty percent of the staff were settled down. They started talking to me, and doing their jobs again. It was a little like we were in suspended animation. I had a series of meetings with staff about what's our mission, and rewriting our mission statement, and trying to get people involved again. And trying to get people invested in the organisation. It was only sort of successful, because I still had N and Mt still sabotaging. But I think most people appreciated having stability again and knowing who their boss was, and two that I was interested in hearing what they had to say. So I think that helped. And I think time.

Time where things were not stressful all the time. People came to work and didn't think they were going to be fired that day. They didn't think someone was going to come down the hall screaming at them.

But I will say that I do not feel as invested in my job because of what I think was a poor response by the administration. I think that they just mishandled the situation so badly, that I don't feel that, I just don't feel that they supported me, and I fell less invested. I sort of feel like I won't be quickly looking for the next thing, but I won't feel bad about leaving there. They just didn't treat me very well.

**Just let me ask you one more question. Given what you have said about your past experiences with incivility during the interview, how do you see yourself responding in the future?**

I think it was a mistake just not to call the police. I think I should have made a police report when he threatened me.

With me, I think I would have been much more clear up front. I think the mistake was allowing it to go on longer than it did. Her thinking we were going to be co-directors. There was a lot of disinformation, and I think I should have been more confrontational with her in terms of, she would say things to me and then say the exact opposite to someone else. And I knew that, and I didn't call her on that. With B the crazy guy, I just should have called the police, and sought a restraining order. They didn't take me seriously and the campus police, are the campus police. They're not really police. So months went by, and there was oh well, there's nothing to be done.

**So you would say that confrontation and reporting through formal channels are coping styles that you would use in the future?**

Yeah, I think so. If someone threatened me, I would be more of a hard ass about it. I would report it to the police. With kind of subtle harassment that M was engaging in, I would have been more direct.

**What held you back from doing that. What do you think?**

I can be confrontational, but it is hard to be direct. At one point, pretty late in the game, M came to me and said, why are you doing this to me, blah blah blah, I never said anything about you. It was just such a crazy lie, because I had heard so many of the things said, and it wasn't the most constructive thing, but I sort of repeated her line to me, and I said M, this is a really small place, and there are no secrets here, and I hear everything you say about me. So you know, don't even. I should have said something like that months before, and I didn't. Because I kind of thought she would be gone. They told me she would be leaving. I didn't think I had to, and then it just was too late.

I think I would have called her on stuff earlier and more often.

**Do you think many people go through this in the workplace, or do you think this was an unusual circumstance?**

I think that people do go through this. I think the one factor that makes it crazier than in most places, is that in academia there is this idea that people can say just anything, and I think they do. But I think there are always power struggles like this at my level, that happen.

And I have talked to friends who have situation where they get brought in thinking they're just brought in to do something, and then they discover everyone else in the place is freaked out because they thought that was their job.

There is this hostility that happens when there is a lack of clarity about peoples roles. That was the huge problem here, that there was a lack of clarity that left a lot of room for craziness. And that is often the situation, the boss is not being clear about what everyone is going to do, and they have fun with it, and everyone gets crazy.

**Before we end, is there anything else you would like to say?**

No, I think that in my whole life, there has always been someone at every job that has been the person who drives you crazy, and you don't get, but so I expect that. So when people get abusive and hostile, that's where it becomes untenable.

**Thanks for your time today.**

## **APPENDIX 3: Informed Consent**

### **1. INFORMED CONSENT What is this survey about?**

- This survey is conducted by Catherine Connolly, a doctoral candidate at the University of Manchester Business School, who will be conducting a research study exploring how individuals experience Incivility, both face-to-face and online, in their Workplace.
- Participation in the survey is voluntary, but completion will enable us to be more confident of the recommendations based upon our findings.
- The survey should take you approximately 20 minutes to complete. Who will see my answers?
- The information that you provide on this survey will be kept completely confidential. None of your answers will be revealed to any person outside the University research team.
- Your responses are anonymous. Information in any future reports will be based on the whole sample of participants; individuals and organisations will not be identified by name. How do I complete the survey?
- Please read each question carefully then answer giving your first reaction. Do not spend too much time on any one question – it is the overall pattern of your answers that we are interested in.
- Please do not omit any question. If you find a question that does not quite fit your circumstances, simply give the answer that is closest to your views.
- The usefulness of this survey depends on the frankness and honesty with which you answer the questions. There are no right or wrong answers – this is not a test.
- Please read this informed consent and make your decision.
- In the event that a participant becomes uncomfortable at any stage in the study he or she is free to withdraw from the study at any time.

