

Predictors and consequences of presenteeism:

A study of nurses in Maltese geriatric settings

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Abstract

Background: Most commonly conceptualised as attending work whilst ill, sickness presenteeism (SP) contrasts with sickness absence (SA), which involves avoiding work when ill. Due to shortcomings in SP research and theory, its predictors and consequences remain unclear. The healthcare sector experiences a particularly high prevalence of SP. Despite this, SP and its consequences have not been studied in a healthcare setting in Malta.

Aims: To explore the factors that foster SP, SA and their consequences in ward-based nurses working with older adults in Malta.

Methods: An exploratory mixed-methods study was conducted at two medical facilities which catered for older adults in Malta. Data were collected from nurses in two phases. During Phase I, recorded semi-structured qualitative interviews ($N=18$) investigated the predictors and consequences of SP and SA. These were analysed thematically, and the emerging themes guided the development of a quantitative questionnaire that was distributed cross-sectionally (Phase II). The obtained data ($N=270$) were analysed in three sets of analyses to identify; (i) the correlates of SP and SA frequency and propensity (ii) explore how illness perceptions vary between SP and SA episodes; and (iii) identify correlates of the main consequences of SP and SA, namely performance loss and illness outcomes

Results: SP and SA were found to be common, with SP associated with negative illness outcomes and poor levels of work performance. SA was believed to be salutogenic. Four categories of factors were associated with SP and SA and their

consequences: (i) illness perceptions, which referred to participants' experiences and views of their illness episodes; (ii) work attitudes, which included feelings and behaviours towards different aspects of occupational life; (iii) organisational factors, which included workplace factors and administrative measures; and (iv) personal factors, including illness behaviour preference and personal life. The perceived consequences of attending work and staying home when ill also appeared to influence SP and SA decisions.

Implications: Interventions that foster primary, secondary and tertiary prevention may benefit nurses' health and reduce SP and SA frequency. The investigation's findings also led to the development of a model of SP and SA decisions.

Conclusion: Illness perceptions, work attitudes, organisational factors and personal factors all appeared to play a role in SP and SA decisions and their consequences. In-view of the findings, suggestions were made regarding future SP research, theory and practical implications.

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I would also like to thank the management of the studied organisations for enabling this project and all the individuals who took the time to participate in the studies; the thesis would not have been possible without you.

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Contents

Abstract	ii
Acknowledgements	iv
Contents	v
List of figures	xiv
List of tables	xv
Chapter One: Preface	1
1.1 Background to the study.....	2
1.2 Publications and conference presentations	4
1.2.1 Publications from thesis work	4
1.2.2 Conference and seminar presentations	5
1.2.2.1 Oral presentations	5
1.2.2.2 Poster presentations.....	5
1.3 Aims, focus and structure of the thesis	7
1.4 Author contribution.....	12
Chapter Two: Introduction	13
2.1 Defining presenteeism.....	14
2.2 Presenteeism research and the imperative for further study	16
2.2.1 The need for further research in the healthcare sector in Malta.....	18
Chapter Three: Literature Review	21
3.1 Introduction	22
3.2 Notable models of presenteeism	24
3.2.1 Kristensen (1991): Absenteeism Framework	24
3.2.2 Aronsson and Gustafsson (2005): Model for Research into Sickness Presenteeism	25
3.2.3 Johansson (2007): Model of Illness Flexibility	26
3.2.4 Caverley, Cunningham and MacGregor’s (2007) Substitution Hypothesis	27

3.2.5 Hansen and Andersen (2008): Predictors of Sickness Presence.....	28
3.2.6 Johns (2010): Dynamic Model of Presenteeism and Absenteeism	28
3.2.7 Cooper and Lu (2016): Social Cognitive Model of Presenteeism	31
3.2.8 Miraglia and Johns (2016): The Dual-Path Model of Presenteeism	32
3.2.9 Lohaus and Habermann (2018): A Framework Model of presenteeism	34
3.2.10 Summary.....	36
3.3 The antecedents of presenteeism	38
3.3.1 Health	41
3.3.2 Illness perceptions	42
3.3.2.1 Type of health condition.....	45
3.3.2.2 Severity	46
3.3.2.3 Temporality.....	47
3.3.2.4 Cure, control and cause	48
3.3.2.5 Consequences.....	49
3.3.2.6 Legitimacy	51
3.3.2.7 Coherence and emotional representations.....	52
3.3.3 Personal factors	53
3.3.3.1 Age	53
3.3.3.2 Gender	54
3.3.3.3 Marital status, caring responsibilities and work-life conflict.....	55
3.3.3.4 Education	56
3.3.3.5 Income, profession and grade	57
3.3.4 Physical factors	59
3.3.5 Psychosocial and organisational factors.....	60
3.3.5.1 Work attitudes	60
3.3.5.2 Personality	62

3.3.5.3 Psychosocial demands and stress.....	64
3.3.5.4 Job control	68
3.3.5.5 Support and replacement.....	69
3.3.5.6 Emotional demands, bullying and violence	72
3.3.5.7 Equity and justice.....	73
3.3.5.8 Job insecurity and restructuring	73
3.3.5.9 Absenteeism policies and culture.....	75
3.4 The consequences of presenteeism and absenteeism.....	77
3.4.1 Health and illness.....	77
3.4.2 Reduced productivity.....	80
3.4.3 Other consequences	86
3.5 Conclusions	89
3.6 Research questions.....	93
3.7 Aims	93
Chapter Four: Methodology	95
4.1 Introduction	96
4.2 Mixed methods research.....	96
4.2.1 Mixed methods research and its purpose	96
4.2.2 Philosophical considerations in mixed methods	98
4.2.3 Mixed method design typologies	100
4.3 The current thesis.....	101
4.3.1 Study design and philosophical underpinnings	101
4.3.2. The role and influence of theory	103
4.3.3 The research setting	104
4.3.4 Reflexivity	106
4.4. Conclusion.....	108

Chapter Five: Predictors and Consequences of Presenteeism: A Qualitative Study of Nurses in Geriatric Settings	109
Summary	109
5.1 Background.....	110
5.2 Objectives	111
5.3 Methods	112
5.3.1 Introduction.....	112
5.3.2 Research setting	112
5.3.3 Design	112
5.3.4 Procedure	113
5.3.5 Participants	114
5.3.6 Measures	115
5.3.7 Analysis	116
5.3.8 Ethical procedures	118
5.4 Results – the predictors of presenteeism and absenteeism	120
5.4.1 Introduction.....	120
5.4.2 Theme 1: Illness perceptions.....	122
Sub-theme 1: Identity of illness.....	122
Sub-theme 2: Timeline of the illness	123
Sub-theme 3: Cure and control of illness	124
Sub-theme 4: Cause of the illness	126
Sub-theme 5: Consequence of the illness	126
Sub-theme 6: Illness coherence.....	128
5.4.3 Theme 2: Occupational attitude.....	129
Sub-theme 1: Attitude towards work and the organisation.....	129
Sub-theme 2: Attitude towards co-workers.....	131

Sub-theme 3: Attitude towards patients	134
5.4.4 Theme 3: Organisational factors	135
Sub-theme 1: The immediate work environment	135
Sub-theme 2: Administrative measures	138
5.4.5 Theme 4: Personal factors	140
Sub-theme 1: Illness behaviour preferences	140
Sub-theme 2: Personal life.....	143
5.5 Results – The consequences of presenteeism and absenteeism	145
5.5.1 Introduction.....	145
5.5.2 Theme 1: Illness perceptions	145
5.5.3 Theme 2: Occupational attitude	147
5.5.4 Theme 3: Organisational factors	148
5.5.5 Theme 4: Personal factors	149
5.6 Discussion.....	150
5.6.1 Summary of findings.....	150
5.6.2 Illness perceptions	151
5.6.3 Occupational attitude.....	155
5.6.4 Organisational factors.....	158
5.6.5 Personal factors	161
5.6.6 Implications for research	164
5.6.7 Implications for practice	167
5.7 Conclusions	169

Chapter Six: Correlates of Presenteeism and Absenteeism: A Quantitative Study on Nurses in Geriatric Settings	171
Summary	171
6.1 Background and objectives	172
6.2 Methods	175
6.2.1 Research setting	175
6.2.2 Design	175
6.2.3 Participants	176
6.2.4 Procedure	176
6.2.5 Measures	177
6.2.6 Analysis	192
6.2.6.1 Inferential analysis: Predictors of presenteesim and absenteeism frequency	194
6.2.6.2 Inferential analysis: predictors of propensity for presenteeism and absenteeism.....	199
6.2.7 Ethical procedures:	201
6.3 Results	203
6.3.1 Response rate and data preparation	203
6.3.2 Respondent characteristics	204
6.3.3 Presenteeism and absenteeism frequency	206
6.3.4 Correlates of presenteeism frequency	207
6.3.5 Correlates of absenteeism frequency.....	213
6.3.6 Correlates of propensity for presenteeism and absenteeism.....	218
6.4 Discussion.....	224
6.4.1 Summary of findings.....	224
6.4.2 Response rate and generalisability of the sample.....	225
6.4.3 Occurrence of sickness presenteeism and sickness absenteeism.....	226

6.4.4 Correlates of presenteeism and absenteeism frequency.....	227
6.4.4.1 Frequency, type and perceptions of illness	227
6.4.4.2 Organisational, attitudinal and personal factors.....	233
6.4.5 Correlates of propensity for presenteeism and absenteeism	236
6.4.6 Implications for practice and research	239
6.5 Conclusion	243
Chapter Seven – Illness Perceptions during Presenteeism and Absenteeism	245
Summary	245
7.1 Background and objectives	246
7.2 Methods	249
7.2.1 Analysis	249
7.3 Results	251
7.3.1 Illness prevalence during presenteeism and absenteeism.....	251
7.3.2 Illness perceptions during presenteeism versus absenteeism	254
7.3.3 Expected and actual impact of presenteeism and absenteeism on illness	256
7.3.4 Main and overall cause of illness.....	259
7.4 Discussion.....	262
7.4.1 Summary of findings.....	262
7.4.2 Cognitive representations of illness	263
7.4.3 Illness consequences	268
7.4.4 Emotional representations and coherence	270
7.4.5 Practical and theoretical implications	271
7.5 Conclusion	275

Chapter Eight: Correlates of the Consequences of Presenteeism and Absenteeism	276
Summary	276
8.1 Background and objectives	277
8.2 Methods	281
8.2.1 Data analysis	281
8.3 Results	285
8.3.1 The correlates of performance loss during presenteeism.....	285
8.3.2 The correlates of impact of presenteeism on illness.....	290
8.3.3 The correlates of impact of absenteeism on illness	295
8.4 Discussion.....	300
8.4.1 Summary of findings.....	300
8.4.2 Performance loss during presenteeism	301
8.4.2.1 Perceptions and type of illness.....	301
8.4.2.2 Attitudinal and personal factors	304
8.4.3 Impact of presenteeism and absenteeism on illness	307
8.4.3.1 Illness perceptions and type	307
8.4.3.1.1 Organisational, attitudinal and personal factors.....	310
8.4.5 Implications for practice and research	313
8.5 Conclusions	317
Chapter Nine: Discussion and Conclusion	318
9.1 Introduction	318
9.2 Summary of findings.....	319
9.3 Analysis of findings	323
9.3.1 Illness perceptions	323
9.3.1.1 Illness severity, comorbidity and chronicity	324

9.3.1.2 Consequences of illness.....	325
9.3.1.3 Illness cause, control and coherence.....	328
9.3.1.4 Emotional representations	329
9.3.1.5 Illness legitimacy.....	331
9.3.2 Organisational factors and attitudes	332
9.3.3 Personal factors	337
9.4 Strengths and limitations.....	340
9.5 Implications for theory and further studies	346
9.5.1. Implications for theory	346
9.5.2 Implications for future studies.	351
9.6 Implications for practice	354
9.7 Conclusion	359
References	362
Appendix A – Ethics Approval Form: Phase I	406
Appendix B – Ethics Approval Form: Phase II	409
Appendix C - Organisational Access Permission Letters	411
Appendix D – Participant Information Sheet: Phase I.....	413
Appendix E – Participant Consent Form: Phase I	416
Appendix F – Participant Information Sheet: Phase II.....	417
Appendix G - Participant Consent Form: Phase II	420
Appendix H – Interview Guide: Phase I	421
Appendix I – Questionnaire: Phase II.....	422

List of figures

Figure 3.1: Johns' (2010) Dynamic Model of Presenteeism and Absenteeism	30
Figure 3.2: Cooper and Lu (2016) – Social Cognitive Model of Presenteeism.....	32
Figure 3.3: Miraglia and John's (2016) Dual Path Model of Presenteeism.	33
Figure 3.4: Lohaus and Habermann (2018) - Framework Model of Presenteeism.....	35
Figure 5.1: A Cyclical Model of Presenteeism and Absenteeism.....	166
Figure 6.1: The investigated model	174
Figure 6.2: The investigated factors as informed by Phase I findings	178
Figure 6.3: Sickness presenteeism frequency (last 12 months).	206
Figure 6.4: Sickness absenteeism frequency (last 12 months)	207
Figure 7.1: A graphical representation of the impact of illness perceptions of presenteeism and absenteeism decisions	247
Figure 7.2: Frequency of reported illnesses during last presenteeism and absenteeism episodes.	252
Figure 7.3: Expected impact of attending work on illness during presenteeism and absenteeism.	256
Figure 7.4: Expected impact of avoiding work on illness during presenteeism and absenteeism.	258
Figure 7.5: Actual impact of presenteeism and absenteeism on illness.	259
Figure 8.1: The proposed associations between the consequences of presenteeism and absenteeism and their predictors	280
Figure 8.1: Stanford Presenteeism Scale-6 (SPS-6) - frequency of scores	285
Figure 9.1: The updated Cyclical Model of Presenteeism and Absenteeism	351

List of tables

Table 5.1 Participants' demographic and occupational characteristics ($N = 18$).	115
Table 5.2 Thematic analysis coding template	121
Table 6.1: Respondents' demographic and occupational characteristics	205
Table 6.2: Correlations with presenteeism frequency – variables not contributing to regression	208
Table 6.3: Means, standard deviations, and intercorrelations for presenteeism frequency and predictor variables	209
Table 6.4: Hierarchical logistic regression analysis summary predicting presenteeism frequency	212
Table 6.5: Correlations with absenteeism frequency – variables not contributing to regression	213
Table 6.6: Means, standard deviations, and intercorrelations for absenteeism frequency and predictor variables	214
Table 6.7: Hierarchical logistic regression analysis summary predicting absenteeism frequency	217
Table 6.8: Correlations with absenteeism and presenteeism propensity – variables not contributing to regression	219
Table 6.9: Means, standard deviations, and intercorrelations for propensity for presenteeism and absenteeism predictor variables	220
Table 6.10: Multinomial logistic regression analysis summary predicting propensity for presenteeism and absenteeism	223
Table 7.1: Difference in illness prevalence during last presenteeism and absenteeism episodes	253
Table 7.2: Difference in illness perceptions during last presenteeism and absenteeism episodes	255
Table 8.1: Correlations with SPS-6 – variables not contributing to regression	286
Table 8.2: Means, standard deviations, and intercorrelations for SPS-6 and predictor variables	287
Table 8.3: Hierarchical multiple regression analysis summary predicting SPS-6....	289

Table 8.4: Correlations with actual impact of presenteeism on illness – variables not contributing to regression	291
Table 8.5: Means, standard deviations, and intercorrelations for actual impact of presenteeism on illness and predictor variables.....	292
Table 8.6: Hierarchical multiple linear regression analysis summary predicting impact of SP on illness and omitting expectations of impact of SP on illness.....	294
Table 8.7: Correlations with actual impact of absenteeism on illness – variables not contributing to regression	296
Table 8.9: Hierarchical multiple linear regression analysis summary predicting impact of absenteeism on illness.	299

Chapter One: Preface

1.1 Background to the study

After graduating as a physiotherapist in 2005, I was employed by a public rehabilitation hospital and a private clinic. The volume of individuals I met who suffered work-related injuries, particularly nurses who sustained injuries more commonly associated with construction workers, bewildered me. Convinced that these injuries could be prevented, I decided to pursue a master's degree in ergonomics. Whereas I had expected solely to gain knowledge on physical risk factors, I was also introduced to psychosocial and organisational risk factors and was left fascinated by their impact on workers' health and performance. My dissertation focused on improving nurses' working conditions. However, I remained curious about why nurses willingly came to work when ill. Their issues appeared to be job-related and they had easy access to paid sick leave.

In 2012, I relinquished my hospital job and joined the University of Malta in an academic position. This allowed me to pursue a PhD with the University of Nottingham. Having developed an interest in occupational health psychology, I chose to research decision-making concerning attending for work while ill. I hoped that it could benefit nursing health, work performance and possibly presenteeism theory development, which was in its infancy.

The factors that influence presenteeism decisions do not appear to have been studied previously in Malta; this despite findings indicating that the prevalence of presenteeism in Malta is the highest in Europe (Eurofound, 2016). The predictors of presenteeism also appear to vary between countries (Gustafsson

Sendén, Løvseth, Schenck-Gustafsson, & Fridner, 2013), illustrating the relevance of studying presenteeism in Malta.

The current thesis focuses on nurses working within two public facilities dedicated to the medical and rehabilitation needs of older adults. The population and setting were chosen for a variety of reasons. Having worked in one of these hospitals for several years, I believed the population worthy of study, as elaborated above. Like most of Europe, Malta has an ageing population. Elderly care is the largest medical field in Malta and is projected to continue growing. Other than the two studied facilities, the island of Malta only has two other major public hospitals; a primary care and cancer hospital and a small psychiatric hospital. Whereas the studied facilities provided a setting where a large cohort of nurses conducted largely similar duties, and thus their reasons for engaging in presenteeism may have been similar, the duties of nurses working in the acute hospital varied greatly between the different wards. The decision to focus on nurses was also taken for various reasons. Firstly, presenteeism has been found to be more frequent in healthcare workers (Aronsson, Gustafsson, & Dallner, 2000). Secondly, and as previously discussed, the author was aware of the physical and psychosocial challenges nurses faced in these settings. Discussions with the hospitals' upper management confirmed that absenteeism rates were high, whilst presenteeism, which was not measured, was believed to be. Furthermore, very little had been done to determine nurses' health levels and identify issues; management thus viewed the proposed thesis as worthwhile.

1.2 Publications and conference presentations

1.2.1 Publications from thesis work

Fiorini, L., Griffiths, A., & Houdmont, J. (2016). Mixed methods research in the health sciences: a review. *Malta Journal of Health Sciences*, 3(2), 37-45.

Fiorini, L., Griffiths, A., & Houdmont, J. (2018). Reasons for presenteeism in nurses working in geriatric settings: A qualitative study. *Journal of Hospital Administration*, 7(4), 9-16.

1.2.2 Conference and seminar presentations

1.2.2.1 Oral presentations

Fiorini, L., Griffiths, A., & Houdmont, J. (2016). Predictors and Consequences of Presenteeism: A Qualitative Study of Nurses in Geriatric Settings. In K. Teoh, V. Dediu, N.S. Saade, & J. Hassard (Eds). *Proceedings of the 12th European Academy of Occupational Health Psychology Conference: OHP in Times of Change: Society and the workplace* (pp 246-246). Nottingham, UK: EAOHP.

Fiorini, L., Griffiths, A., & Houdmont, J. (2017, May). *Correlates of Presenteeism Frequency: A Quantitative Study of Nurses in Geriatric Settings*. Paper presented at the Institute of Mental Health Research Day. Nottingham: UK.

1.2.2.2 Poster presentations

Fiorini, L., Griffiths, A., & Houdmont, J. (2014). Predictors and Consequences of Presenteeism: A Qualitative Study of Nurses in Geriatric Settings. In N.J.A. Andreou, A. Jain, D. Hollis, J. Hassard, & K. Teoh (Eds). *Proceedings of the 11th European Academy of Occupational Health Psychology Conference: Looking at the past - planning for the future:*

Capitalizing on OHP multidisciplinary (pp. 274-275). Nottingham, UK:
EAOHP.

Fiorini, L., Griffiths, A., & Houdmont, J. (2018). Correlates of presenteeism: a study of nurses working in geriatric settings in Malta. *Occupational and Environmental Medicine*, 75(Supplement, 2), A342.

Fiorini, L., Griffiths, A., & Houdmont, J. (2018). Illness perceptions during presenteeism and absenteeism. In K. Teoh, N. Saade, V. Dediu, J. Hassard, & L. Torres (Eds). *Proceedings of the 13th EAOHP Conference 2018. Adapting to rapid changes in today's workplace*. Nottingham, UK:
EAOHP.

Fiorini, L., Houdmont, J., & Griffiths, A. (2018). Propensity for presenteeism and sickness absenteeism in nurses working with older adults. In K. Teoh, N. Saade, V. Dediu, J. Hassard, & L. Torres (Eds). *Proceedings of the 13th EAOHP Conference 2018. Adapting to rapid changes in today's workplace*. Nottingham, UK: EAOHP.

1.3 Aims, focus and structure of the thesis

In the absence of studies on presenteeism in similar healthcare settings in Malta, the thesis used an exploratory mixed-methods methodology. This decision was also influenced by the absence of comprehensive presenteeism theory (Lohaus & Habermann, 2018). Data collection was conducted in two phases; the findings of an initial qualitative study (Phase I - Chapter Five) informed the design of a quantitative survey (Phase II), the obtained data are presented in three separate analysis (Chapters Six through Eight). Overall the thesis has the following aims:

- I. To establish the frequency of sickness presenteeism (SP) and sickness absenteeism (SA) in the studied population.
- II. To determine the factors that foster SP and SA in the studied population.
- III. To identify and explore the perceived consequences of SP and SA.
- IV. To establish the extent to which perceived consequences of SP and SA impact on the decision-making processes concerning these sickness behaviours.
- V. To contribute to the further development of SP theory

Following this preface, **Chapter Two** introduces presenteeism by reviewing the most common definitions of this construct. This is followed by a discussion on the relevance of studying SP; namely its consequences and common limitations found in presenteeism studies, thus providing a foundation for the thesis. Finally, the added value of studying SP in healthcare settings is discussed.

A review of the literature is presented in **Chapter Three**. The chapter opens by addressing the theoretical underpinnings of presenteeism and illustrates that better conclusions can be drawn when both SP and SA decisions are analysed. The multifactorial antecedents of SP and SA are then discussed. This is complemented by a section on the consequences of SP and SA. The chapter concludes by reaffirming the need for further research on the factors which drive SP/SA decisions and its perceived consequences. Based on these conclusions, the aims of the thesis are presented.

In response to the aims of the thesis, **Chapter Four** presents the study's overall methodology. An overview of mixed methods research, its purpose, philosophical underpinnings and typologies are first discussed. The overall methodology of the thesis is then discussed, including its philosophical stance, research design and setting. The methodologies of the two studies and four analyses are described within their respective chapters.

The exploratory qualitative study (Phase I) described in **Chapter Five** addressed the second till fourth aims of the thesis. The views of 18 nurses and charge nurses were elicited regarding the reasons they attended and avoided work

when ill. The consequences of these decisions were also explored. Data obtained following semi-structured interviews were analysed thematically and common themes were identified. It was concluded that four major themes predicted the decision to engage in SP or SA, as well as their consequences: (i) illness perceptions, which included participants' views and experiences of their own health complaints; (ii) work attitudes, which referred to feelings and behaviours towards different facets of occupational life; (iii) organisational factors, which comprised of workplace and administrative factors perceived to influence presenteeism; and (iv) personal factors including illness behaviour preference and personal life. Various perceived consequences influenced the studied illness behaviour decisions, whilst reductions in work performance and ill health were described as important consequences of presenteeism. In-view of the findings, a model of SP and SA was proposed (Aim V). Further studies were warranted to determine the applicability of findings and the model to the wider study population.

Based on the findings of the previous chapter, **Chapter Six** first describes the design and methodology of the cross-sectional survey (Phase II) administered to nurses and charge nurses at the two research settings ($N=270$). The collected data were analysed in three different analysis, the first of these is described in this chapter. The first, second and fourth aims of the thesis were addressed. SP and SA were highly prevalent in the studied sample, with the former more frequent. Hierarchical binary logistic regression was used to identify the correlates of SP and SA frequency. Multinomial logistic regression was used to determine the

correlates of reporting SP most frequently (propensity for SP) and reporting SA most frequently (propensity for SA).

It was concluded that the factors associated with SP and SA varied by outcome measure. Overall, those who engaged in SP more frequently also engaged in greater SA. More frequent SA was linked with more serious illness episodes, adhering to health professionals' advice, more negative attitudes regarding the importance of avoiding absence and the impact of SP on illness. More frequent SP was associated with negative illness-related emotions and poor illness-related understanding during SP, beliefs that SA was of great benefit, beliefs that it was necessary to attend ill following recent SA, and reduced levels of peer and managerial support. Those with a propensity for SP were more likely to have poorer workability and greater work demands than those with a propensity for SA. Furthermore, those with a propensity for SP experienced fewer negative emotions during SA and greater engagement than those who reported equal SP and SA.

Based on the data collected in the aforementioned survey, **Chapter Seven** builds on the findings of the previous chapter by comparing how illness types and perceptions varied between participants' last SP and SA episodes. In doing so, the analysis addressed the second till fourth aims of the thesis. Bivariate analysis revealed that various illness types and perceptions varied significantly between the two episodes. The analysis concluded that musculoskeletal disorders (MSDs), common mental health disorders (CMHDs) and headaches/migraines were more prevalent during SP. Digestive illnesses, infectious disease, and post-operative reasons were more common during SA. Illnesses were also generally perceived as

more serious during SA and had more serious consequences; they affected participants' lives more greatly, were more contagious, and resulted in lower workability than those experienced during SP. Generally, SP was perceived as harmful for illness, and SA as beneficial; during SP this was expected to be less harmful, whilst during SA this was expected to be more beneficial for illness. Despite differences between SP and SA, the findings also revealed that individuals attended work despite great levels of illness.

In line with the third aim of the thesis, **Chapter Eight** explores the most common consequences of SP and SA: performance loss during SP and illness outcomes during SP and SA. Phase II data were analysed via hierarchical multiple linear regression. Greater performance loss during SP was associated with greater levels of illness as indicated by greater emotional representations, poorer workability and reporting SA due to fatigue. Lower work dedication, reporting SP had a more negative impact upon family life and living with one's parents were also associated. The factors linked to worse illness outcomes during SP included attributing illness to an organisational cause and poorer workability during SP. Poorer outcomes were also linked with lower levels of work engagement and adjustment latitude. Illness outcomes following SA were greatly linked to illness-related factors. Perceiving SA as less beneficial was linked with perceiving fewer symptoms, poorer illness legitimacy and expectations that staying home would be less beneficial for the illness. Personal and organisational factors also played a role, with less beneficial outcomes also linked with lower levels of emotional stability and greater work adjustment.

The results of the preceding chapters are amalgamated and discussed in **Chapter Nine**. The results reveal high levels of illness in the studied population and that illness-related and attitudinal-related factors appear to largely explain the studied behaviours. The relevance and applicability of the proposed model of SP and SA is discussed., as are interesting avenues for future research. The practical implications of the findings are also discussed.

1.4 Author contribution

The investigation described throughout this thesis is the author's own work, entirely conducted in fulfilment for the award of PhD. The only academic input received was from the author's supervisors. As elaborated above, the topic of the thesis was chosen in response to the author's background, observations and interest. The PhD was however funded by the University of Malta, the author's employer, which also approved the studied topic. As a condition of employment, the author bound himself to obtain a PhD in a topic deemed relevant to his position.

Chapter Two: Introduction

2.1 Defining presenteeism

Definitions of presenteeism vary tremendously throughout the literature; Johns (2010) identified nine categories of definition. Five categories of definitions, however, predominantly feature in contemporary literature. These include: (i) workers who attend work despite feeling ill (Aronsson et al., 2000; Bergström et al., 2009; Hansen & Andersen, 2008; Wynne-Jones, Buck, Varnava, Phillips & Main, 2009); (ii) workers who attend work despite feeling unwell or who are experiencing other events which might otherwise encourage absence (Johansson & Lundberg, 2004); (iii) reduced work productivity due to health problems (Brown, Gilson, Burton & Brown, 2011; Cooper & Dewe, 2008; Letvak, Ruhm & Gupta, 2012; Schultz & Edington, 2007); (iv) reduced work productivity due to health problems or other events which impact upon productivity (Merrill et al., 2012), and (v) presenteeism as a synonym for reduced productivity whilst at work (Burton, Schultz, Chen & Edington, 2008; Lofland, Pizzi & Frick, 2004).

These five definitions highlight a chasm in the research. The first two definitions deal with the cause and act of presenteeism, whilst indirectly indicating that it occurs instead of sickness absenteeism (SA) (Kristensen, 1991). The third and fourth categories of definition attribute a cause to presenteeism but focus on a specific consequence of this behaviour: reduced productivity. This is a limitation as productivity is neither the only outcome of presenteeism, nor are all consequences necessarily negative (Johns, 2010). The fifth definition of presenteeism fails to acknowledge the difference between attending when ill and

the consequences of this behaviour, thus contributing little to the literature (Johns, 2010).

Definitions (i), (iii) and (v) appear to feature most frequently in the literature. Most research on the act and causes of presenteeism emanate from Europe, whilst much research on presenteeism-related productivity loss originates from America (Aronsson, Gustafsson, & Mellner, 2011; Johns, 2010). This distinction however is becoming increasingly blurred (Johns, 2010). The relative popularity of the various definitions also indicates that most researchers acknowledge that presenteeism is initiated by a health event (Aronsson & Gustafsson, 2005; Johns, 2011). Due to the shortcomings of definitions (iii) and (v), definition (i), *attending work despite feeling ill* shall be discussed in this text and termed sickness presenteeism (SP). This definition is the most frequently used within the organisational and occupational health literature (Johns, 2010).

The inclusion of the term 'ill' in the definition is notable. As a concept, three distinct aspects of ill health can be identified: illness, defined as the ill health the individual identifies themselves with, and thus linked to self-reported symptoms; disease, a condition diagnosed by a health professional; and sickness, the social role an ill person takes or is given by society, and thus is linked to sickness absence and presence (Wikman, Marklund, & Alexanderson, 2005). The chosen definition therefore focuses on a specific aspect of sickness, the choice between presenteeism versus absenteeism, chosen or imposed on the person despite their beliefs about their illness. The current definition has also received criticism for providing little information on why individuals attend while ill, and

the consequences of this behaviour, leading some authors (e.g., Rainbow & Steege, 2017) to propose longer definitions which include a list of known antecedents to the behaviour. Others, however, have suggested that definitions should not include motives or consequences in-view of the lack of conclusive evidence on these topics (Lohaus & Habermann, 2018) and because this may lead to artificial inflation of effect sizes when researching the antecedents of presenteeism (McGregor, Sharma, Magee, Caputi, & Iverson, 2017).

2.2 Presenteeism research and the imperative for further study

Whereas absenteeism has attracted much research over the past decades, less attention has been given to presenteeism. This may be because presenteeism is often invisible (Biron, Brun, Ivers, & Cooper, 2006) and is not registered, making it difficult to study (Bierla, Huver, & Richard, 2013). This has led to the development of organisational policies designed to measure and limit absenteeism, but frequently had the unintended consequence of fostering presenteeism (Grinyer & Singleton, 2000). In recent years, presenteeism research has gained traction (Bierla et al., 2013) mainly driven by findings that presenteeism may result in greater cumulative productivity losses and thus may be costlier to organisations than absenteeism (Johns, 2010). Much research supports this (Collins et al., 2005; Goetzel et al., 2004; Vänni, Neupane, & Nygård, 2017a), however contradictory research has also been presented (de Graaf, Tuithof, van Dorsselaer, & ten Have, 2012; Rantanen & Tuominen, 2011; Strömberg, Aboagye, Hagberg, Bergström, &

Lohela-Karlsson, 2017). Conflicting evidence is likely due to the various methods used to calculate productivity loss, which show little agreement between them (Thompson & Wayne, 2018). Disagreement also exists regarding a method by which to calculate the actual monetary cost of presenteeism (Jones, Payne, Gannon, & Verstappen, 2016).

A second consequence of presenteeism that has featured in the literature, but to a lesser degree, is its impact upon health. Whilst absenteeism is often considered to be health-promoting (Dellve, Hadzibajramovic, & Ahlborg, 2011), several studies have demonstrated that presenteeism is negative for health (Gustafsson & Marklund, 2011; Taloyan et al., 2012) and leads to future sickness absence (Gustafsson & Marklund, 2011; Janssens, Clays, De Clercq, De Backquer & Braeckman, 2013). These two consequences, along with potential others, such as impacts upon satisfaction, engagement, and increased accident rates (Lohaus & Habermann, 2018) suggest that presenteeism is worth studying. Particularly as presenteeism appears to be frequent and more so than absenteeism (Caverley, Cunningham, & MacGregor, 2007; Rantanen & Tuominen, 2011).

Globally, several studies have analysed the predictors of SP in a variety of occupational settings. A meta-analysis by Miraglia and Johns (2016) determined that poor levels of health, restrictions on engaging in absenteeism, increased job demands, reduced job resources and positive work attitudes were more strongly associated with presenteeism behaviour. A lack of clarity, however, remains about the factors that encourage individuals to engage in presenteeism instead of absenteeism. One reason for this has been that in the absence of an accepted model

of SP or SA (Lohaus & Habermann, 2018), much related research has been a-theoretical (Johns, 2010). Many studies do not analyse both SP and SA (Miraglia & Johns, 2016). Furthermore, presenteeism has not been measured in a consistent manner, and whilst many studies identify correlates of this behaviour, many do not differ between its antecedents and consequences (Lohaus & Habermann, 2018). In fact, Johns (2010) noted that further theoretical development would not be possible unless both the causes and consequences of presenteeism were considered simultaneously. Qualitative research is also lacking and would aid in probing presenteeism and absenteeism decisions (Kinman & Wray, 2018; Lohaus & Habermann, 2018; Miraglia & Johns, 2016). Further theoretical development, as well as research into the reasons why individuals engage in presenteeism rather than absenteeism, is thus needed (Whysall, Bowden, & Hewitt, 2018).

2.2.1 The need for further research in the healthcare sector in Malta

The following section argues that the healthcare sector, and nurses in particular, should be the focus of further SP investigation. The section also highlights the need for SP research to be conducted in Malta.

Findings by Aronsson et al. (2000) revealed that in comparison with other sectors, SP rates tend to be highest in the healthcare and educational sectors, a finding confirmed by d'Errico, Ardito, and Leombruni (2016). In particular, Aronsson et al. (2000) found that compared to other healthcare professionals, SP

was most prevalent in nurses. Nurses are the largest group of healthcare workers (Rainbow & Steege, 2017), they often experience taxing physical, organisational and psychosocial conditions at work (da Silva Junior & Merino, 2017; Lelis et al., 2012) and have been found to have poor levels of physical and mental functioning (Roelen et al., 2013). High rates of disorders such as musculoskeletal disorders (Bos, Krol, van der Star, & Groothoff, 2007; Choobineh, Movahed, Tabatabaie, & Kumashiro, 2010; Lelis et al., 2012) and mental disorders (Lelis et al., 2012; Mark & Smith, 2011) have been reported in nurses and have been associated with these difficult working conditions. Attending work with such disorders also appears to be costly; Letvak et al. (2012) estimated that productivity losses in American nurses cost \$14,439 per nurse or \$37.3 billion throughout the US annually. Reductions in nurse performance were also linked with increased patient falls, medication errors, and lower quality of care (Letvak et al., 2012).

Despite the size and importance of the nursing profession, the frequency of SP and its notable impacts, a lack of clarity remains regarding the antecedents of SP in this profession. Factors such as illnesses, great work demands, a lack of work-life balance, external economic and organisational factors appear to influence nurses' SP decisions (Rainbow & Steege, 2017). However, whilst a systematic review of the predictors of SA and SP in nurses (Brborović, Daka, & Brborović, 2017) identified 23 antecedents of SA, only three of SP were identified. These were job demands, burnout and exhaustion. Therefore, whilst a combination of organisational, work and individual-level factors may be relevant in influencing SP decisions in this profession, further research is necessary.

The European Working Conditions Survey (EWCS) (Eurofound, 2016) revealed that SP frequency in Malta was the highest in the European Union (EU), whilst SA frequency was amongst the highest. This is suggestive of poor levels of health (Gerich, 2015b). In fact, nurses in Malta have been found to suffer from high levels of burnout (Galea, 2014). Despite this, the predictors or consequences of SP remain unexplored in Malta, including in nursing. Studying them appears of value; factors found to affect SP decisions in nursing, emerging from several countries around the world, appear to vary (Rainbow & Steege, 2017). The largest group of nurses in Malta are those that work with older adults. This sector is expected to continue growing as Malta's population ages; between 2012 and 2035, the number of persons aged 65-plus are expected to increase by 44% (National Statistics Office, 2011). Due to a lack of empirical research, little is known about this group of nurses' health or illness behaviour. International studies, however, suggest that healthcare workers who work with older adults have poor levels of physical and psychological health (Islam, Baker, Huxley, Russell, & Dennis, 2017) whilst the prevalence of SP in such nurses has been shown to be high (Elstad & Vabø, 2008; Schneider, Winter, & Schreyogg, 2018). Furthermore, the predictors of SP and SA in such nurses also appears to vary by country (Dhaini et al., 2016; Elstad & Vabø, 2008).

This thesis therefore focuses on exploring SP in nurses working with older adults in Malta. Primarily, the factors that influence individuals' decision between SP and SA are explored. The investigation also explores the consequences of such decisions and factors that may influence such consequences.

Chapter Three: Literature Review

3.1 Introduction

The following chapter presents a narrative review of the current literature on sickness presenteeism (SP), updated until the first quarter of 2018. This review was first written in 2013 when presenteeism research, which was previously infrequent, was gaining traction. A narrative review was chosen in order to provide a broad overview of the limited available papers, including grey literature and those that only dealt with presenteeism indirectly such as research pertaining to return-to-work. Narrative reviews have received criticism for identifying data unsystematically, which can make them difficult to replicate and can result in bias (Grant & Booth, 2009). However, had a systematic review been undertaken, the resulting literature review would have been much more restricted with some sections missing entirely.

The chapter first focuses on notable models and theories of SP and in so doing, highlights the value of studying this alongside sickness absenteeism (SA). This discussion is followed by a section on the antecedents of SP and SA, and highlights that health and illness-related factors, personal, physical, attitudinal and organisational factors may all play a role. A discussion of the consequences of SP and SA then follows. Conclusions are then presented and lead to the development of research questions and aims that provide direction for the current investigation.

The prevalence of SP and SA in Malta appears to be the highest in Europe (Eurofound, 2016). Absenteeism rates among public sector workers (8.34 days per year) also appears to be considerably higher than that of private sector employees (3.32 days per year) (Department of Social Security in Borg

& Caruana, 2010). Similar statistics on SP are not collected and studies of the antecedents or consequences of SP do not appear to have been previously conducted in Malta. Furthermore, few studies have focused on the causes of SA in Malta, and thus few studies that focus on Malta will feature within this literature review.

3.2 Notable models of presenteeism

The following section traces the development of SP theory, focusing on those models and hypothesis that appear to have had a notable impact upon the research community. Recent promising models that aim to explain SP are also covered. Models that only have a very narrow focus, such as that of Halbesleben, Whitman, and Crawford (2014) that solely focused on relationships between supervisors and employees have been omitted from this section.

3.2.1 Kristensen (1991): Absenteeism Framework

Kristensen (1991) discussed the factors that should feature within a theory of SA, and indirectly addressed SP. According to Kristensen, such a theory needed to identify the factors that influenced SA, the links between them, and classify these as positive and negative factors that encourage presence or absence from work. Various factors needed to be included, such as societal, organisational, environmental, social and personal conditions. Such a theory also needed to consider SA as a conscious coping behaviour, acknowledge the importance of individuals' subjective perceptions of health, and that greater job demands and fewer coping opportunities resulted in greater rates of SA.

Whilst this paper did not focus on SP, the author suggested that positive or negative factors, such as work satisfaction or decreased wages, respectively,

could drive work presence rather than SA. This provided the groundwork for the Illness Flexibility Model (Section 3.2.3).

3.2.2 Aronsson and Gustafsson (2005): Model for Research into Sickness Presenteeism

To guide future research, Aronsson and Gustafsson (2005) presented a non-definitive model that dealt with the choice between SA and SP and the consequences of this choice. It was proposed that illness, disease and capacity loss both initiated this decision and were the strongest determinants of SP and SA. Presenteeism was then driven by two sets of demands; *personal demands for presence* and *work-related demands for presence*. The former category included individuals' inability to set limits despite excessive demands (termed individual boundarylessness) and private-financial demands. The latter category had five factors; replaceability, resources, conflicting demands, work control, and time pressure. In terms of consequences, the model only focuses on the health impact of SP and SA. In agreement with Kristensen (1991), it was postulated that short-term SA could be salutogenic, however long-term SA may have negative consequences including exclusion from the labour market. Furthermore, depending on the work situation, SP could have both positive and negative impacts upon health.

Via this paper, the authors also made an influential observation. Termed 'double risk factors', some factors, such as time pressure, were linked to SP by two pathways: (i) indirectly, by creating a detriment in health, resulting in a

need to choose between SA or SP and (ii) by having a direct effect on SP, as they influenced the decision to attend work despite illness.

3.2.3 Johansson (2007): Model of Illness Flexibility

Borrowing from Kristensen's (1991) paper, Johansson and Lundberg (2004) devised a model that viewed SA and SP as rational behaviours. The model was later expanded (Johansson, 2007), and it is this updated model that shall be discussed. Similar to Aronsson and Gustafsson (2005), poor health and reduced capacity are described as prequels to SP, SA, returning to work, or being excluded from the labour market. The chosen outcome essentially depends on individuals' *ability* and *motivation* to work. The model indicates that workability depends on workers' actual tasks and their level of adjustment latitude. This describes the degree to which individuals can modify their level of effort at work, which may facilitate coping and thus SP when ill.

Motivation to work was modulated by four categories: attendance requirements; absence requirements; attendance incentives; and absence incentives. The categories suggest that workers choose between SP and SA depending on what they perceive they *ought* to do (requirements) and what they *want* to do (incentives). Attendance requirements are similar to Kristensen's (1991) description of the negative consequences of not attending, such as work piling up, cancelled activities and financial issues. Attendance incentives similarly mirror the positive outcomes of attending such as job

satisfaction. Additionally, individuals may want or need to avoid work when ill.

The model varies from Aronsson and Gustafsson's (2005), as it does not attempt to list the various factors that influence SP/SA decisions. Instead, it explains how individuals may categorise such factors. This may provide greater direction on how individuals reach such decisions, but little information on which factors fall into each category. The model also provides little information about the consequences of SP and SA.

3.2.4 Caverley, Cunningham and MacGregor's (2007) Substitution

Hypothesis

Caverley et al., (2007) did not present a model of SP or SA, but rather formalised the 'substitution hypothesis', which states that workers subject to work demands often substitute SA when ill with SP. The authors found that when this occurred in a downsizing company: the total sickness in the organisation was equal to the sum of SA and SP; constant levels of health resulted in lower SA; SP became a better predictor of health levels than SA; and the type, severity and frequency of illness, as well as the work factors that predict SP and SA, became similar. The hypothesis has received some support with Aronsson, Gustafsson and Mellner (2011) concluding that decreased SA could signify increased SP rather than improved health, whereas MacGregor, Cunningham and Caverley (2008) found similarities between the variables that predicted SP and SA. A large pan-European study by Arnold and de Pinto (2015), however, found little support for this hypothesis.