Thank-you for your help,

**Catherine Connolly DBA candidate University of Manchester Business School**

**Booth Street West Manchester M15 6PB UK**

**If you have any other questions about this study the researcher may be contacted at:**

**catherineconnolly1@me.com**

\_\_\_\_ I confirm that I have read the attached information sheet on the above project and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.

\_\_\_\_ I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason.

\_\_\_\_ I agree to take part in the above project

## APPENDIX 4: Web-Based Survey

### 1. What is your sex?

Female

Male

### 2. What is your age?

Years

### 3. How would you describe your ethnic origin?

Asian

Black

White

Other

Please specify if you wish \_\_\_\_\_.

### 4. What is your highest level of education?

Grade School

High School

Some College

Undergraduate Degree

Postgraduate Degree

Other

Please specify if you wish \_\_\_\_\_.

### 5. What is your occupation in your current organization?

### 6. What is your position?

Full-time employee

Part-time employee

Temp Worker

Time Limited Contract

Free Lance

Other (please specify) \_\_\_\_\_.

**7. We are going to present you with a list of things that may or may not have happened to you over the last year in FACE-TO-FACE communication. Please indicate to what extent your superiors or coworkers subjected you to the following behaviors during the past year.**

	Not at all	Rarely	Sometimes	Often	Very often
Put you down or was condescending to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paid little attention to your statement or showed little interest in your opinion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made demeaning or derogatory remarks about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressed you in unprofessional terms, either publically or privately?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ignored or excluded you from professional camaraderie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doubted your judgment on a matter over which you have responsibility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made unwanted attempts to draw you into a discussion of personal matters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**8. We are going to present you with a list of things that may or may not have happened to you over the last year in ONLINE communication (e.g., over email, instant messenger services, social networking websites). Please indicate to what extent your superiors or coworkers subjected you to the following behaviors during the past year.**

	Not at all	Rarely	Sometimes	Often	Very often
Put you down or was condescending to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paid little attention to your statement or showed little interest in your opinion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made demeaning or derogatory remarks about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressed you in unprofessional terms, either publically or privately?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ignored or excluded you from professional camaraderie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doubted your judgment on a matter over which you have responsibility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made unwanted attempts to draw you into a discussion of personal matters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. If there were other situations not listed during the last year of your current employment, in which your superiors or coworkers mistreated you, please describe very briefly.

10. Below are 16 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way about YOUR job. If you have NEVER, choose [0] Never. If you have had this feeling, indicate how often you feel it by picking the choice that best describes how frequently you feel that way.

	[0] Never	[1] A few times a year or less	[2] Once a month or less	[3] A few times a month	[4] Once a week	[5] A few times a week	[6] Every day
I feel emotionally drained from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel used up at the end of the workday.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel tired when I get up in the morning and have to face another day on the job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working all day is really a strain for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can effectively solve the problems that arise in my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel burned out from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I make an effective contribution to what this organization does.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've become less interested in my work since I started this job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have become less enthusiastic about my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my opinion, I am good at my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel exhilarated when I accomplish something at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have accomplished many worthwhile things in this job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I just want to do my job and not be bothered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have become more cynical about whether my work contributes anything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I doubt the significance of my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At my work, I feel confident that I am effective at getting things done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**11. During the past year, how often have you engaged in the following behaviors?**

	Never	Once a year	Twice a year	Several times a year	Monthly	Weekly	Daily
Made fun of someone at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Said something hurtful to someone at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made an ethnic, religious, or racial remark at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cursed at someone at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Played a mean prank on someone at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acted rudely toward someone at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Publicly embarrassed someone at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taken property from work without permission	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spent too much time fantasizing or daydreaming instead of working	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falsified a receipt to get reimbursed for more money than you spent on business expenses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taken an additional or longer break than is acceptable at your workplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Come in late to work without permission	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Littered your work environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neglected to follow your boss's instructions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intentionally worked slower than you could have worked	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed confidential company information with an unauthorized person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used an illegal drug or consumed alcohol on the job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Put little effort into your work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dragged out work in order to get overtime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



12. What is your organization like most of the time? Circle "YES" if the item describes you organization, "NO" if it does not describe your organization, and "?" if you cannot decide.

IN THIS ORGANIZATION...

	Yes	?	No
Employees are praised for good work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisors yell at employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisors play favorites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are trusted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' complaints are dealt with.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are treated like children.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are treated with respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' questions and problems are responded to quickly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are lied to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' suggestions are ignored.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisors swear at employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' hard work is appreciated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisors threaten to fire or lay off employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are treated fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coworkers help each other out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coworkers argue with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coworkers put each other down.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coworkers treat each other with respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Please indicate how strongly you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
I will actively look for a new job in the next year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often think about quitting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will probably look for a new job by the next year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## APPENDIX 5: App-Based Survey (Beta Edition)

### App-Based 16-Item Survey

We are going to present you with a list of things that may or may not have happened to today in **FACE-TO-FACE** communication. Please indicate to what extent your superiors or coworkers subjected you to the following behaviors today.

	Not at all	Rarely	Sometimes	Often	Very often
Put you down or was condescending to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paid little attention to your statement or showed little interest in your opinion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made demeaning or derogatory remarks about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressed you in unprofessional terms, either publically or privately?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ignored or excluded you from professional camaraderie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doubted your judgment on a matter over which you have responsibility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made unwanted attempts to draw you into a discussion of personal matters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

We are going to present you with a list of things that may or may not have happened to you today in **ONLINE** communication. Please indicate to what extent your superiors or coworkers subjected you to the following behaviors today.

	Not at all	Rarely	Sometimes	Often	Very often
Put you down or was condescending to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paid little attention to your statement or showed little interest in your opinion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made demeaning or derogatory remarks about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressed you in unprofessional terms, either publically or privately?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ignored or excluded you from professional camaraderie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doubted your judgment on a matter over which you have responsibility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made unwanted attempts to draw you into a discussion of personal matters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

With the slider provided below, please indicate the extent to which you have felt emotionally exhausted from your work today.

Not At All Exhausted

Extremely Exhausted

A horizontal slider with a central circular knob. The knob is positioned at the 50% mark, indicating a moderate level of emotional exhaustion. There are 10 tick marks along the slider, with 5 on each side of the knob.

With the slider provided below, please indicate the extent to which you have intended to quit your job today.

No Intention To Quit At All

Strong Intention To Quit

A horizontal slider with a central circular knob. The knob is positioned at the 50% mark, indicating a moderate intention to quit. There are 10 tick marks along the slider, with 5 on each side of the knob.

## APPENDIX 6: Web-Based Feasibility Post-Test

### Feasibility/Usability Evaluation:

Evaluation of the feasibility/usability of the smartphone app will be conducted. Following use of the app a web-based evaluation survey will be conducted. The option for follow-up interviews by telephone will be used if needed.

### Evaluation questionnaire:

- |    |                                                                        |      |         |           |                   |
|----|------------------------------------------------------------------------|------|---------|-----------|-------------------|
|    | Very<br>Easy                                                           | Easy | Neutral | Difficult | Very<br>Difficult |
| 1. | How difficult was it to install and launch the app?                    |      |         |           |                   |
| 2. | How difficult was it to read the questions on your Smartphone?         |      |         |           |                   |
| 3. | How difficult was it to fill in the answers to the questions?          |      |         |           |                   |
| 4. | How difficult was it to answer questions in a reasonable timespan?     |      |         |           |                   |
| 5. | How difficult was it to be signaled in order to use the app?           |      |         |           |                   |
| 6. | How difficult was it to review the results of your answers on the app? |      |         |           |                   |

Very Relevant    Relevant    Neutral    Irrelevant    Very Irrelevant

Was this tool relevant to your day-to-day life?