3.2.5 Hansen and Andersen (2008): Predictors of Sickness Presence

Hansen and Andersen (2008) built on Aronsson and Gustafsson's (2005) model and proposed that three categories of factors influenced SP decisions: (1) *work-related factors*, which incorporated: time pressure, task control, relationship with colleagues, and employment conditions; (2) *personal circumstances*, which included: financial situation; family life and psychological factors such as individual boundarylessness; and (3) *attitudes*, which referred to how work and personal circumstances are interpreted by the worker in defining and legitimatising their choice between SA and SP. Whilst this framework did not aim to be definitive, it elaborated upon the categories that influence SP/SA decisions, moving past an exclusive focus on 'demands' and added a third category that illustrates the subjectivity present in the decision process, thus mirroring Kristensen (1991) and Johansson (2007). The consequences of the chosen illness behaviour were however omitted.

3.2.6 Johns (2010): Dynamic Model of Presenteeism and Absenteeism

Johns' (2010) model built on those by Aronsson and Gustafsson (2005) and Hansen and Andersen (2008), focusing on the types of factors that influence SP and SA decisions. Like the aforementioned models, a health event necessitates a decision between SP and SA, this however is expanded to distinguish between acute, episodic and chronic events. As discussed later

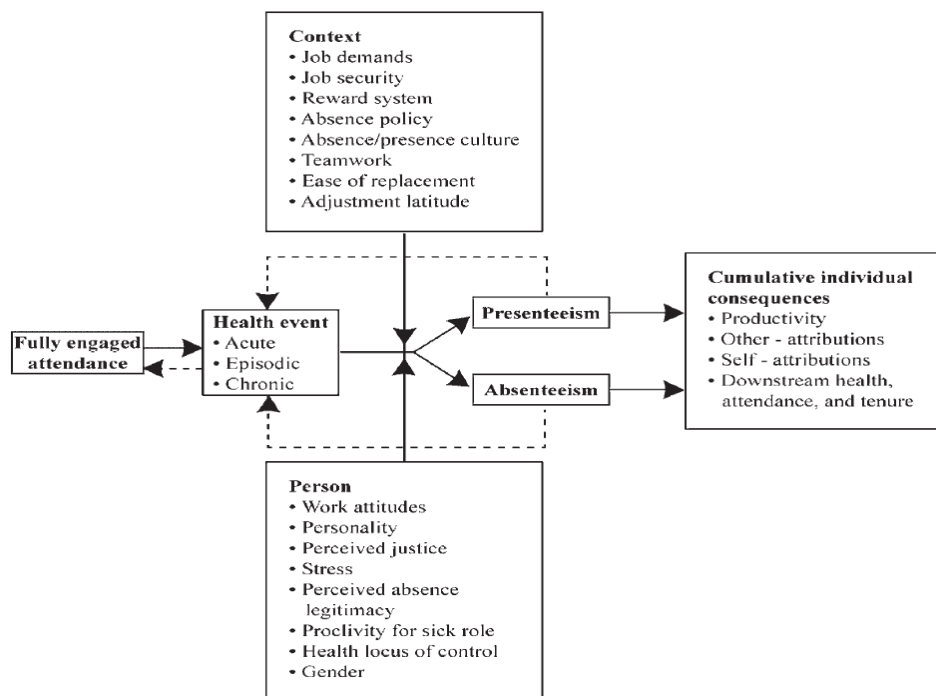
(Section 3.3.2), the distinction is relevant, with studies indicating that the nature of the event may influence SP/SA decisions and outcomes. The model also illustrates that SP/SA decisions are modulated by two categories of factors: work *context factors* and *person factors*. In comparison to Aronsson and Gustafsson's (2005) model, Johns' (2010) model presents more factors in both categories (Figure 3.1). Hansen and Andersen's (2008) third category on attitudes can be found within the person factors category, which also includes personality, health locus of control and sick role.

The two categories used by Johns (2010) are broad enough to allow for various factors to be included. Clustering numerous factors into just two categories, however, weakens the application of the model as it provides little information about how these influence SP/SA decisions. Johns (2010) acknowledged that conclusive evidence on the relationship between SP and each work context factor was lacking, whilst the interplay between workers' individual differences and work factors mean that definite directions of action may prove complicated and possibly elusive. In fact, Baker-McClearn, Greasley, Dale, and Griffith (2010) found that SP should be seen as a dynamic set of interactions that fluctuate according to circumstances. Johns (2010) does, however, suggest that the various variables are likely to modulate the relationship between SP and SA via the Substitution Hypothesis (Caverley et al., 2007) and the Complementary Hypothesis (Johns, 2010, 2011), where individuals may persevere in the face of absence-inducing conditions because of the different costs and benefits associated with either behaviour. Support for this comes from studies reporting positive correlations between SP and SA (Gosselin, Lemyre, & Corneil, 2013). Johns also suggests that any future

model of SP should acknowledge individuals' perceptions of their own health and illness, consider both SP and SA, and include work attitudes, experiences, personality variables and social dynamics such as gender.

Johns' (2010) model also develops the consequences of SP and SA. Firstly, he notes that SP and SA choices could influence the original health event and future health levels, introducing the concept that the choice of illness behaviour may affect the occurrence of future illness behaviours (Taloyan et al., 2012). Secondly, he acknowledges the important influence SP can have on work productivity. These important consequences are elaborated upon in Section 3.4. Finally, he also postulated that SP and SA could have other consequences such as an impact upon individuals' attributions of themselves and issues such as tenure.

Figure 3.1: Johns' (2010) Dynamic Model of Presenteeism and Absenteeism

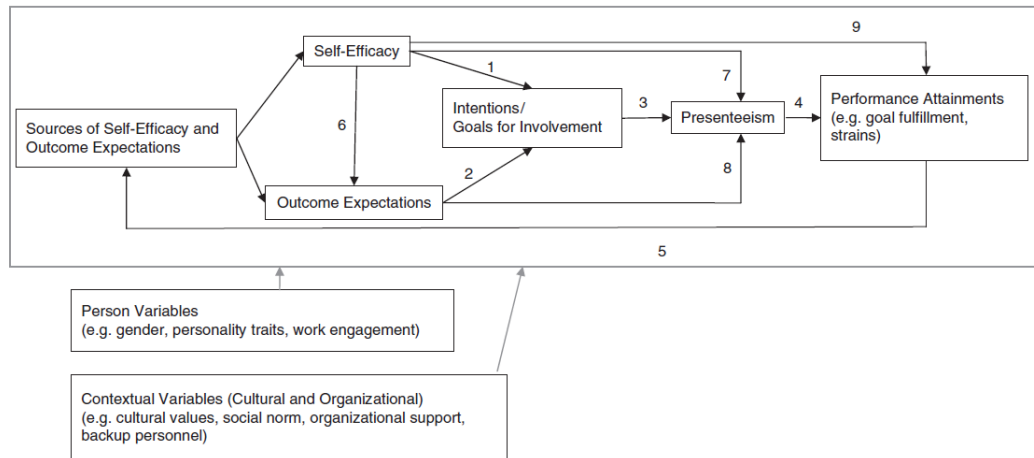


3.2.7 Cooper and Lu (2016): Social Cognitive Model of Presenteeism

Whilst highly cited, Johns' (2010) model resulted in little empirical research as it did not explain how and why SP/SA decisions were made. Cooper and Lu (2016) thus suggested a model of SP based on social cognitive theory (Bandura, 1986), which considers three aspects and their interaction: person variables, particularly cognitive processes; the social environment; and individuals' overt behaviour. Cooper and Lu (2016) proposed that three person variables were likely to be relevant to SP: self-efficacy, which referred to ones' self-belief in achieving a behaviour; outcome expectations of the performed behaviours; and goals, a will to carry out an activity or influence an outcome (Bandura, 1986). It could be debated that outcome expectations are similar to the requirements and incentives proposed by Johansson (2007) and Kristensen (1991).

Cooper and Lu (2016) suggest that self-efficacy and outcome expectations influence goal development (Figure 3.2), and in turn all three factors lead to SP. This in turn results in performance attainment, which depending on the level of success or failure, may influence self-efficacy and outcome expectancies. The authors also suggested that other personal and contextual variables are likely to influence this process, however, this was not elaborated upon. The model fails to acknowledge SA and provides limited information on the consequences of SP beyond performance.

Figure 3.2: Cooper and Lu (2016) – Social Cognitive Model of Presenteeism.

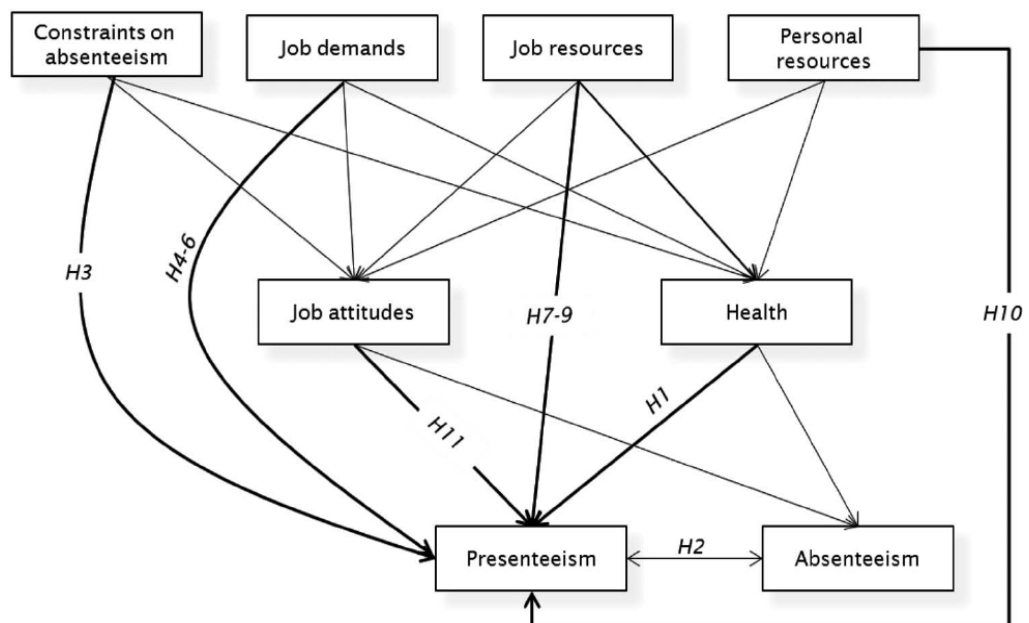


3.2.8 Miraglia and Johns (2016): The Dual-Path Model of Presenteeism

In an attempt to reconcile often contrasting findings about the impact of various variables on SP, Miraglia and Johns (2016) proposed that following a health event, variables could influence SP and SA behaviours either directly, or via two indirect pathways, being their impact on job attitudes and on health. Borrowing from Johns’ (2010) earlier model, the importance of personal and organisational factors was reiterated, but these categories were divided to reflect those of the Job Demands-Resources framework (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli 2001) and the Substitution Hypothesis (Caverley et al., 2007). Thus, Miraglia and Johns (2016) suggest that constraints on absenteeism, job demands, job resources and personal resources can either influence SP directly or indirectly (Figure 3.3). In the latter case, SP could occur following a negative strain that resulted in a decline in

health, or by means of positive job attitudes leading to elevated levels of motivation. It was proposed that this interplay between different pathways explained conflicting research findings on the impact of different factors on SP. For example, whilst it was proposed that job demands would directly increase SP, it would be indirectly and negatively linked to SP via its negative impact upon job attitudes and intrinsic motivation, and indirectly and positively associated with SP via its negative impact upon health. Miraglia and Johns (2016) tested their proposed hypothesis by means of a meta-analysis of the available presenteeism literature; their findings feature throughout the next section of this literature review. The model, however, does not present a comprehensive model of SP; it does not focus on factors such as illness or the consequences of SP.

Figure 3.3: Miraglia and John's (2016) Dual Path Model of Presenteeism.

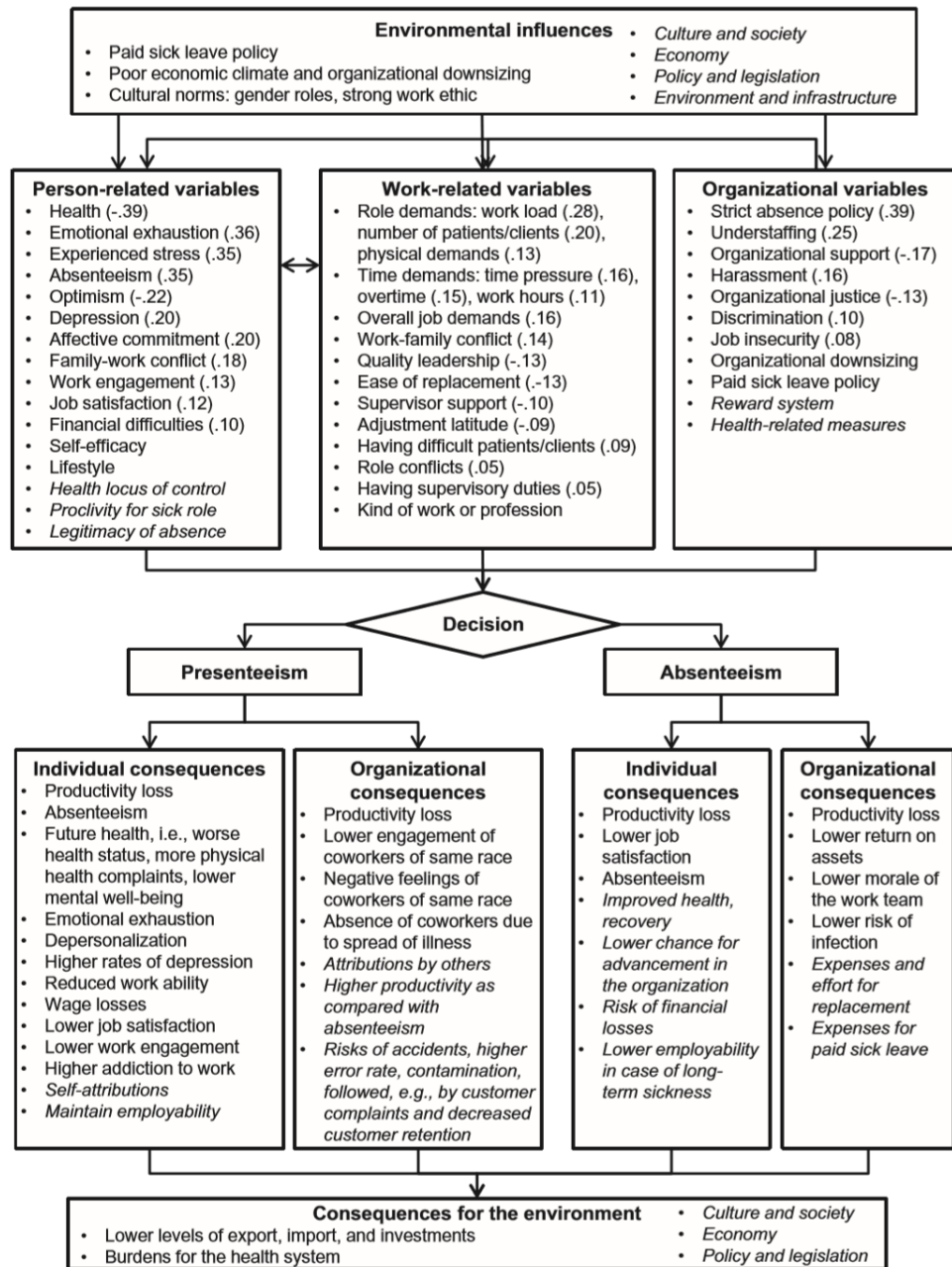


3.2.9 Lohaus and Habermann (2018): A Framework Model of presenteeism

Based primarily on Johns' (2010) dynamic model of presenteeism and Miraglia and Johns (2016) meta-analysis, Lohaus and Habermann (2018) produced a model of the factors involved in SP and SA behaviours, as well as their consequences. The factors affecting SP and SA decisions were divided into four interlinked categories: environmental influences, such as cultural and political factors; person-related variables, such as health, depression and work engagement; work-related variables, including demands, ease of replacement and support; and organisational variables, such as understaffing and job security (Figure 3.4). The framework also lists the individual and organisational consequences of both SP and SA. These are primarily negative and are postulated to impact the wider environment, for example by burdening the health system and impacting negatively upon the economy.

The framework, whilst comprehensive, provides limited theoretical information on how the individual factors combine to affect presenteeism/absenteeism decisions; however, the inclusion of the effect sizes determined by Miraglia and Johns' (2016) study provides more information than some previous models. The model also provides more information on the consequences of SP/SA than others. Somewhat contradictorily, whilst the authors acknowledge that subjective illness perceptions play an important role in SP/SA decisions, they are omitted from the model. Furthermore, during their study of the model, the collection of subjective illness information not diagnosed by a physician was considered a limitation.

Figure 3.4: Lohaus and Habermann (2018) - Framework Model of Presenteeism



3.2.10 Summary

The discussed models highlight that sick individuals face a decision between engaging in SP or SA, and that SP can be better understood when both behaviours are studied. Whilst a comprehensive model is yet to be developed, the discussed models can generally be divided into two categories. Aronsson and Gustafsson (2005), Hansen and Andersen (2008), Johns (2010) and Lohaus and Habermann (2018), provide frameworks of the categories and types of factors that should be explored when studying the antecedents of SP and SA. The models indicate that health and illness-related factors are relevant, as are person, organisational, task and work environmental factors. The models, however, provide little information on how the individual factors interact and inform SP/SA decisions. Conversely, Kristensen (1991), Johansson (2007), Caverley et al. (2007), Cooper and Lu (2016), and Miraglia and Johns (2016) provide greater direction on how categories of variables may influence SP/SA decision processes. Overall, decisions may be influenced by the perceived benefits and disadvantages of attending or avoiding work, including strict attendance requirements that would drive SP. Factors that influence work motivation and health levels are also postulated to influence decisions, as are self-efficacy and goals. Apart from Miraglia and Johns' (2016) model, little information on the variables that could fit within, or influence, each category is provided. Miraglia and Johns (2016) support their model via a meta-analysis; this too, however, highlights inconclusive findings and omits important aspects such as the consequences of SP/SA. Such consequences generally play a secondary role in the models to date, and whilst Lohaus and Habermann (2018)

list them, limited importance has been given to the impact of the perceived or actual consequences of SP/SA on such behaviours, or to the predictors of such consequences.

3.3 The antecedents of presenteeism

The following section discusses the antecedents of SP and SA. To reach meaningful conclusions (Aronsson et al., 2011; Johns, 2011), studies increasingly analyse both SP and SA (Böckerman & Laukkanen, 2010a; Elstad & Vabø, 2008; Gosselin et al., 2013; Johns, 2011; MacGregor et al., 2008). Qualitative studies are infrequent and generally analyse the reasons why individuals attend work or not when ill (e.g., Collins & Cartwright, 2012; de Vries et al., 2011; Krane et al., 2014; Krohne & Magnussen, 2011; Tveten & Morken, 2016). Quantitative studies generally aim to identify the predictors of SP and SA frequency, which whilst related, is not an identical concept. Coupled with the various samples and measures used to study these variables, this may in-part explain the mixed findings often presented in this section. As the different methods employed to research the antecedents of SP may have contributed to the often-contrasting findings, studies that use both quantitative and qualitative research methods may aid in exploring such discrepancies. Very few mixed-method studies of SP, however, appear to have been published (e.g., Chambers, Frampton, & Barclay, 2017; Szymczak et al., 2015).

Much inconsistency also exists in the quantitative SP and SA outcome measures used. Most commonly, separate single-item self-report questions investigate if participants have attended work or stayed home over a specified period (e.g., Collins & Cartwright, 2012; Gosselin et al., 2013; Gustafsson & Marklund, 2011). Other studies have measured absenteeism via work records (Bergström et al., 2009). Whilst work records are often considered more objective, these cannot differentiate between sick leave used for illness and

episodes where individuals may have used this for other reasons. Absenteeism self-reports have also been found to be consistent with organisational records (Gaudine & Gregory, 2010).

Presenteeism frequency measures have been criticised for potentially lacking reliability and validity due to their single-item nature (Lohaus & Habermann, 2018). Some authors have proposed multi-item measures of SP (e.g., Admasachew & Dawson, 2011; De Beer, 2014; McGregor et al., 2016). For example, Agudelo-Suárez et al. (2010) classified individuals as presentees if they reported ill health but did not report SA. The measure is problematic however, as individuals may not have attended work ill. Admasachew and Dawson (2011) classified individuals as presentees depending on their answers to three questions: if they had attended work ill, and if they felt pressure to attend ill from their colleagues, and supervisors, respectively. Such an outcome variable, however, only focuses on a sole predictor; social pressure. Developing measures that list SP predictors are problematic due to the lack of clarity regarding the antecedents of this behaviour. McGregor et al. (2016) created an outcome measure which represented the number of days employees were present at work with various health and social problems, and the level of productivity lost due to each of these problems. The final number was corrected for the total number of possible work days, taking into consideration days off, public holidays, and respondents' SA days. Such an outcome measure, whilst interesting, would conflate the predictors and consequences of SP and lead to artificial inflation of correlational results, as described by McGregor et al. (2017). As it also includes social reasons for presenteeism, it

does not solely focus on sickness presenteeism. An accepted multi-item scale for measuring the reasons for SP therefore remains to be developed.

Whilst SP theory assumes that individuals engage in a choice between absenteeism and presenteeism when ill, Gerich (2015b) contends that SP and SA frequency measures do not adequately reflect this decision process. He stated that such variables are a composite measure of health events and an individual's propensity towards presenteeism and absenteeism over a given period. This leads to an association between the two measures and does not allow for the determinants of SP and SA propensity to be differentiated from the correlates of health event frequency. Gerich (2015b) postulated that this may explain why several assumed determinants of SP and SA were associated in the same direction, and thus suggested that future studies use an estimator of presenteeism propensity as a dependant variable. Gerich (2016) supported his argument by illustrating that the predictors of SP frequency and propensity varied. Whilst promising, few attempts to measure SP propensity appear in the scientific literature. Examples include calculating the ratio between presenteeism frequency and the sum of absenteeism and presenteeism frequency (Biron et al., 2006; Gerich, 2015b) and categorising individuals by which illness behaviour they engage in most frequently (Gustafsson & Marklund, 2014; Schneider et al., 2018).

Those who defined presenteeism as a reduction in work productivity, have instead used various instruments that measure work limitations or lost productivity (daCosta DiBonaventura, 2012; de Graaf et al., 2012; Holden et al., 2011; Knies et al., 2012; Umann, de Azevedo Guido, & da Silva Grazziano, 2012). A review by Ospina, Dennett, Wayne, Jacobs, and Thompson (2015)

identified 21 such instruments and concluded that three of these had better scientific properties: the Stanford Presenteeism Scale, 6-item version; the Endicott Work Productivity Scale; and the Health and Work Questionnaire. As discussed in Section 2.1, this approach has been criticised as being only representative of a single consequence of SP (Johns, 2010). As this is a separate concept from the predictors of SP and SA, studies that used such outcome measures have been excluded from the upcoming sections on the antecedents of SP. Studies that deal with the performance-related consequences of SP are discussed in Section 3.4.2.

In view of the limitations of SP frequency measures, future studies that investigate the predictors of SP and SA decisions should also consider using propensity measures. SA should continue to be measured, and as qualitative studies are lacking (Kim et al., 2016), and allow for decision processes to be analysed directly, further studies that make use of this methodology are also recommended.

3.3.1 Health

The association of health measures (Marmot, Feeney, Shipley, North, & Syme, 1995) and physical function (Dall, Gallo, Koenig, Gu, & Ruiz, 2013) with SA, has often resulted in SA being used as a measure of health in occupational populations. This is unwise, as the substitution hypothesis (Caverley et al., 2007) indicates that low SA may be secondary to SP (Aronsson et al., 2011; Ihlebaek, Brage, & Eriksen, 2007). Additionally, whilst SP has been linked with employee health rates (Ashby & Mahdon, 2010; Claes,

2011), SA of short durations do not correlate strongly with health (Marmot et al., 1995).

In accordance with the Complimentary Hypothesis (Johns, 2010), SP is not simply an alternative to SA (Leineweber, Westerlund, Hagberg, Svedberg, & Alexanderson, 2012). Along with health, the three are intercorrelated (Caverley et al., 2007), with less healthy workers reporting more SA and SP (Johns, 2011; Rantanen & Tuominen, 2011; Miraglia & Johns, 2016). This may also indicate that workers exposed to more hazardous work conditions also avoid these more frequently via SA, or require more time out from work to recover personal resources lost whilst coping with such conditions (Deery, Walsh, & Zatzick, 2014; Hobfoll, 1989). Wynne-Jones et al. (2009) found that the largest proportion of explained variance in both SA and performance loss in public sector workers was due to health.

3.3.2 Illness perceptions

As discussed in Section 2.1, most definitions of SP include the word ‘illness’, indicating the relevance of workers’ subjective perceptions of ill health in determining a behavioural outcome. Illness perceptions are correlated with absence rates, (Kristensen, 1991), functional impairment and productivity loss (Sadosky, Bushmakin, Cappelleri, & Lionberger, 2010), are major determinants of health behaviour (Leventhal, Diefenbach, & Leventhal, 1992) and are more predictive of the duration of SA than medical certificates and past absenteeism history (Fleten, Johnsen, & HelgeFørde, 2004). Despite this, little

research has focused on how lay illness beliefs influence work attendance when ill (Barnes, Buck, Williams, Webb, & Aylward, 2008).

In psychological theory, Illness perceptions have primarily been described via Leventhal, Meyer and Nerenz's (1980) 'Common Sense Model of Self-Regulation' (CSM), where individuals, seen as active problem solvers, develop cognitive representations of an illness threat or episode, which determines how they respond to it (Diefenbach & Leventhal, 1996; Hoving, van der Meer, Volkova, & Frings-Dresen, 2010). The model suggests that illness perceptions include five factors: (1) *illness identity* - the label by which individuals describe the illness and the associated symptoms; (2) *timeline* – how long the individual expects the illness to last, if it is acute, chronic or cyclical, the onset and rate of decline; (3) *consequences* - any short and long-term effects and outcomes of the illness, including physical, emotional, social and economic outcomes; (4) *cause* - factors contributing to the illness, which may include external agents, internal susceptibilities and behaviours; and (5) *cure and control* – the extent to which individuals believe they can recover from or control the illness, with or without professional assistance. The model proposed that ill individuals also develop emotions in response to illness, defined as emotional representations. These lead to emotion-focused coping procedures (Leventhal et al., 1980; Leventhal, Bodnar-Deren, Breland, Hash-Converse & Philips, 2011; Moss-Morris et al., 2002).

Moss-Morris et al. (2002) recommended updates to the CSM, suggesting that cure and control were two separate components; one concerned with personal control and self-efficacy beliefs, the other related to belief in treatment or recommended advice. They also suggested adding a sixth

cognitive category, *illness coherence*, which reflects the way individuals evaluate the usefulness of their illness representation.

CSM research has shown that illness perceptions vary between types of illness (Broadbent, Petrie, Main, & Weinman, 2006; Kotsis et al., 2012; Tiemensma, Gaab, Voorhaar, Asijee, & Kaptein, 2016) and within the same diagnosed condition (Fischer et al., 2010; Kok, Vliet Vlieland, Fiocco, Kaptein, & Nelissen, 2013), and are associated with different levels of functional outcome, quality of life (Kaptein, Klok, Moss-Morris, & Brand, 2010; Tiemensma et al., 2016; Weldam, Lammers, Heijmans, & Schuurmans, 2014) and distress (Paddison, Alpass, & Stephens, 2010). Whilst it does not appear to have been used to study SP/SA decisions, illness perceptions vary between those who return-to-work following SA and those who do not (Giri, Poole, Nightingale, & Robertson, 2009; Løvvik, Øverland, Hysing, Broadbent, & Reme, 2014; Sluiter & Frings-Dresen, 2008), suggesting that it may be useful for the study of SP decisions. Many CSM factors have featured individually within SP research and are covered in the following sections. However, it remains unclear if SP occurs under certain patterns of illness perceptions, or which perceptions may be most relevant in affecting SP/SA decisions. The former is possible as the factors of the CMS have been found to be intercorrelated (Hagger & Orbell, 2003).

3.3.2.1 Type of health condition

Musculoskeletal disorders (MSDs) are often the most prevalent health problem in a variety of occupations (Fleten et al., 2004; Letvak et al., 2012) and are common in nursing (Alexopoulos, Burdorf, & Kalokerinou, 2003; Lelis et al., 2012); often due to manual handling and psychological demands (Bos et al., 2007). Common Mental Health Disorders (CMHDs), particularly depression and stress, also impact upon workers' health (Barnes et al., 2008; Buck et al., 2011), and are common in nursing (Brandford & Reed, 2016; Perry, Lamont, Brunero, Gallagher, & Duffield, 2015; Suzuki et al., 2004).

Illness type appears to influence illness behaviour (Ashby & Mahdon, 2010; Gosselin et al., 2013), however findings are mixed. Most often, MSDs and CMHDs appear to result in more frequent SP (Caverley et al., 2007; Leineweber et al., 2012) or high SP and SA (Whysall et al., 2018). Whysall et al. (2018) postulated that this reflected their frequently chronic nature; in fact, the authors noted that colds and flu, which are generally acute, were linked with low frequencies of SP and SA. Qualitative findings, however, indicate that gastric symptoms, such as diarrhoea and vomiting encourage SA (Morken, Haukenes, & Magnussen, 2012), whilst respiratory disease was the most frequent cause of SA in Lebanese nurses (Rahme, Razzouk, Musharrafieh, Rahi, & Akel, 2006). Contrary findings, for example that gastritis was associated with SP and emotional problems with SA, have also been presented (Gosselin et al., 2013).

Healthcare workers appear to commonly engage in SA due to mental health disorders (da Silva Junior & Merino, 2017; Mininel et al., 2013) and

MSDs (Alexopoulos et al., 2003; da Silva Junior & Merino, 2017; Mininel et al., 2013). However, MSDs (Campo & Darragh, 2012; d'Errico et al., 2013) and CMHDs (Letvak et al., 2012; Martinez & Ferreira, 2012; Uribe, Pinto, Vecino-Ortiz, Gómez-Restrepo, & Rondón, 2017) are also common causes of SP. Stress appears more closely linked to SP than SA in nurses (Elstad & Vabø, 2008). A systematic review concluded that burnout and fatigue were antecedents of SP in nurses, whilst fatigue and back pain were predictors of SA (Brborović et al., 2017).

3.3.2.2 Severity

Physical illnesses perceived as more severe are associated with greater functional impairment (DaCosta DiBonaventura et al., 2012; Sadosky et al., 2010) and SA instead of SP (Dall et al., 2013; Frederiksen, Karsten, Indahl, & Bendix, 2015; Langley et al., 2011; Morken et al., 2012). Similarly, greater symptom severity in those with CMHDs (Lau, Victor, & Ruud, 2016), including depression (Cocker et al., 2011; Cocker, Martin, Scott, Venn, & Sanderson, 2013), appear to result in SA rather than SP. Reduced illness severity also appears to encourage SP in nurses (Rebmann, Turner, & Kunerth, 2016). In fact, Turkish employees have reported engaging in SP to save SA for possible future illness episodes of greater severity (Çetin, 2016).

Comorbidity is often linked with increased SA (Cocker et al., 2011; Holden, Scuffham, Hilton, Vecchio, & Whiteford 2010; Holden et al., 2011). Gosselin et al. (2013) however, identified an association between comorbidity

and increased SP, but not SA, concluding that it only takes a single illness to precipitate SA.

3.3.2.3 Temporality

Chronic illness has been associated with greater SA and SP (MacGregor et al., 2008; Munir, Yarker, & Haslam, 2008). Some studies have suggested that where illness is chronic (MacGregor et al., 2008) or prolonged (Çetin, 2016), SA is favoured. Others, however, have found that SP was more frequent than SA when illnesses were chronic (Caverley et al., 2007; Rantanen & Tuominen, 2011). In fact, McGregor et al. (2017) found that health and non-health antecedents resulted in greater SP when individuals had a pre-existing chronic illness. Giæver, Lohmann-Lafrenz, & Løvseth (2016) illustrated that chronic illnesses resulted in SP in doctors as they were not considered an acceptable cause of SA, indicating the relevance of legitimacy (Section 3.3.2.6), whilst Hansson, Bostrom, and Harms-Ringdahl (2006) reported that whilst individuals experiencing new spinal pain quickly engaged in SA, those with chronic pain demonstrated long periods of SP, punctuated by periods of SA when symptoms became unbearable, indicating the relevance of severity. Individuals also engage in SP out of fear of running out of sick leave (Çetin, 2016; Prater & Smith, 2011), conserving this for periods when illness is more severe (Baker-McClearn et al., 2010). Thus, findings are mixed, though there appears to be a stronger case for a link between chronicity and SP.

3.3.2.4 Cure, control and cause

Individuals with better controllability of somatic diseases are more likely to remain in the workforce than those with poorer controllability (Hoving et al., 2010). Past medical treatment (Rosvold & Bjertness, 2001) and self-treatment by physicians (Gustafsson Sendén et al., 2013) have also been linked with reporting SP. Additionally, the use of psychological and counselling services have been found to better predict SP than SA (MacGregor et al., 2008), possibly as such services aid individuals to cope within the workplace, reducing SA (Hargrave, Hiatt, Alexander, & Shaffer, 2008). Conflicting findings, however, are also evident. Stronger correlations between treatment and SA than SP have been noted in those with psychological distress (Cocker et al., 2013) and chronic pain (de Vries, Reneman, Groothoff, Geertzen, & Brouwer, 2012). Furthermore, few working individuals with mental illnesses appear to undertake treatment (Chong, Vaingankar, Abdin, & Subramaniam, 2013; Whysall et al., 2018), possibly due to their stigmatisation (Buck et al., 2011). Kivimäki et al. (2005) postulated that SP may be part of a lifestyle where illness is ignored, and medical care not sought. However, these findings may indicate that those with more serious conditions seek treatment and use healthcare more (Aalto-Setälä, Marttunen, Tuulio-Henriksson, Poikolainen, & Lonnqvist, 2002; Côté, Cassidy, & Carroll, 2001; Mojtabai & Olfson, 2006), whilst engaging in SA. Furthermore, treatment adherence is better when expected to be useful in controlling illness (Horne & Weinman, 1999; Menckeberg et al., 2008), with workers with MSDs often believing that

treatment does not facilitate attendance (Coole, Watson, & Drummond, 2010; de Vries, Brouwe, Groothoff, Geertzen, & Reneman, 2011).

The cause of illness rarely features directly in the literature on SP/SA choices. Grinyer and Singleton (2000) illustrated that workers were aware that work could contribute to illness but engaged in SP due to attendance requirements. Bot et al. (2007) illustrated that heavy lifting, a frequent cause of MSDs, was linked with greater SA in those who worried about their pain. Ashby and Mahdon (2010) reported that individuals who felt that work was bad for their health engaged in more SP and SA. Interestingly, a longitudinal survey demonstrated increased absenteeism, not limited to sick leave, in female nursing facility employees who felt their job affected their mental and physical health positively (Cohen & Golan, 2007).

3.3.2.5 Consequences

As discussed in Section 3.4, SP and SA have various consequences. Primarily, these include reduced work performance and implications upon health and illness. Limited findings, often qualitative, suggest that expectations of these consequences may influence SP/SA choices. Individuals have described choosing SP if they feel able to cope with their work (Çetin, 2016; Dew, Keefe, & Small, 2005) or favouring SA if their illness would make it too difficult to cope with their tasks (Wynne-Johns, Buck, Porteous, et al., 2011). Quantitative findings have illustrated that during SA individuals have poorer workability than those attending work (Lau et al., 2016). However, reduced

workability has often been linked with more frequent SP (Gustafsson & Marklund, 2011; Pit & Hansen, 2016), possibly due to SP's negative impact upon health (Dellve et al., 2011), and increased SA (Umann et al., 2012). Reporting SA has also been linked with improved performance due to its health benefits (Dellve et al., 2011).

Individuals' illness recovery expectations predict health outcomes (Mondloch, Cole, & Frank, 2001) and timing of return-to-work following long SA (Heymans et al., 2006). Qualitative evidence also suggests that individuals favour SA (Collins & Cartwright, 2012; Hansson et al., 2006) and SP (de Vries et al., 2011; Giæver et al., 2016) when it is expected this could benefit them. Quantitatively, Gerich (2016) found that a belief that SP was dangerous was linked with increased SA and reduced SP. Despite this, attendance requirements can result in SP even when considered negative for health (Wynne-Johns, Buck, Porteous, et al., 2011).

Qualitative studies indicate that workers worry about attending work when contagious (Baker-McCleary et al., 2010; Collins & Cartwright, 2012). In offshore work, contagion has been described as a strong absence requirement (Krohne & Magnussen, 2011), and whilst infectious illnesses often cause doctors to engage in SA, many admit attending work with illness that could be passed on to others (Gudgeon, Wells, Baerlocher, & Detsky, 2009; Tan et al., 2014). Similar findings have been reported in healthcare workers, including nurses (LaVela, Goldstein, Smith, & Weaver, 2007). In fact, several studies suggest that healthcare workers attend work when contagious illness is milder (Bracewell et al., 2010; Chiu et al., 2017; Rebmann et al., 2016), and engage in measures to reduce the spread of infection (Al Nuhait et al., 2017).

Healthcare workers also report choosing SP so as not to burden co-workers (Section 3.3.2.5) or to benefit patients (Section 3.3.5.1).

3.3.2.6 Legitimacy

Sickness absenteeism is subject to social control by co-workers and superiors who judge if individuals' illness behaviour is morally acceptable or not. Past behaviours and social life can influence this judgement (Dodier, 1985) and reduced legitimacy can damage workplace relationships, making illness harder to manage at work (Tarasuk & Eakin, 1995). Whilst illness is viewed as one of the most legitimate reasons for absence (Johns & Xie, 1998), minor illnesses appear less legitimised with increasing work grade and age (Harvey & Nicholson, 1999). Being hospitalised or receiving a medical diagnosis appears to boost legitimacy (Crout, Chang, & Cioffi, 2005; Hooftman, Westerman, van der Beek, Bongers, & van Mechelen, 2008). However, legitimacy doubts by healthcare workers can foster frustration and aggravate illness in affected patients (Reid, Ewan, & Lowy, 1991). Limited illness visibility can reduce legitimacy, fostering SP. This has been primarily reported in psychological illnesses (Ashby & Mahdon, 2010; Buck et al., 2011). Similarly, the reduced legitimacy of less severe and psychological illness appears to drive SP in healthcare workers (Chambers et al., 2017; Giæver et al., 2016; Krane et al., 2014), with Dew et al. (2005) also reporting MSDs as illegitimate in nurses due to their frequency. Further research is required to verify the perceived legitimacy of specific illnesses as reasons for SA (Kinman & Wray, 2018).

3.3.2.7 Coherence and emotional representations

Illness coherence and emotional representations appear to have received limited attention in the SP literature. Understanding one's symptoms has been described as a facilitator of SP in a sample of nurses (Tveten & Morken, 2016). Return-to-work literature suggests that coherence levels may be better in those who worked (Sluiter & Frings-Dresen, 2008) or intend to return to work (Løvvik et al., 2014) than those who remain on sick leave. Giri et al. (2009), in contrast, determined that coherence did not affect return-to-work.

Greater emotional representations have been linked with more serious disease, lower levels of functioning (Broadbent et al., 2006; Broadbent et al., 2015), lower quality of life and less proactive coping (Tiemensma et al., 2016). Those with chronic illness also experience negative illness-related emotions (Mahon, O'Brien, & O'Connor, 2014; Schaefer, 1995) and may experience increased likelihood of depression and anxiety (Breivik, Collett, Ventafridda, Cohen, & Gallacher, 2006; Brenes, 2003; Yohannes, Willgoss, Baldwin, & Connolly, 2010). Greater representations have been associated with remaining sick listed following illness (Broadbent et al., 2015; Giri et al., 2009; Hoving et al., 2010; Sluiter & Frings-Dresen, 2008) and greater uncertainty about returning to work (Løvvik et al., 2014). Findings thus suggest that coherence may be better, and emotional representations lower, during SP than SA. As previously discussed, psychological illness which would likely increase emotion levels has been linked with both SP and SA, with the latter favoured when illness is more serious.

3.3.3 Personal factors

3.3.3.1 Age

Absence is often positively correlated with age (Barmby, Ercolani, & Treble, 2002; Marmot et al., 1995; Wikman et al., 2005). Negative correlations have also been described (Engstrom & Janson, 2009), with Knies et al. (2012) noting that older individuals more severely affected by disease may have dropped out of the workforce. Furthermore, whilst major disease absenteeism rises with age, minor disease absence decreases until age 50 (Markussen, Røed, Røgeberg, & Gaure, 2011). More experienced nurses have also been shown to be more capable of completing their tasks despite health issues (Martinez & Ferriera, 2012), whilst young doctors appear to take more SA (Chambers et al., 2017).

Most SP studies indicate that young to middle age (Aronsson et al., 2000; d'Errico et al., 2016; Gosselin et al., 2013; Susser & Ziebarth, 2016) employees, including healthcare workers (Chambers et al., 2017; Rosvold & Bjertness, 2001), generally demonstrate more SP. This is possibly due to the added attendance requirements encountered in lower positions. However, SP has also been linked with increasing age (Bierla et al., 2013). Notably, several studies, such as Gerich (2016) and Johansen (2012), have reported that age did not have a significant impact upon SA or SP frequency.

3.3.3.2 Gender

Higher levels of absence have often been reported in females (Engstrom & Janson, 2009; Markussen et al., 2011; Wikman et al., 2005), including in female healthcare workers (McKevitt, Morgan, Dundas, & Holland, 1997; Chambers et al., 2017). Conflicting reports however also exist (Gerich, 2016), whilst others have failed to identify a link between gender and absenteeism (Osterkamp & Rohn, 2007). Domestic demands, including childcare (Ala-Mursula et al., 2006) and working in a gender minority (Evans & Steptoe, 2002) have been given as possible reasons for increased SA in females. Markussen et al. (2011) noted that the finding persisted when controlling for factors such as pregnancy, children, occupation, pay and education. Mastekaasa (2005) also found that absenteeism was increasingly legitimised in female dominated workplaces.

Higher frequencies of SP in women have also been demonstrated in several studies (Arnold, 2016; Aronsson et al., 2000; Böckerman & Laukkanen, 2010a; Gerich, 2016; Susser & Ziebarth, 2016) including those of healthcare workers (Chambers et al., 2017; Gustafsson Sendén et al., 2013; Tan et al., 2014). Gustafsson Sendén, Schenck-Gustafsson, and Fridner (2016) concluded that SP was more common in female doctors, not due to marital status, children or job position, but was mediated by greater work-life conflict. Different illnesses (Gosselin et al., 2013) and organisational factors (Böckerman & Laukkanen, 2009) have also been reported to precipitate SP in the different genders. In the latter study, whilst full-time employment increased SP and replacement and working at desired hours reduced SP in females,

regular overtime increased SP in males. SP has also been reported to be lower in females (Bierla et al., 2013), whilst others have reported limited (Claes, 2011) or no (d'Errico et al., 2016; Johansen, 2012) link between gender and SP, including in healthcare workers (Jena, Baldwin, Daugherty, & Meltzer, 2010).

3.3.3.3 Marital status, caring responsibilities and work-life conflict

Findings regarding caring responsibilities and SP and SA are mixed. Whilst some have reported that caregiving responsibility does not affect SA (Gosselin et al., 2013; Gerich, 2016), Mastekaasa (2000) found that parents of young children report more respiratory-related SA, whereas Erickson, Nichols, and Ritter (2000) found that burnout resulted in absence when individuals were parents of young children. Others have reported that absenteeism is associated with having fewer children (Cohen & Golan, 2007), possibly as those with more children use the workplace to escape family responsibility (Hochschild, 1997). In fact, having children (Arnold, 2016; Aronsson et al., 2000; Hansen & Andersen, 2008) or caregiving duties (Gerich, 2016) has been associated with increased SP. Contradictory findings, however, have also been reported (Bierla et al., 2013) and it appears that the number of children within a household may influence SP rates (Bierla et al., 2013; Susser & Ziebarth, 2016).

Whilst living with a partner has been linked to better mental health (Perry et al., 2015), most studies have failed to identify a link between marital status and SP (d'Errico et al., 2013; Gosselin et al., 2013; Gustafsson Sendén et al., 2013; Lu, Lin, & Cooper, 2013). Contrasting findings nevertheless exist;

Cocker et al. (2011) for example, identified greater SP in married individuals with depression. Several researchers have also failed to link marital status and SA (Cohen & Golan, 2007; Goldberg & Waldman, 2000; Gosselin et al., 2013), though Barmby et al. (2002) reported that SA was highest in married women. Frederiksen et al. (2015) also found that partners could encourage SA when workers were undecided between SP and SA. Work-life conflict, which has been linked with poorer health (Frone, Russell, & Cooper, 1997) and emotional exhaustion (Ahmad, 2008), may be more relevant. Several studies have linked this with increased SP (Gustafsson & Marklund, 2014; Janssens et al., 2016; Johns, 2011; Miraglia & Johns, 2016; Robertson, Leach, Doerner, & Smeed, 2012), including in healthcare workers (Camerino et al., 2010; Thun & Løvseth, 2016). A large European study linked such conflict with reduced SP (d'Errico et al. 2016); work-life conflict, however, was studied via a single-item measure and did not contribute to the fully-adjusted multivariate model. Whilst Camerino et al. (2010) did not identify a link between work-family conflict and SA, Slany et al. (2014) found SA was increased in those who reported greater conflict. Johns (2011) found that work-to-family conflict was negatively associated with SA, but family-to-work conflict was positive with SA (Johns, 2011).

3.3.3.4 Education

Whilst higher levels of education have been generally linked with lower SA rates (Engstrom & Janson, 2009; Gustafsson & Marklund, 2014; Wikman et al., 2005), contradictory findings also exist (Cocker et al., 2013). SP findings

are also mixed. Whilst several studies failed to identify a link with SP (Aronsson et al., 2000; Cocker et al., 2013; Leineweber et al., 2012), others have linked increased education with both increased (d'Errico et al., 2016) and reduced SP (Gustafsson & Marklund, 2014). The varied professions and grades studied are likely to have affected these results.

3.3.3.5 Income, profession and grade

Lower income has often been associated with greater SA (De Paola, 2010; Löve, Holmgren, Torén, & Hensing, 2012; Marmot et al., 1995; Wikman et al., 2005) and SP (Aronsson & Gustafsson, 2005; Aronsson et al., 2011; Ashby & Mahdon, 2010; Johansen, 2012; Leineweber et al., 2012; Mlakar & Stare, 2013; Susser & Ziebarth, 2016). Holden et al. (2010) in contrast, linked higher incomes with greater absenteeism; this, however, was not limited to SA and included other reasons for absence such as vacations. Mixed findings exist regarding self-employment and having a less secure income (de Vries et al., 2011; Johansen, 2012; Kim, Park, Min, Lee, & Kwon, 2014). Working full-time versus part-time has been linked with increased SP (Tan et al., 2014; Böckerman & Laukkanen, 2010a), although working part-time can also aid ill nurses to cope (Tveten & Morken, 2016).

Somewhat contradictorily, medical doctors feature high pay and SP (Aronsson et al., 2000), indicating the relevance of occupation. Whilst contradictory findings exist (Mlakar & Stare, 2013), SA (Barmby et al., 2002) and SP (Aronsson et al., 2000) are often most prevalent in the educational and

healthcare sectors. The actual frequency, however, varies greatly between studies (Rantanen & Tuominen, 2011; Rosvold & Bjertness, 2001). This is possibly due to varying recall periods, professions, settings, and SP measures. Furthermore, SP frequency varies greatly by country (Gustafsson Sendén et al., 2013).

Possible reasons for this higher prevalence of SP in healthcare include doctors being less likely to legitimise SA for minor illness (McKevitt et al., 1997; Tan et al., 2014) and finding it more difficult to take on a patient role (McKevitt et al., 1997). Healthcare workers also experience more psychological workload and reduced decision latitude (Verhaeghe, Mak, Maele, Kornitzer, & De Backer, 2003), whilst Johns (2011) hypothesised that task significance could play a role.

Whilst some studies suggest that physicians report less SA than nurses (Belita, Mbindyo, & English, 2013; Kivimäki et al., 2001), findings regarding SP are mixed (Aronsson et al., 2000; Bracewell et al., 2010), with several studies failing to identify a difference between nurses and doctors (Dellve et al., 2011; Al Nuhait et al., 2017; Rantanen & Tuominen, 2011). Grades also appear to play a role. In various occupations, greater SA is reported with lower employment grades (Feeney, North, Head, Canner, & Marmot, 1998; Ferrie et al., 2005; Morikawa et al., 2004), possibly as minor illness is more legitimised at these grades (Harvey & Nicholson, 1999) and psychosocial environments are more negative (North, Syme, Feeney, Shipley, & Marmot, 1996). Those with supervisory duties appear to engage in SP more frequently (Arnold, 2016), including more senior (Aronsson et al., 2000) and higher earning male (Martinez & Ferreira, 2012) nurses, possibly due to the lower physical strains

and greater responsibilities associated with these grades (Buchan & Seccombe, 1995). Tan et al. (2014), however, found that junior doctors engaged in more SP than senior doctors.

3.3.4 Physical factors

Blue-collar workers experience greater morbidity, possibly due to their physical demands (Wikman et al., 2005). In fact, workers with more physical job demands report more SA (Engstrom & Janson, 2009; Melchior et al., 2005; Trinkoff, Storr, & Lipscomb, 2001) and SP (Gerich, 2016; Hansen & Andersen, 2009; Johansen, 2012; Miraglia and Johns, 2016), than those with less strenuous work. Furthermore, poor physical ergonomics and working conditions were associated with greater SP (Leineweber et al., 2011; Robertson et al., 2012) and SA (Baydoun, Dumit, & Daouk-Öyry, 2015). Physical demands also increase burnout, and reduce workability and job satisfaction, which in turn may result in SP (Pit & Hansen, 2016).

Conversely, lifting and moving people has also been linked with reduced SP (d'Errico et al., 2016), whilst presentees report their physical demands as lower than those who do not return to work (de Vries et al., 2012). Regularly stooping nurses report more SA spells than prolonged SP due to back pain (d'Errico et al., 2013), whilst physical fatigue also predicted high SA in nurses (Roelen et al., 2013). This highlights that physical factors can also act as an absence incentive. Physical demands are most likely to affect those with physical health problems, such as musculoskeletal pain (Buck et al., 2011) and

are a primary source of work limitation in nurses (Umann et al., 2012). Nurses' capacity is also potentially relevant; less fit, flexible or strong care-workers have a higher risk of SA (Rasmussen et al., 2015), whereas nurses have reported that physical activity facilitates SP (Tveten & Morken, 2016).

3.3.5 Psychosocial and organisational factors

3.3.5.1 Work attitudes

Robertson et al. (2012) examined the sources of pressure to engage in SP in a sample of mixed occupations that included healthcare workers. The study indicated that most individuals considered themselves as the main source of pressure. High internal attendance standards may enhance attendance requirements (Johansson & Lundberg, 2004), whilst more conservative absenteeism attitudes have been linked with reporting SP (Hansen & Andersen, 2008; Johns, 2011). Conversely, viewing absenteeism as more legitimate has been linked with greater SA (Johns, 2011; Väänänen et al., 2008). Gerich (2016), however, failed to link such beliefs with either SP or SA.

Stronger attendance attitudes appear linked to having greater work ethic (Hansson et al., 2006); a factor that also appears to influence SP/SA in nursing (Krane et al., 2014). Related reasons for SP include attending due to feelings of responsibility (Crout et al., 2005; Çetin, 2016), viewing SP as a sign of commitment (Gerich, 2016), work motivation (Schreuder, Roelen, van der Klink & Groothoff, 2013), dedication to work, and a need to achieving deadlines or commitments (Collins & Cartwright, 2012; Mlakar & Stare,

2013). Over-commitment has also been linked with SP (Cicei, Mohorea, & Teodoru, 2013). Additionally, in healthcare SP is often driven by a duty towards patients (Al Nuhait et al., 2017; Chambers et al., 2017; Tan et al., 2014), whereas a perceived lack of commitment and responsibility in nurses have been linked with SA (Baydoun et al., 2015). As SP is often harmful for future health, Jensen, Andersen and Holten (2017) questioned if the link between presenteeism and motivation was a positive one.

Low levels of job satisfaction have often been associated with increased levels of SA (Cohen & Golan, 2007; Marmot et al., 1995). Contradictory findings exist regarding SP, with both reduced (Claes, 2011; Collins & Cartwright, 2012; Rantanen & Tuominen, 2011; Rosvold & Bjertness, 2001) and increased job satisfaction (de Vries et al., 2011; Gül & Gül, 2016; Krohne & Magnussen, 2011; Tveten & Morken, 2016) having been linked with SP. Whilst the former studies were largely quantitative and focused on SP frequency, the latter were mainly qualitative and focused on the reasons for choosing SP. This may partially explain the contrasting findings. A related construct is that of work engagement, a positive affective and motivational occupational state (Bakker, Schaufeli, Leiter, & Taris, 2008) that involves great levels of vigour, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). Greater engagement has been linked with better health in healthcare workers (Fiabane, Giorgi, Sguazzin, & Argentero, 2013; Setti & Argentero, 2011), and in fact, negative relationships between SA and engagement have been reported (Hoxsey, 2010; Rongen, Robroek, Schaufeli, & Burdorf, 2014; Schaufeli, Bakker, & van Rhenen, 2009; Soane et al., 2013). Furthermore, engagement has been linked with reduced SP (Admasachew & Dawson, 2011;

De Beer, 2014; Karanika-Murray, Pontes, Griffiths, & Biron, 2015; McGregor et al., 2016). Except for Karanika-Murry et al. (2015), these studies used alternative measures of SP; for example, one that combined both SP frequency and performance loss. Furthermore, whilst cross-sectional in nature, the four studies suggest that lower engagement may be a consequence of SP. Positive associations between engagement and SP frequency have also been reported (Kinman & Wray, 2018; Miraglia & Johns, 2016).

Perceiving one's tasks as significant has also been linked with reduced SA (Johansson & Lundberg, 2009; Rugulies et al., 2007; Suadicani, Olesen, Bonde, & Gyntelberg, 2014), though Johns (2011) linked this with increased SA. SP findings are limited; Claes (2011) linked meaningful work with greater SP in just one of four studied countries, Johns (2011) confirmed this association in a sample of working business graduates. Miraglia and Johns (2016) concluded that the association between the two variables was not significant.

3.3.5.2 Personality

The link between absenteeism and personality has primarily been studied via the Big Five that are extraversion, agreeableness, conscientiousness, neuroticism, and openness (McCrae & Costa, 1987). Whereas Furnham and Miller (1997) and a meta-analysis by Salgado (2002) indicated that the Big Five factors were not linked with absenteeism, others have suggested otherwise. Low conscientiousness (Judge, Martocchio, &

Thoresen, 1997; Conte & Jacobs, 2003; Vlasveld et al., 2013), and high neuroticism (Cocker et al., 2013; Vlasveld et al., 2013) have been linked with increased SA. Vlasveld et al. (2013) also linked low levels of agreeableness with short-term absenteeism, and low openness with long-term absenteeism. Contradictory findings exist regarding extraversion and SA (Judge et al., 1997; Conte & Jacobs, 2003; Vlasveld et al., 2013). Fewer studies have analysed SP and the Big Five. Johns (2011) found that individuals high on neuroticism engaged in SP and failed to identify a link with conscientiousness, whilst Cocker et al. (2013) failed to link either of these personality variables with SP. Lu, Lin and Cooper (2013) found that whereas the neurotic attend ill due to worries about being punished or leaving a bad impression, those high in self-efficacy choose SP because they want to (Lu, Lin, & Cooper, 2013).

As described by Cooper and Lu (2016), self-efficacy may also be relevant. Self-efficacy and optimism appear to foster SP and prevent SA in zero-absentees (Schreuder et al., 2013). Self-efficacy is important in managing chronic illness in the workplace (Munir, Randall, Yarker, & Nielsen, 2009) and reduces the negative impact of SP on health (Lu, Peng, Lin, & Cooper, 2014). Self-efficacy (Salanova, Lorente, Chambel, & Martinez, 2011) and optimism (Garrosa, Moreno- Jiménez, Rodríguez-Muñoz, & Rodríguez-Carvajal, 2011) have also been associated with increased engagement in nurses. Miraglia and Johns (2016) concluded that optimism was negatively associated with SP, in part as it was linked to better health levels. However, optimism could also boost SP as it resulted in greater job satisfaction and motivation.

Several other personality-related factors have also featured in relevant research. General locus of control (Ng, Sorensen, & Eby, 2006) and work locus

of control (Wang, Bowling, & Eschleman, 2010) have both been linked with reduced SA, whereas health locus of control was negatively related to SP (Johns, 2011). The author postulated that these individuals manage their health by not attending work when ill. Difficulty to say no to others, termed individual boundarylessness (Aronsson & Gustafsson, 2005; Gerich, 2016), and worrying less about one's health (Schell, Theorell, Nilsson, & Saraste, 2013) have also been linked with reporting SP.

3.3.5.3 Psychosocial demands and stress

Stressful work (Darr & Johns, 2008; Hultin et al., 2011) and greater job demands (Baydoun et al., 2015; Verhaeghe et al., 2003) have been linked with increased SA, although conflicting findings (North et al., 1996) and those who failed to identify a significant link (Gerich, 2016; Rostad, Milch, & Saksvik, 2015) have also been reported. Greater demands (Biron et al., 2006; Brborović et al., 2017; Demerouti, Le Blanc, Bakker, Schaufeli, & Hox 2009; Kinman & Wray, 2018) and stress (Ashby & Mahdon, 2010; Gosselin et al., 2013; Leineweber et al., 2011) have also been linked with greater SP. Furthermore, Elstad and Vabø (2008) and Whysall et al. (2018) identified a closer link between demands and SP than SA. Others however have failed to link stress and demands with SP (Gerich 2016; Rostad et al., 2015).

The analysed demands vary between studies, and can be classified into various categories, including physical demands (Section 3.3.4), relational demands (Section 3.3.3.3), emotional demands (Section 3.3.5.6), workload,

and time demands. Greater levels of workload appear to be linked with greater levels of SA (Brborović et al., 2017) and SP (Arnold, 2016; Deery et al., 2014; Pohling, Buruck, Jungbauer, & Leiter, 2016; Robertson et al., 2012). However, reduced workload has also been linked with SA (Hultin et al., 2012), whilst a systematic review by Lang, Hodge, Olson, Romano, and Kravitz (2004) failed to identify a relationship between staffing levels and SA in nurses. Time based demands have been analysed from various perspectives. Longer working hours have been associated with greater fatigue (Barker & Nussbaum, 2011) and poorer health (Barnes et al., 2008). They have also been linked with both greater (Barnby et al., 2002; Mudaly & Nkosi, 2015; Zboril-Benson, 2002) and reduced (Ala-Mursula et al., 2006; Barham & Begum, 2005; Gosselin et al., 2013; Slany et al., 2014) absenteeism. The latter finding may be indicative of SP. In fact, long working hours have been linked with SP (d'Errico et al., 2016; Miraglia & Johns, 2016), though others have failed to identify a relationship (Gosselin et al., 2013; Hansen & Andersen, 2009; Pit & Hansen, 2016). Working under time pressure has also been associated with SP (Claes, 2011; Gül & Gül, 2016; Hansen & Andersen, 2009), whereas overtime work has been linked with increased SP (Baker-McClearn et al., 2010; Böckerman & Laukkanen, 2010a; Miraglia & Johns, 2016) and reduced SA (Böckerman & Laukkanen, 2010a).

Working during daytime and having flexible hours appears to benefit health and reduce SP (Rostad et al., 2015), whereas working at non-standard times (Hansen & Andersen, 2009) and shift-work (d'Errico et al., 2016; Böckerman & Laukkanen, 2010a), which is common in nursing, have been associated with increased SP. Shift-work has also been linked with increased

SA (Böckerman & Laukkanen, 2010a; Slany et al., 2014), however zero-absentees have been found to be in better health and work more irregular hours than those who engage in SA (Schell et al., 2013). Having working times that matched those desired by the individual has also been linked with reduced SP (Böckerman & Laukkanen, 2010b; Yildiz, Yildiz, Zehir, & Aykaç, 2015) and reduced SA (Böckerman & Laukkanen, 2010b). Finally, using allocated time off, such as vacation leave, to avoid work when one is unwell, a facet of leaveism (Hesketh & Cooper, 2014), has also been associated with increased SP (Gerich, 2015a). Leaveism also describes completing work at home outside normal working hours, or on non-work days (Hesketh & Cooper, 2014).

Demerouti et al. (2009) explained the association between demands and SP via Hobfoll's (1989; 2001) Conservation of Resources Theory, where demanding work drains individuals' resources and individuals respond by investing their personal resources to adapt successfully. Therefore, faced with greater job demands, employees invest greater effort to meet these demands, resulting in an increased likelihood of attending work unwell. This resource depletion may also lead to poorer health and further SP (Demerouti et al., 2009). The impact of demands on SA and SP has also been analysed via the Job Demands-Resources (JD-R) model (Demerouti et al., 2001). The model assumes that the factors that modulate stress can be classified into two categories: job demands and resources (Bakker & Demerouti, 2007). Job demands are job facets that require sustained physical and/or psychological effort. Job resources are those aspects that aid in achieving goals, reduce demands or stimulate growth. The model also assumes that two different processes influence the development of job strain and motivation. Excessive

job demands reduce workers' mental and physical resources leading to exhaustion and health issues. Conversely, job resources can motivate, resulting in increased work engagement and performance. The model also assumes that resources can buffer the effect of demands on job strain, whilst resources particularly impact upon motivation and engagement when demands are high (Bakker & Demerouti, 2007).

In agreement with the JD-R, studies suggest that job demands indirectly increase SA duration via their negative impact on health problems (Bakker, Demerouti, & Schaufeli, 2003), burnout (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Schaufeli et al., 2009), and health-related functioning (Roelen et al., 2014). The detrimental effect of demands on health (Miraglia & Johns, 2016), exhaustion and burnout (McGregor et al., 2016; Thun & Løvseth, 2016) have also been linked with increased SP. Additionally, Thun, Fridner, Minucci, & Løvseth (2014) noted that SP could be considered a demand, resulting in a vicious cycle. Miraglia and Johns (2016), however, also noted that excessive demands could negatively influence satisfaction and motivation that would reduce SP. Conversely, improved job resources have been linked to reduced SA frequency via increased motivation (Bakker et al., 2003a; Schaufeli et al., 2009), and to reduced SP via improved health (Pohling et al., 2016) and improved work engagement (McGregor et al., 2016). As discussed in 3.3.5.1, increased motivation can also increase SP, as suggested by Miraglia and Johns (2016).

3.3.5.4 Job control

A job resource that features regularly in the SP literature are the related concepts of autonomy, control and decision latitude. Studies have linked these with reduced absenteeism (Humphrey, Nahragang, & Morgeson, 2007; Schell et al., 2013; Väänänen et al., 2003; Verhaeghe et al., 2003), though others have failed to identify a relationship (Dhaini et al., 2016; Johns, 2011). Both negative (Aronson & Gustafsson, 2005; Gosselin et al., 2013; Leineweber et al., 2011; Thun & Løvseth, 2016) and positive (Arnold, 2016) relationships have been identified between control and SP, whereas others have failed to identify a significant link (Biron et al., 2006; Claes, 2011; Dhaini et al., 2016; Johns, 2011). Mixed findings may in-part be due to the various manners in which control was measured. Adjustment latitude, an aspect of work control, refers to the opportunities to adjust work to one's state of health (Johansson, Lundberg, & Lundberg, 2006). This ability to modify behaviour, organise work, accept help or delegate tasks has been linked with fostering SP (de Vries et al., 2011; Krohne & Magnussen, 2011; Schreuder et al., 2013), reducing SA (Gerich, 2014; Hultin et al., 2010; Johansson & Lundberg, 2009) and facilitating return-to-work in those with chronic issues (Hansson et al., 2006; Irvine, 2011; Johansson et al., 2006). As it is health promoting, adjustment latitude however, has also been linked with reduced SP (Gerich, 2014; 2016; Miraglia & Johns, 2016).

Work demands and control have also been measured together. High demands and low levels of control have been linked to increased SA (Bourbonnais & Mondor, 2001; de Jonge, van Vegchel, Shimazu, Schaufeli, &

Dormann, 2010; Gimeno, Benavides, Amick, Benach, & Martinez, 2004) and SP (Jourdain & Vezina, 2014; Kinman & Wray, 2018; Pohling et al., 2016), whilst low demand and high control has been associated with reduced SP (Leineweber et al., 2012). Low demands have also been linked with absenteeism when coupled with low control (Gimeno et al., 2004). A meta-analysis concluded that job control was negatively and weakly associated with SP, whilst a stronger negative relationship was identified in the case of adjustment latitude. Job control's positive impact upon employee health also reduced SP, however its positive impact on job motivation could boost SP (Miraglia & Johns, 2016), thus potentially explaining the mixed findings in the literature.

3.3.5.5 Support and replacement

Interdependent work is thought to stimulate SP and restrict SA (Johns, 2011). In fact, difficulties in finding a replacement functions as a significant attendance requirement, stimulating SP (Aronsson et al., 2000; Aronsson & Gustafsson, 2005; Ashby & Mahdon, 2010; Caverley et al., 2007; de Vries et al., 2011; Gerich, 2016; McKeivitt et al., 1997), whereas greater ease in finding a replacement can foster SA (Gerich, 2016). Contradictory results exist, however, with studies suggesting that interdependent work (Gerich, 2016) and replaceability do not affect SP/SA (Rantanen & Tuominen, 2011), or that greater replaceability results in more SP (Johns, 2011). Damart and Kletz (2016) also found that the provision of unsuitable replacements increased workload and fatigue in nurses, resulting in increased SA. Studies have also

highlighted a reluctance to take SA when this burdened colleagues with increased workload (Ashby & Mahdon, 2010; Collins & Cartwright, 2012; de Vries et al., 2011; Kim et al., 2016; Krohne & Magnussen, 2011; Wynne-Johns, Buck, Porteous, et al., 2011). This appears to be an important driver of SP in healthcare workers (Al Nuhait et al., 2017; Kim et al., 2016; Tan et al., 2014) and in the public sector where there are less restrictive SA policies (Baker-McClearn et al., 2010).

Better relationships between co-workers and SP frequency appear to be negatively associated, possibly as it benefits health (Miraglia & Johns, 2016), although contradictory findings exist (Biron et al., 2006). Poor relationships (Baydoun et al., 2015; Suadicani et al., 2014) and reduced group cohesion (Nyathi & Jooste, 2008; Sanders, 2004) have also been linked with engaging in SA, whilst better team climates appear to encourage nurses to choose SP over SA (Schneider et al., 2018). Colleagues may also pressure one another to attend ill (Crout et al., 2005; Grinyer & Singleton, 2000).

Several studies indicate a negative relationship between support from superiors (Gosselin et al., 2013; Mudaly & Nkosi, 2015; Schell et al., 2013), or superiors and co-workers (Bourbonnais & Mondor, 2001; Eriksen, Bruusgaard, & Knardahl, 2003; Verhaeghe et al., 2003) and SA. Bergström, Hagberg, Busch, Jensen, & Bjorklund (2014), however, identified a positive correlation between absence and support from co-workers and supervisors, possibly indicating that support facilitated the use of SA for recuperation. Peer-support (Gosselin et al., 2013; Leineweber et al., 2011), supervisor support (Dhaini et al., 2016; Dudenhöffer, Claus, Schöne, Letzel, & Rose, 2017; Kinman & Wray, 2018) and both supervisor and co-worker support (Arnold, 2016; Janssens et

al., 2016; Whysall et al., 2018) have also been linked with reduced SP. This is despite teamwork and support often making SP possible, as employees can aid each other with tasks they otherwise could not complete due to illness (Collins & Cartwright, 2012). The findings therefore suggest that support as a resource has a positive impact on health (Miraglia & Johns, 2016) and that supportive supervisors could aid ill employees to disclose (Munir, Leka, & Griffiths, 2005) and manage their illness at work (Munir et al., 2009), whilst placing less pressure on workers to avoid SA. Lower levels of support may also function as an attendance requirement. Miraglia and Johns (2016) confirmed the overall negative relationship between peer and supervisor support and SP, however several studies have failed to identify a link between the variables; Thun and Løvseth (2016), for example, failed to identify one between either co-worker or supervisor support and SP, while Dhaini et al. (2016) failed to identify a link between peer-support and either of SP or SA.

Conflicting evidence on the impact of supervisor support may be due to various factors. The actual support provided varies between supervisors and may depend on their relationship with workers, as well as supervisors' authority to modify tasks and routines to aid ill workers (Nelson, Shaw, & Robertson, 2016). Bernstrøm and Kjekshus (2012), found that supervisor support reduced SA only when coupled with problem confrontation behaviour. Research also suggests that specific managerial behaviours impact upon employee illness behaviour. Managers who demonstrate presenteeism behaviours (Bierla, Huver, & Richard, 2011), do not encourage the use of sick leave (Baker-McClearn et al., 2010), or encourage SP (Dietz & Scheel, 2017) act as attendance requirements. More general management behaviours have

also been linked with SP and SA. For example, transformational leadership has been both negatively (Richardson & Vandenberg, 2005; Zhu, Chew, & Sprangler, 2005) and positively (Nielsen & Daniels, 2016) associated with employee absenteeism, whilst Bokhari, Ahmad, and Hyder (2017) did not identify a link between SP and transformational leadership in healthcare workers in Pakistan.

3.3.5.6 Emotional demands, bullying and violence

Emotional demands are particularly common in healthcare (Eurofound, 2016), whilst a large percentage of nurses also experience emotional abuse from both patients and colleagues (Perry et al., 2015). Emotional demands (Rugulies et al., 2007) and demands for hiding emotion (Rugulies et al., 2007; Slany et al., 2014) have been linked with increased SA, potentially due to their detrimental impact on health (Bakker et al., 2003b). Such emotional labour has also been strongly associated with emotional exhaustion in nurses (Kinman & Leggetter, 2016), a facet of burnout (Maslach, Jackson, & Leiter, 1996), which has also been linked with greater SA (Bourbonnais & Mondor, 2001). Emotional demands (d'Errico et al., 2016), the need to hide emotions (Cho, Park, Lee, Min, & Baek, 2016) and emotional exhaustion (Leineweber et al., 2012) have also been linked with SP behaviour. However, d'Errico et al. (2013) failed to identify a significant link between emotional exhaustion and back pain-related SP. Conversely, emotional intelligence, which refers to the processing of emotional information to guide thinking and behaviour (Mayer, Salovey, & Caruso 2008), has been negatively associated with SP (Karimi,

Cheng, Bartram, Leggat, & Sarkeshik, 2015). Emotional intelligence aids with coping in stressful situations (Gohm, Corser, & Dalsky, 2005).

Violence and threats also appear to result in increased SA (Rugulies et al., 2007), as does bullying (Slany et al., 2014), including in hospital workers (Suadicani et al., 2014). Discrimination, harassment, violence (Cho et al., 2016; Miraglia & Johns, 2016) and bullying (Conway, Clausen, Hansen, & Hogh, 2016; Janssens et al., 2016) also appear to be linked with increased SP.

3.3.5.7 Equity and justice

Occupational inequity (Geurts, Schaufeli, & Rutte, 1999) and injustice (Elovainio, Kivimäki, Steen, & Vahtera, 2004; Elovainio et al., 2005; Ybema & van den Bos, 2010) have both been associated with increased absenteeism. Limited findings regarding SP are mixed. Whereas inequity (Johns, 2011) and organisational injustice (Miraglia & Johns, 2016) were linked with increased SP, greater perceived justice has also been linked with increased SP in nurses (d'Errico et al., 2013) and office workers (Pohling et al., 2016).

3.3.5.8 Job insecurity and restructuring

A large survey found that whilst precarious employment was associated with increased job dissatisfaction, fatigue, and MSDs, it was negatively associated with SA (Benavides, Benach, Diez-Roux, & Roman, 2000). In fact, a negative association between SA and job insecurity is a frequent finding (De

Paola, 2010; Engstrom & Janson, 2009; Gimeno et al., 2004; Osterkamp & Rohn, 2007; Virtanen, Vahtera, Nakari, Pentti, & Kivimäki, 2004), whilst a change from fixed-term to permanent employment in hospital staff resulted in increased job satisfaction and absenteeism, despite no change in health indicators (Virtanen, Kivimäki, Elovainio, Vahtera, & Ferrie, 2003). This indicates that job insecurity is an attendance requirement, irrespective of workers' health. In fact, job insecurity has also been linked with greater SP (Agudelo-Suárez et al., 2010; Hansen & Andersen, 2008; Johns, 2011). Conflicting evidence exists, however. Some studies have reported limited evidence of a link between job security and SP (Claes, 2011; Gerich, 2016) or SA (Gerich, 2016), whilst Virtanen, Kivimäki, Elovainio, Vahtera, and Cooper (2001) found that non-permanent employees demonstrated lower SA and better health than permanent employees. In a study of European data, Arnold (2016) also linked tenure with increased SP, and a recent change in employer with reduced SP.

Related research has also been carried out on restructuring companies. Whilst some studies have reported stable or decreased SA (Saksvik, 1996; Theorell et al., 2003) and high SP (Caverley et al., 2007), many others have identified greater SA during downsizing (Vahtera et al., 2004; Bourbonnais, Brisson, Vezina, Masse, & Blanchette, 2005; Firms, Travaglione, & Neill, 2006). Many of these studies assume downsizing equals job insecurity, and failed to measure this directly (Johns, 2010).

3.3.5.9 Absenteeism policies and culture

Organisational systems designed to stimulate good attendance can both foster SP and elongate SA, with workers worrying about returning to work too soon, should it result in a second instance of SA (Collins & Cartwright, 2012; Grinyer & Singleton, 2000; Munir et al., 2008). This was confirmed by a meta-analysis which noted that workers may also return to work before recovering fully (Miraglia & Johns, 2016).

Supervisors can view fostering early return-to-work of ill workers as a main responsibility of theirs. Whilst the methods used, such as communication, can be positive steps (Holmgren & Ivanoff, 2007) and can result in favourable return-to-work rates (Nieuwenhuijsen, Verbeek, de Boer, Blonk, & vanDijk, 2004), it can also result in SP. Many individuals appear to view their organisations' absenteeism policies, such as return-to-work interviews and disciplinary actions negatively (Baker-McClearn et al., 2010; Buck et al., 2011), while others have commended supervisors' efforts (Krohne & Magnussen, 2011). Well designed and managed return-to-work programmes can involve periods of SP during which employees carry out modified duties, and these can be of reciprocal benefit to both the organisation and the employee (Baker-McClearn et al., 2010; Collins & Cartwright, 2012).

A work culture where attendance is expected or required despite illness can also function as an attendance requirement (Grinyer & Singleton, 2000; Johansson & Lundberg, 2004) and can occur for various reasons (Dew et al., 2005). Commonly, pressure from management drives a presenteeism culture (Ashby & Mahdon, 2010). Management may not welcome SA, driving SP

(Crout et al., 2005; Çetin, 2016); however, other examples include bonuses and incentives directly or indirectly based on attendance, or promotion prospects and performance-related pay (Baker McClearn et al., 2010). Such factors are perhaps more common in private companies, where SP is often more frequent (Doki et al., 2015; Johansen, 2012). Presenteeism can also be viewed as a social norm whereby feelings of guilt about abandoning colleagues results in a social pressure to engage in presenteeism (Buck et al., 2011; Wynne-Johns, Buck, Porteous, et al., 2011), particularly in ‘unseen’ complaints (Buck et al., 2011). Perceived pressure to attend by co-workers and supervisors has been reported as a powerful driver of SP in healthcare (Chambers et al., 2017; Kim et al., 2016; Rebmann et al., 2016).

Absenteeism cultures also exist, including in nursing (Baydoun et al., 2015), and appear to be driven by valued others’ absence norms (Bamberger & Biron, 2007) and peer group behaviour (De Paola, 2010). The latter study also noted that an increase in division size was associated with an increase in absenteeism. Contradictorily, however, Carlsen (2012) found that SA was increasingly stigmatised in organisations with greater SA rates.

3.4 The consequences of presenteeism and absenteeism

3.4.1 Health and illness

Sickness absenteeism is considered a coping mechanism (Kristensen, 1991); it is generally viewed as salutogenic (Aronsson & Gustafsson, 2005; Dellve et al., 2011; Hansson et al., 2006), allows individuals to escape negative workplace factors (Simpson, Byrne, Gabbay, & Rennard, 2015) and appears to aid nurses to maintain manageable levels of physical and psychological health (Hackett & Bycio, 1996). Conversely, it has been argued that SP is demanding and can deprive ill workers of necessary recuperation (Aronsson, Astvik, & Gustafsson, 2014; Cooper & Lu, 2016). In fact, SP can exacerbate disease (Kivimäki et al., 2005) and illness (Bergström et al., 2009; Taloyan et al., 2012; de Vries et al., 2011), resulting in poorer future self-rated health (Skagen & Collins, 2016). Presenteeism has been linked with the development of depression (Conway, Hogh, Rugulies, & Hansen, 2014), whilst burnout, which appears to be very common in nurses in Malta (Galea, 2014), appears to have a reciprocal relationship with SP (Demerouti et al., 2009; Lu, Lin, & Cooper, 2013).

Gustafsson and Marklund (2011) found that whilst SP led to future SA, SA did not impact upon future SP. The link between SP and future SA has been confirmed by other studies (Deery et al., 2014; Taloyan et al., 2012), and Janssens et al. (2013) found that greater SP was positively related to several measures of future SA, especially long SA. This appears to confirm that SP is more negative than SA; however, the difference is not clear cut. Some studies have failed to identify a link between SP and negative future health outcomes

(Collins, Cartwright, & Cowlshaw, 2018; Lu et al., 2014), whilst some research suggests that greater SA has also been linked with increased future SA (Cohen & Golan, 2007; Koopmans, Roelen, & Groothoff, 2008), including in healthcare workers (Lucey, 2008). Whilst workers exposed to strain may benefit from early SA, those who withdraw later do not appear to benefit (Darr & Johns, 2008). Workers also appear to obtain few health benefits from long-term absenteeism (Sieurin, Josephson, & Vingard, 2009). In fact, early return-to-work supported by clinical management and organisational interventions are encouraged in those with musculoskeletal disorders; this promotes recovery and provides the social, psychological and financial benefits of being at work; this despite the worker being in a state of presenteeism (Breen, Langworthy, & Bagust, 2005; Buck, Wynne-Jones, Varnava, Main, & Phillips, 2009; Podniece et al., 2007). This recommendation also applies for mental disorders (Harnois & Gabriel, 2002; Lagerveld, Blonk, Brenninkmeijer, Wijngaards-de Meij & Schaufeli, 2012; Pomaki et al., 2010; Waddell & Burton, 2006). A period of SP under the correct conditions is considered important to facilitate recovery in many non-contagious conditions (Markussen, Mykletun, & Røed, 2012). Qualitative findings also indicate that workers acknowledge this (de Vries et al., 2011; Irvine, 2011).

Limited research has analysed the predictors of the health outcomes of SP and SA episodes. Greater SP and SA frequencies have been linked to poorer future health outcomes (Gustafsson & Marklund, 2014). Collins et al. (2018) failed to link demographic variables with future psychological well-being in a sample of individuals with various rates of SP and SA. The negative impact of SP on physical and mental health appears to be attenuated by self-efficacy (Lu

et al., 2014), whilst SP leads to less SA when distributional justice is higher (Deery et al., 2014). Aronsson et al. (2014) found that individuals who were not recovering from workplace stress had greater work demands and lower levels of work resources, control and social support. Similarly, Lu, Cooper and Lin (2013) found that supervisory support reduced the negative impact of SP upon exhaustion, whilst being unable to adjust demands during SP is harmful to health (Collins & Cartwright, 2012; Hansson et al., 2006). Whilst few SP studies have focused on the predictors of health outcomes, the return-to-work literature notes that apart from professional support, remaining at work and possibly recovery can be fostered by providing ill workers with: information and communication, control of the workplace and tasks, realistic demands, and managerial and co-worker support (Breen et al., 2005; Buck et al., 2009; Buck et al., 2011; Pomaki et al., 2010). Workers' expectations regarding duration of SA have also been found to be predictive of return to work (Steenstra et al., 2005). Overall, these findings suggest that organisational factors thought to reduce SP may also lead to more positive health outcomes during SP episodes. This is consistent with Miraglia and Johns' (2016) model, based on the JD-R, that several variables reduce SP frequency via their positive impact upon health. Studies that analyse SP and health outcomes during these periods however would aid to clarify this.

3.4.2 Reduced productivity

Productivity loss appears to be the most studied consequence of SP. Reductions in performance can have serious implications in medical settings. These include reduced incidence of near-miss reporting (Halbesleben, Wakefield, Wakefield, & Cooper, 2008), increased patient falls, medication errors, lower quality-of-care scores (Letvak et al., 2012), restricting the treatment and assistance given to elderly patients (Dhaini et al., 2017) and reduced patient satisfaction (Argentero, Dell’Olivo, & Farretti, 2008). A higher risk of accidents has also been reported in sectors other than healthcare (Gül, & Gül, 2016; Haslam, Atkinson, Brown, & Haslam, 2005).

Much research has been carried out to identify which of SA and SP result in the greatest productivity losses. Whilst contradictory findings exist (de Graaf et al., 2012; Rantanen & Tuominen, 2011; Strömberg et al., 2017), much research suggests that productivity loss during SP is greater and more costly than that attributed to absenteeism (Caverley et al., 2007; Collins et al., 2005; Goetzel et al., 2004; Grinyer and Singleton, 2000; The Sainsbury Centre for Mental Health, 2007). The determined level of productivity loss that occurs during SP varies remarkably between studies due to the variety of measures and procedures used, and whilst many tools have gained acceptance as reliable measures of lost productivity (Lofland et al., 2004), agreement between these measures is limited (Thompson & Waye, 2018). Furthermore, an established and validated method to derive monetary estimates of the cost of lost productivity remains elusive (Mattke, Balakrishnan, Bergamo, & Newberry, 2007; Zhang, Bansback, & Anis, 2011; Jones et al., 2016). This comparison

between SA and SP has also been criticised; whilst attending ill often results in lower performance, workers still contribute more than if they stayed home (Johns, 2010). Return-to-work programs also involve a period of SP, yet the long-term savings are considerable as re-integrating such employees reduces turnover and re-training costs, whilst also gaining workgroup stability, loyalty and group cohesiveness (Baker-McClearn et al., 2010). Zhang, Sun, Woodcock and Anis (2015) also found that individuals working in small firms who report occasional SP were more productive than those who never engaged in SP. The opposite was reported in large firms.

Physical (Campo & Darragh, 2012) and mental illness (Burton et al., 2008; Despiegel, Danchenko, Francois, Lensberg, & Drummond, 2012; Harvey et al., 2011) have both been associated with reduced work performance during SP. Productivity loss appears to be greatest when illness is comorbid (Holden et al., 2010; van den Heuvel, Geuskens, Hooftman, Koppes, & van den Bossche, 2010), including when physical and mental illness are comorbid (Chong et al., 2013; Holden et al., 2011; Kessler et al., 2008). Illness severity also appears relevant, with more severe physical (daCosta DiBonaventura et al., 2012; Sadosky et al., 2010) and psychological (Adler et al., 2006; Harvey et al., 2011; Rosen, Zivin, Eisenberg, Guille, & Sen, 2018) conditions being associated with greater productivity loss. Other illness perceptions have received less attention; however, chronic illness (Collins et al., 2005; Kessler, Greenberg, Mickelson, Meneades, & Wang, 2001), uncontrollable illness (Adler et al., 2006) and undertaking treatment (Skela-Savič, Pesjak, & Hvalic-Touzery, 2017) have also been linked with great work impairment.

Physical conditions such as MSDs (Martinez & Ferreira, 2012; Skela-Savič et al., 2017), menstruation (Martinez & Ferreira, 2012), allergies, gastrointestinal diseases, arthritis (Schultz & Edington, 2007), injuries, respiratory problems (Holden et al., 2011), cancer (Kessler et al., 2001), and fatigue (Barker & Nussbaum, 2011; Holden et al., 2011; Ricci, Chee, Lorandeanu, & Berger, 2007; Walsh et al., 2014) have all been linked with reduced productivity, as have mental health issues (Kessler et al., 2008; Kono, Uji, & Matsushina, 2015; Lerner & Henke, 2008; Schultz & Edington, 2007), including stress, anxiety and depression in nurses (Martinez & Ferreira, 2012). Furthermore, lost productivity has been linked with future depression (Suzuki et al., 2015), though Malhi, Akkadechanunt, and Sirakamon (2016) failed to link stress with SP-related productivity loss. Various studies indicate that psychological disorders have a greater impact on work performance than physical ones (Callen, Lindley, & Niederhauser, 2013; Cosatti et al., 2018; Kessler et al., 2008; van den Heuvel et al., 2010). Contradictory findings also exist; whilst Wada et al. (2013) reported that performance and economic loss was greatest in those who suffered from depression, anxiety and emotional disorders, MSDs had the greatest overall impact due to their greater prevalence.

The link between illness type and performance loss is likely to be affected by the occupational groups studied and their tasks (Alavinia, Molenaar, & Burdorf, 2009; de Vries, Reneman, Groothoff, Geertzen, & Brouwer, 2013; van den Heuvel et al., 2010). Reductions in workability have been associated with decrements in work performance (Alavinia et al., 2009; de Vries et al., 2013; van den Berg, Robroek, Plat, Koopmanschap, & Burdorf,

2011; Vänni, Virtanen, Luukkaala, & Nygård, 2012). Different health problems have different impacts on the execution of specific work competencies or skills (Burton, Pransky, Conti, Chen, & Edington, 2004). In fact, mental health problems have been linked with limitations in cognitive and emotional job aspects, whereas physical problems have been linked with physical deficits (Adler et al., 2006; Grawitch, Waldrop, Erb, Werth, & Guarino, 2017). The most common limitations encountered by nurses also appear to depend on the type of patients they encounter. Umann et al. (2012) found that nurses in critical care experienced the greatest limitations in the physical dimensions of their jobs, while nurses in nephrology experienced the greatest limitation in the mental-interpersonal aspects of their jobs, followed by physical demands (Umann, Silva, & Guido, 2014).

Performance loss during SP is not only influenced by health-related factors. It has been positively associated with SP (Collins et al., 2018; Johns, 2011; Miraglia & Johns, 2016) and SA (Johns, 2011). Several organisational and attitudinal factors also appear relevant, though there are few studies on which to draw firm conclusions. Disagreement exists regarding whether workers with physically, or mentally, demanding work suffer greater productivity loss when ill (Alavinia et al., 2009; van den Heuvel et al., 2010). Greater work demands often appear linked with greater performance loss during SP (Palo & Pati, 2013; Pohling et al., 2016; Van den Heuvel et al., 2010), although others have failed to confirm a link (Alavinia et al., 2009). Being job insecure (Johns, 2011; Palo & Pati, 2013; Van den Heuvel et al., 2010), feeling under pressure to attend ill (Ashby & Mahdon, 2010), or feeling irreplaceable (Palo & Pati, 2013) have also been linked with performance loss.

Contradictorily however, so has viewing absence as more legitimate (Johns, 2011). Cultures where patient safety is taken more seriously have reported greater productivity loss (Brborović & Brborović, 2017), though here too contradictory findings exist (Brborović, Brborović, Brumen, Pavleković, & Mustajbegović, 2014). Finally, working with patients with dementia has also been linked with greater productivity loss (Islam et al., 2017).