Always Intrusive    Sometimes Intrusive    Neutral    Rarely Intrusive    Never Intrusive

Was the app intrusive in your daily life?

What additional comments/suggestions would you make for improving the app?

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## Workplace Incivility Tracker



Incivility continues to be a problem in the workplace associated with negative outcomes for both the individual and the organization. A majority of the research in this area has relied on retrospective questionnaires for data collection. The primary focus of this project is to provide an alternative data collection tool in the form of a Smartphone App that can feasibly track your workplace incivility footprint in close to real-time.

## Workplace Incivility Tracker

### Informed Consent

This study is conducted by Catherine Connolly, a doctoral candidate at University of Manchester-MBS, who will be conducting a research study exploring the use of a Smartphone app as a data collection tool for researching incivility in the workplace.

- Participation in the study is voluntary, but completion will enable us to be more confident of the recommendations based upon our findings.
- The online survey should take you approximately 15 minutes to complete, afterwards you will be able to download the app to your Smartphone. Each workday afternoon for 1 month, you will be signaled by your Smartphone to fill out a 3 minute app-based survey.
- After the one month you will be directed to a final web-based survey that should also take about 15 minutes to complete.

### Who will see your answers?

- The information that you provide will be kept completely confidential. None of your answers will be revealed to any person outside the University research team.
- Information in any future reports will be based on the whole sample of participants; individuals and organizations will not be identified by name

### How do you complete the surveys?

- For the web-based and app-based surveys, please read each question carefully, then answer giving your first reaction. Do not spend too much time on any one question; it is the overall pattern of your answers that we are interested in.
- Please do not omit any questions. If you find a question that does not fit your circumstances, simply give the answer that is closest to your views.
- The usefulness of these surveys depends on the frankness and honesty with which you answer the questions. There are no right or wrong answers; this is not a test.
- Please read this informed consent and make your decision.

- In the event that you become uncomfortable at any stage in the study, you are free to withdraw from the study at any time.

*Thank you for your help,*

Catherine Connolly, *DBA candidate*  
University of Manchester-MBS  
Booth Street West  
Manchester M15 6PB, UK

If you have any other questions about this study the researcher may be contacted at:  
[catherineconnolly1@me.com](mailto:catherineconnolly1@me.com) (<mailto:catherineconnolly1@me.com>)

To make a formal complaint about the conduct of the researcher, contact the Head of the Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL, UK

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- I confirm that I have read the above information on the above project and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.*
- I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason.*
- I agree to take part in the above project.*

Submit & continue to Survey

## Workplace Incivility Tracker

Survey PRE-QUESTIONNAIRE

**Turn your phone sideways when filling out the following questions.**

1. *What is your sex?*

- Female  Male

2. *What is your age?*

Years

3. *How would you describe your ethnic origin?*

- Asian  Black  White  
 Other  *(please specify if you wish)*

4. *What is your highest level of education?*

- Grade School  
 High School  
 Some College  
 Undergraduate Degree  
 Postgraduate Degree  
 Other  *(please specify if you wish)*

5. *What is your occupation in your current organization?*



6. What is your position?

- Full-Time Employee
- Part-Time Employee

7. How long have you worked in your current organization?

Years

What is your email address?

Email:

---

8. We are going to present you with a list of things that may or may not have happened to you over the past month in **FACE-TO-FACE** communication. Please indicate to what extent your superior or co-worker subjected you to the following behaviors during the past month.