In terms of work resources, reduced work autonomy and control (Alavinia et al., 2009; Nakagawa et al., 2014; Knies et al., 2012; Saijo et al., 2017; Van den Heuvel et al., 2010), including limited adjustment latitude (Ashby & Mahdon, 2010) have been linked with performance loss. However, Palo and Pati (2013) failed to confirm the latter link. Lacking the necessary lifting equipment (Skela-Savič et al., 2017) and poor levels of social support have also been linked with performance loss in nurses (AbuAlRub, 2004). Studies suggest that reduced support could impact upon productivity loss indirectly via its effect on job ambiguity (Zhou, Martinez, Ferreira, & Rodrigues, 2016), mental health (Kono et al., 2015), and MSDs (Abdullah, Othman, & Justine, 2016). Contradictorily, however, Japanese workers have recorded better performance when supervisor support was poorer (Nakagawa et al., 2014). Perceiving management (Vänni, Neupane, & Nygård, 2017b; Wynne-Jones, Buck, Varnava, Phillips, & Main, 2011) and organisational fairness (Pohling et al., 2016) to be poor have also been linked with performance loss. Finally, the provision of organisational health promotion measures has been associated with reduced productivity loss (Chen et al., 2015).

Whilst conflicting findings exist about specific demands and resources, overall the impact of greater demands and reduced resources on fostering performance loss suggest that the JD-R may also be useful in understanding these impacts. In fact, studies have also linked stress (Brborović, Brborović, & Mustajbegovic, 2016; Kono et al., 2015; Yang, Zhu, & Xie, 2016) and burnout (Ferreira & Martinez, 2012; Omar, Rusdi, Huseein, Thangal, & Mohd, 2016; Yildirim, Saygin, & Uguz, 2014) with greater performance loss, with this link partially mediated by the harmful impact of stress and burnout on health (McGregor, Iverson, Caputi, Magee, & Ashbury, 2014). Conversely, greater levels of engagement have been linked with reduced productivity loss during SP (Becher & Dollard, 2016; Grawitch et al., 2017; McGregor, Magee & Caputi, 2016). In fact, engaged workers tend to devote more energy to their tasks (Kahn, 1990), often have better health levels (Fiabane et al., 2013) and generate work resources, including co-worker support and autonomy (Bakker & Bal, 2010; Schaufeli et al., 2009), than the disengaged.

Regarding individual factors and those linked with individuals' private lives, females often appear to report greater performance loss (Ashby & Mahdon, 2010; Aysun & Bayram, 2017; Callen et al., 2013; Holden et al., 2010); however, conflicting evidence also exists (Vänni et al., 2017b), with others failing to identify a significant link in nursing (Brborović et al., 2014; Martinez & Ferreira, 2012). Several studies have linked increased age with reduced limitations and performance loss (Aysun & Bayram, 2017; Burton et al., 2004; Collins et al., 2005; Merrill et al., 2012; van den Heuvel et al., 2010), though some nursing studies have reported conflicting findings (Letvak & Buck, 2008; Letvak, Gupta, & Ruhm, 2013) or failed to identify a link between

performance loss and age (Brborović et al., 2014; Martinez & Ferreira, 2012). Being married (Merrill et al., 2012; Nakagawa et al., 2014; Yu, Wang, & Yu, 2015) or cohabiting with a partner (Holden et al., 2010) also appears to protect against performance loss. Other studies have failed to identify such a link (AbuAlRub, 2004; Lu, Lin, & Cooper, 2013). Low levels of quality of life (Merchant et al., 2014) and life dissatisfaction (Omar et al., 2016; Yu et al., 2015) have also been linked with performance loss, as has greater work-family conflict (Johns, 2011; Yang et al., 2016). Yildirim, Saygin, and Yildirim (2013) failed to identify a meaningful relationship between such performance loss and work-life balance. Mixed findings also exist regarding performance loss and personality. Yang et al. (2016) determined that all Big Five factors except for neuroticism were linked with reduced performance loss. However, Johns (2011) linked neuroticism with performance loss, whilst confirming the link between conscientiousness and reduced performance loss. Yildiz et al. (2017) reported the opposite and suggesting that the conscientious found it more difficult to avoid work even when too ill to perform. Finally, productivity loss levels have also been shown to vary by country (Knies et al., 2012) highlighting the relevance of investigating this topic in Malta.

3.4.3 Other consequences

Other than health and work performance, other consequences of SP and SA exist. Nurses have noted that SA results in feeling of guilt having burdened co-workers with extra work, conversely SP can result in struggling through heavy work and in-turn could burden colleagues due to their inability to help

sufficiently (Krane et al., 2014; Tveten & Morken, 2016). In the case of individuals attending with contagious illnesses, SP is likely to result in cross-infection of individuals within the workplaces (Widera, Chang, & Chen, 2010), including patients in healthcare settings (Al Nuhait et al., 2017; Kobayashi et al., 2016), or potentially result in the contamination of produced products (Hopkins, 2014). This contrasts with SA which limits illness transmission (Lohaus & Haberman, 2018). Johns (2010) postulated that under certain circumstances, SP could be viewed positively by co-workers as an act of organizational citizenship, which received some support in a study of Turkish workers (Çetin, 2016). However, the presence of contagious co-workers appears to result in unfavourable co-worker emotions (Luksyte, Avery, & Yeo, 2015).

Whereas long-term SA has been linked with financial losses and negative impacts upon the ability of pursuing a career or job change (Sieurin et al., 2009), a positive consequence of SP is the ability to earn an income (de Vries et al., 2011; Çetin, 2016). Çetin (2016) also noted that SP also allowed participants to access workplace health services, prevented workload accumulation, and reduced guilt the next time SA was necessary. Presenteeism has also been reported to reduce chronic pain sufferers' capacity for social activities after work (de Vries et al., 2011).

Qualitative findings suggested that Korean nurses experienced a lack of empathy from supervisors, colleagues, patients and their own family when engaging in SP, this resulted in reduced job satisfaction (Kim et al., 2016). In fact, Lu, Lin and Cooper (2013) found that a reciprocal relationship exists between reduced satisfaction and presenteeism, whereas Collins et al. (2018)

linked increased SP with perceptions that organisations were less committed to their workers. Çetin (2016) noted that SP could result in reduced work commitment and negative work behaviours such as aggressive and less agreeable behaviour. Furthermore, and as previously discussed, authors have assumed that the reduced work engagement that has been linked with SP is a consequence of this illness behaviour (Karanika-Murray et al., 2015). Finally, presenteeism also appears to result in work-family conflict, which in turn leads to emotional exhaustion (Panari & Simbula, 2016).

3.5 Conclusions

Despite the ongoing development of SP theory, a comprehensive model is yet to be proposed. The current models frequently indicate that a choice between SP and SA is initiated by a health event but modulated by various categories of factors including; illness and health-related, physical, psychosocial, organisational, and individual factors.

Presenteeism and absenteeism appear to be positively associated and more frequent in healthcare workers. Amongst the more consistent illness-related findings, greater illness severity appears to encourage SA rather than SP, whereas perceiving illness to be an illegitimate reason for SA fosters SP. As literature that comprehensively analysed illness perceptions is lacking, the relevance of several factors on SP/SA decisions remains unclear. This includes the impact of illness types, comorbidity, chronicity, cure and control, emotional representations, illness coherence, and the impact of the perceived consequences of SP/SA, including contagion, performance, and health.

Individual factors also appear to affect SP/SA decisions. Here too conflicting findings exist with some general trends emerging. Whereas SA appears greater in older age groups, the opposite appears true for SP. Both SA and SP are often more frequent in females, parents, and those with lower incomes. Greater educational attainment appears linked to lower SA, whereas work-life conflict appears to increase SP. Attitudes also appear relevant in influencing SP/SA decisions; internal attendance standards sometimes drive SP and inhibit SA, whereas work engagement is often negatively associated with SP and SA. However, studies are few. Lower levels of satisfaction have also

been linked with SA behaviour, however SP studies have proved inconclusive. Studies on the impact of personality are also lacking, most often low conscientiousness and neuroticism have been linked with greater SA.

Several organisational factors appear relevant. Policies designed to restrict SA can foster SP or elongate SA, whilst SP and SA cultures also appear to influence behaviours. Greater levels of stress and work demands have regularly been linked with greater levels of SP and SA, findings however are less clear when analysing specific work demands, such as physical or time demands. Bullying and violence also appear to increase both illness behaviours, whilst difficulties in finding a replacement or believing SA would burden colleagues also appear to drive SP. The relevance of resources such as control and social support are less clear; adjustment latitude appears to reduce SA, whereas social support tends to reduce both SP and SA. The impact of variables such as inequity, injustice and job security on SP are also unclear.

Amongst the consequences of SP and SA, impacts upon health and work performance are amongst the most researched. Despite this, consequences rarely feature in models of SP, including the impact of perceived consequences on SP/SA decisions. Most often SP is considered to be more harmful for productivity than SA. Presenteeism is also considered harmful for health whilst SA is often considered salutogenic. These conclusions are also subject to much debate, and the level of performance loss and health impact are likely subject to several predictors. Few SP studies have directly analysed the factors that influence health outcomes during such episodes, with more studies focusing on the predictors of performance loss. Greater demands, a lack of social support and a lack of control appear to result in poorer health and

performance during SP. Several other factors have also been linked to performance loss including more severe illness, greater comorbidity and those with psychological disorders. Whilst stress and burnout also appear to increase performance loss, work engagement has been linked with improved performance. Links between performance loss and individual factors are unclear due to various conflicting findings. Older and married individuals appear to report reduced performance loss during SP.

The mixed findings presented throughout this literature review appear secondary to various factors. Firstly, the literature review highlighted the relevance of culture; the presented papers originated from various countries and analysed numerous work populations. This may have contributed to the often-contrasting findings and highlights the need to conduct relevant studies in Malta. Secondly, due to the lack of comprehensive SP models, the majority of studies presented in this literature review did not have a theoretical framework. When this literature review was first written in 2013, Johns' (2010) Dynamic Model of Presenteeism and Absenteeism appeared to be the most encompassing model of SP; this, however, was not designed to be definitive and instead aimed to provide direction to future research. Despite much promise, the model appears to have resulted in little empirical research. Lohaus and Habermann's (2018) Framework Model of Presenteeism, however, has recently attempted to build upon this. The development of SP theory, therefore, should be prioritised to provide SP researchers with direction. Thirdly, most SP studies appear to be cross-sectional surveys that investigate the correlates of SP frequency. A lack of longitudinal studies makes it difficult to determine the direction of many of these correlates, whilst the outcome variable, although

relevant, is greatly influenced by the frequency of illness events. More longitudinal studies and the use of alternative outcome variables, such as measures of SP propensity are thus warranted. Qualitative studies are also lacking despite their ability to directly analyse SP and SA motives. The findings originating from quantitative and qualitative studies are often contrasting, and future studies should consider using both methodologies to better understand SP, SA and their consequences. Qualitative studies may also aid researchers to identify new relevant predictors and consequences of the studied behaviours. Finally, the consequences of SP and SA have largely been omitted from relevant theory, and with the exception of performance loss, the predictors of these consequences have attracted very little research. As SP research is often justified by its consequences, these warrant further study and to be included into any future theory of SP.

3.6 Research questions

In-view of the absence of comprehensive SP theory, a lack of conclusive information on the predictors and consequences of SP and SA, and a lack of SP research in Malta, including in nurses where the consequences of SP are potentially greater, the thesis sets the following research questions:

- I. What is the prevalence of SP and SA in nurses working with older adults in Malta?
- II. What factors lead nurses to decide whether to attend or not attend work when ill?
- III. What are the consequences of SP and SA, and are these predicted by the same variables as SP and SA?

3.7 Aims

- I. To establish the prevalence of SP and SA in nurses working with older adults in Malta.
- II. To determine the factors that foster SP and SA in the studied population.
- III. To identify and explore the perceived consequences of SP and SA.
- IV. To establish the extent to which perceived consequences of SP and SA impact on decision-making processes concerning these sickness behaviours.

V. To contribute to the further development of SP theory

Chapter Four: Methodology

4.1 Introduction

The following chapter presents the research design and methodology employed to investigate the aims of the thesis. The chapter is divided into two sections: the mixed method approach, including related philosophical dilemmas and typologies, are first addressed; the investigations' research design and methodology are then discussed.

4.2 Mixed methods research

4.2.1 Mixed methods research and its purpose

Opposing the quantitative-qualitative dichotomy (Tashakkori & Newman, 2010) and emerging from the tensions that resulted from the paradigm wars instigated by proponents of these two methods, mixed methods research has emerged as the third methodological movement (Cameron, 2009). The term 'mixed methods research' generally refers to studies that use and integrate both quantitative and qualitative research within a single investigation (Bryman, 2012) to foster greater understanding and corroboration (Johnson, Onwuegbuzie, & Turner, 2007).

Quantitative methodologies can assess patterns across numerous variables and infer causality. However, the methodology's ability to generate unexpected information and the reasons underpinning respondents' answers is limited

(Bryman, 2012; Pasick et al., 2009; Scott, McCone, Sayegh, Looney, & Jackson, 2011). Conversely, qualitative methodologies often result in less objectivity and greater difficulty to generalise findings. It however provides insights into participants' underlying reasons for their answers, is richly nuanced and is open to the identification of unexpected processes (Bryman, 2012; Pasick et al., 2009; Scott et al., 2011). By using both methodologies, mixed method studies intentionally use the benefits of each, whilst minimising their limitations to best answer research questions (Creswell, Plano Clark, Gutmann, & Hanson, 2003; Creswell, Klassen, Plano Clark, & Smith, 2011). This also allows for broader research questions to be managed, whilst providing stronger evidence for a conclusion (Cronholm & Hjalmarsson, 2011).

The mixed method methodology, however, has also received criticism. A lack of resources, time and understanding may make it difficult for researchers to undertake both quantitative and qualitative research (Johnson & Onwuegbuzie, 2004). Issues also exist with the philosophical underpinnings and research method typologies that guide this methodology. These criticisms are covered in the following sections.

4.2.2 Philosophical considerations in mixed methods

Bryman (2012) identifies two key arguments against the use of mixed method research: (i) the belief that research methods are embedded within commitments of what constitutes valid knowledge and how this can be obtained (epistemological commitments), and (ii) that quantitative and qualitative research are separate paradigms. These criticisms have been challenged by the potential of each method to be used in a variety of research tasks (Bryman, 2012) and the inconsistent use of the term ‘paradigm’, respectively (Morgan, 2007). Creswell (2011) however, stated that the issue of the methodologies’ philosophical underpinnings must be acknowledged and tackled.

Four paradigms are commonly accepted: postpositivism (and positivist), which is linked with quantitative data collection methods and analysis; constructivism/interpretivism, which is most often aligned with qualitative data collection methods and analysis; transformative; and pragmatism (MacKenzie & Knipe, 2006). In view of the seemingly incompatible paradigms underpinning them, mixed method researchers have struggled to find a common position in determining a rationale for combining quantitative and qualitative data (Hall, 2013). This has resulted in diverse philosophical positions being taken by different mixed method researchers (Creswell et al., 2011) and whilst constructivists are known to have made use of mixed methods (MacKenzie & Knipe, 2006), it is the latter two world views which have received most support.

The transformative paradigm arose to address issues of social inequalities, minority groups and social justice with researchers often using mixed methods as the methodology of choice (Mertens, 2012). Hall (2013) however, notes that as a paradigm for mixed methods, its narrow focus limits its application to only certain social research. On the other hand, a pragmatic approach has been advocated by several researchers (e.g. Cameron, 2009; Cronholm & Hjalmarsson, 2011; Johnson et al., 2007; Morgan, 2007). Pragmatism values both objective and subjective knowledge, in terms of methodologies focuses on what ‘works’ (Johnson & Onwuegbuzie, 2004; Morgan, 2007) and is oriented towards studying real world problems rather than the nature of knowledge (Hall, 2013). Pragmatism challenges claims that qualitative and quantitative methods represent two different worlds which cannot be integrated, instead viewing them as complementary (Cronholm & Hjalmarsson, 2011) and interdependent, with the ensuing advantages of mixing methods outweighing potential disadvantages (Scott et al., 2011).

Nevertheless, the use of pragmatism within mixed methods is not without its critics. Greene (2008) notes that work needs to be conducted to understand how the assumptions and stances of this paradigm influence inquiry decisions. Similarly, Hall (2013) highlights the difficulty of determining the mixed methods design which ‘works’ prior to using it. Furthermore, whilst pragmatism is mixed method researchers’ most popular single paradigm, several versions of it exist (Teddlie & Tashakkori, 2010). In view of such criticisms, some mixed methods researchers have overlooked paradigmatic issues, whilst others have used more than one paradigm (Hall, 2013). It is thus evident that whilst many researchers

support the use of pragmatism, paradigmatic issues remain, and may remain unsolved due to the inability to research or prove paradigms (Bazeley, 2004).

4.2.3 Mixed method design typologies

Design typologies feature regularly within the mixed method literature. They provide researchers with blueprints, establish a common language in the field, and aid in legitimising mixed methods research (Teddlie & Tashakkori, 2010). The various typologies available and their development over the years has led some authors to express their discomfort at the models' lack of consensus and over-refinement (Bryman, 2006). Teddlie and Tashakkori (2010) however, suggested development was healthy and expressed confidence that common components of different typologies will be identified and reconciled in the future.

When analysing more common typologies, such as those by Creswell and Plano Clark (2011) and Tashakkori and Newman (2010), several common elements are in fact identified. More simple designs entail either collecting quantitative and qualitative data simultaneously (also known as parallel, convergent or concurrent designs), or data are collected in two phases, with the second phases' research questions, sample, data and analysis being rooted in the results of the first phase (sequential designs). The sequence of steps chosen should provide the optimal opportunity to answer the research questions (Tashakkori & Newman, 2010), and in fact Creswell and Plano Clark (2011) differentiated

between two types of sequential designs. Explanatory sequential designs, where a quantitative study is followed by a qualitative study to explain earlier statistical findings, and exploratory sequential designs, where qualitative data are first collected to explore a phenomenon, the findings of which are then used to design or choose quantitative instruments. Finally, both typologies also illustrate that more complex mixed methods studies may instead include a combination of parallel and sequential elements.

4.3 The current thesis

4.3.1 Study design and philosophical underpinnings

As presenteeism had not been previously studied in a healthcare setting in Malta, and due to a lack of comprehensive presenteeism theory (Lohaus & Habermann, 2018), an exploratory sequential mixed methods design (Creswell & Plano Clark, 2011) was used. This study design enables the identification of relevant variables, the exploration of relationships, and allows for qualitative findings to be generalised to the wider study population (Creswell et al., 2003). This approach was also considered advantageous due to the lack of studies that have explored presenteeism decisions via qualitative or mixed-method methodologies (Section 3.5). Such a methodology may: aid in the identification of relevant variables that are yet untested, or have attracted little attention, within the SP and SA literature; may allow for the often conflicting findings regarding SP

motives that have emanated from studies that used quantitative versus qualitative methodologies to be explored (Section 3.3); and may aid in the much needed development of SP theory. In fact, as current theory within work health psychology is often insufficient, more exploratory and inductive approaches have been encouraged to inform new theory that has a strong empirical basis (Spector & Pindek, 2016). Therefore, a qualitative phase first identified relevant predictors and consequences of absenteeism and presenteeism choices in nurses (Phase I – Chapter Five). The findings of this study informed the design of a cross-sectional quantitative survey, administered throughout the nursing staff of the selected research settings (Phase II). Data analyses are presented in Chapters Six through Eight and are discussed in Section 4.3.2.

One of the greatest strengths of mixed methods research is the intentional integration of qualitative and quantitative data, which took place in two manners within the current thesis. As discussed, the two phases of the study are *connected* as qualitative findings inform the design of the quantitative instrument. Furthermore, findings from the two phases are *merged* during the interpretation section of the overall thesis (Chapter Nine) (Creswell et al., 2011). The identification of converging results via different research methods can greatly substantiate conclusions (Spector & Pindek, 2016).

Whilst the debate on the philosophical underpinnings of mixed methods research is on-going, this thesis adopts a pragmatic approach. Methodologically and philosophically it offers a valuable middle position which recognises the existence and value of both the physical and the emergent psychological and social

world (Johnson & Onwuegbuzie, 2004). Additionally, pragmatism emphasises an iterative, outcome-oriented method of inquiry which instead of taking an either-or approach to paradigm selection, underlines using the methodology which works best to answer ones' research questions (Johnson & Onwuegbuzie, 2004).

4.3.2 The role and influence of theory

As a comprehensive theory of SP is yet to be proposed (Section 3.2), most related research has taken an a-theoretical approach (Johns, 2010). Johns' (2010) Dynamic Model of Presenteeism and Absenteeism was the foremost SP model available when this investigation was commenced. Whilst not primarily designed to be tested, the model aimed to guide future SP research by highlighting key variables and aspects that a future comprehensive theory should address. In-view of the theoretical shortcomings, this investigation adopted an exploratory research design (Section 4.3.1). Whilst the first qualitative study (Phase I) is inductive in nature, Johns' (2010) model contributed to the design of the semi-structured interview schedule (Section 5.3.6). Thus, the role that illness, work context and person-related factors have on SP and SA decisions were investigated. Furthermore, and in line with Johns' (2010) model, the consequences of these decisions were explored.

Based on Phase I results and Johns' (2010) framework, a new model, termed the Cyclical Model of Presenteeism and Absenteeism (Section 5.6.6) was

then proposed. By means of a survey, Phase II of the current investigation aimed to determine the applicability of this new model to the wider studied population. Once data collection was complete, analyses were conducted that could explore aspects of the new model. Chapter Six presents analyses of the predictors of SP and SA; hierarchical regression analyses were used to assess the relevance of the different categories of the proposed model. Chapter Seven presents an analysis of how illness perceptions vary between SP and SA episodes, a key consideration of the Cyclical model. Finally, the model proposes that the consequences of SP and SA have their own predictors; this is investigated in Chapter Eight via a series of hierarchical regression analyses. This method of analysis was chosen to investigate the relevance of the different aspects of the proposed model.

4.3.3 The research setting

The current investigation was undertaken at two state-owned medical facilities in Malta, both of which cater primarily for the needs of older adults. Facility A had 33 wards and 1100 beds. It employed 303 nurses on the wards, 66 of which were employed as either ‘charge nurses’ or ‘deputy charge nurses’ and each had managerial duties in a specific ward. Patients were rarely discharged home from this facility, akin to a nursing home. However, unlike such residences, the multidisciplinary team in this facility mirrors that of a hospital and includes medical consultants, doctors, nurses, physiotherapists, speech therapists, and nursing aides, amongst others.

Facility B had nine wards and 271 beds. Eight of these wards catered exclusively for the rehabilitation of geriatric patients and were serviced by 107 nurses. Additionally, eight of these nurses were employed as charge nurses and had managerial duties. Patients were transferred to this facility from Malta's only general hospital to either continue their rehabilitation prior to returning home, or to free up beds within the acute hospital when elderly patients were unable to return home. As Facility B dealt with rehabilitation, patient turnover was higher here than at Facility A. Turnover, however, was still low as most patients were those awaiting admission to a government nursing home. There were also slightly more nurses per patient in Facility B, whilst deputy charge nurses were only found within Facility A.

The study thus has a total population of 410 nurses. Nurses who worked on wards which were not dedicated to the care of the elderly, or in non-ward settings such as the out-patients' department, were excluded from the study and this calculation. This decision was based on their small numbers and as their work tasks were very different from those working on the wards.

Discussions with the heads of nursing determined that nurses had easy access to sick leave; as public employees, nurses could avail of this by obtaining a certificate from any medical doctor that verified their incapacity for work due to disease. Public employees in Malta are entitled to 30 sick leave days on full pay, and a further 30 days on half pay per calendar year. Both hospitals had a policy in place where sick nurses would be replaced by a pool of relief staff, known as 'relievers'; replacements would typically be provided by the second day of sick

leave, at latest. Neither of the studied organisations had policies in place designed to limit the use of sick leave. A policy, however, prevented nurses from taking their pre-booked vacation leave immediately after sick leave. Vacation leave could only be availed of when nurses had attended work the previous work day.

Additionally, nurses on sick leave were expected to stay home; leaving the home to seek medical attention, however, was permitted. Heads of nursing believed that whilst some nurses took SA only when needed, others used this for reasons other than sickness.

4.3.4 Reflexivity

The author's background influenced the research process and subsequent data analysis. The author worked as a physiotherapist for eight years in hospitals dedicated to the care of the elderly. As highlighted in the preface (Chapter One), this informed the author's beliefs that nurses attended work ill, influencing the decision to study this population. Whilst the author stopped working in elderly care prior to commencing this investigation, and does not possess a background in nursing, the author's familiarity with the studied population, as well as several nurses' familiarity with the researcher, positions the author as an 'inside-researcher'. Compared with 'outside-researchers', this position may have enabled the author to be more easily accepted by participants, who may also have been more open with the researcher. Conversely, during qualitative data collection, the researchers' perceived familiarity with the investigated topic may have caused

participants to detail their experiences to a lesser degree. The researchers' prior experiences may also have influenced interview direction and interpretation (Corbin Dwyer & Buckle, 2009).

This investigation was commenced in 2013; at the time, presenteeism theory was just gaining traction and two influential models had been proposed; Johansson's (2007) Model of Illness Flexibility and John's (2010) Dynamic model of Presenteeism and Absenteeism. These models preconditioned the author to believe that several person and organisational factors could influence SP decisions. Additionally, whilst some factors may have motivated SP, others may have required it. However, as these models were described as non-comprehensive and had resulted in little empirical research, this led to the belief that an exploratory study may be most suitable. This was further strengthened by findings that reasons for SP could vary between countries and that limited commonalities had been identified in the SP literature.

The author's background in physiotherapy and ergonomics, and interest in occupational health, also informed beliefs about possible reasons why nurses experienced illness events and potential reasons for SP. The author's experience with patients led him to believe that individuals appraise injuries and health problems differently, which affects their behaviours and recovery; such illness appraisals were found to influence SP/SA decisions in the current study. The author's experience as an ergonomist also led him to apply systems thinking to presenteeism decisions; health issues often emerge as a combination of physical,

psychological, organisational and social issues. This was reflected in the study's literature review and qualitative interview guide.

4.4. Conclusion

The chapter discussed the purpose of mixed method research, its philosophical underpinnings and more common typologies. In so doing, the reasons for undertaking an exploratory sequential mixed method study were explained, as was the choice of adopting a pragmatic approach. Data collection was conducted in two phases. The methodology, results and analysis of the first qualitative study is described in Chapter Five. The quantitative data collected in Phase II were analysed in three different analyses; these are presented in Chapters Six till Eight, with the overall methodology of this second phase described in Chapter Six. Finally, the findings of the two research phases are merged during a final discussion presented in Chapter Nine.

Chapter Five: Predictors and Consequences of Presenteeism: A Qualitative Study of Nurses in Geriatric Settings

Summary

The following chapter presents an exploratory qualitative study conducted amongst ward-based nurses ($N = 18$) working with geriatric patients in Malta. The study aimed to determine: the factors that fostered presenteeism and absenteeism; the perceived consequences of presenteeism and absenteeism; and if these consequences impacted on presenteeism and absenteeism decisions. Thematically analysed interviews determined that four major themes predicted nurses' choices between presenteeism, absenteeism, and the consequence of these choices. These included: illness perceptions; work attitudes; organisational factors; and personal factors. The chapter presents the study's methods, results and a discussion of these findings. Finally, the implications for theory and practice are presented.

5.1 Background

Interest in sickness presenteeism (SP), conceptualised most frequently as attending work whilst ill (Johns, 2010), stems from evidence indicating that associated productivity losses may be greater than costs associated with sickness absenteeism (SA) (The Sainsbury Centre for Mental Health, 2012). It has also been argued that SP can deprive ill workers of necessary recuperation opportunities (Cooper & Lu, 2016), resulting in future SA (Skagen & Collins, 2016). Findings that SP rates tend to be higher in healthcare workers relative to other sectors (Aronsson et al., 2000) has resulted in added interest in the predictors of SP in such workers.

Little is known about SP in Malta. The European Working Conditions Survey (EWCS) (Eurofound, 2016) reported that the mean days of SP and SA in Malta are the highest in the EU. Following discussions with nursing management of public hospitals specialised in the care of older adults, it transpired that SA and SP were problematic and commonplace. Additionally, it emerged that managing SP and SA was difficult given the paucity of knowledge on the aetiological factors associated with these behaviours.

As discussed in Chapter Three, whilst much research has explored the determinants of SP, conclusions are often inconclusive or contradictory. One possible reason for this is that in the absence of comprehensive SP theory, research has been largely a-theoretical (Johns, 2011). Additionally, due to the close relationship that exists between SA and SP, it is often beneficial to study both

behaviours simultaneously (Johns, 2010); despite this, many studies have solely focused on SP. Another issue may be the paucity of qualitative research on the topic (e.g., Kim et al., 2016; Krane et al., 2014), with Kim et al. (2016) noting that little was known on the motivators, processes and contextual situations that led to SP.

Given that the quantitative approach uses a limited number of fixed questions that may omit important factors, that SP theory is not comprehensive, and that the predictors of SP have not been previously explored in Malta, a study using qualitative research methods was conducted.

5.2 Objectives

In response to the scientific knowledge gaps concerning the aetiology of SP in the healthcare sector, the current study had four objectives:

- I. To determine the factors that nurses perceive to foster SP and SA.
- II. To explore the perceived consequences of SP and SA.
- III. To determine the extent to which perceived consequences of SP and SA impact on decision-making processes concerning these sickness behaviours.
- IV. To contribute to the development of SP theory

5.3 Methods

5.3.1 Introduction

The following sections describe the methods applied in the qualitative study. A description of the research design is followed by a discussion of the study's participants, procedures, measures and analytical approach.

5.3.2 Research setting

The study was undertaken in the two public medical facilities in Malta that specialised in the care of older adults. The research setting was described in Section 4.3.3.

5.3.3 Design

An exploratory, qualitative method was used to identify and investigate reported predictors and consequences of SP and SA of nurses working within geriatric ward settings. The rationale for commencing this investigation with such a study was described in Section 4.3.1.

5.3.4 Procedure

To select potential nurses from the two participating medical organisations, the respective Heads of Nursing of these organisations prepared a list of full-time ward-based nurses and a second list of ward-based charge nurses working at their organisation and allocated each individual a number for the purpose of this study. Nurses who were not based on wards for older adults, worked in outpatient departments or had been working at the studied organisations for less than a year were omitted. The researcher did not request access to this list, instead the researcher pulled numbers out of a hat and the Head of Nursing provided the name of the corresponding nurse or charge nurse and information on when they could be contacted. No information was collected on individuals whose numbers were not selected.

The researcher approached selected individuals during work hours at their respective wards. The purpose of the study, procedures and their ethical rights were explained. A written information sheet was also provided (Appendix D). An appointment was then arranged for an interview with those nurses interested to participate (only one of the selected nurses chose not to participate).

Interviews took place during normal working hours. To maintain confidentiality and due to the sensitive nature of the researched topic, each interview was conducted in a private room. Prior to the interview commencing, the purpose of the study and procedures were re-explained. Participants were also invited to ask questions and asked to sign a consent form (Appendix E). Semi-

structured interviews then followed. These involved a pre-determined interview guide, were audio recorded and lasted from 40 to 70 minutes. No individuals withdrew from the study at any point in the process and interviews were concluded when thematic saturation was deemed to have been reached in each of the research settings.

5.3.5 Participants

A total of 18 interviews were carried out at the two research settings. Ten interviews were conducted at Facility A, whilst the remaining eight interviews were conducted at Facility B. At Facility A interviews were equally divided between nurses and charge or deputy charge nurses, whilst five nurses and three charge nurses were interviewed at Facility B (Table 5.1). The term ‘charge nurse’ refers to nurses working on a ward with management responsibilities. The participants had a mean age of 44 years (range: 22-62).

Table 5.1 Participants' demographic and occupational characteristics ($N = 18$).

Factor	Frequency (%)
Gender	
<i>Male</i>	4 (22)
<i>Female</i>	14 (78)
Position	
<i>Charge / deputy charge nurse</i>	8 (44)
<i>Nurse</i>	10 (56)

5.3.6 Measures

A semi-structured interview schedule (Appendix H), informed by the scientific literature and consultative meetings held with the Heads of Nursing of the participating facilities, was designed to explore the predictors and consequences of SP and SA. In particular, the questions were informed by Johns' (2010) Dynamic Model of Presenteeism and Absenteeism (Section 3.2.6) who noted that illness-related, organisational and person-related factors could influence SP and SA decisions. Furthermore, Johns (2010) postulated that the health consequences of SP and SA decisions could influence future illness behaviour.

The brief interview guide consisted of six general questions: two questions asked participants to describe occasions when they had either attended work or stayed home when feeling unwell, respectively. A further two questions asked participants to reflect on the reason/s for their choice. Consistent with Johns' (2010) model; illness, context and person-related reasons were discussed, as were the consequences of SP and SA. A fifth question dealt with co-workers' illness behaviour and whether it impacted upon participants' behaviour. Consistent with the exploratory nature of the study, participants were then asked a final question enquiring if other factors relevant to SP and SA behaviour existed that had not been explored in the interview.

5.3.7 Analysis

A thematic analysis was undertaken using Braun and Clarke's (2006) six-stage framework. The method has previously been used to research illness behaviour (Coole et al., 2010; de Vries et al., 2011) and features ubiquitously in occupational health psychology studies (e.g., Houdmont, 2013; Leka, Jain, Lavicoli, Vartia, & Ertel, 2011), illustrating its acceptability as a qualitative research method to identify, analyse and report themes. Thematic analysis is not tied to a specific theoretical or epistemological position (Braun & Clarke, 2006), making it compatible with the pragmatic stance of the current investigation. This contrasts with many grounded theory approaches which often take a constructivist stance (Creswell, 2007). Aspects of grounded theory, such as theoretical sampling,

where a researcher returns to the same setting, or accesses a new setting in response to questions arising from one's analysis (Charmaz, 2001), may also have presented ethical and practical challenges as limited information on the studied population was made available to the author. As the study did not aim to capture the detailed experiences or stories of very few individuals, as in narrative analysis, nor did it aim to explore individuals' meaning of an experience, as done in phenomenological research (Creswell, 2007), these approaches were not used.

The six steps to Thematic Analysis (Braun & Clarke, 2006) are as follows:

(i) audio recorded interviews were first transcribed by the researcher. Maltese and English are both official languages in Malta and whilst several interviews were conducted in English, other participants chose to respond in Maltese. Those conducted in Maltese were first translated and then transcribed in English by the researcher who is fully bilingual. Transcripts were then re-read until the researcher had become familiar with the data. (ii) Data were then coded, with each code representing a broad category of information relevant to the aims of the study. (iii) Coded data were then collated and a search for candidate themes, by means of an inductive approach, was conducted. (iv) The devised themes were then reviewed: the coded extracts were first reviewed to ensure a coherent pattern had been identified within each theme; sub-themes relevant to only a single participant were omitted at this stage. The individual themes were then reviewed in view of the whole data set to ascertain that an accurate thematic map had been obtained. To ensure reliability, this procedure was first conducted by the researcher who had conducted the data collection (L.F.) and was followed by discussion between L.F.,

J.H, and A.G. to further clarify the themes. (v) Themes and sub-themes were then named and defined. (vi) Finally, a report was prepared that included anonymised extracts from the original transcripts to illustrate each of the themes.

5.3.8 Ethical procedures

The study was approved by the Research Ethics Committee of the Faculty of Medicine & Health Sciences at the University of Nottingham (Appendix A). Written permission was also granted by the selected facilities to carry out the investigation (Appendix C). Each participant was provided with an information sheet (Appendix D) detailing the purpose and procedures of the study, along with their ethical rights. Additionally, participants were required to sign a letter of consent (Appendix E) prior to participating.

In order to ensure that data remained confidential, audio recordings and transcribed results were stored on a secure, password and firewall protected computer. Transcribed results were passed on to the University of Nottingham for safekeeping on completion of the PhD.

No nurses were coerced into participating in this study, no financial incentive to participate was offered, and only information necessary to carry out the study was collected. Nurses were informed of their right to stop the interview at any point, or to ask to skip any question without giving a reason for doing so. A summary of findings was made available to the department of nursing of

participating hospitals, whilst participating nurses were also given the option of requesting a copy by means of e-mailing the researcher. The contact details of the researcher and the academic supervisors were provided to participating nurses and participating organisations, as was the contact details of the Research Ethics Committee Administrator at the University of Nottingham should participants want to submit a formal complaint.

5.4 Results – the predictors of presenteeism and absenteeism

5.4.1 Introduction

Following a thematic analysis to identify the reasons for, and consequences of SP and SA, four themes were identified: illness perceptions; occupational attitude; organisational factors; and personal factors. All four themes influenced both illness behaviours and their consequences (Objective I, II). In fact, SA and SP were discussed as two sides of the same coin. Individuals also considered the perceived consequences of both behaviours when deciding between SP and SA (Objective III).

Each theme contained numerous sub-themes (Table 5.2); not all themes were relevant for all participants, however certain themes featured with greater frequency than others. Furthermore, certain themes were more relevant to charge nurses than nurses and vice-versa. Within the text of this section, charge nurses and deputy charge nurses are both referred to as charge nurses as it was the distinction between this occupational group, and hands-on nurses that was of interest.

Finally, it was also apparent that most individuals favoured one of the illness behaviours over the other and justified their choice by providing a stronger case for engaging in the chosen behaviour.

Table 5.2 Thematic analysis coding template

Theme	Sub-themes	Sub-theme description	Number of respondents mentioning this theme one or more times (%)
Illness perceptions	Identity	Description of the illness and/or associated symptoms.	18 (100)
	Timeline	Temporal aspects of an illness.	18 (100)
	Cure and control	Perception of control and/or recovery from an illness.	18 (100)
	Cause	Factors thought to have contributed to the illness.	10 (56)
	Consequence	The effects and outcomes of the illness.	17 (94)
	Coherence	Understanding of one's illness.	13 (72)
Occupational attitude	Work and the organisation	Approach and concern towards work tasks and the organisation.	18 (100)
	Co-workers	Concern regarding co-workers.	18 (100)
	Patients	Concern towards patients.	4 (22)
Organisational factors	Work environment	The immediate organisational and psychosocial work environment.	16 (89)
	Administrative measures	Wider administrative rules that influenced nurses' behaviour.	13 (72)
Personal factors	Illness behaviour preferences	Proclivity for presenteeism and perception of illness behaviour legitimacy.	16 (89)
	Personal life	Influence of situation at home.	12 (67)

5.4.2 Theme 1: Illness perceptions

This theme included six sub-themes that mirror the factors originally highlighted by the ‘Common Sense Model (CSM) of Self-Regulation’ (Leventhal et al., 1980; Moss-Morris et al., 2002) (Section 3.3.2). These include: (i) identity; (ii) timeline; (iii) cure and control; (iv) cause; (v) consequence and (vi) coherence. All six sub-themes were found to play a role in predicting both SP and SA.

Sub-theme 1: Identity of illness

This referred to how participants described the illness and/or associated symptoms. Certain *types of symptoms or illnesses*, such as psychological symptoms, pain and other musculoskeletal symptoms, and cold-related symptoms such as coughing and sneezing, were commonly linked with SP. Others, such as operations, fever, and gastric symptoms including diarrhoea, vomiting and nausea were common during SA. *Severity*, as described below, also played a role: the same illness could result in either SP or SA, however the more severe a condition was, the more likely it was to encourage SA.

If it's not severe, I just don't make any decision, I just come here [work] and that's it. I don't stay home.

Severity was either described as the presence of certain symptoms, such as fever, or a greater intensity of a particular symptom as occurs with pain. Severity,

as discussed in more detail in forthcoming sections, also played a role in other factors that influenced decisions to attend work or not, such as the ability to cope with work whilst ill.

Sub-theme 2: Timeline of the illness

Several factors related to the temporal aspects of an illness influenced SP/SA decisions. Amongst them, most interviewees cited the need to attend work when experiencing *chronic or recurrent illnesses*.

I come [to work] because it is not something that happens once in a while, it is something I'm living with.

Musculoskeletal pains were referred to most frequently, however other issues including headaches, migraines and stress also featured. Participants with such illnesses also noted that SA was necessary when symptoms were more serious. Additionally, participants whose chronic symptoms only surfaced occasionally were more likely to view their condition as a reason to take SA.

Believing a condition would take *too long to recover* also gave rise to SP. In such situations participants either reported returning from SA whilst still ill or avoided SA entirely.

I think it depends on the length, how long the condition is going to take to pass, if for example it is going to take two days it is one thing, if it's going to take a week it's another story.

Participants experiencing chronic or recurrent illnesses often chose SP as they were *uncertain about their future health and absenteeism needs* and were worried about running out of sick leave:

I must ensure that I don't end up in a situation where I really need sick leave, but I would have already taken a lot and I won't have any remaining... over the span of a year, you don't know what can crop up.

Sub-theme 3: Cure and control of illness

This sub-theme referred to participants' perceived ability to control or recover from an illness. When an illness or symptoms were considered *controllable* many individuals reported engaging in SP. Controllability was most frequently achieved via medication. Behaviour modification, particularly in the case of chronic illnesses, such as modifying tasks to prevent pain, or taking a bathroom break to reduce stress, were also used. Others reported SP by ignoring or repressing their symptoms: this was common in those with psychosocial complaints. Conversely, illnesses or symptoms considered uncontrollable encouraged SA. Uncontrollable illnesses were generally those perceived as more severe, or less commonly, those involving socially undesirable symptoms.

I had an attack of colitis... I couldn't be in front of people, because, excuse me, but I'd have uncontrollable gas shooting out of me.

Another consideration was the *impact on the condition of attending work.*

Individuals attended ill when they felt that: (a) attending would help their symptoms, often either because work kept them busy, the social aspects of work were salutogenic, or they simply viewed it as 'fighting' their illness; (b) their illness would improve despite SP; and (c) SA was not associated with recovery, often as the condition was chronic or because staying home would not result in rest due to domestic tasks.

So, when I'm here [work] moving around, walking, giving out stuff, I ignore it. I don't pay attention to it... If I stay home, I feel it more. I concentrate more on it, and I feel it more.

Participants chose SA when they perceived that (a) SA would improve their condition, via resting at home or simply avoiding workplace stressors; (b) attending work would make their condition worse. Reasons for this included: having to cope with one's tasks whilst ill; exposure to physical and psychological stressors; and working in an environment that exposed them to great levels of sickness. Participants also associated aggravating one's condition with future absenteeism.

For example, in the case of a cold, sometimes you do need a rest, when you rest and push fluids it passes. At work you exert yourself and it isn't easy for a cold to pass.

Sub-theme 4: Cause of the illness

This sub-theme related to the factors perceived to have contributed to the development of the illness. Individuals who engaged in SP expressed an *acceptance or helplessness* with regards to the hazards of their job, common diseases, such as back pain, and poor occupational standards.

Back pain, I think the majority of nurses suffer from it, you learn to live with it! I think it is part of the job, I think it's very common.

As described in the previous section however, some individuals who felt that attendance would cause their condition to deteriorate would engage in SA.

Sub-theme 5: Consequence of the illness

This sub-theme related to the short and long-term effects and outcomes of the illness. Participants who felt that they could *cope with their work demands* when ill chose SP. Reasons included symptoms not impacting upon work tasks, or when they did, participants still felt able to contribute. Charge nurses also noted that musculoskeletal disorders (MSDs), particularly back pain, impacted them less as their job did not involve manual handling. Conversely, being unable to cope with work demands was frequently cited as encouraging SA. Nurses worried about providing a sub-standard service to patients, struggling with certain tasks, being more irritable, less energetic, and less able to concentrate, resulting in mistakes.

I say look I have a 12-hour shift, in the morning I need to wash them, change them, feed them, I have a whole day, I know what I'm getting myself into. Am I capable or not?

Coping ability often depended on illness severity and controllability, as described above. However, other factors including workload, teamwork, supportive management and flexibility in working hours also played a role and are discussed in further detail within upcoming sections.

Another aspect of this sub-theme related to how *contagious* the illness was:

If it's something like an influenza which, for both the patients and my friends [co-workers], it is not healthy that I come in, I don't come to work. But if it is something like a migraine, or the injury I suffered, which is only going to affect me, in those cases I come to work.

Thus, perceived reduced contagion encouraged SP. In fact, participants reported returning to work following SA when still unwell as illnesses were no longer believed to be contagious. There was also general consensus among nurses that contagion was a leading reason to engage in SA, both to benefit co-workers and vulnerable patients. Several charge nurses, however, reported engaging in SP with a contagious illness but limited transmission by isolating themselves in their office.

Sub-theme 6: Illness coherence

This theme related to individuals' understanding of their illness.

Participants reported how they understood and accepted illnesses that were often chronic or recurrent. This understanding led individuals to determine if they could engage in SP or not and were often linked to the aforementioned sub-themes. For example, understanding how particular illnesses progressed, their controllability and the possible consequences on their work. It was reported that past experience of the illness, relevant medical training and advice from medical professionals often aided participants in understanding their illnesses.

We are nurses so we know exactly the process of a disease... I think it's a plus.

5.4.3 Theme 2: Occupational attitude

Participants' occupational attitude played a role in influencing SP/SA decisions. Three sub-themes were identified, these included: (i) attitude towards work and the organisation; (ii) attitude towards co-workers; and (iii) attitude towards patients. These sub-themes are discussed in the following sections.

Sub-theme 1: Attitude towards work and the organisation

Enjoying one's job was frequently cited as a reason for choosing SP. Many nurses discussed how they enjoyed, were satisfied or were proud of various aspects of their job, making SP easier. This factor was closely related to the positive atmosphere between nursing staff described within the theme 'organisational factors', with the two often described together. Participants however distinguished between the two; some participants enjoyed their job despite being less positive about the atmosphere.

So, I think that if you are happy at the place of work, it is stressful, it is hectic, but I'm happy. I think that prevents you from taking sick leave.

One aspect of this sub-theme that featured prominently in, but was not limited to, charge nurses was one's level of *responsibility* and the associated feelings of worry about engaging in SA.

It is more this responsibility factor that drives me to come here... When I was a nurse I didn't think about it too much, when I felt ill I just took sick leave.

Charge nurses often engaged in SP as they felt responsible towards the ward in general, with some experiencing *feelings of indispensability* and ownership of the ward. Charge nurses also noted how *work could pile up* if they engaged in SA due to a lack of charge nurse replacements. Furthermore, missing out on a *pre-planned task*, such as a ward-round or a meeting, also encouraged SP. Nurses also spoke of how feelings of responsibility towards their job and co-workers (covered in the next section) encouraged them to engage in SP.

If we don't do it, it doesn't get done. Which is mentally stressful... because at the end of the day there are some things that only I can do.

On the other hand, a perceived lack of responsibility and being unconcerned about the consequences of SA to the workplace encouraged SA. These factors were more prevalent in nurses than charge nurses.

On certain wards in both hospitals it was evident that some individuals took sick leave when they were not actually ill. Some participants complained about this, whilst others admitted to doing so. In some instances, this demonstrated a lack of responsibility and a lack of concern about the consequences of their actions. In other instances, nurses used sick leave to cope with family responsibilities, such as a sick child. This facet will not be further elaborated upon as it does not concern work presence or absence when ill.

Sub-theme 2: Attitude towards co-workers

Participants' attitude towards co-workers also influenced SP/SA decisions. As discussed earlier, participants chose not to attend with contagious illnesses so as not to pass these on to their co-workers. Another aspect of this sub-theme was to engage in SP so as not to *burden workmates*. Whilst on the second day of SA replacements were generally provided, this was often not the case on the first day of SA. Knowing that their co-workers would be left a nurse short, they often chose to attend ill. Nurses also viewed their absence as a burden due to high levels of workload, a factor discussed later.

I know that when we are short of staff, my friends and I suffer more. We end up with an overload of work. And obviously here, we are in a hospital and you never know what can happen.

The fact that sick nurses could be replaced by relief staff who filled in on the different wards as needed, colloquially known as 'relievers', however, could also precipitate SP, as was the awareness that 'relievers' were already working on the ward. This occurred as replacement staff were believed to burden co-workers due to their unfamiliarity with ward procedures and patients.

The relievers often do not know the patients... you have to tell her everything basically: you have to guide her, supervise her...

Charge nurses also worried about burdening their staff as in their absence the most senior nurse had the additional burden of coping with many of the charge nurses' duties, as well as their own patient allocation.

Participants also engaged in SA so as not to burden co-workers. Generally, when nurses felt that they could not cope with work demands, they worried that their attendance would be more of a hindrance than a help. Participants also worried that this would anger workmates, who would rather have a 'reliever' than a poorly nurse; social pressure thus also played a role (Section 5.4.4). Participants also mentioned being concerned that their inability to contribute fully may result in an injured co-worker.

We always work in twos, so if I'm not going to put in an effort, somebody else is going to suffer.

Nurses and to a lesser degree, charge nurses, also engaged in SP to *protect co-workers' vacation leave*. Participants reported that due to a lack of available replacement staff, they worried that taking sick leave may result in co-workers' vacation leave being cancelled.

If I call in on sick leave and there are others on leave, and they really can't find replacements, they can call those on leave to come in.

Participants also reported choosing SP due to their *past sick leave* requirements. In such cases, ill nurses were aware that they had already taken sick leave recently and felt guilty engaging in SA again.

Before I had also taken some sick leave. It was earlier, maybe three weeks before, and I felt guilty about taking sick leave again.

Another aspect of this sub-theme involved nurses engaging in SP having been *influenced by co-workers' illness behaviour*. In such cases, nurses chose SP as they were aware that other co-workers of the same grade, or their superior, did the same.

When they [charge nurse] come in when they aren't great, you say she came in despite being unwell not to be a burden for me, so I'm not going to do the same for her?

Several participants however, who felt that they were surrounded by high levels of absenteeism, both from nurses of the same or higher grades, admitted that this affected their own illness behaviour decisions, encouraging SA:

Sometimes when everybody is taking sick leave and you are suffering at work, you have to look out for yourself, to do something to help yourself.

Not all nurses were influenced by their peers SP/SA behaviours. Generally, those who expressed an inclination towards either SP or SA when ill felt that their peers' behaviour choices had no influence on their own decision process if their co-workers' behaviour did not mirror their own preferences.

A final aspect of this sub-theme was informed by nurses who had experienced working both as a nurse allocated to a ward and a 'reliever'. It was reported that *working as a reliever*, and thus not having a stable place of work,

made one more likely to engage in SA. Relievers rotated between wards depending on need, sometimes within the same shift. They did not have fixed wards or co-workers, resulting in reduced feelings of obligation towards others or ward needs.

The fact that you don't have a ward, you aren't tied, you don't feel that I need to come in today because there are transfers, or there is some important paperwork that needs to be done.

Sub-theme 3: Attitude towards patients

As the two facilities kept older adult patients for much longer periods than an acute hospital, some participants admitted that their *familiarity* with the patients encouraged SP or to cut SA short. Participants either admitted to viewing patients as friends or stated that patients had grown attached to the staff and were not keen to be seen by unfamiliar relievers.

It is quite different [from an acute hospital], the patients are attached to the staff. This patient I'm talking about always wants us. And if relievers go and clean him up, he wouldn't want it. He would be angry and he will give them a very hard time.

5.4.4 Theme 3: Organisational factors

Participants described being affected by organisational factors when choosing between illness behaviours. This theme is divided into two sub-themes; the work environment and administrative measures, these are described within the following section.

Sub-theme 1: The immediate work environment

This sub-theme described participants' immediate work environment. One aspect of this sub-theme was the *workplace atmosphere*. Workers expressed how positive workplace relationships made one keener to attend when unwell. It was also acknowledged that working with elderly patients, when compared to more hectic acute settings, had a slower working pace making it less stressful and easier to cope when unwell.

You know, we work so much, that I spend more time with my workmates than my family at home. So, without any effort a bond develops between us.... we are like a family.

Conversely, participants who appraised the workplace atmosphere as negative, describing clashes with workmates and high levels of work stress and burnout, stated that this encouraged SA.

Support from colleagues and superiors played an important role in allowing ill participants to attend work by helping them cope with their job demands. In fact, some participants admitted that support and teamwork were better on certain shifts and would only attend if illness coincided with such a shift.

If I'm going to be working in the shift I get along with, there is more chance of me coming to work... we get along more... we work together more, we help each other more... It helps a lot, it helps both psychologically and physically.

Conversely, reduced teamwork encouraged SA and made it harder for nurses to return to work following SA when they were still experiencing symptoms. A lack of support from those superior to them, including being pushed excessively to perform when ill, also fostered SA.

The high level of *workload* within the two researched sites also fostered SA. Along with illness severity, it was often considered as the main reason why ill individuals could not cope with their work tasks when ill. Workload was considered greatest on Mondays and during night shifts, conversely the weekend was considered less demanding.

It is difficult, we have the respite patients who need a lot of caring, they have appointments, clinic, chest x-rays, dental... when I'm in severe pain, I'm not going to come here with all that workload.

As previously discussed, other workers viewed great workloads as a reason to attend work to avoid burdening their co-workers. It was thus unsurprising that

some workers viewed a low workload as a reason to engage in SA, believing their co-workers could cope in their absence.

At the moment I'm aware that we don't really have a lot of problems at work. I know that things can change but [at the moment] I can put my mind at rest that I can afford to take sick leave.

Another aspect of this sub-theme was *long working hours*. Staff members worked twelve-hour shifts; this was viewed as a long period to be at work whilst struggling with an illness and encouraged SA. This was compounded by nurses reporting that they were on the go throughout that time, often struggling to find time for a break. The factor is therefore another demand that is closely related to the workload.

Here we do twelve-hour shifts, it isn't just a few hours and you go home and rest... Twelve hours is a lot. It's too much.

It was described earlier that participants engaged in SP knowing that their absence could otherwise result in others being burdened due to nursing shortages or due to being replaced by relievers. Others however, viewed *nursing shortages, or the presence of relievers*, as a reason to engage in SA. Nurses complained that colleagues' sick leave and vacation leave resulted in staff shortages and the presence of relief staff, who were often less qualified. For example, nurses could be replaced by care assistants. These situations stressed nurses already struggling with illnesses, as they felt burdened with more work, making it impossible to cope.

If you are suffering from pain, you will know that if you are going to come here you sort of work double... because if they send you a carer instead of a nurse, you need to do the nurses job.

A further aspect of the work environment that fostered SA was the effect of *co-workers who encouraged absenteeism*. In such cases participants described attending ill, only to be encouraged to take SA by co-workers, or to being made to feel uncomfortable for having attended. Participants also admitted to telling off co-workers who attended unwell.

But then once I've actually gone off [on sick leave] I think, you know with a lot of pressure from other people saying [name] you look awful, what are you doing here? And I say yeah, you are right.

Not everybody was affected by such advice by co-workers, with participants discussing engaging in SP despite co-workers' advice to the contrary. This occurred when participants felt that their condition was not as severe, or more manageable, than people were making it out to be.

Sub-theme 2: Administrative measures

Administrative measures also influenced SP/SA behaviours. Several aspects described previously are linked indirectly to administrative decisions. For example, workers engaging in SP to avoid co-workers' vacation leave being cancelled. In this case workers chose SP not due to the administrative measure

itself, but due to their attitude towards their co-workers who could be affected by this measure. Some administrative measures had a more direct impact on illness behaviour. One such factor was the influence of *vacation leave flexibility*. Several charge nurses reported shortening their work day, thus making it more manageable, by taking a few hours vacation leave without needing to identify a replacement. Some nurses also did this when possible, however this was more difficult as they needed to be replaced.

I prefer to take some hours leave or half a day leave. But at least in the morning I have those things which I had in mind settled.

Participants' *rate of pay* also encouraged SP, with participants attending work because their illness coincided with a Sunday or a public holiday on which staff were paid more.

If it is a Sunday or a public holiday, it is better to come. Because Sunday is double the pay and on a public holiday it is triple the pay. So that is a very good reason to come, even if you are sick.

Individuals also attended work ill *to avoid having vacation leave cancelled*. Participants admitted choosing SP if they had booked vacation leave the following day. This occurred due to an administrative measure where planned vacation leave was automatically cancelled if they took sick leave the day before.

I have to come in at least early or half a day, and then I can go out on vacation leave. We cannot take leave straight after sick leave.

It was previously highlighted how the presence of relief staff could stimulate SP. However, for others, knowing that *relievers* would accomplish their tasks in their absence, facilitated SA. Charge nurses were also more likely to choose SA when their shift coincided with the deputy charge nurses' and vice versa.

If you take sick leave nothing is going to happen... I mean, here they cope, sometimes you think, but what if I don't go in? But still they cope.

5.4.5 Theme 4: Personal factors

A number of personal factors also played a role in SP and SA decisions. This theme was divided into two sub-themes entitled (i) illness behaviour preferences and (ii) personal life.

Sub-theme 1: Illness behaviour preferences

This sub-theme related to participants' proclivity for SP and SA, as well as the perceived legitimacy of taking sick leave. One aspect of this sub-theme was *illness behaviour preference*. Individuals engaged in SP stating that it was part of their character to do their utmost to attend work when unwell, expressing a clear preference for presenteeism.

In 33 years, ignoring that time I had the hernia and I had to take 3 weeks at a go, if you count the rest at a go, I don't even think I've taken a month of sick leave.

The decision to engage in SA was difficult for such individuals. They provided negative descriptions of SA, viewed it as something that should not be taken and expressed a desire to be at work. The preference for SP was sometimes linked with perceptions that avoiding work does not aid recovery whilst attending work does. A few participants stated that they preferred SA when ill, and that they had a right to do so.

When I feel sick I usually take sick leave.... I prefer to stay home.

The relevance of character, or propensity for SP and SA, was also frequently noted by participants and it was suggested that this was an important factor in influencing co-workers' decision to attend or not.

It depends on the character of the individual I think. Because my co-workers, I noticed some of them are staff who rarely take sick leave, or they take sick leave when they really need it, and some of them, when they have the slightest thing they take sick leave, whatever happens.

The *legitimacy of one's illness behaviour* was another aspect of this sub-theme that influenced the decision between SP and SA. This depended on two factors: participants' perceived image and reputation; and the support or understanding they felt for their illness.

In the case of the first factor, nurses engaged in SP if their absence could negatively impact their perceived image or reputation. This was thought to occur when SA would coincide with important work situations, including meetings and periods of added responsibility. Participants also worried about engaging in excessive amounts of SA.

I didn't want people saying that I didn't come in because I was due to be in-charge or something similar.

One's perceived reputation, however, could also facilitate SA. Individuals who felt that they had a reputation for taking SA infrequently, or only for valid reasons, felt that this ensured that the legitimacy of their SA would not be called into question:

The management know that I don't use much sick leave, so in thirty-three years they have never sent a doctor round to my house. Because they know that when I'm on sick leave, it's because I'm really ill.

The second factor that influenced illness behaviour legitimacy was experiencing illnesses poorly supported or understood by peers; primarily psychological conditions and symptoms. Participants however, had differing views on the illness behaviour warranted in such conditions. Some felt that SP was necessary as SA was not viewed as legitimate, whilst others felt they would receive little support at work and thus engaged in SA.

There is nothing for mental stress... if I said I am depressed, how could I say that? "I'm a bit worried, I'm not coming because I am mentally

stressed.” Nobody would say that... I don’t think people take sick leave for them, they come to work.

Sub-theme 2: Personal life

Participants’ personal life also influenced their behaviour choices. Individuals chose SP because they *needed to work* to support their families. This was particularly relevant for individuals who had chronic illnesses. Such individuals described struggling through work, including working overtime, due to their family responsibilities:

I started a new family last year, and it’s more responsibility, so I was thinking about how I need to stay here more, I have to work... and I can manage, by thinking about the future and family responsibility.

Participants also described engaging in SP, and thus being seen to attend work regularly, as *setting a good example for their children*. In fact, some described situations where children judged SA negatively, further encouraging SP.

...you cannot stay at home and give a bad example that you are always at home... You need to show them that there is commitment and it needs to be done.

Family members, partners and children however also played a role in *encouraging SA*, often in cases where participants would have otherwise continued to attend work despite illness.

Sometimes it is not me who decided, it is my husband who decides for me, he tells me, no don't go. And then, first I get angry with him, "I have to go". Then later I say, "it is better that I stayed here".

5.5 Results – The consequences of presenteeism and absenteeism

5.5.1 Introduction

Whilst many of the perceived consequences of SP and SA played a role in SP/SA decisions, participants also experienced other, often negative, consequences. These are described below and are divided into the same four themes used to categorise the predictors of illness behaviour (Objective II). The section also revisits and elaborates upon aggravation of the individuals' illness and productivity losses as these were the most frequently mentioned, and thus among the most relevant consequences.

5.5.2 Theme 1: Illness perceptions

Five consequences related to illness perceptions were described, three related to the consequences of engaging in SP and two referred to choosing SA. The first of these, which fell under the sub-theme 'cure and control', dealt with *SP aggravating one's illness*. Participants engaging in SP stated that this often aggravated their condition and could extend eventual SA. Conversely, it was expected that *SA would aid recovery*.

The obvious consequence, when you struggle to work, is that you actually make yourself worse... and just with one or two days rest it would have

resolved, whereas then the problem will exacerbate, and you end up taking more time off.

Participants also felt that factors such as high workloads, and poor levels of teamwork, support and equipment contributed to aggravating illness at work.

Sometimes I lift the patients alone... I have a lot of heavy patients and we are doing it manually, we don't have a [adjustable] bed.

Conversely, the positive impact of SA on illness could depend on ones' opportunity to rest at home when ill (Section 5.5.5) and could also be illness-dependant; for example, some individuals with chronic illness felt better during SP (Section 5.4.2).

A second and positive consequence of SP that fell under the theme 'cure and control' was that attending work whilst ill sometimes resulted in *in-house rehabilitation* as they received treatment from colleagues including physiotherapists and doctors.

One of my colleagues, a physiotherapist, actually noticed it and said do you have 10 minutes to spare, and actually gave me treatment which really helped.

A third and negative consequence of SP, which fell under the sub-theme 'consequence of illness', was the need to *struggle through work demands* and the resulting *negative impact on work performance*.

If the staff is ill, the care will be poor, so not that effective.

Participants suggested that the level of struggle and degree of lost performance depended on several other factors, including the actual illness and its severity (Section 5.4.2), excessive workloads, and poor levels of co-worker and managerial support:

If you don't have someone assisting you, you suffer more and you end up... more tired, and then the patients, you aren't able to help them.

A final consequence involved participants reporting that SA may lead to *contagious illnesses being passed on to those at home*. Participants stated that they tried to minimise this where possible by limiting visitors and isolating themselves when at home.

I baby sit, I have four grandchildren... I don't want them to come and see me and I end up giving whatever I've got, you know, the flu, the chest infection, whatever, to them.

5.5.3 Theme 2: Occupational attitude

Two further consequences were related to participants' occupational attitude. First, and falling under the sub-theme 'attitude towards work and the organisation,' some participants reported that SA caused negative feelings where they *missed work*, and when SA was particularly long, the loss of work routine caused some to question their self-worth.

I love my job very much. Sometimes, even when I am on leave, after some time, I start missing my job. Recently I was on sick leave... I ended up telling myself; "I wish I was at work instead of being sick at home".

Secondly, and relevant to the sub-theme 'attitude towards patients', participants expressed *feelings of guilt* for attending ill and then caring for their patients at a sub-optimal level.

I'll often feel guilty that... maybe I've been more irritable with a patient, I don't give him the necessary level of attention, and I would know that I came willingly, so then I'll feel guilty.

5.5.4 Theme 3: Organisational factors

An administrative measure that had negative consequences for some of those on sick leave, particularly those with psychological symptoms, was the *restrictive sick leave policy*. Such individuals felt that a policy that they must remain at home when on SA was not beneficial for their psychological condition, and thus did not facilitate recuperation.

If you are moody, staring out of the window doesn't make you better. The only way you can escape and get some fresh air is by going on the roof.

The same policy was also seen as restrictive by parents who would have preferred to stay at someone else's home when they did not feel able to look after

themselves and their children. These factors did not give rise to SP, but sometimes participants admitted to occasionally taking vacation leave instead of sick leave due to this policy.

5.5.5 Theme 4: Personal factors

Two further consequences of participants' chosen illness behaviours were related to the sub-theme 'personal life'. The negative impact of SP on illness resulted in participants experiencing symptoms and negative emotions during their *private and family life*. This generally applied to those with chronic illnesses, such as arthritis, and psychological conditions, and was aggravated by a lack of supportive work relationships and excessive work demands. As described in Section 5.5.2 however, families could also be negatively affected by SA when illnesses were contagious.

I go back home, crying, my family they are sad about it, especially my children... And my family, yes, suffers with me. I don't have energy.

A final facet of this sub-theme concerns *housework*. Participants noted that when they were absent from work, housework still had to be done. This was linked to beliefs that SA did not always lead to the necessary recovery.

Although I'm on sick leave I go and do the [house] work. Because it waits for me, even if it is a single plate... And the housework you cannot do it when you feel like, you have to do it.

5.6 Discussion

5.6.1 Summary of findings

The study aimed to determine the reasons for, and consequences of, SP and SA in a cohort of nurses working with older adults. Faced with the decision of attending ill, participants highlighted the relevance of four themes: illness perceptions; occupational attitude; organisational factors; and personal factors. The four themes were also relevant for the consequences of this decision.

With regards the reasons for SP and SA (Objective I), nurses who viewed their illnesses as less severe, controllable, long lasting and unlikely to impact on their work, attended work when ill. Conversely, more severe, less controllable, shorter duration, and performance impairing illness fostered SA. Positive attitudes, particularly towards one's job and co-workers also fostered SP, as did a positive working environment and certain administrative measures, such as engaging in SP on days when nurses were paid more. Those more negative about their co-workers, work demands, and the general environment indicated that this encouraged SA. Administrative measures such as the provision of coverage also encouraged SA. Finally, personal factors also played a role. Presenteeism was driven by personal preferences and SA being considered illegitimate. SA could also be driven by personal preference and beliefs that it was legitimate. Family members could also influence both illness behaviours.

Many factors that affected SP/SA decisions were perceived consequences of these behaviours (Objective II, III). The perceived impact on illness and work performance featured most frequently. Other consequences linked with SP which affected illness behaviour decisions included: earning more on public holidays; conserving sick leave; avoiding the cancellation of vacation leave; setting a good example for their children; avoiding work piling up; reducing the burden on co-workers; and contagion. In all cases, SA was associated with the opposite consequence. Further consequences of SP included (Objective II): receiving in-house treatment; feeling guilty following poor work performance; and negative impacts on family and private life. Further SA consequences included passing on illness to family members; a desire to return to work; experiencing restrictive SA policy; and carrying out housework.

5.6.2 Illness perceptions

Participants' perceptions of their illnesses were a leading factor in deciding whether to engage in SP. The sub-themes discussed within this theme mirrored the aspects originally highlighted in the CSM (Leventhal et al., 1980; Moss-Morris et al., 2002), whereby individuals develop cognitive representation of an illness, which influences how they respond to it (Diefenbach & Leventhal, 1996; Hoving et al., 2010) (Section 3.3.2). As SP/SA decisions are precipitated by a health event (Aronsson & Gustafsson, 2005), the relevance of illness perceptions was unsurprising. Despite being a comprehensive model by which to investigate such

perceptions, the CSM does not appear to feature in the SP literature, suggesting that further research may be warranted. Rather, illness perceptions only featured in previous research in a fragmented manner.

The current study highlighted that certain illnesses, such as Common Mental Health Disorders (CMHDs) and MSDs fostered SP, whilst others, such as fractures and digestive illnesses, required SA. Whilst studies have indicated that illness type may influence SP/SA decisions, much disagreement exists regarding the specific illnesses that predict SP and SA (Caverely et al., 2007; Gosselin et al., 2013). A study of nurses supported the current findings, with certain illnesses like gastroenteritis, fractures and cancer viewed as ‘acceptable’ reasons for SA, whilst others like psychological illnesses considered less acceptable, driving SP (Krane et al., 2014). This also indicates the relevance of legitimacy, discussed further in Section 5.6.5.

Consistent with previous findings, less severe illness encouraged SP, whilst more severe illness necessitated SA (Cocker et al., 2011, 2013; Rebmann et al., 2016). This was partly because more severe conditions made it more difficult to cope with work tasks (DaCosta DiBonaventura et al., 2012). Furthermore, and as previously described, better levels of workability also fostered SP (Çetin, 2016; Dew et al., 2005), whilst poorer levels could result in SA (Umann et al., 2012; Wynne-Johns, Buck, Porteous, et al., 2011). Performance loss within healthcare settings can have serious repercussions (Letvak et al., 2012); individuals did, however, report providing sub-standard care during periods of SP, resulting in feelings of guilt. Nurses have previously reported that performance loss can vary

by illness type (Martinez & Ferreira, 2012) and as in the current study, organisational factors including excessive demands (Palo & Pati, 2013; Pohling et al., 2016), a lack of lifting equipment (Skela-Savič et al., 2017) and reduced social support (AbuAlRub, 2004) can also increase performance loss.

Temporal aspects of illnesses affected participants in a variety of ways. As described by Hansson et al. (2006), chronic illness required SP but was interspersed with periods of SA when symptoms were more severe. This also corroborated with findings that chronic illnesses result in increased SP and SA (MacGregor et al., 2008; Munir et al., 2008). Contradictory findings also exist however, with Rantanen and Tuominen (2011) linking chronic illness with SP but not SA in healthcare workers. In fact, and as in the current study, individuals with chronic illnesses can engage in SP when illness is less severe due to worries about future SA needs (Çetin, 2016; Prater & Smith, 2011) or cut SA short due to worries about running out of sick leave (Baker-McCleary et al., 2010).

Participants favoured SA when this was perceived as beneficial, and SP was considered harmful to health. Absenteeism has previously been described as a coping mechanism (Kristensen, 1991), including one that aids nurses to maintain physical and psychological states at manageable levels (Hackett & Bycio, 1996). The beneficial effect of SA was felt to be reduced in certain chronic illnesses, by restrictive SA policy and by housework. Conversely, SP was more likely when believed to have a neutral or positive impact upon illness. Apart from aiding individuals in forgetting about their symptoms, SP could occasionally result in nurses receiving in-house rehabilitation. A limited number of studies indicate that

individuals favour SA (Collins & Cartwright, 2012; Hansson et al., 2006) and SP (de Vries et al., 2011; Giæver et al., 2016) when it is believed this could benefit them. Often, however, policies designed to reduce SA can result in SP even when considered as negative for health (e.g., Grinyer & Singleton, 2000). Other than the inability to take vacation leave after sick leave and the yearly allocation of paid SA, such policies were not present in the research setting; however, SP still occurred when considered harmful. Presenteeism's negative effect on health is well established in the scientific literature (Skagen & Collins, 2016) including that which involved nurses (Demerouti et al., 2009; Bergström et al., 2009) and illness-related reasons including an acceptance that certain health issues were common and inevitable in nursing (Dew et al., 2005; Krane et al., 2014) and the finite amount of sick leave contributed to this.

Another negative consequence of SP that drove SA was potential disease transmission. Contagious illness can be transmitted to co-workers and patients (Widera et al., 2010) and studies have confirmed that workers worry about attending with such diseases (Baker-McClearn et al., 2010; Collins & Cartwright, 2012). Some charge nurses, however, attended with such diseases and limited transmission by isolating themselves. Various studies have illustrated that healthcare workers attend with contagious illnesses and implement measures to limit transmission (e.g., Tan et al., 2014). The current study also found that SA could result in disease transmission within the household. This has been previously reported (Tsang, Lau, Cauchemez, & Cowling, 2016) however it did not appear to influence the choice between SP and SA.

Nurses thus demonstrated an awareness of their illness and its consequences and this informed their decision regarding which illness behaviour to undertake. Previous experiences of the illness, medical training, as well as medical advice from health professionals, were all reported to have assisted nurses in shaping their illness perceptions. Illness coherence has been previously described as a facilitator of SP in nurses (Tveten & Morken, 2016), and whereas those with chronic pain have been found to often engage in SP, those with new, unexplained symptoms, quickly engage in SA (Hansson et al., 2006), highlighting the possible relevance of this under-researched factor.

5.6.3 Occupational attitude

Enjoying one's job, feelings of pride, satisfaction, and a sense of responsibility were commonly given as reasons to avoid SA and attend when ill. Related findings are not uncommon in the SP literature (Çetin, 2016; Mlakar & Stare, 2013), including in nursing cohorts (Dew et al., 2005; Schreuder et al., 2013). Participants also described missing their job when on SA. These findings may suggest that work engagement plays a role in reducing SA and driving SP, as well as possibly being a consequence of SP. Engaged individuals are dedicated, feel that they can cope with job demands, often persisting when faced with difficulties and do so energetically, enthusiastically, with pride and effectively. Additionally, it is often considered the opposite of burnout (Schaufeli et al., 2006). Engagement has received limited attention in the SP and SA literature. A negative

association between engagement and SA (Hoxsey, 2010; Schaufeli et al., 2009; Soane et al., 2013) has been previously reported, which corroborates with the current findings. Presenteeism findings however have generally identified a negative relationship with engagement (Karanika-Murray et al., 2015; McGregor et al., 2016), including in healthcare workers (Admasachew & Dawson, 2011). This contradicts the current findings; however, a positive relationship has also been reported (Kinman & Wray, 2018). In view of the limited and contradictory findings, limited nursing studies, and as job attitudes are postulated to influence SP in relevant theory (Miraglia & Johns, 2016), further work engagement studies are warranted.

Presenteeism was frequently driven by worry that engaging in SA would burden co-workers, particularly if a replacement could not be found in time. This was further compounded by worry that co-workers' vacation leave could be cancelled if an insufficient number of nurses were present on the ward. Charge nurses also felt indispensable and noted that their work piled up when they were not present, further fuelling SP. The availability of relief staff could encourage SA, however their unfamiliarity with patients and procedures could still burden co-workers and foster SP. Finally, concerns that attending when ill could burden, rather than aid, co-workers drove SA. These mixed findings are reflective of the published literature which confirm that healthcare workers are reluctant to take SA so as not to burden co-workers (Dew et al., 2005; Kim et al., 2016; Tan et al., 2014), often engaging in SP when replacements cannot be found (Aronsson & Gustafsson, 2005; Caverley et al., 2007) and staffing levels are inadequate (Dhaini

et al., 2016). Additionally, tasks that cannot be delegated or wait also encourage SP (McKevitt, 1997). Other studies have failed to link SP or SA to either colleague collaboration (Dhaini et al., 2016) or replaceability (Rantanen & Tuominen, 2011), whilst Lang et al. (2004) failed to identify a link between understaffing and SA. This may be due to the mixed findings presented here, including some nurses feeling unable to cope with work tasks when ill, or believing that unfamiliar relief staff increase workloads, as has also been described by Damart and Kletz (2016).

Some participants also chose SP or SA in response to their co-workers' illness behaviour habits. In fact, SP and SA cultures appeared to vary between wards and shifts. Presenteesim cultures appear more common in private companies (Doki et al., 2015; Johansen, 2012) and are usually fostered by management (Ashby & Mahdon, 2010). In the current study, conducted in a public hospital, SP cultures appeared to be driven by guilt about abandoning colleagues. This has previously been illustrated in a sample that included hospital workers (Buck et al., 2011). Absenteeism cultures have also been documented in the scientific literature, and as in the current study, are reported to be driven by peer group behaviour (De Paola, 2010). In fact, Baydoun et al. (2015) reported that such a culture could occur in public hospital nurses due to perceptions that their employment was secure.

To avoid re-burdening co-workers, a second illness episode following recent SA also encouraged SP. This has been reported in organisations with policies designed to limit SA (e.g., Munir et al., 2008). The positive association between SP and SA frequency is well established in the scientific literature

(Miraglia & Johns, 2016) and has frequently been explained by poor levels of health (Johns, 2011). The current study, however, illustrates that attitudes towards co-workers can also drive this, even when strict SA policies are not in place.

It thus appears that the public nature of the studied hospitals may have influenced the overall findings. Whilst SP is commonly driven by restrictive attendance policies in the private sector (Baker-McClearn et al., 2010), participants in the current study appear to have had greater choice in their SP/SA decisions. This was further exemplified by the decision to attend due to a familiarity with patients: a factor previously noted in nurses (Krane et al., 2014). In fact, attending ill due to feelings of duty towards patients is a common finding in healthcare workers (Al Nuhait et al., 2017; Chambers et al., 2017). This did not appear to influence SP/SA decisions as greatly as in other healthcare-based studies, however, worries regarding attending ill whilst contagious were also relevant and are related.

5.6.4 Organisational factors

Several organisational factors appear to have influenced decisions between SP and SA. A positive working environment, which included positive interpersonal relationships, and co-worker and managerial support, encouraged SP. The opposite situations fostered SA. Qualitative findings by Collins and Cartwright (2012) corroborate these findings, noting that such support not only

encourages SP but makes it possible, whilst Schneider et al. (2018) noted that a positive team climate encouraged nurses to choose SP rather than SA. Much scientific evidence has reported negative associations between co-worker and managerial support and both SA (Bourbonnais & Mondor, 2001; Eriksen et al., 2003) and SP frequencies (Janssens et al., 2016; Whysall et al., 2018). The latter association contradicts the current findings and can be explained as support also aids in the management of illness at work (Munir et al., 2009), reduces the pressure on workers to attend ill unnecessarily, and boosts health thus reducing the need for frequent SP (Miraglia & Johns, 2016).

Work demands, primarily high workloads and long working hours, often exacerbated by staff shortages and the presence of unfamiliar staff, demonstrated a mixed relationship with SA and SP. Whilst some participants viewed demanding periods as a reason for SP to support co-workers, others viewed such periods as difficult to cope with and a reason for SA. Previous findings often indicate a link between increased SA and high job demands in nurses (Baydoun et al., 2015; Bourbonnais & Mondor, 2001), including physical demands (Trinkoff et al., 2001), excessive workload, and longer working hours (Zboril-Benson, 2002). In fact, Roelen et al. (2014) found that the link between demands and SA was partially mediated by physical and mental functioning in nurses, supporting the current findings that demands were linked with SA due to an inability to cope. However, Hultin et al. (2012) found that low levels of workload could trigger SA in cohorts that included hospital workers, also described in the current study. High levels of work demand also appear to stimulate SP behaviours in healthcare

workers (Brborović et al., 2017; Demerouti et al., 2009). Elstad and Vabø (2008) found that work demands were more closely linked to SP than SA. It thus appears that high work demands could encourage both SP and SA. Interestingly, some participants believed that working with older adults was less hectic than other medical fields such as intensive care, making it easier to cope when ill and thus facilitating SP. Studies have previously shown that SP (Al Nuhait et al., 2017) and SA (Siu, 2002) frequencies can vary by hospital department.

Administrative measures also influenced participants' decisions. Participants, primarily charge nurses, used their vacation leave to shorten their working day to facilitate coping when ill. Adjustment latitude, defined as one's opportunities to adjust work to one's state of health (Johansson et al., 2006), is a related concept and has been linked to facilitating SP (de Vries et al., 2011), including in nursing cohorts (Schreuder et al., 2013), and reducing SA (Hultin et al., 2010). Conflicting evidence exists (e.g., Miraglia & Johns, 2016), with Gerich (2014) reporting that as adjustment latitude is health promoting, it reduces SP frequency. Using leave entitlements when one is too ill to work is also a facet of 'leaveism' (Hesketh & Cooper, 2014), a concept found to be more closely associated with SP than SA (Gerich, 2015a) and is supported by this study's finding that it increases one's ability to engage and cope with SP. Leaveism also appears to have occurred when due to restrictive SA policy, vacation leave was considered more beneficial than SA.

The current study also illustrated that SP was more likely on days where nurses earned more. A few related findings have been reported, with Baker-

McClearn et al. (2010) noting that SA dropped when individuals were working paid overtime, indicating SP may have been occurring. Additionally, Caverley et al. (2007) found that overtime was significantly correlated with SP but not SA frequency. The current study also found that participants attended ill the day prior to re-planned vacation leave to prevent this from being cancelled. This finding does not appear to have featured in the scientific literature, however it illustrates the power of administrative measures designed to prevent SA in fostering SP (Baker-McClearn et al., 2010).

5.6.5 Personal factors

Participants described needing to avoid absenteeism as an aspect of their character, replicating earlier findings that suggested that internal attendance standards influenced SP (Hansson et al., 2006; Robertson et al., 2012). Dispositional character traits, such as the Big Five: extraversion; agreeableness; conscientiousness; neuroticism; and openness (McCrae & Costa, 1987), have received limited attention in the SA (Conte & Jacobs, 2003; Judge et al., 1997) and SP (Johns, 2011; Lu, Lin, & Cooper, 2013) literature. Conscientiousness has previously been linked with reduced levels of SA (Conte & Jacobs, 2003; Vlasveld et al., 2013) and as previously suggested by Johns (2011), the current findings may be suggestive of greater conscientiousness. Conscientious individuals tend to be more dependable and in the current study some participants described needing to do their utmost to be at work, even when faced with illness. Aforementioned

worries that drove SP, such as the burdening of co-workers when on SA and attending work ill to avoid co-workers' vacation leave being cancelled, may also be indicative of neuroticism. Johns (2011) linked neuroticism, but not conscientiousness, with SP. Further studies are thus warranted.

Presenteeism was also influenced by the perceived legitimacy of absenteeism. Certain illnesses and those illness episodes that coincided with important work situations fostered SP, as SA was viewed as less legitimate. As in this study, minor colds and mental health problems have previously been reported as illegitimate causes of absence (e.g., Barnes et al., 2008), including in samples that included healthcare workers (Buck et al., 2011; Krane et al., 2014). Nursing managers also appear to label workers as those who take little or too much SA, and this too may influence perceptions of legitimacy and individuals' SP/SA decisions (Krane et al., 2014), as shown in the current study. The legitimacy of engaging in SA does not appear to have been studied in context of specific illness episodes clashing with important work tasks, however Johns (2011) found that individuals who are more easily replaced at work view absence as more legitimate.

Encouragement from one's family, the need to work and viewing attendance as setting a good example for one's children also drove SP. Family pressure, however, could also drive SA. Previous studies have highlighted how spouses can encourage SA (Frederiksen et al., 2015) but the need to earn a living drives SP (Collins & Cartwright, 2012; Crout et al., 2005; de Vries et al., 2011). Whilst mixed findings have been reported regarding a link between caring responsibilities and SA (e.g., Gosslin et al., 2013; Mastekaasa, 2000), several

studies have associated caring for children with increased SP frequency (Hansen & Andersen, 2008; Arnold, 2016) and propensity (Gerich, 2016). It has been postulated that individuals use the workplace to escape family responsibility (Hochschild, 1997) and Hansen and Andersen (2008) found that those who considered the home more taxing than work were more likely to engage in SP. In fact, the current study found that some participants chose SP because staying home would result in housework instead of rest. The current study also provides other responsibility-based reasons why those with children may exhibit more SP.

Finally, individuals sometimes reported that ongoing poor health driven by SP could also affect their private lives. This is not a unique finding, Golics, Khurshid, Basra, Salek, and Finlay (2013) found that the relatives of chronic illness sufferers were negatively affected emotionally, in their day-to-day living, and family relationships, amongst others. In the current study, this emerged as a consequence of SP, however past studies have reported that work-family conflict can increase SP (Miraglia & Johns, 2016; Thun & Løvseth, 2016).

5.6.6 Implications for research

These findings suggest that SP and SA are common in nurses working with older adults in Malta. The study highlighted several factors that may influence the decision to engage in either behaviour (Objective I). In support of the Complementary Hypothesis (Johns, 2010, 2011), decisions between engaging in SP and SA depended on the perceived costs and benefits associated with each behaviour. Several perceived consequences of either behaviour functioned as predictors (Objective III). As described by Johansson's (2007) 'Model of Illness Flexibility', participants described several attendance and absence requirements, such as running out of sick leave and contagion respectively, as well as attendance and absence incentives, such as enjoying work and the provision of coverage. That the outcomes of both SP and SAs were considered when taking a decision to attend ill or not supported the argument that SA should also be considered when studying SP (Johns, 2010). The current study also highlighted the relevance of illness perceptions, and whilst several studies have analysed the impact of illness-related factors on SP/SA decisions, the CSM (Leventhal et al., 1980; Moss-Morris et al., 2002) may be a useful framework to comprehensively analyse the link between such perceptions and SP/SA decisions. Despite the evident relevance of individuals' appraisals of their illnesses, a quantitative study that has compared participants' illness perceptions during SP and SA episodes could not be identified. Such a study could meaningfully contribute to the SP literature and this research gap is addressed in the second phase of this mixed methods investigation

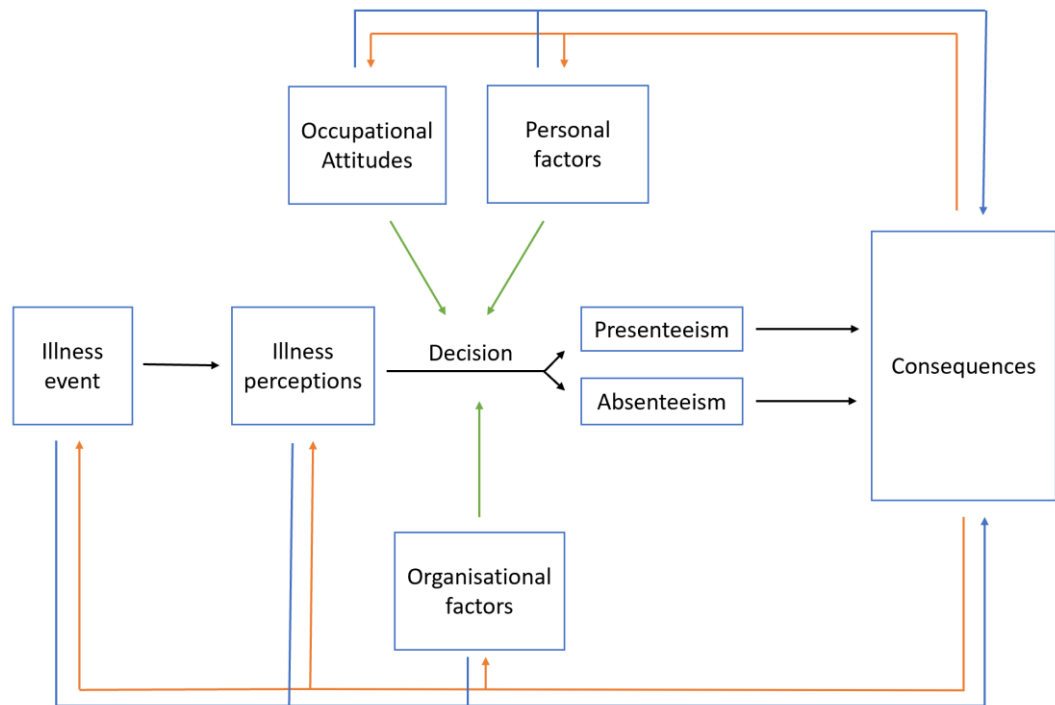
(Chapter Seven). Finally, other variables that may prove interesting avenues for future research were identified including engagement and personality traits.

Performance loss and impacts upon health appear to be the major consequences of SP and SA decisions. Whilst research has been conducted to determine the level of performance loss during SP and its determinants in samples of nurses (Martinez & Ferreira, 2012), this has yet to be conducted in a sample in Malta. Ascertaining if this negative consequence applies to the wider studied nursing population and identifying its determinants could have useful practical implications. Additionally, whilst it is known that absenteeism and presenteeism impact upon future health (e.g., Gustafsson & Marklund, 2011), the determinants of nurses' illness outcomes during SP and SA episodes appear to have received little attention in the published literature. Further studies are thus warranted.