	Not at all	Rarely	Sometimes	Often	Very Often
Put you down or was condescending to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paid little attention to your statement or showed little interest in your opinion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made demeaning or derogatory remarks about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressed you in unprofessional terms, either publicly or privately?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ignored or excluded you from professional camaraderie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doubted your judgment on a matter over which you have responsibility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made unwanted attempts to draw you into a discussion of personal matters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. We are going to present you with a list of things that may or may not have happened to you over the past month in **ONLINE** communication (e.g., over email, instant messenger services, social networking websites). Please indicate to what extent your superiors or co-workers subjected you to the following behaviors during the past month.

	Not at all	Rarely	Sometimes	Often	Very Often
Put you down or was condescending to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paid little attention to your statement or showed little interest in your opinion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made demeaning or derogatory remarks about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressed you in unprofessional terms, either publicly or privately?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ignored or excluded you from professional camaraderie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doubted your judgment on a matter over which you have responsibility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made unwanted attempts to draw you into a discussion of personal matters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. What has your organization been like most of the time over the past month? Check “**YES**” if the item describes your organization, “**NO**” if it does not describe your organization, and “**?**” if you cannot decide.

	Yes	?	No
Employees are praised for good work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisors yell at employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Supervisors play favorites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are trusted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' complaints are dealt with.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are treated like children.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are treated with respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' questions and problems are responded to quickly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are lied to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' suggestions are ignored.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisors swear at employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' hard work is appreciated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisors threaten to fire or lay off employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are treated fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-workers help each other out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-workers argue with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-workers put each other down.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-workers treat each other with respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Below are 5 statements of job-related feelings. To what extent have you felt this way about your job over the past month?

	Not at all	Just a little	Moderate amount	Quite a lot	A great deal
I have felt emotionally drained from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have felt used up at the end of the workday.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have felt tired when I get up in the morning and have to face another day on the job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working all day is really a strain for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have felt burned out from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Please indicate how strongly you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
I will actively look for a new job in the next year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often think about quitting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will probably look for a new job by the next year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13.

To what extent have you felt this way during the past month.

	Not at all	Just a little	Moderate amount	Quite a lot	A great deal
Angry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indignant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disappointed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Downhearted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14.

*To what extent have you ruminated about your experience of workplace incivility in the following ways over the past month?*

	Not at all	Just a little	Moderate amount	Quite a lot	A great deal
Thought about how the stressful events are all your fault.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thought about how the negative events will negatively affect your future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thought about what the occurrence of the events mean about you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thought that the cause of the events will lead to additional stressful events in your life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thought about the causes of the stressors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ruminated about how the stressors will affect other areas of your life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thought about how important the stressful events are to you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thought about how things like this always happen to you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thought that the events mean that you will be unable to cope with events in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Thank you for taking the time to fill out this survey.**

Before clicking the **Submit Survey** button below, ensure you have answered all the questions.

After clicking on the **Submit Survey** button below, you will be redirected to a page with instructions on how to download the Incivility app and how to use it properly.

**Submit Survey**

# Workplace Incivility Tracker



[Enter the Survey](#)

## Face to Face

Put you down or was  
condescending to you?

We are going to present you with a  
list of things that may or may not  
have happened to you today in  
FACE-TO-FACE communication.

Please indicate to what extent your  
superiors or coworkers subjected you  
to the following behaviors today.

Enter

Very Often

## Face to Face

Put you down or was  
condescending to you?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often



## Face to Face

Paid little attention to your statement or showed little interest in your opinion?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Face to Face

Made demeaning or derogatory remarks about you?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Face to Face

Addressed you in unprofessional terms, either publically or privately?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Face to Face

Ignored or excluded you from professional camaraderie?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Face to Face

Doubted your judgment on a matter over which you have responsibility?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Face to Face

Made unwanted attempts to draw you into a discussion of personal matters?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Face to Face

If you experienced any of these face-to-face behaviors today, who were they from? Please check each that apply.

- Supervisor/Manager
- Coworker

## Face to Face

With the slider provided below, please indicate the extent today to which you have 'acted in kind' towards the person(s) who behaved this way towards you.

Not at all A great deal



0 1 2 3 4 5 6 7 8 9 10



## Online

Put you down or was  
condescending to you?

We are going to present you with a  
list of things that may or may not  
have happened to you today in  
ONLINE communication.