In view of the findings, a proposed model of SP and SA decisions and their consequences is presented in Figure 5.1 (Objective IV). The model builds on that of Johns (2010); the preeminent SP model at the time of writing (Section 3.2.6). It is proposed that illness events result in illness perceptions which inform SP and SA decisions. Such decisions are also influenced by various organisational, attitudinal and person-related factors. Engaging in SP and SA also results in consequences; the degree to which different consequences occur also appears to depend on various illness, attitudinal, organisational and person-related factors. In turn, it is proposed that both the actual occurrence of, and the awareness that such consequences could occur influences SP/SA decisions. For example, SP/SA decisions may be taken more frequently when SP aggravates illness, however

perceiving that SP will aggravate illness may foster SA. Due to the small sample size, the current study could not determine which of these categories of factors had the greater impact upon SP and SA decisions and their consequences. Nor could the relative importance of individual factors within these categories be determined. This is explored during the second phase of this investigation.

Figure 5.1: A Cyclical Model of Presenteeism and Absenteeism



5.6.7 Implications for practice

Many participants considered nursing to be detrimental to health, engaging in SP due to chronic, often musculoskeletal, problems. Such problems are common in nursing and are often attributed to manual handling and psychosocial demands (Bos et al., 2007), factors found to be pertinent in the current study. As illustrated by the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti et al., 2001), better health can be fostered by providing workers with realistic demands and the resources to cope with these. Manual handling equipment must thus be available, working hours and workload realistic, and staffing complements adequate and familiar with ward procedures. Such changes would also aid those already struggling with physical and psychological issues to recover and potentially reduce the frequency of attending ill secondary to views that SA was a burden on co-workers, or because they feared co-workers' vacation leave could be cancelled due to insufficient staffing numbers.

Consideration should also be given to a few administrative measures. A policy where SA could lead to the cancellation of future vacation leave should be reconsidered as it appears to encourage unnecessary SP. A policy that individuals could not leave their home when on sick leave could be inhibiting recovery during these periods and should also be reviewed. Certain non-contagious diseases such as depression benefit from exercise (Cooney et al., 2013), which is difficult to achieve indoors.

Nurses who felt that SA would be considered illegitimate engaged in SP; this could result in more severe, chronic issues (Tarasuk & Eakin, 1995). Organisational cultures that discourage the taking of necessary absenteeism should therefore be tackled. Often, psychological illnesses were considered illegitimate and thus initiatives that challenge stigmas should be considered, including management making it clear that such illnesses are as legitimate a reason for absenteeism as are physical ones.

That charge nurses attended work with contagious illnesses by barricading themselves within their offices is also a concern. This could cause cross-infection with other staff members, who in turn treat vulnerable older adults. This should be analysed by those involved in the control of contagious disease. Participants also used their vacation leave to cope with work when ill; individuals should be encouraged to use this for leisure activities. The introduction of flexible hours for such members of staff may prevent this behaviour.

Whilst SP is often viewed negatively, it has been argued that ill workers still contribute more than if they had failed to attend (Baker-McClearn et al., 2010). This study demonstrated that nurses considered the consequences of their illness and attended when symptoms were less serious, they could cope with their work and when SP could benefit recovery. Therefore, SP was not always a negative state (Lu et al., 2014). When present, teamwork was seen to facilitate such positive SP and thus interventions to boost teamwork and a positive working environment would be beneficial. However, such judgements may have been clouded when nurses attended ill on days when they were paid more, or to protect

vacation leave, amongst others. Participants also admitted that SP could lead to underperformance and feelings of guilt. In view of the known negative impacts of SP, and also because excessive SA can hinder rehabilitation, workers and the organisations may benefit from constructive discussions on when SP and SA are considered acceptable and when it is not.

5.7 Conclusions

The study provides insights into the reasons why nurses who work with older adults engage in SP and SA, as well as the perceived consequences of these behaviours. Knowledge of such factors may assist managers and policy makers to manage these illness behaviours. Nurses actively considered the consequences of SP and SA when deciding which behaviour to engage in, including the implications to their health, work, their co-workers, pay and family. Nursing also emerged as a hazardous job that left several participants struggling with chronic injuries and juggling between SP and SA in order to manage these. It is evident that nurses would benefit from safer work practices including manageable work demands and the necessary resources. The findings also highlight new avenues for research whilst potentially contributing to presenteeism theory with the introduction of a new model of SP and SA decisions.

These findings informed the next phase of this study, a quantitative study on the topic within the same population. This aimed to quantify the presence of

presenteeism, absenteeism and their perceived consequences, whilst also understanding which factors might play a substantive role in determining these behaviours and outcomes.

Chapter Six: Correlates of Presenteeism and Absenteeism: A Quantitative Study on Nurses in Geriatric Settings

Summary

The following chapter presents a cross-sectional survey ($N = 270$) carried out to investigate the predictors of presenteeism and absenteeism in ward-based nurses working with older adults. Hierarchical binary and multinomial logistic regressions were used to identify the correlates of presenteeism and absenteeism frequency and propensity, respectively. The study determined that presenteeism and absenteeism were frequent, with presenteeism proving more prevalent. The factors correlated with presenteeism and absenteeism frequency and propensity were found to differ, and the pertinent illness perceptions, attitudes, organisational factors and personal factors are presented. A discussion of potential practical and theoretical implications follows.

6.1 Background and objectives

The first phase of this mixed methods investigation used a qualitative research methodology to identify the determinants and consequences of sickness presenteeism (SP) and sickness absenteeism (SA) within a sample of nurses working with older adults. These predictors and consequences fit within four themes: illness perceptions, occupational attitudes, organisational factors, and personal factors. Additionally, several perceived consequences appeared to influence SP/SA decisions, supporting the Complementary Hypothesis (Johns, 2010, 2011), which states that individuals consider the costs and benefits associated with SP and SA before engaging in one of these behaviours. The findings led to the development of a model of SP and SA, presented in Section 5.6.6

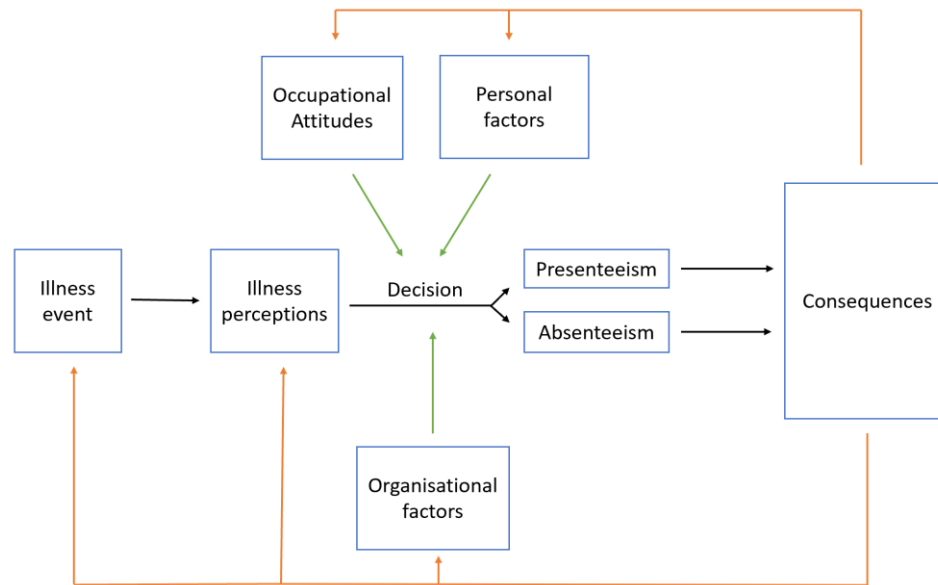
Whilst the first study provided a rich understanding of the phenomena under investigation, it had a few limitations. The sample size was too small to draw firm conclusions that the factors discovered applied to the entire study population. Additionally, limited inferences could be made on the frequency of the identified themes. Furthermore, whilst some general trends were evident, a few factors had a mixed relationship with SP and SA. These shortcomings were addressed via the second study in this mixed methods investigation that used a quantitative research methodology.

This chapter first presents the methods employed in the second phase of this mixed methods investigation. The obtained data were investigated via three

different analyses: (i) In order to explore the factors that contribute to SP and SA decisions, the correlates of SP and SA frequency and propensity were analysed. In line with the proposed Cyclical Model of Presenteeism and Absenteeism, this analysis aimed to determine if nurses' illness perceptions were associated with these behaviours. Furthermore, the association between SP, SA and factors unrelated to illness, including attitudinal, organisational and personal factors, were explored. The findings of this analysis are presented and discussed in the current chapter. (ii) Qualitative findings highlighted that illness perceptions played a key role in determining SP and SA decisions. Despite this, the literature review (Chapter Three) revealed that such perceptions did not appear to have been analysed in a comprehensive manner in SP studies. The second analysis, presented in Chapter Seven, therefore compared how nurses' illness perceptions varied between SP and SA episodes. (iii) Phase I findings revealed that SP and SA had several consequences, which appeared to have their own predictors. As highlighted in the literature review, the predictors of these consequences remain unclear. An analysis of the predictors of performance loss and illness outcomes following SP and SA is therefore presented in Chapter Eight.

This chapter therefore presents the methodology of the second phase of this investigation as well as the results and analysis of the correlates of SP and SA. It thus investigates the portion of the proposed model of SP and SA that deals with the predictors of SP and SA (Figure 6.1).

Figure 6.1: The investigated model



The first study indicated that individuals with chronic illnesses needed to decide between SP and SA more frequently. The current study, therefore, does not solely focus on identifying the correlates of SP and SA frequency, as in several cases these predictors may identify correlates of increased illness frequency, rather than factors that informed their decisions to engage in SP versus SA (Gerich, 2015b) (Section 3.3). The study, therefore, also aimed to identify the factors linked to engaging in either SP or SA most commonly, termed here as SP or SA propensity. The current study thus had the following objectives:

- I. To quantify the frequency and propensity of SP and SA.
- II. To identify the correlates of SP and SA frequency and propensity.
- III. To establish if the perceived consequences of SP and SA are associated with SP and SA frequency and propensity.

6.2 Methods

6.2.1 Research setting

The research setting used in this second phase of the investigation was the same as that of the first phase; this was described in Section 4.3.3. The two data collection phases occurred a year apart from each other. The nursing management hierarchy at ward-level in Facility A initially included both charge nurses and deputy charge nurses, whilst Facility B only included charge nurses, this changed during the period between the two data collection phases: eight nurses at Facility B were promoted to deputy-charge nurse.

6.2.2 Design

A cross-sectional survey using quantitative research methods was used. This was favoured over a longitudinal study due to the limited population size and concerns regarding participation and attrition. It was also deemed an ideal design to investigate Phase I findings regarding how illness perceptions varied between SP and SA episodes (Chapter Seven). Whilst cross-sectional research does not allow for the direction and order of effects to be determined, a review of occupational health psychology papers by Spector and Pindek (2016) found that 41% used this approach. These papers provided significant contributions such as,

the testing of hypotheses, the development of new scales and the investigation of novel research questions.

6.2.3 Participants

Ward-based nurses working with elderly patients, including charge and deputy charge nurses, within the aforementioned hospitals. Nurses who were not ward-based or worked on wards that did not cater for older adults were excluded. A total population of 410 nurses working in 41 wards were thus eligible to participate in the study. As the questionnaire had a recall period of one year, participants who had worked in the research settings for less than a year were also excluded from the study. Data regarding how many of the 410 nurses satisfied this criterion was unavailable.

6.2.4 Procedure

To encourage participation, the researcher attended the wards and invited nurses to participate in the study in-person (Baruch & Holtom, 2008). With the help of the Heads of Nursing of the respective hospitals, time periods when working nurses were most likely to be available were identified. In order to maximise representativeness of the sample, the order in which wards were visited was chosen by pulling ward names out of a bag. As nurses worked on a five-day

roster, wards were visited for five consecutive days to maximise the chance of meeting each individual. Data collection was conducted over an eight-week period and visits were carried out during both the day and night shift. On average, eight wards were visited each day.

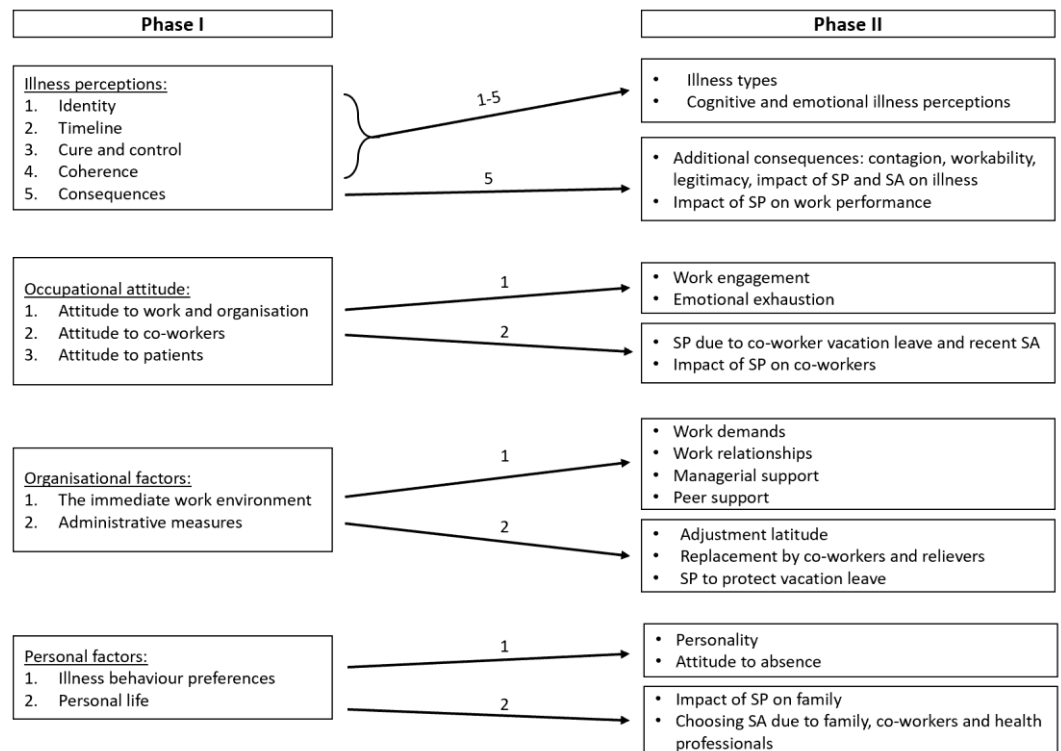
On attending a ward, the researcher first introduced himself to the nurse in charge and then to each nurse that he encountered. The purpose and procedures of the study were then explained, including their ethical rights and that by means of participating, nurses could choose to participate in a lottery draw. Consenting individuals were provided with a written information sheet, asked to sign a consent form, and were left a questionnaire that was explained to them. The researcher collected the completed and sealed questionnaires in-person, dropping these into a box that contained other completed questionnaires to further protect anonymity. Individuals who chose to participate in the prize draw were asked to enter a telephone number on the last page of the questionnaire. Telephone numbers were not used to identify participants. Four questionnaires were drawn at random; winners were contacted and sent a 25 Euro voucher.

6.2.5 Measures

A questionnaire was developed to investigate the topics that emerged from the first qualitative study. Whilst some of the measured topics, such as illness perceptions, work demands, and peer support closely mirrored those described in

the results of the first study (Section 5.4), others were based on an analysis of the obtained findings and the scientific literature (Section 5.6). Examples include work engagement, work adjustment and personality factors. Figure 6.2 illustrates the link between the themes and sub-themes that emerged during Phase I and the factors investigated during Phase II. Attitudes towards patients were not investigated during Phase II as few participants were found in this subtheme (Table 5.2). Outcome measures, including SP and SA frequency, and control variables including general health and demographic data were also collected as described later.

Figure 6.2: The investigated factors as informed by Phase I findings



When identifying measurement instruments, priority was given to those used extensively in the published literature and were considered to have strong psychometric properties. A review by Taber (2017) illustrated that descriptions of acceptable levels of reliability varied greatly in the published literature; Cronbach alpha values greater than .60 were often considered adequate, but values greater than .70 were recommended. Reductions in reliability reduce effect sizes and statistical power (Henson, 2001). Measures with alpha scores in excess of .60 were therefore sought, however those with scores in excess of .70 were prioritised. Cronbach alpha scores, however, were not prioritised when identifying tools with only two items per domain. This applied to the Ten-Item Personality Inventory (TIPI) described further on. Woods and Hampson (2005) noted that alpha scores can be misleading when calculated for tools with a small number of items. In fact, Kline (2000) noted that alpha scores are dependent on longer scales, and when high alphas are obtained on short scales, these may be over-specific. Woods and Hampson (2005) therefore concluded that calculating alpha reliability for scales with two items was of little value.

Once complete, the questionnaire was piloted. A group of healthcare workers who were not part of the study population ($N=7$) were recruited. The recruited individuals completed the questionnaire in the presence of the researcher. Encountered difficulties were noted and discussed. Following this pilot exercise minor changes were made to the questionnaire: questions relating SP and SA frequency were moved from the beginning of the questionnaire to a later section as some participants failed to read the instructions and erroneously believed that the

questions that followed on illness perceptions referred to their SP/SA frequency in general, rather than their last illness episode; a modification to the B-IPQ scale on treatment control was also introduced as described later. The final version of the questionnaire (Appendix I) contained the following measures:

Sickness presenteeism: This was measured via a single item measure: “Has it happened over the previous 12 months that you have gone to work despite feeling that you really should have taken sick leave due to your state of health?” (Aronsson et al., 2000). The measure has featured regularly in SP research (Bergström et al., 2014; Böckerman & Laukkanen, 2010a; Cicei et al., 2013) and has acceptable test-retest reliability (Demerouti et al., 2009). Responses were made on a five-point Likert scale: have not been sick over the previous 12 months (0); no, never (0); yes, once (1); yes, 2-5 times (2); yes, more than five times (3) (Aronsson & Gustafsson, 2005). The responses “have not been sick” and “no never” were transformed into a single score “never” during data entry.

Sickness absenteeism: This was measured with a single item measure: “How many times over the past 12 months, have you been away from work due to sickness?” (Aronsson et al., 2011). Similar questions have featured regularly in previous SA research (Elstad & Vabø, 2008; Gustafsson & Marklund, 2011; Rugulies et al., 2007). In order to maximise comparability with SP, this was measured via the same five-point Likert scale described and coded as above. Other studies have measured SA via administrative records (e.g. Bakker et al., 2003a; Koopmans et al., 2008). This was not carried out to facilitate direct comparison with the SP measure and because discussions with nursing management, and the

results of the first study, highlighted that nurses also took sick leave when they were not ill.

The study made use of a one-year recollection period because this diminishes the impact of seasonal fluctuations in illness (Schaufeli et al., 2009; Steel, 2003). Additionally, the recall period has been used extensively in the SP and SA published literature (Elstad & Vabø, 2008; Karanika-Murray et al., 2015; Tan et al., 2014), thus maximising the comparability of this study's findings. Furthermore, Gaudine and Gregory (2010) determined that nurses' self-reports of SA rates and organisational records were consistent, with the former sufficiently accurate for research purposes.

Propensity for SP or SA: Based on participants' SP and SA frequency statistics, individuals were placed in one of three categories: those who engaged in both behaviours equally (1), those who engaged in SA more frequently (propensity for SA) (2), and those who engaged in SP more frequently (propensity for SP) (3). At the time of the study design, this measure was an innovative approach devised to explore SP and SA decisions whilst reducing the impact of individuals' illness frequency, which confound SP and SA frequency measures (Gerich, 2015b). The measure was inspired by Phase I findings that individuals with chronic illnesses had to choose between SP and SA more frequently. It has since been used to good effect by Schneider et al. (2018). Other similar measures have also featured in the scientific published literature. For example, studies by Biron et al. (2006) and Gerich (2016) featured SP measures where SP frequency was divided by total illness (SP + SA frequency). This method, however, has the disadvantage of not

combining SP and SA into a single variable. Gustafsson and Marklund (2014) used a variable similar to that of the current study but used four levels by also differing between when SP and SA were both high, and SP and SA were both low. This, however, can complicate the analysis.

In order to identify the unique correlates of each sickness behaviour (Section 6.2.6.2), two binomial factors were also created: propensity for SP and propensity for SA. In the former measure, individuals who indicated that they engaged in SP more frequently than SA were awarded a one, those that engaged in SA more frequently, or in the two behaviours equally, were awarded a zero. In the latter measure, those that engaged in SA more frequently were awarded a one, whilst those that engaged in SP more frequently, or in the two behaviours equally, were awarded a zero.

Illness perceptions: Individuals were asked to reflect upon the most recent SP and SA episode that they had experienced over a period of 12 months and to retrospectively rate their overall illness perceptions during these episodes. Participants were thus asked to complete two copies of the Brief Illness Perception Questionnaire (B-IPQ) (Broadbent et al., 2006); one for each episode. The B-IPQ has been used extensively in published studies (e.g. Kok et al., 2013), has been used retrospectively (Broadbent et al., 2006), and has good psychometric properties (Broadbent et al., 2015). It contains eight single-item questions, all of which are measured on an eleven-point scale (0 – 10). Six items measure cognitive illness representations: identity (symptoms severity); timeline (length of illness); consequences (impact on life); personal control (ability to control illness);

treatment control (control of illness via treatment); and coherence (make sense of illness). Two items measure emotional representations: emotional response (experience of negative emotions); and concern (concern about illness). Finally, illness cause is measured by a ninth open-ended question that asks participants to list up to three perceived causes of their illness in order of importance (The individual illness perceptions are described in further detail in Section 3.3.2). The first cause was categorised binomially by the researcher as being an organisational cause (1), or as a cause unrelated to one's work (2). A second variable, overall cause, was also coded binomially but was based on all the reasons given. The categories here included: contains organisational factors (1); and contains no organisational factors (2).

During the pilot exercise, it emerged that participants may not have received any form of medical treatment during periods of SP and SA. The question on treatment control was thus modified and included a section where participants could indicate if they had not received treatment: this was coded binomially: took treatment (1); took no treatment (0). As a large percentage of respondents stated that they had not received treatment, this perception was excluded from all the performed regressions due to a large percentage of missing data. The binomial variable however was included.

The Revised Illness Perception Questionnaire (IPQ-R) (Moss-Morris et al., 2002), on which the B-IPQ is based, allows individuals to list the symptoms they experienced during their illness. As this does not form part of the B-IPQ, an initial section was added that allowed participants to circle the categories of illness

experienced during their last episode of SP and SA. These were based on the illness categories identified by the Department for Work and Pensions (UK) (2013) and were adopted as participants were all qualified nurses. Two types of variables were derived from this section: binomial variables, if the individual experienced a specific category of illness (1) or not (0) during their last episode of SP and SA; and the number of illnesses they reported to experience during each illness episode.

Contagion: A single item measure was added within the two sections on illness perceptions regarding the perceived contagiousness of their illness. This stated: “How contagious was your illness?” and was rated on the same eleven-point scale as the B-IPQ ranging from “absolutely not contagious (0)” to “extremely contagious (10)”.

Legitimacy: Participants were asked to reflect on how legitimate absence was, or would have been perceived, by co-workers during their last episodes of SA and SP, respectively. This was measured by the following question: “Do you believe that your co-workers would have considered your illness as a valid reason for you to take sick leave?” this was measured on the aforementioned eleven-point scale ranging from “absolutely not (0)” to “definitely (10)”.

Workability: Defined as individuals’ ability to physically and mentally cope with their work demands, depending on their health (Tuomi, Ilmarinen, Jahkola, Katajarinne, & Tulkki), individuals were asked to rate their workability during their last episodes of SP and SA via the following question: “How would

you rate your workability when attending with this health issue/s compared with your life-time best?” (Ahlstrom, Grimby-Ekman, Hagberg, & Dellve, 2010). Responses were measured on an eleven-point scale that ranged from “completely unable to work (0)” to “workability at life-time best (10)”.

Impact of SP and SA on illness: Participants were asked to reflect upon how they had expected that attending work or staying home would affect their illness during their last episodes of SP and SA, respectively. Additionally, for each illness episode participants were also asked to reflect upon their expectations of how the opposite behaviour could have impacted their illness. Examples of the questions posed included, “What impact did you expect attending work when unwell would have on your illness?” and “had you instead chosen to stay home, what impact did you expect this would have had on your illness?” Similar questions were posed for absenteeism episodes. Finally, participants were asked to reflect upon the actual impact their last episode of SP and SA had on their illness via the following questions, respectively: “what impact did attending work when ill actually have on your illness?” and “what impact did staying home from work when ill actually have on your illness?”. All questions were measured on a five-point scale: very harmful (1); harmful (2); no effect (3); beneficial (4); very beneficial (5).

Performance loss during SP: This was measured via the Stanford Presenteeism Scale (SPS-6) (Koopman et al., 2002), a six-question tool with a five-point scale: strongly agree (1); somewhat agree (2); uncertain (3); somewhat disagree (4); strongly disagree (5). Examples of the statements posed include:

‘because of my health problem, the stresses of my job were much harder to handle’ and ‘at work, I was able to focus on achieving my goals despite my health problem’. Three statements are reversed scored and a total score is calculated by adding the six scores. Scores can range from 6-30, with higher scores indicating better performance. Whilst the tool is often used to measure performance loss during the past month, participants were instead asked to reflect upon their performance during their last SP episode. The SPS-6 has good internal consistency, with a Cronbach’s α of 0.80 (Koopman et al., 2002), and has featured regularly within the scientific literature (Brborović et al., 2014; Johns, 2011; Martinez & Ferreira, 2012).

Work engagement: The nine item Utrecht Work Engagement Scale (UWES-9) (Schaufeli & Bakker, 2003) was used to measure engagement. Examples of the statements posed include: ‘At my work, I feel bursting with energy’ and ‘I feel happy when I am working intensely’. The tool uses the following seven-point scale: never (0); almost never (1); rarely (2); sometimes (3); often (4); very often (5); always (6). Apart from providing an overall engagement score ($\alpha = .93$), it also has three subscales of three questions each: vigour ($\alpha = .84$); dedication ($\alpha = .89$); and absorption ($\alpha = .79$). All scores represent the average score of items in that scale, with higher scores indicating more positive outcomes (Schaufeli et al., 2006).

Adjustment latitude: A nine item tool developed by Johansson et al. (2006) was used ($\alpha = .80$). Participants rate their degree of adjustment latitude in each item by means of a three-point scale: never (0); sometimes (1); always (2).

Examples of the statements found in this scale include, 'I can choose among work tasks' and 'I can shorten the workday'. Higher scores indicate more adjustment latitude, with a final average score being calculated.

Ease of replacement: Five single-item questions based upon the work of Aronsson et al. (2000), Aronsson and Gustafsson (2005), Böckerman and Laukkanen (2009) and Johns (2011) were developed to identify the ease with which nurses could be replaced when absent; either by their colleagues or a replacement. The statements also probed the proportion of nurses' tasks that would be carried out by their replacement or colleagues, and the degree to which work piles up when they were absent. Participants were thus asked to rate the following statements, "If I'm absent from work, my colleagues fill in for me" and "If I'm absent from work, a replacement fills in for me." Both statements were coupled with a four-point scale: never (1); sometimes (2); often (3) always (4). A second set of questions asked participants "If you are absent from work, what proportion of your tasks do your colleagues undertake?" and was repeated for replacements. Both questions were scored on a 4-point scale: none/small proportion (1); less than half (2); more than half (3); virtually all (4). Participants were asked to rate a final statement, "If I am absent from work, the work just piles up until I get back" and was scored on the scale ranging from never to always.

Pay: The impact of pay was measured through a single-item statement: "if my health problem coincided with a day on which I receive a higher rate of pay, I am more likely to attend e.g., Sunday." Participants replied on a four-point scale: definitely not (1); probably not (2); probably (3); definitely (4).

Demands: Work demands were measured via the demands domain of the Health and Safety Executive's Management Standards Indicator Tool (HSE MS-IT) (HSE, n.d.). It includes eight items (e.g., different groups at work demand things from me that are hard to combine) scored on the following five-point scale: never (5); seldom (4); sometimes (3); often (2); always (1). Higher scores indicate more manageable work demands. Kerr, McHugh, & McCrory (2009) reported the Cronbach's alpha reliability coefficient for this scale as .82.

Peer support: This was measured by the four-item peer support domain of the HSE MS-IT which has a Cronbach's alpha of .84 (Kerr et al., 2009). It includes items such as, 'If work gets difficult, my colleagues will help me', and has two 5-point scales, one ranging from never (1) to always (5), the other included: strongly disagree (1); disagree (2); neutral (3); agree (4); strongly agree (5). Higher scores indicate greater levels of peer support.

Managerial support: The 5-item managerial support domain of the HSE MS-IT was used here (e.g., my superior encourages me at work). This also makes use of the above five-point scales ranging from never (1) to always (5) or strongly disagree (1) to strongly agree (5). Higher scores indicate greater levels of managerial support. Kerr et al. (2009) reported that the scale has an alpha score of .88.

Relationships: The 4-item relationship domain of the HSE MS-IT was used (e.g., I am subject to bullying at work). It uses the aforementioned five-point scales that ranges from never (5) to always (1), or strongly disagree (5) to strongly

agree (1). Higher scores indicate stronger relationships. Kerr et al. (2009) reported an alpha score of 0.78.

Personality: The Ten-Item Personality Inventory (TIPI) (Gosling, Rentfrow, & Swann, 2003) was used. This tool provides scores for the Big Five personality traits that include: extraversion ($\alpha = .68$); agreeableness ($\alpha = .40$); conscientiousness ($\alpha = .50$); emotional stability ($\alpha = .73$); and openness to experience ($\alpha = .45$). A seven-point scale is used: disagree strongly (1); disagree moderately (2); disagree a little (3); neither agree nor disagree (4); agree a little (5); agree moderately (6); agree strongly (7). Half the questions are reverse scored and each trait is calculated by taking the average score of two items; higher scores indicate a greater standing in a personality trait. As each broad trait is measured by only two items, alpha scores are generally low for the individual scales. Gosling et al. (2003) stated that this was intentional to optimise validity and was necessary as each scale measures both the positive and negative poles of each personality trait. This was considered more important than measuring just one facet of a personality trait in order to boost alpha scores. Gosling et al. (2003) therefore cautioned against using alpha scores to determine this measure's reliability, and rather highlighted that tested over a six-week period, TIPI had good levels of test-retest reliability. The authors debated that this form of reliability was more relevant when analysing measures with a small number of items.

Attitude towards work attendance: A single item measure based on the work by Väänänen et al (2008) and Zaccaro, Craig and Quinn (1991) was created. It asked: "how important is it for you not to be absent from work?" and was

measured on a 4-point scale: not important at all (1); not important (2); important (3); very important (4).

Emotional exhaustion: A single statement was used here: “I feel burnt out from my work” and was measured through a six-point scale: never (1); a few times a year or less (2); a few times a month (3); once a week (4); a few times a week (5); every day (6). This item originates from the Maslach Burnout Inventory (MBI) (Maslach et al., 1996) and has the highest factor loading for emotional exhaustion (West, Dyrbye, Sloan, & Shanafelt, 2009; West, Dyrbye, Satele, Sloan, & Shanafelt, 2012).

Overall health: A question found in the Short Form-36 (Ware & Sherbourne, 1992) and used as a single item measure by several authors (Bergström et al., 2009; Caverley et al., 2007) was used. This stated, “in general I would say my health is” and was rated on a five-point scale: poor (1); fair (2); good (3); very good (4); excellent (5).

Co-workers’ vacation leave: The need to choose SP to avoid hampering co-workers’ vacation leave was measured via the following statement: “It can be necessary to attend work unwell to avoid my co-workers’ vacation leave being cancelled.” It was measured on the following five-point scale: strongly disagree (1); somewhat disagree (2); neither agree nor disagree (3); somewhat agree (4); strongly agree (5).

Participants’ vacation leave: As participants’ vacation leave could be cancelled if it encroached on a period of SA, participants were asked to rate their

agreement with the statement: “It can be necessary to attend work when unwell to avoid having my vacation leave being cancelled.” This was measured via the above five-point scale.

Recent sick leave: A single item measured participants’ likelihood of SP if they had recently engaged in sick leave: “Attending work when unwell can be necessary if I have recently taken sick leave.” This was measured via the aforementioned five-point scale.

Burden on co-workers: A single item measured the impact of attending work when unwell on co-workers’ work demands, this stated: “Attending work when unwell often results in me burdening my co-workers” and was measured as above.

Impact of SP on family: This was measured via the following single item “Attending work when unwell has negative repercussions on my family” and was measured with the above five-point scale.

Impact of family on SA: The following item, that used the above scale, gathered information on the impact of family members on individuals’ choice to take sick leave when unwell: “I take sick leave when unwell because my family encourage me to do so”

Impact of colleagues on SA: The impact of colleagues on sick leave choice was also assessed: “I take sick leave when unwell because my colleagues encourage me to do so”. This was measured with the aforementioned scale.

Impact of health care professional on SA: Finally, the impact of a doctor and other health care professionals on sick leave choice was assessed: “I take sick leave when unwell because a doctor/health care professional advised me to do so” and was measured as above.

Demographics: Information on the following were collected (see appendix I): Age, gender (Male [1], Female [2]), grade (nurse [1], charge or deputy nurse [2]), employment (full time [1], part-time or reduced hours [2]), position (reliever [1], fixed on a ward [2]), living status (married or living with a partner [1] versus not [0]; living alone [1] versus not [0]; living with parents/family [1] versus not [0]) and responsibility at home (Contribute to the care of dependent relatives at home [1], no caring responsibilities [2]).

6.2.6 Analysis

Data were entered manually into IBM SPSS Statistics 22. Questionnaires that contained large amounts of missing data, or had an entirely empty section, were discarded. In the remaining questionnaires minor cases of missing data had to be tackled. The two most common solutions involve deletion or imputation (Dodeen, 2003). Deletion, particularly listwise deletion, can reduce the sample size and decrease statistical power. Pairwise deletion preserves more data but makes interpretation more difficult as different parts of the sample are used for each statistic (Roth, 1994). A number of imputation methods, which involve replacing

the missing value also exist. Mean substitution, where the mean value of that variable replaces the missing data values (Roth, Campion & Jones, 1996), has been used in the published literature on presenteeism and absenteeism (e.g., Avery, McKay, Wilson, & Tonidandel, 2007; de Vries et al., 2012; Sanderson, Tilse, Nicholson, Oldenburg, & Graves, 2007) and was therefore applied within this thesis. The technique assumes that data are missing completely at random (MCAR) and has been criticised because imputing the mean reduces the variance of the variable, thus reducing covariance with other variables (Schlomer, Bauman, & Card, 2010). It is therefore suggested that it is only used when less than 10% of the data are missing (Donner, 1982); a criterion that was met by the obtained data set.

Data were checked for errors, the minimum and maximum scores of each variable were ensured, and descriptive data were then created to quantify the frequency and propensity of SP and SA (Objective I), as well as the other measured variables. By means of frequency tables, it was ensured that no missing data persisted, whilst the normal distribution of the measured variables was checked via histograms and the skewness statistic. All items were found to be in line with the absolute value of less than 2 indicating that the obtained data were normal (George & Mallery, 2008; Kim, 2013), thus data transformation was not warranted. Boxplots were used to examine ordinal and scale data for outliers; those identified were double checked versus the raw data to ensure that the highlighted scores were authentic (Morgan, Leech, Gloeckner, & Barrett, 2013). Inferential analysis, described in the following sections, was then carried out.

Cronbach's alpha coefficients were calculated for each of the multi-item measurement scales. In line with previous presenteeism research (Cho et al., 2016; d'Errico et al., 2016; Schneider et al., 2018; Skela-Savic et al., 2017), alpha coefficients $\geq .60$ were considered acceptable, with alphas $> .70$ desirable (Taber, 2017). All scales were found to conform with the minimum criterion including the: SPS-6 ($\alpha = .67$); adjustment latitude scale ($\alpha = .61$); UWES overall engagement scale ($\alpha = .88$); UWES vigour scale ($\alpha = .74$); UWES absorption scale ($\alpha = .74$); UWES dedication scale ($\alpha = .83$); HSE MS-IT demands scale ($\alpha = .60$); HSE MS-IT relationship scale ($\alpha = .60$); HSE MS-IT peer support scale ($\alpha = .81$) and the HSE MS-IT management support scale ($\alpha = .80$). Alpha coefficients were not calculated for the 2-item TIPI scales for the reasons discussed in Section 6.2.5. The authors of this scale, Gosling et al. (2003) instead debated that test-retest reliability was a more suitable measure of reliability for this scale. The design of the current study, however, precluded this from being tested.

6.2.6.1 Inferential analysis: Predictors of presenteeism and absenteeism frequency

Hierarchical binary logistic regression was used to identify the correlates of SP and SA frequency, with a model being created for each outcome variable (Objective II). This technique was chosen as it allows one to predict an outcome from a set of predictor variables, whilst also demonstrating how the addition of variables improves on the prediction of other variables (Leech, Barrett, & Morgan,

2015); thus allowing for the different stages of the proposed Cyclical Model of SP and SA to be investigated.

A review of the research methodology used within occupational health psychology reported that 45% of studies used regression (Spector & Pindek, 2016), illustrating the broad acceptance of this technique. Multiple linear regression was also considered for this task but was decided against as the outcome variables should be an interval or scale level variable (Leech et al., 2015), which Morgan et al. (2013) suggest should have at least five levels. The SP and SA measures in the current study had four levels. Logistic regression also appears to be the analysis technique of choice in SP studies that used the same, or a similar, SP outcome variable and scale as was used in this study (Aronsson, 2000; Bäckerman & Laukkanen, 2010a, 2010b; Cicei et al., 2013; Doki et al., 2015; Gustafsson & Marklund, 2011). The outcome variables were therefore dichotomised in the same manner as the aforementioned studies (0 = No, never / Yes, once; 1 = Yes, 2–5 times / Yes, more than 5 times). Pearson's point-biserial correlations were then conducted to identify significant associations ($p < 0.05$) between SA frequency, SP frequency and the measured scale variables. This statistical technique was chosen as it calculates the relationship between two variables when one is dichotomous (Gravetter & Wallnau, 2011). When the independent variable was also dichotomous however, Phi was used to identify such relationships (Morgan et al., 2013).

Becker et al. (2015) noted that authors of journal papers tend to include a battery of control variables, often with little or no justification. They caution

against this approach, as it complicates the interpretation and replication of the study's results and suggested only including variables that correlate significantly with one's dependant variables. As previously reported (e.g., Aronsson et al., 2011), only control variables that were significantly correlated with the outcome variables were entered into the regression ($p < .05$). Demographic control variables were included first into the hierarchical regression (e.g., Gilbreath & Karimi, 2012; Gustafsson Sendén et al., 2013; Lu, Lin & Cooper, 2013). In order to control for the number of health events in the given recall period, overall health and SA frequency were also included at this stage of the regression as control variables when analysing the predictors of SP frequency. Overall health and SP frequency acted as control variables when studying the predictors of SA frequency (Gerich, 2015b).

Many of the available control variables, as well as some of the independent variables, were dichotomous in nature. Dichotomous variables, such as illness types, which were present in fewer than 27 individuals, representing less than 10% of the studied sample, were excluded from multivariate analyses if these could not be combined with other variables. When entering categorical variables, SPSS requires that a method by which such variables will be contrasted is selected. Indicator coding, which typically involves the use of a zero or a one to indicate the presence or absence of a factor, is the most frequently used coding for such variables in both linear and logistic regression analysis (Menard, 2010) and was used in the current analysis. When using indicator coding, SPSS requires that a reference category (the omitted category) is selected. As the first category of the

binomial independent variables were generally larger (the absence of a behaviour), these were used as the reference categories (Gordon, 2016). The variables SA and SP frequency were also coded in this manner, however, they were found to have more cases in the second category. This indicated that the behaviour occurred frequently. In such cases the first category was still retained as the reference group for consistency. This was not considered an issue, as the choice of reference group when using indicator coding for dichotomous variables does not influence the substantive results of the analysis. Rather, only the regression coefficient and therefore the interpretation for that variable changes. The coefficient for one category is just the negative of the coefficient for the other category (Menard, 2010).

Factors other than control variables were introduced into the hierarchical model as per the proposed Cyclical Model of SP and SA; in the second step of the regression factors related to illness perceptions were entered, whereas in the third and final step factors related to work attitudes, organisational factors and individual differences were included. In each regression, only factors that significantly correlated with the outcome variable ($p < .05$) were entered into the regression (e.g., Gustafsson Sendén et al., 2013). Additionally, due to the great number of variables available to the researcher, and because better regressions contain fewer predictors, only variables that significantly contributed to the regression were retained (Field, 2005). An exception was made for control variables: those significantly related to the outcome variable were retained in the regression even if they did not significantly contribute to it.

As many potential combinations of variables were possible, the model which produced the highest R^2 , and thus explained the highest degree of variance of the outcome variable, was presented.

The conditions and assumptions of logistic regression were tested and met. These included that (i) the outcome variable was binary and the outcomes were mutually exclusive; (ii) independent variables were either dichotomous or scale-level in nature; (iii) a minimum sample size of 20 cases per predictor was available; (iv) observations were independent; (v) continuous independent variables were linearly related to the logit of the dependent variable; (vi) Multicollinearity was not present (Leech et al., 2015).

Box-Tidwell Tests were conducted to determine if linear relationships between the continuous independent variables and the log odds of the two dependent variables existed. For each dependent variable, a logistic regression was run in which interactions between the continuous predictors and their logs were included. A significant interaction would indicate that the assumption had been violated (Menard, 2010).

As Multicollinearity cannot be tested for in SPSS when running a binary logistic regression, a linear regression was instead carried out for each dependant variable, with multicollinearity being tested by means of (i) a correlation matrix to identify highly intercorrelated variables ($>.60$) and via (ii) tolerance statistics, where statistics lower than $1 - R^2$ were considered to indicate multicollinearity (Leech et al., 2015). Where multicollinearity occurred between variables, these

were either combined if this made conceptual sense, or if this was not possible one or more variables were eliminated (Leech et al., 2015). When choosing which variables to retain, priority was given to those that contributed most greatly to the regression once multicollinearity was eliminated.

6.2.6.2 Inferential analysis: predictors of propensity for presenteeism and absenteeism

As the variable ‘propensity for SP and SA’ contains three nominal categories, propensity for SP, propensity for SA and engaging in each behaviour equally, multinomial logistic regression (also known as polytomous logistic regression) was used to identify this outcome variable’s predictors (Leech et al., 2015; Menard, 2010) (Objective II). Compared to running two separate binomial logistic regressions for propensity for SP and propensity for SA, multinomial logistic regression allows for the effect of explanatory variables to be assessed for each propensity as well as for the overall model as a whole. Additionally, it provides estimates of overall model significance (Hutcheson & Moutinho, 2008). Schneider et al. (2018) who also carried out a multivariate analysis of a variable identical to the propensity measure used in this study also used the same analytical technique.

As with the previous regressions, variables were entered into the model on the basis of significant correlations with two dichotomous variables, propensity for SP and propensity for SA (Section 6.2.5). Those that did not contribute significantly to predicting either propensity for SP or SA were removed from the regression. Control variables however, that significantly correlated with the outcome variables were retained even if they did not significantly contribute to the regression.

Multinomial logistic regression requires one category of the dependent variable to be chosen as a reference category; the results of a multinomial regression reflect the probability of membership in a category, versus the probability of membership in this reference category (Menard, 2010). Menard (2010) suggests that the reference category should be that with the highest number of cases as this is likely to result in more reliable coefficients; however, he also notes that in some cases a theoretical or logical reason may guide the selection of this category. As the study aimed to determine the correlates of propensity for SP and SA, engaging in the behaviours equally was first used as the reference category, this category also had the greatest amount of cases. The regression was then re-run with propensity for SA as the reference category in order to compare this directly with SP propensity.

Unlike in logistic regression, SPSS does not allow users to choose the reference category of dichotomous independent variables; the first category was thus automatically selected. As discussed above, this was generally the larger

category; however, which of the two categories is used as the reference category does not affect the obtained results (Menard, 2010).