Please indicate to what extent your  
superiors or coworkers subjected you  
to the following behaviors today.

Enter

Very Often

Online

Put you down or was  
condescending to you?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Online

Paid little attention to your statement or showed little interest in your opinion?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

Online

Made demeaning or derogatory remarks about you?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Online

Addressed you in unprofessional terms, either publically or privately?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

Online

Ignored or excluded you from professional camaraderie?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Online

Doubted your judgment on a matter over which you have responsibility?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often

## Online

Made unwanted attempts to draw you into a discussion of personal matters?

- Not at all
- Rarely
- Sometimes
- Often
- Very Often



## Online

If you experienced any of these online behaviors today, who were they from? Please check each that apply.

- Supervisor/Manager
- Coworker

## Online

With the slider provided below, please indicate the extent today to which you have 'acted in kind' towards the person(s) who behaved this way towards you.



With the slider provided below,  
please indicate the extent today  
to which you have felt  
emotionally exhausted while at  
work.

Not at all exhausted Extremely exhausted



0 1 2 3 4 5 6 7 8 9 10

With the slider provided below, please indicate the extent today to which you have intended to quit your job.



With the slider provided below, please indicate the extent today to which you have felt afraid while at work.

Not at all afraid Extremely afraid

0 1 2 3 4 5 6 7 8 9 10

With the slider provided below, please indicate the extent today to which you have felt angry while at work.



With the slider provided below, please indicate the extent today to which you have continued to think about your superiors'/ coworkers' behaviors towards you in a negative way.

Not at all A great deal



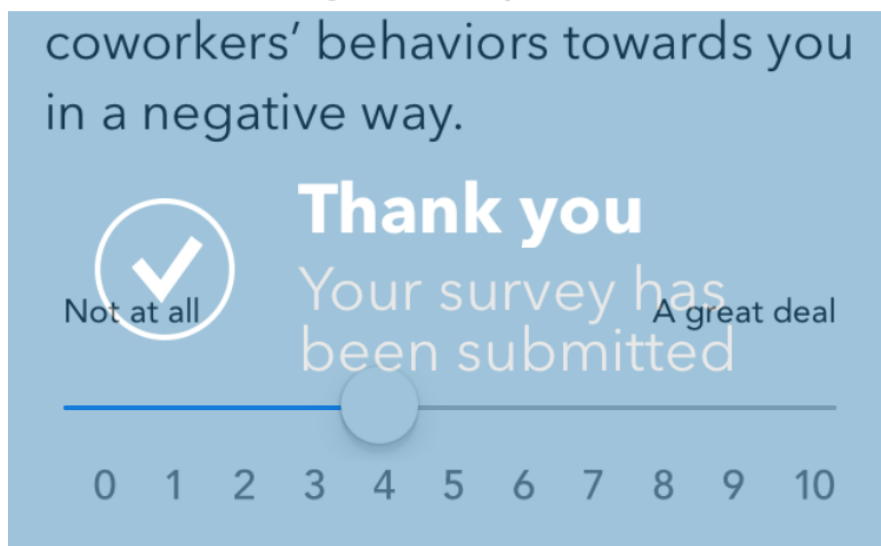
0 1 2 3 4 5 6 7 8 9 10

**Submit**

1 2 3 4 5 **6**

With the slider provided below, please indicate the extent today to which you have continued to think about your superiors' /

coworkers' behaviors towards you in a negative way.



**Thank you**  
Your survey has been submitted

Not at all A great deal

0 1 2 3 4 5 6 7 8 9 10

The image shows a survey completion screen with a blue background. At the top, it says "Thank you" and "Your survey has been submitted". Below this is a slider with a checkmark icon on the left and "A great deal" on the right. The slider is positioned at 4. Below the slider are the numbers 0 through 10.