As was described in the previous section, multiple linear regression was conducted for the dummy variables propensity for SP and propensity for SA in order to identify any multicollinearity (Menard, 2010). This was identified and tackled as described above. Additionally, a Box-Tidwell Test was again conducted via logistic regression with the same dummy variables to ensure that a linear relationship existed between the continuous independent variables and the log odds of the dependent variable (Menard, 2010).

6.2.7 Ethical procedures:

An expedited approval by the Research Ethics Board of the Faculty of Medicine and Health Sciences at the University of Nottingham was obtained for this phase of the study (Appendix B), as the overall study had already been assessed and approved by this board. Written permission was also granted by the participating facilities to carry out both phases of this research project (Section 5.3.8).

Participants' ethical rights were protected via the provision of an information sheet (Appendix F) that detailed the purpose and procedures of the study, along with their ethical rights. Participants who agreed to participate were asked to sign a consent form (Appendix G) and provided with an anonymous

questionnaire. Participants were informed they could skip any question they did not feel comfortable answering without providing any reason and were under no obligation to return the questionnaire. Nobody was coerced into participating, and only information necessary for the study was collected. When completed, the sealed questionnaire was dropped into a box containing other filled questionnaires in order to further protect anonymity. The box was kept by the researcher at all times.

Participating nurses were provided with the contact details of the researchers, as well as the contact details of the Research Ethics Committee Administrator at the University of Nottingham, should they have wished to submit a complaint. A summary of the research findings was made available to the participating hospitals, whilst participants were given the option of requesting a copy by means of e-mailing the researcher.

6.3 Results

6.3.1 Response rate and data preparation

Out of a total of 410 ward-based nurses working with older adults, 321 were invited to participate in the study. As the researcher invited nurses to participate in-person, some nurses could not be contacted due to issues such as vacation leave, sick leave and shift patterns. Of those contacted, 13 nurses failed to fulfil the eligibility criterion of having worked in the research setting for at least one year. In total 283 questionnaires were returned, generating an 88% response rate that represented 69% of the total ward-based nursing population.

Of the returned questionnaires, two were discarded due to a great amount of missing data, whilst a further eleven questionnaires were not analysed as they either failed to fill in all the sections of the questionnaire ($n=3$) or they provided conflicting responses such as stating that they had never engaged in SA within the last 12 months, yet filled in the section about their illness perceptions during their last absenteeism episode within the same 12 month period ($n=8$).

Analyses were thus conducted on a total of 270 cases (66% of the population). Less than 3% of the analysed data were missing and these appeared to be distributed randomly. A review of occupational health psychology research papers reported that the average sample size in quantitative studies is 299 (Spector & Pindek, 2016), suggesting that the current study was similar to the average.

6.3.2 Respondent characteristics

As indicated in Table 6.1, most participants were female nurses with a mean age of 38.4 (SD = 12.9). Furthermore, most worked full-time, had a fixed position on a ward, lived with a partner or were married, and contributed to the care of dependent relatives living in their home, including children, elderly or disabled relatives. Also included in Table 6.1 are statistics from the wider study population, including the 410 ward-based nurses and 10 nurses who were excluded from the study as they worked within out-patient departments. Weighted cases chi-square analysis indicated that a significant difference between the sample and population was not evident in terms of gender ($\chi^2 = .00$, $p = .99$), grade ($\chi^2 = 2.85$, $p = .09$), position ($\chi^2 = 2.52$, $p = .11$), or employment ($\chi^2 = 1.37$, $p = .24$).

Table 6.1: Respondents' demographic and occupational characteristics

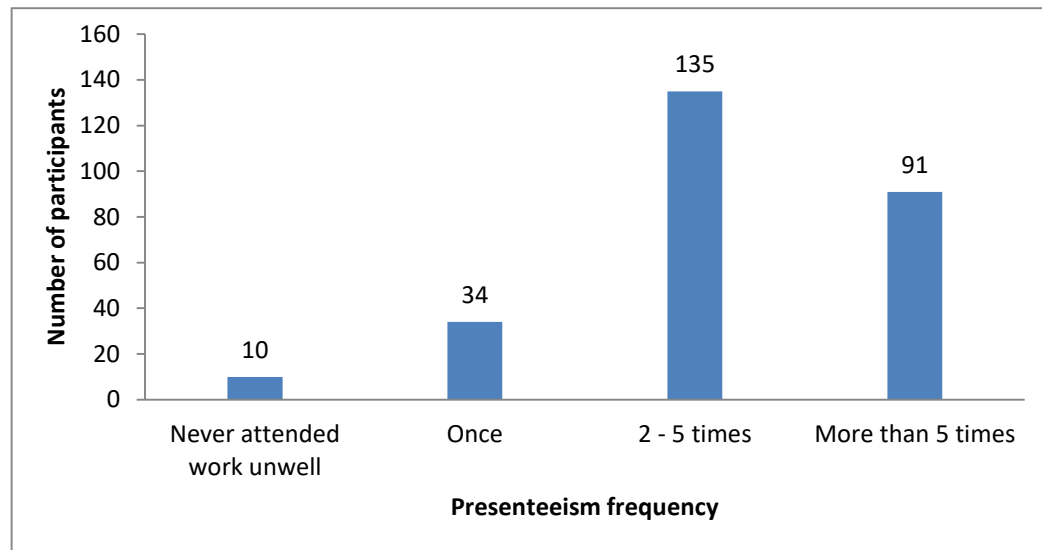
	<i>Sample N (%)</i>	<i>Population N (%)</i>
Gender		
Male	76 (28.1)	118 (28.1)
Female	194 (71.9)	302 (71.9)
Age		
≤ 30	107 (39.6)	-
31-40	45 (16.7)	-
41-50	55 (20.4)	-
≥51	63 (23.3)	-
Grade		
Nurse	209 (77.4)	347 (82.6)
Charge / deputy charge nurse	61 (22.6)	73 (17.4)
Position / residence		
Fixed on ward	242 (89.6)	359 (85.5)
Reliever	28 (10.4)	61 (14.5)
Employment type		
Full time	262 (97)	400 (95.2)
Part-time / reduced hours	8 (3)	20 (4.8)
Living status		
Living with partner / married	169 (62.6)	-
Living alone	12 (4.4)	-
Living with parents / family	80 (29.6)	-
Other	9 (3.3)	-
Responsibility for dependants		
Caring responsibility	181 (67)	-
No caring responsibility	89 (33)	-

Sample *N* = 270; Population *N* = 420

6.3.3 Presenteeism and absenteeism frequency

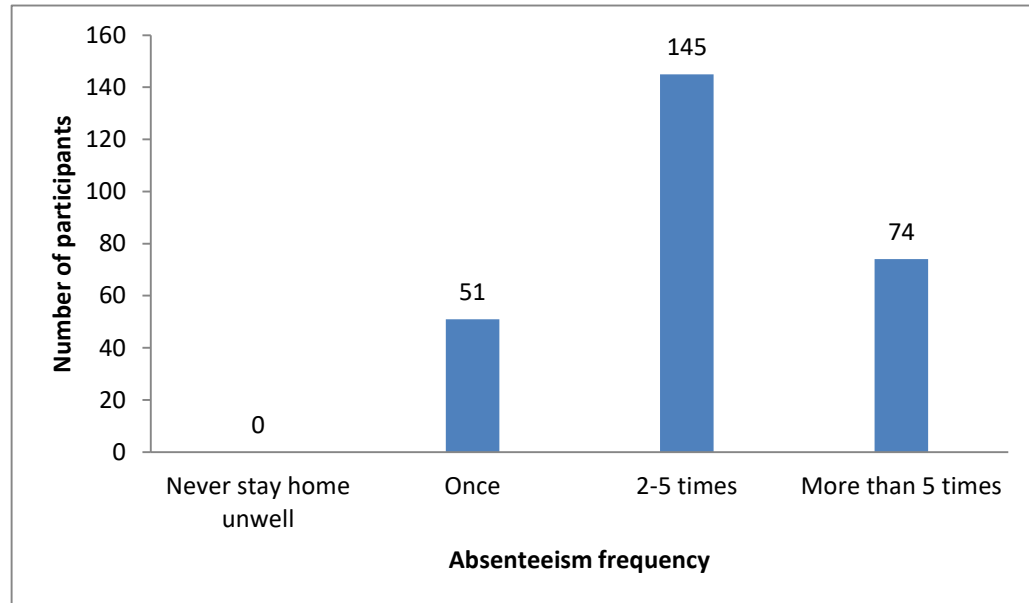
The following section addresses Objective I, in reporting the frequency of SP and SA in the studied sample. Only ten individuals (3.7%) never engaged in at least one episode of SP in the last 12 months, 34 (12.6%) respondents reported having engaged in SP once. Half of the participants reported engaging in SP two to five times within the last 12 months, whilst 91 (33.7%) indicated that they had engaged in SP five or more times (Figure 6.3).

Figure 6.3: Sickness presenteeism frequency (last 12 months).



All respondents reported engaging in SA at least once, with 145 (53.7%) engaging in SA two to five times over the last 12 months (Figure 6.4). More than five times was the second most common category with 74 (27.4%) choosing this option. Finally, 51 (18.9%) stated that they engaged in SA once.

Figure 6.4: Sickness absenteeism frequency (last 12 months)



6.3.4 Correlates of presenteeism frequency

Hierarchical binomial logistic regression was conducted to identify the correlates of SP frequency (Objective II). The conditions and assumptions of logistic regression (Section 6.2.6.1) were tested and met. The means, standard deviations and intercorrelations of variables included in the regression are presented in Table 6.3. Variables that correlated significantly with SP frequency but did not contribute to the regression are listed in Table 6.2.

Table 6.2: Correlations with presenteeism frequency – variables not contributing to regression

Variable	Correlation coefficient
Digestive illness SP	-.13*
Timeline SP	.17**
Menstruation SA	.13*
Fracture SA ¹	-.20**
Timeline SA	.12*
Adjustment latitude	-.14*
Demands	-.16**
Emotional exhaustion	.13*
Impact of family on SA	.13*

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism;

¹Variable omitted from regression as < 27 cases

Table 6.3: Means, standard deviations, and intercorrelations for presenteeism frequency and predictor variables

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5	6	7
1. SA frequency	.81	.39	0-1	1						
2. Digestive SA	.17	.38	0-1	-.15*	1					
3. Coherence SP	7.14	2.40	0-10	.05	.02	1				
4. Emotional response SP	6.07	2.84	0-10	.06	-.01	.18**	1			
5. Actual impact SA on illness	4.23	.81	1-5	.11	.02	.04	.08	1		
6. Recent SA	3.32	1.27	1-5	.05	-.09	-.08	-.04	-.07	1	
7. Overall support	3.68	.65	1-5	-.11	.08	.06	-.02	.01	.01	1
8. SP frequency	.84	.37	0-1	.20**	-.20**	-.14*	.17**	.14*	.17**	-.17**

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism; *M*, Mean; *SD*, Standard deviation

SA frequency was the only control variable to be included in the initial model (Table 6.4), $X^2 = 9.17$, $df = 1$, $N = 270$, $p = .002$. A pseudo Cox and Snell score of .03 and a Nagelkerke R^2 score of .06 suggested it explained between 3% and 6% of the variance. A further four illness perceptions significantly contributed to the second model, $X^2 = 36.01$, $df = 5$, $N = 270$, $p < .001$. A pseudo Cox and Snell score of .13 and a Nagelkerke R^2 score of .21 indicated that the second model explained between 13% and 21% of the variance.

In the final model, attitudinal, individual and organisational factors were included. Due to multicollinearity, the HSE MS-IT manager support scale and the HSE MS-IT peer support scale were combined into a single variable termed HSE MS-IT overall support scale. This was calculated by adding individuals' scores and dividing their total score by two. Only this variable and engaging in SP due to recent sick leave significantly influenced this final model, $X^2 = 47.91$, $df = 7$, $N = 270$, $p < .001$. A pseudo Cox and Snell score of .16 and a Nagelkerke R^2 of .28, indicated that the final model explained between 16% and 28% of the variance. Leech et al. (2015) notes that the former measure is usually an underestimate and that the measures suggest between a medium and large effect size (Cohen, 1988; Morgan et al., 2013).

The final model indicated that individuals who engaged in SP two or more times were (Objective II): 2.64 times (95% CI 1.17-5.97) more likely to engage in SA frequently; and 0.40 times (95% CI 0.17-0.92) less likely to report a digestive illness during their last SA episode. For every unit increase in B-IPQ coherence SP, individuals were 0.79 times (95% CI 0.67-0.94) less likely to engage in SP

frequently, whilst for each unit increase in B-IPQ emotional response during SP individuals were 1.21 times (95% CI 1.07-1.36) more likely to engage in frequent SP. Individuals' opinion of the actual impact of their last episode of SA on their illness was also relevant: a unit increase in this variable increased the odds of engaging in SP by 1.64 (95% CI 1.09-2.47).

Managerial and peer support had an inverse relationship with SP. A unit increase in overall support reduced the odds of engaging in frequent SP by 0.49 (95% CI 0.26-0.91). Finally, engaging in SP due to recent sick leave increased the odds of engaging in frequent SP by 1.46 times (95% CI 1.10-1.94).

Table 6.4: Hierarchical logistic regression analysis summary predicting presenteeism frequency

Variable	Total	Model 1				Model 2				Model 3			
		<i>B</i>	<i>SE</i>	OR	95% CI	<i>B</i>	<i>SE</i>	OR	95% CI	<i>B</i>	<i>SE</i>	OR	95% CI
SA frequency													
<i>None / low</i>	51	-	-	-	-	-	-	-	-	-	-	-	-
<i>Medium / high</i>	219	1.14	.36	3.12**	1.53- 6.36	1.06	.40	2.87**	1.32- 6.26	.97	.42	2.64*	1.17- 5.97
Digestive SA													
<i>No</i>	233					-	-	-	-	-	-	-	-
<i>Yes</i>	47					-1.11	.41	0.33**	0.15- 0.73	-.93	.40	0.40*	0.17- 0.92
Coherence SP	270					-.26	.09	0.78**	0.65- 0.92	-.23	.09	0.79**	0.67- 0.94
Emotional response SP	270					.18	.06	1.20**	1.07- 1.35	.19	.06	1.21**	1.07- 1.36
Actual impact SA on illness	270					.39	.20	1.47*	1.00- 2.17	.50	.21	1.64*	1.09- 2.47
Overall support	270									-.72	.32	0.49*	0.26- 0.91
Recent sick leave	270									.38	.15	1.46**	1.10- 1.94

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$; *B*, coefficient; *SE*, standard error; OR, odds ratio; CI, confidence interval; SA, Sickness absenteeism; SP, sickness presenteeism;

6.3.5 Correlates of absenteeism frequency

To identify the correlates of SA frequency (Objective II), a hierarchical binomial logistic regression was conducted. The conditions for this statistical test were met and the intercorrelations between the variables found in the regression are presented in Table 6.6. Other variables that correlated significantly with the outcome variable but did not contribute significantly to the regression included:

Table 6.5: Correlations with absenteeism frequency – variables not contributing to regression

Variable	Correlation coefficient
Overall health	-.14*
CMHDs SP	.17**
Expected impact of staying home on illness SP	.15*
CMHDs SA	.14*
MSDs SA	.15*
Other injuries SA	.13*
Menstruation SA	.17**
Emotional response SA	.13*
Contagious illness SA	-.13*
Vigour	-.17**
Relationships	-.14*

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism; CMHDs, Common mental health disorders; MSDs, Musculoskeletal Disorders.

Table 6.6: Means, standard deviations, and intercorrelations for absenteeism frequency and predictor variables

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5	6	7	8
1. Grade	1.23	.42	1-2	1							
2. SP frequency	.84	.37	0-1	-.05	1						
3. Digestive SA	.17	.38	0-1	-.18**	-.19**	1					
4. Illness number SA	1.80	1.28	1-20	-.16**	.03	.26**	1				
5. Illness perceptions SP	4.99	2.07	0-10	.01	.17**	-.13*	.10	1			
6. Expected impact work on illness SP	2.26	.64	1-5	.09	-.12	.09	-.03	-.28**	1		
7. Work attendance attitude	3.19	.66	1-4	.06	.02	.01	-.07	-.01	.00	1	
8. Impact of health professional on SA	4.12	1.13	1-5	-.06	-.09	-.03	-.04	.01	-.02	.01	1
9. SA frequency	.81	.39	0-1	-.12*	.20**	-.15*	.18**	.23**	-.20**	-.12*	.14*

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism; *M*, Mean; *SD*, Standard deviation

Control variables were initially entered into the model. Whilst three control variables significantly correlated with SA frequency during bivariate analysis, overall health was removed from the model as multicollinearity occurred between it and other illness data, specifically illness perception data. Overall health did not significantly contribute to the regression however, even when those factors it interacted with were removed. The first model (Table 6.7) significantly predicted SA frequency, $X^2 = 12.57$, $df = 2$, $N = 270$, $p = .002$. A Cox and Snell score of .05 and a Nagelkerke R^2 score of .07 were obtained.

In the second model, a few B-IPQ measures for participants' last SP episode were significantly correlated with SA frequency but also created multicollinearity issues. These included: B-IPQ consequences, timeline and identity. As they are related concepts and correlated with SA in the same direction, these were combined into a single variable, 'Illness perceptions SP' by adding participants' total score and dividing by three. The second model (Table 6.7) included six variables and significantly predicted SA frequency, $X^2 = 45.34$, $df = 6$, $N = 270$, $p < .001$, with all variables except SP frequency significantly contributing. A Cox and Snell score of .16 and a Nagelkerke R^2 score of .25 indicated that the model explained between 16% and 25% of the variance.

In the final model, only two further factors significantly contributed to the regression. With their addition, SP frequency, which was previously insignificant, also significantly contributed to the regression. Grade however no longer contributed. The model significantly predicted SA frequency, $X^2 = 56.27$, $df = 8$, $N = 270$, $p < .001$. A Cox and Snell R^2 score of .19 and a Nagelkerke R^2 score of .30

suggested that the model explained between 19% and 30% of the variance. This indicated a medium to large effect size (Cohen, 1988; Morgan et al., 2013).

The final model indicated (Objective II) that whilst grade did not significantly affect the model, individuals who engaged in SP frequently were 2.71 times (95% CI 1.17-6.23) more likely to engage in SA frequently. Conversely, those with digestive illnesses during their last period of SA were 0.30 times (95% CI 0.12-0.73) less likely to engage in SA frequently.

Experiencing concurrent illnesses during SA increased the odds of frequent SA by 1.93 times (95% CI 1.25-2.98) per illness, whilst B-IPQ illness perceptions SP increased the odds of frequent SA by 1.24 times (95% CI 1.03-1.49). Additionally, the expected impact of attending work on the illness during participants' last SP episode reduced the odds of engaging in SA frequently by 0.55 times (95% CI 0.33-0.93) per unit change.

A unit increase in work attendance attitude reduced the odds of SA frequency by 0.57 (95% CI 0.33-0.99). Finally, a unit increase in impact of health professional on SA resulted in a 1.50 (95% CI 1.12-1.99) increase in the odds of engaging in SA frequently.

Table 6.7: Hierarchical logistic regression analysis summary predicting absenteeism frequency

Variable	Total	Model 1				Model 2				Model 3			
		<i>B</i>	<i>SE</i>	OR	95% CI	<i>B</i>	<i>SE</i>	OR	95% CI	<i>B</i>	<i>SE</i>	OR	95% CI
Grade													
<i>Nurse</i>	209	-	-	-	-	-	-	-	-	-	-	-	-
<i>Charge nurse</i>	61	-.67	.35	0.52	0.26- 1.03	-.77	.39	0.46*	0.22- 0.99	-.078	.40	0.48	0.22- 1.04
SP frequency													
<i>None / low</i>	44	-	-	-	-	-	-	-	-	-	-	-	-
<i>Medium / high</i>	226	1.12	.37	3.06**	1.49- 6.27	.79	.40	2.18	0.99- 4.79	1.00	.43	2.71*	1.17- 6.23
Digestive SA													
<i>No</i>	233					-	-	-	-	-	-	-	-
<i>Yes</i>	47					-1.19	.44	0.30**	0.13- 0.72	-1.21	.46	0.30**	0.12- 0.73
Illness number SA	270					.68	.22	1.87**	1.21- 2.90	.66	.22	1.93**	1.25- 2.98
Illness perceptions SP	270					.21	.09	1.23*	1.03- 1.48	.21	.09	1.24*	1.03- 1.49
Expected impact of work on illness SP	270					-.62	.26	0.54*	0.32- 0.90	-.59	.27	0.55*	0.33- 0.93
Work attendance attitude	270									-.56	.28	0.57*	0.33- 0.99
Impact of health professional on SA	270									.40	.15	1.50**	1.12- 1.99

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$; *B*, coefficient; *SE*, standard error; OR, odds ratio; CI, confidence interval; *SE*, standard error; SA, Sickness absenteeism; SP, sickness presenteeism.

6.3.6 Correlates of propensity for presenteeism and absenteeism

Descriptive statistics were first created to understand the frequency of propensity in the studied sample (Objective I). This illustrated that half of the sample, 136 individuals (50.4%) demonstrated no preference between SA and SP, engaging in these behaviours in equal proportions. Of the remaining participants, 78 (28.9%) engaged in SP more frequently whilst 56 (20.7%) engaged in SA more frequently.

Multinomial logistic regression was used to identify the correlates of SP and SA proclivity (Objective II). Those variables that were significantly associated with either propensity for SP or SA during bivariate analysis and contributed to the regression are presented in Table 6.9. Excluded from this analysis were SP and SA frequency variables as the outcome variables were derived from these. Variables that did not contribute to the regression are presented in Table 6.8.

Table 6.8: Correlations with absenteeism and presenteeism propensity – variables not contributing to regression

Variable	Correlation coefficient
<i>Associated with propensity for SP:</i>	
Concern during SA	-.13*
Vigour	.19**
Replacement carries out tasks	-.14*
Work piles up	.17**
Work attendance attitude	.14*
Co-workers' vacations	.12*
<i>Associated with propensity for SA:</i>	
Overall cause of illness during SP	.16*
Expected impact of home on illness SP	.15*
Replacement fills in	.14*
Replacement carries out tasks	.15*
Work piles up	-.14*
Emotional exhaustion	-.15*

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism

Table 6.9: Means, standard deviations, and intercorrelations for propensity for presenteeism and absenteeism predictor variables

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5	6
1. Grade	1.23	.42	1-2	1					
2. Workability SP	5.03	2.13	0-10	.13*	1				
3. Emotional response SA	6.32	2.81	0-10	-.13*	-.06	1			
4. Overall engagement	4.00	.93	0-6	.13*	.15*	-.08	1		
5. Work demands	3.07	.51	1-5	-.05	.09	-.12*	.12	1	
6. SP propensity	.29	.45	0-1	.14*	-.13*	-.14*	.13*	-.13*	1
7. SA propensity	.21	.41	0-1	-.04	.14*	-.03	.07	.21**	-.33***

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism; *M*, Mean; *SD*, Standard deviation

As multinomial logistic regression requires one level of the outcome variable to be used as a reference category, propensity for SP and SA were first compared to those who engaged in both behaviours equally. The regression was then re-run with propensity for SA as the reference group to compare this directly with propensity for SP (Table 6.10). Grade, the only control variable which correlated significantly with the outcome variable during bivariate analysis did not contribute to the regression. One significant factor, work attendance attitude, had to be removed from the model due to multicollinearity issues with UWES overall engagement. The latter was retained as it contributed more strongly to the regression. ‘Overall cause of illness during SP’ was also excluded from the regression due to the low number of individuals who reported non-organisational causes of illness (28); this number dropped further in the different models which always excluded one category of illness propensity. Finally, ‘Expected impact of staying home on the illness during SP’ was excluded for violating the assumption of linearly related to the logit of the dependent variable. Menard (2010) suggests that this can be tackled by converting the variable into a dichotomous one; this, however, resulted in categories with less than 27 cases in some models.

The odds of reporting a propensity for SP, when compared to those who engaged in either behaviour equally (Objective II): improved by 1.59 times (95% CI 1.13-2.22) for each unit increase in participants’ overall work engagement; decreased by 0.85 times (95% CI 0.74-0.99) for each unit increase in respondents’ workability during their last SP episode; and decreased by 0.88 times (95% CI 0.79-0.97) for each unit increase in B-IPQ emotion experienced during

participants' last SA episode. Conversely, the odds of reporting a propensity for SA increased by 2.29 times (95% CI 1.17-4.45) for every unit increase in HSE's MS-IT Demands Scale (higher scores indicated more manageable demands). Finally, when compared to those with a propensity for SA, the odds of having a propensity for SP (Objective II) decreased by 0.77 times (95% CI 0.65-0.92) for each unit increase in respondents' workability during SP and decreased by 0.29 times (95% CI 0.14-0.62) for each unit increase on the HSE MS-IT Demand Scale.

When all five variables were considered together, they significantly predicted the three categories of the outcome variable, $X^2 = 40.30$, $df = 10$, $N = 270$, $p < .001$. A pseudo Cox and Snell score of .14 and a Nagelkerke R Square score of .16 indicated that the model explains 14% and 16% of the variance.

Table 6.10: Multinomial logistic regression analysis summary predicting propensity for presenteeism and absenteeism

Variable	Total	Propensity for SP versus no preference				Propensity for SA versus no preference				Propensity for SP versus propensity for SA			
		<i>B</i>	<i>SE</i>	OR	95% CI	<i>B</i>	<i>SE</i>	OR	95% CI	<i>B</i>	<i>SE</i>	OR	95% CI
Grade													
<i>Nurse</i>	209	-.63	.35	0.54	0.27- 1.06	.06	.42	1.06	0.47- 2.40	-.68	.44	0.51	0.21- 1.21
<i>Deputy or charge</i>	61	-	-	-	-	-	-	-	-	-	-	-	-
Workability SP	270	-.16	.07	0.85*	0.74- 0.99	.10	.08	1.10	0.94- 1.29	-.26	.09	0.77**	0.65- 0.92
Emotional response SA	270	-.13	.05	0.88*	0.79- 0.97	-.05	.06	0.95	0.85- 1.07	-.09	.07	0.92	0.81- 1.04
Overall engagement	270	.46	.17	1.59**	1.13- 2.22	.24	.18	1.27	0.89- 1.82	.22	.21	1.25	0.83- 1.89
Work Demands	270	-.40	.30	0.67	0.37- 1.23	.83	.34	2.29*	1.17- 4.45	-1.23	.38	0.29**	0.14- 0.62

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$; *B*, coefficient; *SE*, standard error; *SE*, Standard error; OR, odds ratio; CI, confidence interval; SP, Sickness presenteeism; SA, Sickness Absenteeism

6.4 Discussion

6.4.1 Summary of findings

Sickness presenteeism and absenteeism frequencies suggested that both behaviours occurred regularly; most participants reported between two and five SP and SA episodes in the last 12 months. Frequency and propensity statistics however illustrated that SP occurred slightly more frequently than SA (Objective I).

Several factors significantly correlated to SP and SA frequency (Objective II). SP frequency was positively associated with: SA frequency; illness-related emotion levels during SP; the actual impact of SA on illness; and the belief that SP was necessary following recent SA. It was however negatively linked with: digestive illnesses during SA; illness coherence during SP; and the presence of managerial and co-worker support.

SA frequency was found to be positively associated with: SP frequency; illness number during SA; perceived consequences, severity and length of illness during SP; and taking SA due to medical advice. It was negatively associated with: digestive illnesses during SA; expectation that SP was beneficial for their last illness; and work attendance attitude.

Compared to those with no illness behaviour preference, participants with a propensity for SP (Objective II) reported lower levels of workability during SP,

less emotional responses during SA and higher levels of work engagement. On the other hand, a propensity for SA was associated with lower levels of reported work demands. When compared with propensity for SA, individuals with a propensity for SP were more likely to report lower workability during SP and being subjected to greater work demands.

Cox and Snell R^2 and Nagelkerke R^2 values indicated that the strength of the relationship between the dependent and independent variables in each regression was between medium and large in size (Cohen, 1988; Morgan et al., 2013). This compared favourably with studies of sickness behaviours in healthcare workers, with some reporting lower values (Elstad & Vabø, 2008) and others reporting higher ones (Rantanen & Tuominen, 2011).

6.4.2 Response rate and generalisability of the sample

Low response rates can introduce non-response bias, limit inferential statistical technique options, and diminish their statistical power (Rogelberg & Stanton, 2007). The current study obtained a response rate of 88%, substantially higher than most questionnaire-based studies (Baruch & Holtom, 2008). Analysis of demographic characteristics of the sample versus the wider studied population suggested that the two were not significantly different.

The above average response rate was likely due to: questionnaires being distributed by the researcher, rather than by mail (Baruch & Holtom, 2008); a

raffle to incentivise participation (Robb, Gattling, & Wardle, 2017); nurses' interest in the studied topic (Van Kenhove, Wijnen, & De Wulf, 2002); the concise nature of the questionnaire (Rolstad, Adler, & Ryden, 2011); and the researcher being known to a few of the participants. Studies have however questioned the value of incentives (Baruch & Holton, 2008) and questionnaire length (Robb et al., 2017) in boosting participation.

6.4.3 Occurrence of sickness presenteeism and sickness absenteeism

Presenteeism occurred slightly more regularly than absenteeism. Whilst a common finding in healthcare settings (Elstad & Vabø, 2008; Dhaini et al., 2016; Rantanen & Tuominen, 2011; Schneider et al., 2018), direct comparisons of SP/SA frequencies between studies are complicated by the various settings, professional groups, recall periods and measures employed. The percentage of participants reporting two or more SP (83.7%) (Al Nuhait et al., 2017; Elstad & Vabø, 2008; Schneider et al., 2018) or SA (81.1%) (Elstad & Vabø, 2008; Rahme et al., 2006; Schneider et al., 2018) episodes, however, appears higher than previously reported in similar settings. The combination of high SP and SA suggests that participants were suffering from substantial ill health (Caverley et al., 2007) and mirrors findings that SP and SA rates in Malta may be the highest in Europe (Eurofound, 2016). In accordance with Elstad and Vabø (2008), most participants reported between two to five SP and SA episodes in 12 months.

6.4.4 Correlates of presenteeism and absenteeism frequency

6.4.4.1 Frequency, type and perceptions of illness

The positive association between SP and SA frequency highlighted by both regressions has regularly featured within the published literature (Aronsson et al., 2000; Caverley et al., 2007; Leineweber et al., 2012; MacGregor et al., 2008). This may occur for several reasons. Individuals who experience illnesses more frequently, such as those with chronic illnesses, need to choose between SP and SA more regularly (MacGregor et al., 2008; Munir et al., 2008). SP also often impacts health negatively, resulting in future SA (Skagen & Collins, 2016). Furthermore, individuals can return to work ill following SA (Sieurin et al., 2009), or engage in SP due to recent SA (Munir et al., 2008).

Individuals who reported digestive illnesses were less likely to have engaged in frequent SP. Whilst illness and disease types have previously been associated with SP and SA (Aronsson et al., 2011; Caverley et al., 2007; Gosselin et al., 2013), few illness types were significantly associated in the current study. This was likely due to illnesses being measured during individuals' last illness episodes, rather than over a 12-month period, as in the aforementioned studies. Other factors, such as illness perceptions, also appear to be more relevant.

As digestive illnesses recorded during a single SA episode were linked with a reduced 12-month SP frequency, this may reflect the non-recurrent nature

of these illnesses (Whysall et al., 2018); this was supported by findings that digestive illnesses were also negatively associated with SA frequency. In comparison, menstruation was positively associated with SP and SA during bivariate analysis. Menstrual illnesses are frequently chronic, with up to 38% of women suffering from Premenstrual Syndrome (Dean, Borenstein, Knight, & Yonkers, 2006). This compares with just 5% of Europeans suffering from a chronic digestive disease (Oortwijn et al., 2011). Further support is provided by the B-IPQ timeline scale that was positively associated with both SP and SA and is discussed later. Finally, digestive illnesses may have been linked with reduced SP as they resulted in SA instead. This may have occurred if digestive illnesses were appraised as: severe (Dall et al., 2013), uncontrollable (Hoving et al., 2010), reduced workability (Dew et al., 2005) and were legitimate reasons for SA (Collins & Cartwright, 2012; Giæver et al., 2016; Krane et al., 2014); these variables, however, were not associated with SP frequency, whilst only severity was associated with SA frequency.

Frequent SP was associated with being more emotional and confused about illness during SP. As these scores referred to participants' last SP episode, it is logical that they occurred after any other previous SP episodes that constituted individuals' 12-month SP frequency score. This suggests they were an outcome of individuals' SP frequency, or their frequent illness episodes. Whilst it cannot be ascertained that past SP episodes were for the same illnesses, the findings may imply the impact of chronic or recurrent illness. Qualitative studies have linked such illnesses with experiencing negative emotions and illness-related uncertainty,

including about its control and progression (Mahon et al., 2014; Schaefer, 1995). Hansson et al. (2006) described how some chronic pain sufferers reported SP whilst experiencing negative emotions and seeking medical explanations for their symptoms. Quantitative studies also report associations between chronic illnesses and negative emotional states and disorders, such as anxiety and depression (Breivik et al., 2006; Brenes, 2003; Yohannes et al., 2010). Furthermore, bivariate correlations associated frequent SA with greater emotional responses during SA. In-view of the positive association between SP and SA, this suggests that those who were ill most frequently were more emotional about their illnesses. Emotional response, however, appears more relevant to SP than SA and may also reflect feelings that SP can be harmful to health (Giæver et al., 2016) and inhibits recovery (Aronsson et al., 2014), whilst SP can also increase the risk of depression (Skagen & Collins, 2016). The findings may therefore illustrate that nurses with greater SP, illness-related emotion and reduced coherence were struggling to cope with their illnesses (Shaw, 1999).

Due to the cross-sectional nature of the study it cannot be excluded that greater illness-related emotion during SP lead to frequent SP. Psychological illnesses often result in SP as they are regarded as illegitimate reasons for SA (Giæver et al., 2016; Krane et al., 2014) and may give rise to negative emotions. Individuals with emotional disorders also experience greater symptoms from other illnesses (Katon, Lin, & Kroenke, 2007). Additionally, those with depression have an increased risk of developing chronic medical disorders, which precipitate further depressive episodes (Katon, 2011). This explanation is less likely as both

legitimacy and mental health disorders were uncorrelated with SP frequency; a positive bivariate association with emotional exhaustion, however, provides some support. A second possibility is that the findings may indicate reduced emotional intelligence. This aids individuals to feel they can cope in difficult situations, resulting in individuals experiencing less stress (Gohm et al., 2005). Faced with illness, emotionally intelligent individuals may therefore experience fewer negative emotions and adapt better. In fact, Karimi et al. (2015) found that emotional intelligence was positively related to wellbeing and negatively related to SP in nurses.

Individuals who attended work with illnesses that affected life more negatively, lasted longer and had many severe symptoms, also engaged in frequent SA. Appraising physical (DaCosta DiBonaventura et al., 2012; Sadosky et al., 2010) and mental (Cocker et al., 2011; 2013) illnesses as more severe has been previously linked with greater SA. A positive association between increased comorbidity and SA frequency further supported the link between increased illness and SA and is also supported by the published literature (Cocker et al., 2011; Holden et al., 2011). Conversely, whilst long-lasting illness has been associated with greater SA (MacGregor et al., 2008; Munir et al., 2008), various studies have reported a stronger link with SP than SA (Caverley et al., 2007; Rantanen & Tuominen, 2011), although exceptions exist (MacGregor et al., 2008). Chronic illness was also positively associated with SP frequency during bivariate analysis, however, multivariate analysis indicates that emotional and cognitive reactions to illnesses were more relevant than temporal factors per se. The inclusion of B-IPQ

timeline in the SA regression was also potentially affected by being merged with B-IPQ consequences and identity.

Interestingly, the B-IPQ scales that influenced SA and SP frequency regressions were mainly from periods of SP. Illness appraisal during SP may therefore be a better indicator of overall health and illness behaviour frequency; whereas anybody can experience unpleasant symptoms during SA, chronic illness sufferers are more likely to attend work with such symptoms due to finite sick leave allowances (Çetin, 2016; Hansson et al., 2006).

The perceived impact of SP and SA on illness also influenced SP and SA models. Frequent SA was less likely when illness was expected to benefit from SP. Bivariate analysis also identified a weak positive correlation between SA frequency and expecting that illness would have benefitted from staying home during SP. This supports findings that individuals choose SA (Collins & Cartwright, 2012; Hansson et al., 2006; Kristensen, 1991) and SP (de Vries et al., 2011; Giæver et al., 2016) expecting that this could benefit them. Conversely, frequent SP was more likely when individuals reported benefitting from SA. This may suggest that frequent presentees needed SA more, but engaged in SP due to organisational measures designed to limit SA (Collins & Cartwright, 2012; Rebmann et al., 2016); possibly the finite SA days available to staff (Baker-McClearn et al., 2010). Alternatively, as SA fosters recuperation from illness (Aronsson et al., 2000), this may have aided individuals with regular illnesses to manage their symptoms (Munir et al., 2008) and continue working, often in a state of SP. Finally, the findings also suggest that SP/SA decisions were linked with the

perceived consequences of engaging in the alternative behaviour (Objective III). Whilst highlighted in qualitative studies (Collins & Cartwright, 2012; de Vries et al., 2011; Giæver et al., 2016), quantitative findings appear limited (e.g., Gerich, 2016).

The relevance of illness-related variables in SP/SA decisions was anticipated given that such decisions are precipitated by illness (Aronsson & Gustafsson, 2005). Furthermore, Gerich (2015b) stated that positive associations between SP and SA frequency suggested that the variance of these measures were most likely due to ill health frequency. Overall health has often been negatively associated with both SP and SA (Aronsson et al., 2011; Caverley et al., 2007; Johns, 2011), but did not contribute to the current models and was only weakly correlated with SA. It is possible that nurses distinguished between illness and their overall health. This is not unprecedented; qualitative studies have described individuals coming to terms with serious chronic diseases and describing themselves as healthy (Morken et al., 2012; Schaefer, 1995). The current study may also have precipitated this view by first asking participants to reflect upon specific illness episodes and then asking participants to rate their health.

6.4.4.2 Organisational, attitudinal and personal factors

The study determined that frequent SP was less likely with increasing managerial and co-worker support. This contradicts qualitative and descriptive findings that healthcare workers choose SP to support co-workers when SA is considered burdensome (Al Nuhait et al., 2017; Kim et al., 2016; Tan et al., 2014) and that supervisors (Nelson et al., 2016) and colleagues (Collins & Cartwright, 2012) can facilitate SP by being supportive. Inferential studies, however, support the current findings (Arnold, 2016; Janssens et al., 2016). This is probably due to the positive impact support has on health (Miraglia & Johns, 2016). In fact, SA and support are also often negatively associated (Eriksen et al., 2003; Schell et al., 2013; Väänänen et al., 2003; Verhaeghe et al., 2003). As in the current study, however, Dhaini et al. (2016) found that co-worker and leadership support were not associated with SA in a healthcare setting.

Believing that SP could be necessary following recent SA was also linked with frequent SP. This provides some direction to the positive association between SP and SA. Fear of disciplinary action due to excessive SA (Collins & Cartwright, 2012; Munir et al., 2008), pressure to avoid SA by co-workers (Crout et al., 2005; Grinyer & Singleton, 2000) and positive relationships between staff (Biron et al., 2006) could all drive such an association. Whilst disciplinary procedures and co-worker pressure were not studied, as they did not emerge as relevant factors in Phase One, bivariate correlations linked better relationships with infrequent SA; a previously reported finding (Baydoun et al., 2015; Suadicanani et al., 2014).

Attending ill following recent SA may also reflect high internal attendance standards. The study contained several measures related to attitudes and dispositions including, work engagement, attitude towards work attendance, and the Big Five personality traits. Engagement contributed to the SP propensity regression (Section 6.4.5), whereas SA was frequent in those with poorer attitudes towards attendance; a previously reported finding (Johns, 2011; Väänänen et al., 2008). Whilst not unprecedented (Gerich, 2016), more conservative attitudes towards absence were not associated with greater SP, as in other studies (Hansen & Andersen, 2008; Johns, 2011). This may reflect this study's failure to use a multi-item measure to explore this attitude. Alternatively, such individuals may have engaged in leaveism, where ill individuals replace SA with vacation leave, roster re-organisation and flexible hours (Hesketh & Cooper, 2014). In fact, flexible absence solutions reduce SP in doctors (Giæver et al., 2016) and a negative relationship was identified between adjustment latitude and SP during bivariate analysis. Adjustment has been described as health-promoting (Miraglia & Johns, 2016; Gerich, 2016), however the association may also indicate the replacement of SP with leaveism.

Individuals who took SA when ill due to healthcare professionals' advice also engaged in frequent SA. Expert advice to rest is considered noteworthy and results in SA (Hooftman et al., 2008), it also increases absence legitimacy (Crout et al., 2005). Individuals with more severe and long-term illness also engaged in frequent SA; such individuals also make greater use of healthcare services (Aalto-Setälä et al., 2002; Côté et al., 2001; Mojtabai & Olfson, 2006). Healthcare

professionals assist such individuals to understand and cope with their illness (Schaefer, 1995) and the finding may be reflective of this. The findings may also reflect that individuals who believed health was under the control of powerful others, rather than dependant on their own behaviour, as occurs with low health locus of control (Rotter, 1990; Wallston, Wallston, Kaplan, & Maides, 1976), externalised SA decisions and reported more SA. Lower general locus of control has been linked with greater SA (Ng et al., 2006). Johns (2011), however, reported that whilst health locus of control was positively associated with health, and negatively associated with SP, it was not associated with SA.

Whilst it did not contribute to the final model, charge nurses engaged in less SA than nurses. Greater SA in lower employment grades have previously been reported (Ferrie et al., 2005; Morikawa et al., 2004), possibly as minor illness is less legitimised with increasing work grade (Harvey & Nicholson, 1999). Buchan and Secombe (1995) also postulated that lower physical strains and greater levels of responsibility in higher nursing grades also contribute. In fact, one variable which reduced the impact of grade in the regression was work attendance attitude. Grade and SP were not associated, possibly because charge nurses' greater flexible work arrangements fostered leaveism.

6.4.5 Correlates of propensity for presenteeism and absenteeism

The odds of reporting a propensity for SP decreased with increasing workability during SP. Whilst descriptive and qualitative studies have linked choosing SP with the ability to cope with work tasks (Çetin, 2016; Dew et al., 2005), increased SP frequency has been associated with reduced workability (Gustafsson & Marklund, 2011; Pit & Hansen, 2016) and increased productivity loss (Miraglia & Johns, 2016). This is likely because SP can be deleterious for health (Dellve et al., 2011), and because those with chronic illnesses, who frequently engage in SP, have reduced workability (Collins et al., 2005). Conversely, propensity for SA was associated with better levels of workability during SP, possibly due to its health-promoting effects (Dellve et al., 2011). As reduced levels of productivity within medical settings can be particularly dangerous (Letvak et al., 2012), the finding is notable.

Whilst those reporting greater emotional responses during SP and SA engaged in more frequent SP and SA, respectively (Section 6.4.4.1), those less emotional during SA reported a propensity for SP. As individuals can worry about the health implications of regularly engaging in SP, it is possible that such individuals experience reduced emotional responses during SA, which is perceived as health-promoting (Aronsson et al., 2000). As SA is often used during more serious illnesses (DaCosta DiBonaventura et al., 2012) which give rise to greater emotion (Broadbent et al., 2015), the finding may also indicate that SP propensity occurs when one is not experiencing the most serious, emotional illnesses. In fact,

Böckerman and Laukkanen (2010b) found that better levels of overall health were necessary for individuals to engage in SP despite challenging work demands. Emotional response during SA was negatively, but insignificantly, associated with propensity for SA. As both SP and SA propensity were negatively associated with emotional response during SA, this may explain why SP propensity was significantly associated with emotional response only when compared to those who engaged in both SP and SA equally.