1 2 3 4 5 ⑥



# Workplace Incivility Tracker



Today's Survey  
has been submitted

## APPENDIX 9: Analysis Procedures and SPSS Syntax (Niven, 2015)

### Group-Mean Centring

Group-mean centring effectively means that the Level 1 predictor was centred around the mean score for the Level 2 unit to which it belongs. This meant that the day-level observations were centred around that person's average. Thus, the analysis then looked at how within-person changes in the IV predicted the DV. To group-mean centre Level 1 data, there were three steps:

1. The syntax below was run to get the group-level means. Note that in this syntax the ID (highlighted below) represented the same as it did above (i.e., the variable denoting the person ID), while IV1, IV2, etc. (also highlighted) were the names of every continuous Level 1 predictor variable that needed to be centred:

```
SORT CASES BY ID.  
SPLIT FILE SEPARATE BY ID.  
DESCRIPTIVES VARIABLES=IV1 IV2 IV3  
  /STATISTICS=MEAN.  
SPLIT FILE OFF.
```

2. New variables were created in the datafile representing the group means for each IV (i.e., the person means for each IV). The only way to do this was to enter the data manually and copy down the rows. Each new variable became a column (GpM was used before the name of each new variable to signify that this was the group mean).

3. The syntax below, which centred the IVs around the group mean values were run (where GpMC before the variable name indicated that the IV had now been group-mean centred, IV was the variable to be centred, and GpMIV was the newly-calculated group mean).

```
COMPUTE GpMCIV1=/ GpM1 - IV1.  
COMPUTE GpMCIV2=/ GpM2 - IV2.  
COMPUTE GpMCIV3=/ GpM3 - IV3.  
EXECUTE.
```

Current best practice involves reintroduction of the group mean in the model as a (Level 2) predictor when group-mean centring Level 1 data. Therefore, in the models below, an additional predictor representing the group mean of the IV was included.

### Grand-Mean Centring

Grand-mean centring means that the Level 2 predictor was centred around the mean score for the whole of the sample. To grand-mean centre Level 2 data, the code below was run, swapping IV1, IV2, etc. (highlighted below) for the names of the variables to be grand-mean centred. Note, the newly created

variables appeared in the data file as the last column/s and had the same names as the old variables, but with a Z in front.

```
DESCRIPTIVES VARIABLES= IV1 IV2  
/SAVE  
/STATISTICS=MEAN STDDEV MIN MAX.
```

### Syntax for Main Effects Analyses

As was done above, the DV and ID (highlighted below) were substituted as appropriate. Categorical variables, whether at Level 1 or Level 2, could be included in the analyses under the BY command substituting for CatVar1 (dummy code was not needed as in a regular regression analysis). For general purposes, when this strategy does not include any categorical variables, BY command can be simply removed altogether. For the continuous Level 1 variables, the group-mean centred version of the variable under the WITH command (GpMC\_IV1) were included as well as the group mean (GpM1). For the continuous Level 2 variables, the grand-mean centred version of the variable under the WITH command (ZIV1) were included. All IVs in the model were then included under the FIXED command.

```
MIXED DV BY CatVar1 WITH GpMC_IV1 GpM1 ZIV1  
/METHOD = REML  
/FIXED = CatVar1 GpMC_IV1 GpM1 ZIV1| SSTYPE(3)  
/RANDOM = INTERCEPT | SUBJECT(ID) COVTYPE(UN)  
/PRINT = SOLUTION TESTCOV.
```

Random as well as fixed effects were looked at. Fixed effects assumed that while observations at the lower level might have differed in their baseline/mean levels of the DV, the relationships between IVs and DVs were the same for each lower level observation, regardless of data clustering. By including random effects in the model, it allowed for the possibility that there may have been different relationships between IVs and DVs. In the daily app survey, this would mean that different people might have had different relationships between IVs and DVs. To analyse for random effects, the code below was used, substituting as directed above (see highlighting below). Note that random effects were only calculated for Level 1 variables (i.e., so the group mean for our Level 1 IV and the grand-mean centred Level 2 continuous predictor were not included as random effects).

```
MIXED DV BY CatVar1 WITH GpMC_IV1 GpM1 ZIV1  
/METHOD = REML  
/FIXED = CatVar1 GpMC_IV1 GpM1 ZIV1| SSTYPE(3)  
/RANDOM = INTERCEPT CatVar1 GpMC_IV1 | SUBJECT(ID)  
COVTYPE(UN)  
/PRINT = SOLUTION TESTCOV.
```

### Syntax for Mediation Effects Regression

Testing for mediation in multilevel modelling was exactly the same process as for mediation in a regular regression analyses: The first step was to demonstrate main effects of the IV on the DV, and then the IV on the mediator; next examining the simultaneous effects of the IV and mediator on the DV (i.e., by entering both the IV and mediator as predictors in the same analysis). In that final analysis, if the mediator was a significant predictor and the effect of the IV on the DV was smaller than it was in the first analysis, it provided evidence for partial mediation (i.e., full mediation was when the IV was no longer a significant predictor). As with testing for mediation using regular regression, the significance of the indirect effect in cases where there is evidence for mediation was tested for using the Sobel analysis.

### Syntax for Moderation Regression

When testing moderation in multilevel modelling SPSS calculated the interaction term. The IV and predictor variables that were used in the moderation were standardized running the code below (i.e., substituting the names of the group-mean centred IV and moderator variables) and this automatically created new standardised versions of these variables in the datafile (i.e., the new variables started with 'Z' and SPSS kept the original variables as well).

```
DESCRIPTIVES VARIABLES= GpMC_IV1 GpMC_IV2  
/SAVE  
/STATISTICS=MEAN STDDEV MIN MAX.
```

The code used for the moderation analysis is presented below. Note, in this analysis, categorical and Level 2 IVs were omitted to make the example simpler. For general purposes they should be add in as appropriate. The example here just shows an analysis with one continuous IV and one continuous moderator variable. In this analysis, ZGpMC\_IV1 (highlighted below) is the standardised, group-mean centred IV, while ZGpMC\_IV2 is the standardised, group-mean centred moderator variable. Note that other than using standardised versions of the IV and moderator variable, the only difference with the main effects analysis is the addition of a new fixed effect which represents the IV multiplied by the moderator variable (i.e., an interaction term):

```
MIXED DV WITH ZGpMC_IV1 GpM1 ZGpMC_IV2 GpM2  
/METHOD = REML  
/FIXED = ZGpMC_IV1 GpM1 ZGpMC_IV2 GpM2 ZGpMC_IV1*ZGpMC_IV2  
| SSTYPE(3)  
/RANDOM = INTERCEPT | SUBJECT(ID) COVTYPE(UN)  
/PRINT = SOLUTION TESTCOV.
```

For general purposes, to test whether the effect of the IV on the DV was significant at high (+1SD) and low (-1SD) levels of the moderator, significant interactions are plotted and simple slopes analysis would be used.

### **Differences with Diary Data**

The daily app survey data was a special type of multilevel data, which looked at longitudinal data over time. Thus, it was appropriate to model growth (i.e., if the DV grew/changed over the course of the study) and autoregression (i.e., if consecutive observations were likely to be more strongly correlated). For these purposes, the code below was used testing for each type of effect in the data.

### **Modelling Growth**

To model growth, the Day variable was included that was created when setting up the dataset under the WITH command in the analysis (which looks at whether there is a fixed effect of day-of-study on the DV).

```
MIXED DV WITH Day  
/METHOD = REML  
/FIXED = Day | SSTYPE(3)  
/RANDOM = INTERCEPT | SUBJECT(ID) COVTYPE(UN)  
/PRINT = SOLUTION TESTCOV.
```

### **Modelling Autoregression**

To model autoregression, Day was added in as a random effect to the model, while adding a further command line telling SPSS that Day is a repeated variable to be autoregressed.

```
MIXED DV WITH Day  
/METHOD = REML  
/FIXED = Day | SSTYPE(3)  
/RANDOM = INTERCEPT Day | SUBJECT(ID) COVTYPE(UN)  
/REPEATED = Day | SUBJECT (ID) COVTYPE (AR1)  
/PRINT = SOLUTION TESTCOV.
```

*The End.*