Greater work engagement (Schaufeli & Bakker, 2003) was also linked with a propensity for SP. Engaged individuals feel positively about their work activities, carry these out energetically and persist when faced with difficulties (Schaufeli et al., 2006). Links between greater engagement and increased SP frequency have previously been reported (Kinman & Wray, 2018), however, Karanika-Murray et al. (2015) and studies that used atypical measures of presenteeism (Admasachew & Dawson, 2011; De Beer, 2014; McGregor et al., 2016) reported negative associations between the two. Negative associations have been explained by engagement's positive impact upon healthcare workers' health (Fiabane et al., 2013; Setti & Argentero, 2011) and that increased SP may reduce engagement levels (Karanika-Murray et al., 2015). The current findings, however, suggest that positive work attitudes result in a propensity for SP; in agreement with Miraglia and Johns (2016). Related findings have been illustrated in nursing cohorts (Dew et al., 2005; Schreuder et al., 2013). The association between SP propensity and engagement was only significant when compared with those reporting no illness behaviour preference. This is likely as SA propensity was also

positively, but insignificantly, associated with engagement. Engaged individuals generally appear to report reduced SA frequency (Hoxsey, 2010; Schaufeli et al., 2009; Soane et al., 2013), however the current findings may indicate that as a propensity for SA can be health-promoting, this could possibly foster engagement levels.

Finally, the regression revealed that a propensity for SP was more likely when work demands were high, whereas reduced demands were linked with a propensity for SA. SP has regularly been reported to have a positive relationship with work demands (Biron et al., 2006; Demerouti et al., 2009; Jourdain & Vézina, 2014). This is likely due to workers adapting to such demands (Demerouti et al., 2009), and by their negative impact on workers' health (Miraglia & Johns, 2016), as highlighted by the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007). Due to the negative health implications of excessive demands (Bakker et al., 2003b), they have also been linked with increased SA frequencies in nurses (Roelen et al., 2013; Trinkoff et al., 2001). The propensity measure, however, appears to have highlighted the motivational component of the SP/SA decision; SA was favoured when absence was less likely to impact the workplace negatively, otherwise SP is favoured. In fact, demands and SP frequency appear more closely related than demands and SA frequency in healthcare workers (Elstad & Vabø, 2008).

As previously reported by Gerich (2016) and Schneider et al. (2018), the correlates of frequency and propensity measures therefore varied. The findings indicated that propensity measures were less impacted by individuals' illness

frequency and often reflected the motivational component of the SP/SA decision (Gerich, 2016). This often resulted in correlations which contrasted in direction when compared to previously reported studies that used SP/SA frequency measures (Gerich, 2016). As a propensity for SP is possibly harmful for health, this still appears to have influenced the obtained correlations.

6.4.6 Implications for practice and research

The high prevalence of SP and SA illustrated that the studied sample were experiencing considerable illness rates. Furthermore, those who engaged in SP most frequently recorded lower levels of workability. This highlights the need to tackle both the root causes of these illnesses (discussed in Chapter Seven), whilst also supporting those already suffering from illnesses. The studied organisations should therefore consider a combination of primary, secondary and tertiary prevention. Primary prevention involves tackling hazards to prevent illness from occurring, secondary involves identifying and tackling illness early on, in order to limit their development, whilst tertiary involves supporting those who already experience long-term illnesses (Cooper, 2012). The findings highlight that a combination of work task and environment re-design, to reduce physical and psychological demands, promoting social support and improved relationships, and adjustment latitude may benefit workers. Additionally, health surveillance (Mininel et al., 2013), teaching emotional intelligence (Karimi et al., 2015), and

health promotion initiatives that include a healthy work environment and self-management programs for the chronically ill (Goetzel & Ozminkowski, 2008) may all be beneficial. As government employees, participants can also use the Employee Support Program (ESP) for public employees which may benefit them (Hargrave et al., 2008).

Several factors found in the Common Sense Model of Self-Regulation (CSM) and measured via the B-IPQ during SP episodes were associated with SP and SA. The B-IPQ could therefore be used in practical situations to identify nurses engaging in frequent SP/SA episodes. B-IPQ scores have also been associated with future medical outcomes in nurses (Foster, 2008) and the tool may be of value in identifying those who are most at risk of future illness, SP and SA. Prospective studies that analyse this would thus be of benefit.

Whilst SP is often viewed as a negative state, individuals could also choose SP for positive reasons, including greater work engagement and avoiding SA when attendance was viewed as important. Individuals, however, also attended ill due to recent SA and despite experiencing poorer workability, suggesting that SP could occur when it was best to avoid work. The provision of education and the development of guidelines for nurses on when SP and SA are acceptable behaviours are therefore encouraged.

Several factors which correlated with SP/SA feature sparingly in the relevant scientific literature, suggesting further studies may be warranted. These included the impact of illness-related emotional responses, beliefs and

expectations of the impact of SP and SA on illnesses, work engagement, and medical advice. Additionally, other factors that were not measured also appear to be interesting avenues for further research. These included: the impact of emotional intelligence; the relevance of health locus of control; and leaveism.

Studies that explore the predictors of SP/SA often control for measures of health (e.g., Gerich, 2016). The current study revealed that illness perceptions of SP/SA episodes should also be included when aiming to determine and control for the health-related variance of these outcome measures. The study also highlighted limitations in the B-IPQ; several illness perceptions associated with SP and SA behaviours like workability and the expected impact of SP/SA on illness do not form part of this instrument.

Different factors correlated with frequency and propensity measures, highlighting the benefit of using varied measures to investigate SP and SA. Whilst frequency measures are influenced by the frequency of illness events, the propensity measure allowed for the identification of likely attitudinal pathways (Gerich, 2015b), the importance of which were illustrated in Miraglia and Johns' (2016) Dual-Path Model. Further studies that use propensity measures are thus warranted. Several correlates of SP propensity also appear linked to SP's negative impact upon health and possibly a high prevalence of long-term illness; suggesting that propensity decisions were also constrained by illness frequency.

Finally, the study provided support for the proposed Cyclical Model of SP and SA. The presented regressions indicated that participants' perceptions of their

illnesses were linked to SP and SA frequency and propensity. Whilst some of these perceptions, such as symptom severity, are likely to have driven behaviour choice, others, such as illness-related emotion and reduced workability appear to be a consequence of frequent illness episodes. This provides some support for the cyclical nature of the model, where past illness episodes may influence future decisions. Longitudinal studies, however, would be needed to ascertain this. The model also proposes that a combination of attitudinal, organisational, and personal factors influence this decision; hierarchical regressions highlighted that such factors improved upon the variance predicted by illness perceptions. Here too, consequences of past illness episodes appear to have played a role; for example, SP frequency was linked with attitudes towards past sick leave episodes. Furthermore, poor social support was linked with more frequent SP, possibly as this would result in poorer health outcomes and therefore more frequent illness events. Factors which were not illness or health-related however, often played a lesser role in predicting SP/SA; Johns (2010) suggested that such factors would be more relevant when illness was less serious.

6.5 Conclusion

The study provided evidence that SP and SA frequency are primarily associated with the frequency of illness events and ones' perceptions of these events. Whereas those who engaged in more frequent SP experienced greater emotion and confusion about their illnesses, those who engaged in more frequent SA experienced more serious, long-standing, concurrent illnesses which had greater impacts upon their life.

The relevance of illness perceptions provided support for the proposed Cyclical Model of Presenteeism and Absenteeism. As highlighted by the model, attitudes, organisational and personal factors were also relevant. Individuals engaged in SP most commonly when reporting higher levels of engagement, whilst the frequency of SP rose when individuals felt they should attend in view of recent SA events. Greater support from co-workers and superiors resulted in reduced SP frequencies. Additionally, individuals engaged in less frequent SA when they believed attendance was important and engaged in SA most commonly when reporting lower levels of demands.

Previous research has assumed an underlying decision process between engaging in these two illness behaviours. The study provides support for this decision process, with SP and SA decisions seemingly affected by opinions of the impact of these behaviours on one's illness, as well as attitudes towards work.

Instances where individuals may have attended ill due to a lack of SA days and frequent illness, however, were also noted.

Whilst the study provides evidence that illness perceptions and related factors are correlates of SP and SA frequency, as well as which illness behaviour individuals engage most frequently in, it is not known how such perceptions vary between SP and SA episodes, independently of one's frequency of behaviour. A comparative analysis between these episodes was thus conducted and is the focus of the next chapter.

Chapter Seven – Illness Perceptions during Presenteeism and Absenteeism

Summary

The following chapter describes how illness perceptions varied between sickness presenteeism and sickness absenteeism episodes in 270 ward-based nurses working with older adults. The presented findings highlight that: illness types, illness severity, the impact of illness upon life, treatment control, illness-related concern, contagion, workability and legitimacy, all varied significantly between these two episodes. Presenteeism was most commonly perceived to be harmful for illness, whereas absenteeism was believed to be beneficial. The chapter also presents a discussion of the findings, including the implications for practice and theory.

7.1 Background and objectives

The determinants of sickness presenteeism (SP) and sickness absenteeism (SA) have most often been identified through quantitative studies of the correlates of behavioural frequency (Aronsson & Gustafsson, 2005; Johns, 2011) or via a qualitative approach (Collins & Cartwright, 2012; de Vries et al., 2011).

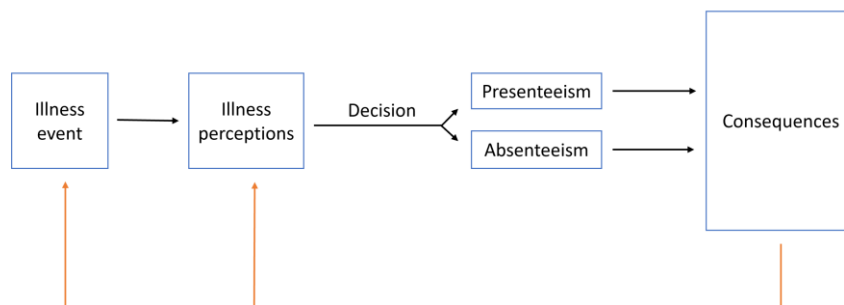
Quantitative studies have generally examined the correlates of behavioural frequency without necessarily identifying the drivers of such behaviour. In contrast, qualitative studies explored behavioural drivers, which by their very nature cannot produce generalizable findings. Thus, questions remain about the determinants of SP and SA, the answers to which might usefully guide research and practice on the management of these phenomena.

Due to these shortcomings, whilst illness-related findings have regularly featured in the SP and SA published literature, few are conclusive. Studies have varied in their conclusions regarding how illness types differ between SP and SA (Ashby & Mahdon, 2010; Caverely et al., 2007), including in studies of healthcare workers (Dew et al., 2005; Krane et al., 2014). Mixed findings have also been reported regarding the impact of workability (Çetin, 2016; Pit & Hansen, 2016), contagion (Krohne & Magnussen, 2011; Tan et al., 2014), engaging in treatment (Cocker et al., 2013; MacGregor et al., 2008) and chronicity (MacGregor et al., 2008; Rantanen & Tuominen, 2011) on SP and SA decisions. Furthermore, whilst workers are often aware that work could hamper their recovery (Grinyer & Singleton, 2000), attendance requirements, such as restrictive SA policies, often

result in SP (Wynne-Johns, Buck, Porteous, et al., 2011). Other illness perceptions, such its cause, illness coherence, and emotional responses have received little attention in the SP literature. Findings on illness severity appear more consistent; more serious symptoms result in SA (Dall et al., 2013; Cocker et al., 2013).

The analysis described in Chapter Six determined that illness perceptions correlated with the frequency and propensity of SP and SA. The analysis, however, did not identify how these factors varied between SP and SA episodes; this is therefore explored in the current chapter and reflects a portion of the proposed Cyclical Model of SP and SA (Section 5.6.6) as illustrated below.

Figure 7.1: A graphical representation of the impact of illness perceptions of presenteeism and absenteeism decisions



Identifying trends in this regard could empower researchers to better understand the factors that drive illness behaviour decisions, irrespective of participants' illness frequency. This may have important implications for the betterment of nursing health, performance and patient safety.

The analysis described in this chapter had the following objectives:

- I. To identify how illness type and number varied between SP and SA episodes.
- II. To determine how illness perceptions from the Brief Illness Perception Questionnaire (B-IPQ) and related variables including contagion, legitimacy and workability varied between SP and SA episodes.
- III. To explore how the expected and the actual impact of attending work and staying home on illness varied during periods of SP and SA.
- IV. To quantify the different perceived causes of illness during SP and SA episodes and to determine how organisational and non-organisational causes of illness vary between episodes of SP and SA.

7.2 Methods

The research setting, design, participants, procedures, measures and ethical aspects used during this second phase of the investigation were described in Section 6.2

7.2.1 Analysis

In order to explore how illness perceptions differed between SP and SA episodes, participants were asked to provide two scores for the following variables. One measure referred to participants' last episode of SP, the other to their last episode of SA. These included: illness type; illness perceptions from the B-IPQ; contagion; illness legitimacy; workability; the expected impact of SA on illness; the expected impact of SP on illness; the perceived actual impact of their behaviour on illness; and the cause/s of illness. The measures were described in further detail in Section 6.2.5.

As this analysis was tantamount to that of a repeated measures study, the two sets of data from the B-IPQ, as well as the measures of contagion, illness legitimacy, and workability, which were all measured by scale-level data, were analysed for significant difference ($p < 0.05$) via the Paired-Samples t Test. As this test requires data to be normally distributed, this was ascertained as described in Section 6.2.6. Differences in the expected and actual health impacts of SA and SP

were analysed via the Wilcoxon test due to the ordinal nature of the data. Finally, the presence or absence of common categories of illness, the taking of treatment, and the cause of their illness episode were analysed with the McNemar test due to the nominal nature of these data (Morgan et al., 2013). Effect sizes were calculated by hand; for interval-level data the mean of the paired differences was divided by the standard deviation, whilst for ordinal data the z score was divided by the square root of the number of participants (Morgan et al., 2013).

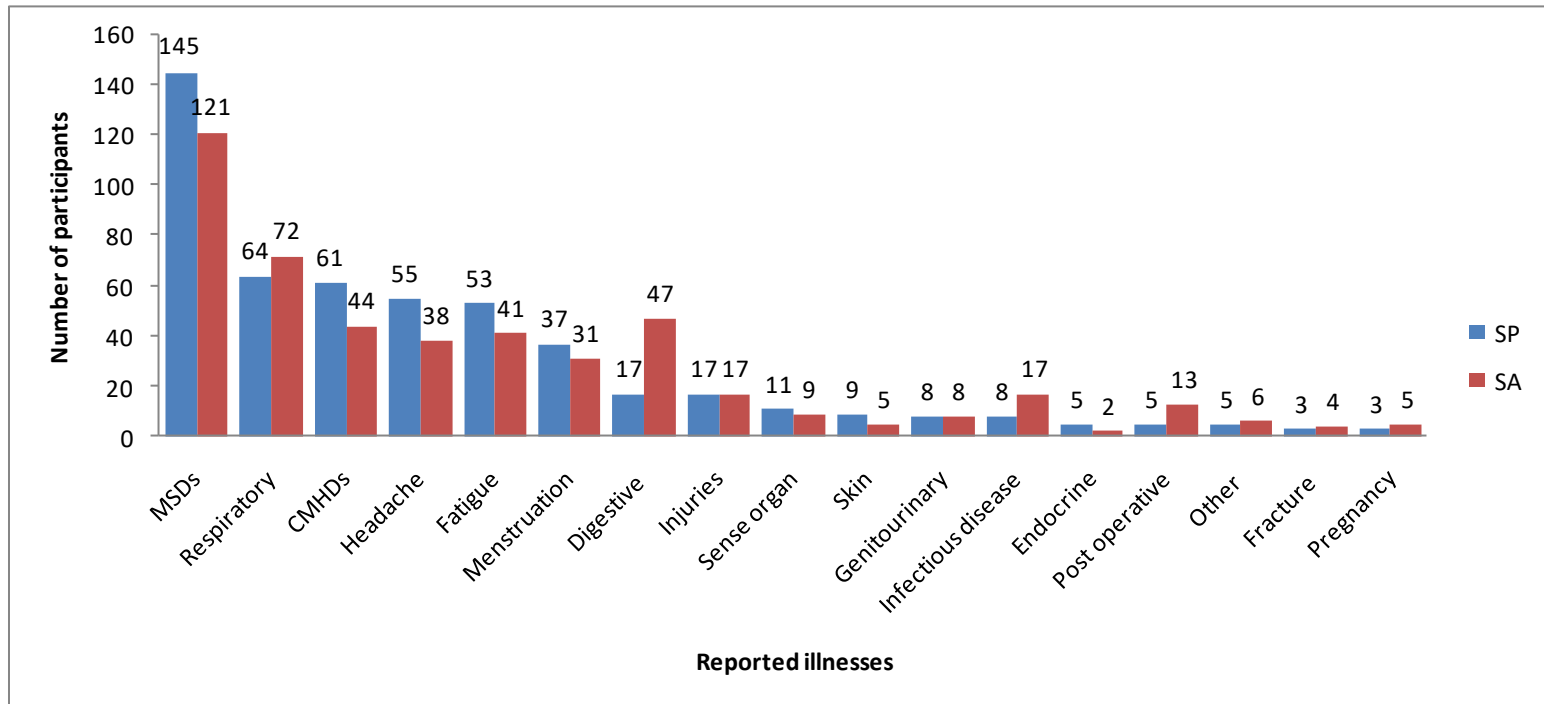
7.3 Results

7.3.1 Illness prevalence during presenteeism and absenteeism

During periods of SP (Figure 7.2), the following illnesses and diseases featured most frequently (Objective I): musculoskeletal disorders (MSDs) (53.7%); respiratory diseases (23.7%); common mental health disorders (CMHDs) (22.6%); headache and migraine (20.4%); fatigue (19.6%); menstruation (13.7%); digestive illnesses (6.3%) and injuries (6.3%). During periods of SA, the following were most frequent: MSDs (44.8%); respiratory diseases (26.7%); digestive illnesses (17.4%); CMHDs (16.3%); fatigue (15.2%); headache and migraine (14.1%); and menstruation (11.5%).

McNemar tests ($N = 270$) indicated that MSDs ($p = .013$), CMHDs ($p = .016$), and headaches and migraines ($p = .019$) were significantly more prevalent during SP (Table 7.1). Digestive illnesses ($p = .001$), infectious diseases ($p = .035$) and post-operative recovery ($p = .039$) were significantly more frequent during SA. During periods of SP, individuals reported a mean of 1.88 illnesses ($SD = 1.22$), whereas during SA a mean score of 1.80 ($SD = 1.28$) was obtained. A paired-samples t -test indicated that the number of illnesses during these two episodes were not significantly different, $t(269) = 1.05$, $p = .294$, $d = .06$.

Figure 7.2: Frequency of reported illnesses during last presenteeism and absenteeism episodes.



MSDs, Musculoskeletal Disorders; CMHDs, Common Mental Health Disorders.

Table 7.1: Difference in illness prevalence during last presenteeism and absenteeism episodes.

Illness	Never experienced illness (%)	Experienced only during SP (%)	Experienced only during SA (%)	Experienced during both SP and SA (%)	<i>p</i> -value
MSDs	94 (34.8)	55 (20.4)	31 (11.5)	90 (33.3)	.013*
Respiratory	166 (61.5)	32 (11.9)	40 (14.9)	32 (11.9)	.410
CMHDs	195 (72.2)	31(11.5)	14 (5.2)	30 (11.1)	.016*
Fatigue	199 (73.3)	30 (11.1)	18 (6.7)	23 (8.5)	.111
Headache	200 (74.1)	32 (11.9)	15 (5.6)	23 (8.5)	.019*
Menstruation	218 (80.7)	21 (7.8)	15 (5.6)	16 (5.9)	.405
Digestive	219 (81.1)	4 (1.5)	34 (12.6)	13 (4.8)	.001***
Injury	244 (90.4)	9 (3.3)	9 (3.3)	8 (3.0)	1.00
Infectious disease	250 (92.6)	3 (1.1)	12 (4.4)	5 (1.9)	.035*
Sense organ	251 (93.0)	10 (3.7)	8 (3.0)	1 (0.4)	.815
Post-operative	255 (94.4)	2 (0.7)	10 (3.7)	3 (1.1)	.039*
Genitourinary	256 (94.8)	6 (2.2)	6 (2.2)	2 (0.7)	1.00

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$; SP, sickness presenteeism; SA, sickness absenteeism; MSDs, Musculoskeletal Disorders; CMHDs, Common Mental Health Disorders.

7.3.2 Illness perceptions during presenteeism versus absenteeism

Paired samples *t* tests indicated that of the measured illness perceptions, only workability ($p < .001$) was significantly higher during SP than SA (Table 7.2) (Objective II). Conversely, during SA, B-IPQ consequences ($p < .001$), identity ($p < .001$) and concern ($p = .003$) scales were significantly higher, indicating that illnesses affected lives more, had greater symptoms and were of more concern, respectively. Illnesses were also significantly more contagious ($p < .001$) and presented a more legitimate reason for SA ($p < .001$) during SA than SP.

Whilst 201 (74.4%) individuals took treatment during SP, 221 (81.9%) took treatment during SA. A McNemar test demonstrated that this difference was significant ($p = .009$): 32 individuals did not take treatment during their last SP and SA episodes; 17 took during just their SP episode; 37 during their SA episode; and 184 took medication during both SP and SA episodes.

Finally, a paired sample *t* test was conducted to compare the extent to which individuals who took treatment during both SP and SA felt this would help their illness (B-IPQ treatment control). Significantly lower mean scores of 5.98 ($SD = 2.49$) during SP versus 6.67 ($SD = 2.47$) during SA episodes, indicated that treatment was more helpful during SA, $t(183) = -3.67, p < .001, d = -.28$.

Table 7.2: Difference in illness perceptions during last presenteeism and absenteeism episodes.

Variable	Presenteeism			Absenteeism			<i>T</i>	<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	Skewness	<i>M</i>	<i>SD</i>	Skewness			
Consequences ¹	5.13	2.22	.08	6.27	2.49	-.71	-7.15,	.000***	-.43
Timeline ¹	4.72	2.88	.20	4.84	2.98	.10	-.66	.508	-.04
Personal control ¹	4.39	2.26	.04	4.70	2.71	-.00	-1.87	.063	-.11
Identity ¹	5.11	2.41	-.09	5.87	2.35	-.45	-5.17	.000***	-.32
Concern ¹	5.88	2.89	-.39	6.39	2.78	-.60	-.2.97	.003**	-.18
Coherence ¹	7.14	2.40	-.93	7.43	2.25	-1.21	-1.81	.072	-.11
Emotion response ¹	6.07	2.84	-.66	6.32	2.81	-.68	-1.36	.176	-.08
Contagion	1.62	2.42	1.63	2.87	3.22	.72	-6.13,	.000***	-.37
Legitimacy	6.51	3.15	-.60	7.71	2.78	-1.34	-6.04	.000***	-.37
Workability	5.03	2.13	-.05	3.46	2.52	.55	8.46	.000***	.51

N = 270; *M*, Mean; *SD*, Standard Deviation, *t*, test value; *p*, significance value; *d*, effect size

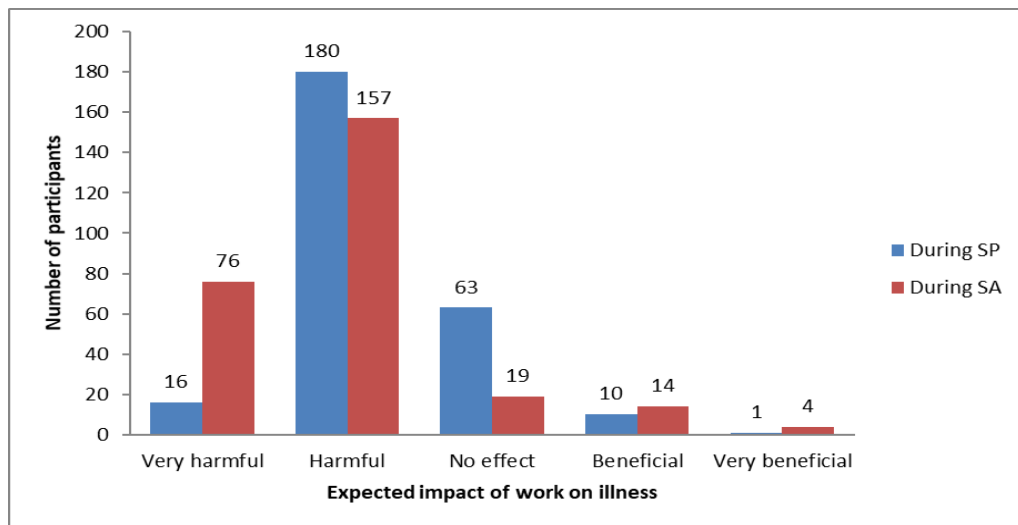
¹ Brief Illness Perceptions Questionnaire (B-IPQ) scales

7.3.3 Expected and actual impact of presenteeism and absenteeism on illness

The majority of participants (66.7%) reported that during SP episodes, work was expected to have a harmful effect on their illness (Fig 7.3) (Objective III). Additionally, 23.3% expected that it would have no impact, 5.9% expected that it would be very harmful, 3.7% though it would be beneficial and 0.4% thought it would be very beneficial.

During SA, it was also perceived most frequently that had respondents instead engaged in SP, this would have been harmful for their illness (58.1%). Furthermore, 28.1% felt this could be very harmful, 7% expected this to have no effect, 5.2% expected it could have had a beneficial effect, whilst 1.5% felt that it could have had a very beneficial effect.

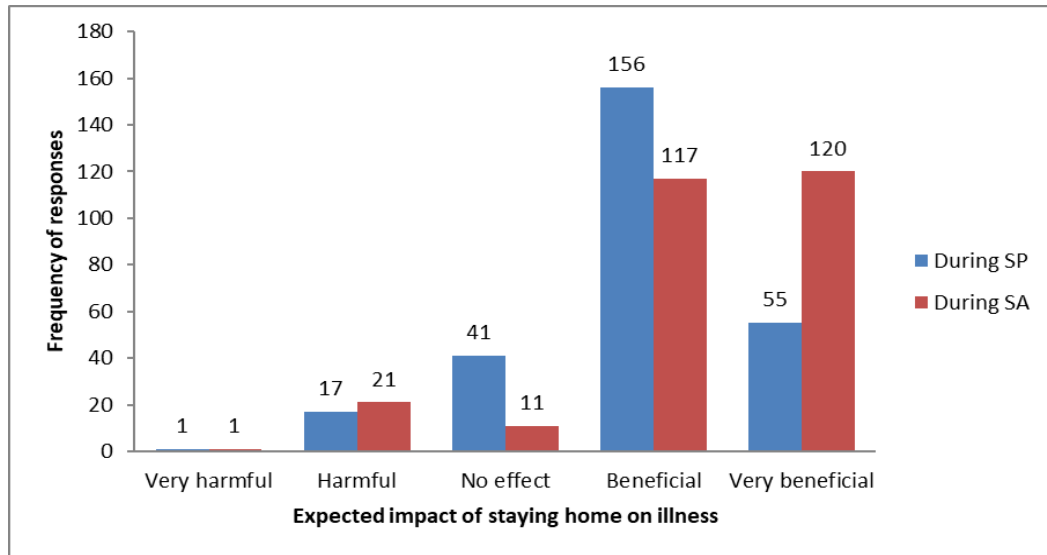
Figure 7.3: Expected impact of attending work on illness during presenteeism and absenteeism.



Wilcoxon signed ranks tests indicated that among 270 respondents, 120 (44.4%) rated the expected impact of attending work on their illness during SP and SA equally; 117 (43.3%) expected that attending work during SA would have been more negative for their illness; whilst 33 (12.2%) expected their last episode of SP to be worse for their illness, $z = -5.18$, $p < .001$, $r = -.31$.

Respondents were also asked to rate the expected impact of avoiding work on their illness during their most recent episodes of SP and SA. During periods of SP, the majority (57.8%) reported that had they avoided work this would have benefitted their illness (Figure 7.4). Additionally, 20.4% expected this would have been very beneficial, 15.2% expected that this would have had no effect, 6.3% felt it would have been harmful, whilst 0.4% felt it would have been very harmful. During periods of SA, the majority of participants had expected that avoiding work would be very beneficial (44.4%) or beneficial (43.3%) for their health. However, 7.8% expected that this could be harmful, 4.1% expected that it would have no effect, whilst 0.4% expected that this could be very harmful for their health.

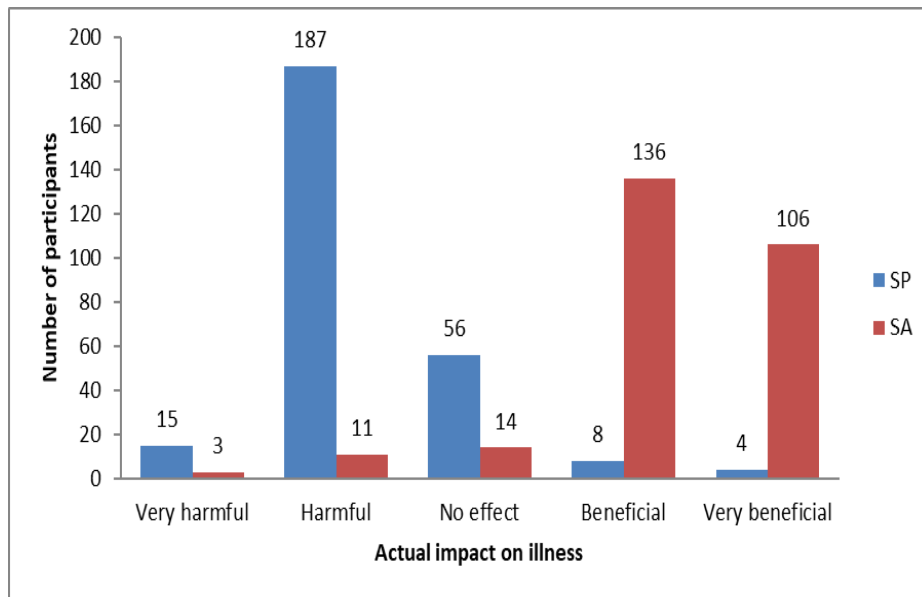
Figure 7.4: Expected impact of avoiding work on illness during presenteeism and absenteeism.



This difference in results was analysed via the Wilcoxon signed ranks test. Out of 270 participants, 34 (12.6%) expected that avoiding work during SP would have been most beneficial for their illness, 112 (41.5%) expected avoiding work during SA would have been most beneficial, whilst 124 (45.9%) rated them as equally beneficial, $z = -5.31, p < .001, r = .32$.

Finally, participants were asked to rate the actual impact of SP and SA on their illness. Most participants considered SP as harmful for their illness (69.3%) (Figure 7.5), 20.7% stated that SP had no impact on their illness, 5.6% felt that it was very harmful, 2.9% felt it was beneficial and 1.5% felt it was very beneficial. Conversely, SA was rated as beneficial by 50.4% and very beneficial by 39.3%. However, 5.2% felt that it had no effect on their illness, 4.1% felt it was harmful and 1.1% felt that it was very harmful.

Figure 7.5: Actual impact of presenteeism and absenteeism on illness.



An analysis of these findings revealed that SA was rated as having a significantly more positive impact than SP. This difference, analysed via the Wilcoxon signed ranks test, found that of 270 participants, 241 (89.3%) rated SA as having a more positive impact on their health, 6 (2.2%) rated SP more positively, and 23 (8.5%) rated them equally, $z = -13.78$, $p < .001$, $r = .84$.

7.3.4 Main and overall cause of illness

Individuals were asked to list, in order of importance, up to three causes for the illnesses experienced during their most recent SP and SA episodes; these were classified by the researcher as either an organisational or a non-organisational cause (Objective IV). During periods of SP, 203 individuals (75.2%) reported that the primary cause of this episode was an organisational one, whilst 67 (24.8%)

reported a non-organisational reason. Overall, 242 (89.6%) reported at least one organisational cause, whilst 28 (10.4%) did not. The most frequent organisational reasons for illnesses during SP included: 96 individuals (35.6%) reported lifting and handling of patients; 86 (31.9%), work related stress; 36 (13.3%), long working hours; 36 (13.3%) sick patients; 35 (13%), workload; 30 (11.1), a lack of staff; 12 (4.4%), demanding patients/relatives; and 12 (4.4%), a lack of, or unmaintained, work equipment. Amongst the most common non-organisational reasons for illnesses that led to SP: 20 individuals (7.4%) reported chronic or recurrent illnesses; 17 (6.3%), change of weather; 15 (5.6%), a lack of sleep; 8 (3%), exercise and physical activity; 6 (2.2%), having a low immunity; 6 (2.2%), menstrual cycle; 5 (1.9%), housework; 5 (1.9%), old age; and 5 (1.9%), poor posture.

During periods of SA, 212 participants (78.5%) reported that the main cause of their illness was organisational, whilst 58 (21.5%) gave a non-organisational reason. Overall, 247 (91.5%) reported at least one organisational cause during SA, 23 (8.5%) did not. The most common organisational causes of illnesses during SA included: 75 individuals (27.8%) lifting and handling of patients; 60 (22%), work related stress; 52 (19.3%), sick patients; 33 (12.2%), workload; 24 (8.9%), long working hours; 21 (7.8%), a lack of staff; 10 (3.7%), a lack of, or unmaintained, work equipment; and 9 (3.3%), a lack of vacation leave. The most frequent non-organisational causes for illnesses during SA included: 16 individuals (5.9%) chronic or recurrent illness; 14 (5.2%), change of weather; 11 (4.1%), a lack of sleep; 10 (3.7%), choice of food/preparation; 7 (2.3%), low immunity; 5 (1.9%), malnutrition; and 5 (1.9%), not looking after one's health.

McNemar tests were used to explore the difference in frequency of organisational versus non-organisational causes during periods of SP and SA. No difference was found between the main cause of SP and SA episodes ($p = .336$), where 173 (64.1%) cited an organisational cause for both episodes, 39 (14.4%) stated a non-organisational factor caused their SP episode whilst an organisational cause led to their SA episode, 30 (11.1%) cited an organisational cause for their SP episode and a non-organisational factor for their SA episode, whilst 28 (10.4%) felt a non-organisational factor caused both episodes.

The overall causes were also not significantly different ($p = .473$): 229 respondents (84.8%) included organisational factors amongst the reasons given for both episodes; 18 (6.7%) indicated SP was caused exclusively by non-organisational factors, whilst SA was caused by organisational factors; 13 (4.8%) felt that organisational factors gave rise to their SP episode but non-organisational factors led to their SA episode; whilst 10 (3.7%) felt that non-organisational factors caused their illnesses in both episodes.

7.4 Discussion

7.4.1 Summary of findings

During periods of SP, MSDs, CMHDs, and headaches or migraines were significantly more prevalent. During SA, digestive illnesses, infectious diseases, and post-operative recovery were more frequently reported (Objective I). Regarding illness perceptions, illnesses experienced during SP affected lives less, produced less severe symptoms and were of less concern than those experienced during SA. Undertaking treatment was less frequent during SP and was believed to be less effective during these episodes. Furthermore, during SP, illnesses were less contagious, a less valid reason to take sick leave, whilst workability was better than reported during SA (Objective II). SP was generally considered harmful for illness and SA was considered beneficial. Attending work, however, was expected to be less harmful during SP than SA, whereas avoiding work was considered more beneficial during SA than SP (Objective III). Illness was most frequently attributed to organisational factors during both SP and SA; a significant difference was not identified between these episodes. During periods of SP and SA, lifting and handling, work-related stress, long working hours, ill patients, and workload were most frequently cited as organisational causes of illness. Chronic or recurrent illnesses, change of weather and a lack of sleep were the most common non-organisational causes of illness during SP and SA (Objective IV).

7.4.2 Cognitive representations of illness

Headaches or migraines, MSDs, and CMHDs were more prevalent during SP. All three are common issues in nursing (Brandford & Reed, 2016; Lelis et al., 2012; Suzuki et al., 2004; Wang et al., 2015). Findings regarding the link between MSDs, CMHDs, SP and SA have been mixed; most frequently, these conditions appear more closely associated with SP (Leineweber et al., 2012; Whysall et al., 2018), however the opposite has also been reported (Gosselin et al., 2013). As in the current study, all three types of illness have been associated with frequent SA and SP in cohorts of healthcare workers. MSDs and mental health disorders are amongst the most common reasons for SA in nurses (Mininel et al., 2013), whilst headache also frequently results in SA (Zboril-Benzon, 2002). Health care professionals also frequently attend work ill with MSDs (Campo & Darragh, 2012; d'Errico et al., 2013), CMHDs (Letvak et al., 2012; Martinez & Ferreira, 2012; Uribe et al., 2017) and migraine (Martinez & Ferreira, 2012), all of which result in reduced work productivity. The current analysis provided several reasons why these illnesses may have fostered SP more frequently than SA. These included their increased prevalence, their illegitimacy as a reason for SA, their ever-present causative factors, and possibly a lack of severity. These will be discussed next.

Absenteeism legitimacy was significantly lower during SP than SA. This is a common finding; Dew et al. (2005) reported that as MSDs occurred regularly, nurses were expected to attend and cope with them. Similarly, Giæver et al. (2016) illustrated that chronic illnesses were not an acceptable cause of SA in doctors.

Psychological illnesses are also often considered illegitimate reasons for SA in healthcare workers due to their invisibility (Giæver et al., 2016; Krane et al., 2014). This may also have applied to headaches in the current study.

Manual handling and various psychosocial demands were reported as the primary causes of sickness during both SP and SA. Manual handling has been linked with back pain in nurses (Smedley et al., 1995), whilst psychosocial risk factors have been linked with anxiety, depression (Mark & Smith, 2011) and headaches in nurses (Lin, Huang, & Wu, 2007). Therefore, these illnesses may have led to frequent SP due to their ever-present causative factors and nurses' finite sick leave allowance. A significant difference between the organisational versus non-organisational nature of causative factors during SP and SA episodes, however, was not identified. This suggests that this factor did not play a major role in determining SP/SA decisions but may have contributed to the high frequency of each of these illnesses during both SP and SA.

As in the current study, more severe symptoms have frequently been linked with SA (Collins & Cartwright, 2012; Giæver et al., 2016). Furthermore, working individuals who suffer from various ailments have been found to have lower scores on the B-IPQ identity scale, used in the current study to measure symptom severity, than those on long-term SA (Giri et al., 2009; Løvvik et al., 2014; Sluiter & Frings-Dresen, 2008). This may also partially explain the association between post-operative recovery and SA. Undergoing surgery often results in long spells of SA (Feeney et al., 1998; Mininel et al., 2013) due to convalescence periods, and is viewed as serious (Hooftman et al., 2008). This also suggests that post-operative

recovery is considered a legitimate reason for SA; supervisors have been reported to make exceptions and extend SA allowances for those who require surgery (Nelson et al., 2016).

Studies suggest individuals worry about engaging in SP with contagious illness (Baker-McClearn et al., 2010; Collins & Cartwright, 2012); this supports the current findings that perceived contagion was greater during SA than SP. This may also explain the increased occurrence of infectious diseases during SA. Healthcare workers, however, do appear to attend work with contagious illnesses (Gudgeon et al., 2009; Tan et al., 2014); in the current study the prevalence of respiratory diseases was high and not significantly different between SP and SA. These, however, may not have been contagious. Contagion scores were low during SP, but a degree of contagion was present. This mirrors findings that nurses attend work when contagious disease is considered to be mild (Rebmann et al., 2016).

Digestive illnesses were also more prevalent during SA. Gastroenteritis is one of the most common causes of SA (Feeney et al., 1998). Gastric illnesses are considered a legitimate reason to engage in SA (Collins & Cartwright, 2012; Giæver et al., 2016; Krane et al., 2014); they can be severe, contagious and uncontrollable. Hoving et al. (2010) reported that controllability fosters SP. The current analysis had two such measures; the B-IPQ personal control and treatment control scales. No differences between SP and SA were found in the former. Additionally, the low obtained scores indicated that participants had limited illness control during SP and SA. The obtained average scores during both episodes were poorer than those previously reported in individuals with MSDs (Kok, et al.,

2013), including those on long-term SA with chronic MSDs (Sluiter & Frings-Dresen, 2008), and individuals with various chronic physical diseases (Broadbent et al., 2006; Kotsis et al., 2012; Nowicka-Sauer et al., 2016; Tiemensma et al., 2016; Weldam et al., 2014). A lack of control has been associated with poor medical outcomes (Foster, 2008) and is thus cause for concern. Similar (Broadbent et al., 2006) or worse scores (Løvvik et al., 2014) have been reported by those with acute colds and those struggling to participate in work due to mental health symptoms, respectively. The current findings may reflect both the presence of such illnesses, but also the high degree of organisational causative factors which may inhibit recovery.

Participants reported undertaking treatment more frequently during SA than SP. This has been previously reported (Cocker et al., 2013; de Vries et al., 2012) and may be due to the reported greater symptom severity during SA. Studies show that individuals seek treatment when their medical condition was more severe (Aalto-Setälä et al., 2002; Côté et al., 2001; Mojtabai & Olfson, 2006). Interestingly, B-IPQ treatment scores highlighted that treatment was expected to be more helpful during SA than SP. This may have contributed to treatment being used more frequently during SA; individuals adhere to treatment when they expect this to be necessary to control their illnesses (Horne & Weinman, 1999; Menckeberg et al., 2008).

Treatment may have been considered more helpful during SA than SP for several reasons. Firstly, for participants to engage in SA they had to obtain a certificate from a doctor; professional advice may have led to more effective

treatment options than those engaging in SP who may have self-medicated (Dowson & Jagger, 1999). Secondly, SP was characterised by being exposed to negative organisational factors and was believed to be harmful for illness; this may have limited the effectivity of treatment. Working conditions have been found to influence individuals' ability to return to work following both low back pain (Hagen, Svensen, & Eriksen, 2005) and mental health illness (Fleten & Johnsen, 2006). Finally, the finding may relate to MSDs, CHMDs and headaches/migraines being more prevalent during SP than SA. Studies have found that working individuals with mental illnesses were unlikely to engage in treatment (Chong et al., 2013; Whysall et al., 2018), whilst those with MSDs have been reported to express doubts about the effectivity of treatment (Coole et al., 2010; de Vries et al., 2011). Such conditions can also often be chronic or recurrent and participants may have felt that treatment was less effective in abating chronic symptoms; support for this is mixed (Horne & Weinmann, 1999; Menckeberg et al., 2008; Woolf et al., 2004).

The average perceived duration of illness was not significantly different between SP and SA. This contradicts previous findings that chronic illness may predispose towards SP (Rantanen & Tuominen, 2011) or SA (MacGregor et al., 2008); such studies did not, however, measure the actual or perceived timeline of illness. It however supports findings that timeline was not significantly different in those returning to work with repetitive strain injuries versus those who remained sick listed (Sluiter & Frings-Dresen, 2008) and did not influence perceptions of returning to work in those with CMHDs (Løvrvik et al., 2014). The obtained

average timeline scores were lower than previously reported in several studies of individuals with chronic conditions (Kotsis et al., 2012; Løvvik et al., 2014; Tiemensma et al., 2016); this was likely due to the current sample including both those with acute and chronic conditions. The findings suggest that acuity or chronicity were not primary drivers of SP/SA decisions.

7.4.3 Illness consequences

The average B-IPQ consequences scores obtained during SP and SA were higher than those recorded by individuals with various illnesses in other studies (Broadbent et al., 2006; Kok et al., 2013; Tiemensma et al., 2016; Weldam et al., 2014). This suggests that the experienced illnesses had a sizeable impact on nurses' lives. Higher average scores have been reported in those on long-term sick leave (Løvvik et al., 2014; Sluiter & Frings-Dresen, 2008) and during the current study, consequences scores were lower during SP than SA. Increased perceived consequences have been associated with greater symptom severity (Broadbent et al., 2006; Nowicka-Sauer et al., 2016), reduced work productivity (van der Have et al., 2015), greater depression, anxiety, and lower levels of quality of life (Broadbent et al., 2015). Greater consequences have also been linked with reduced expectations of returning to work following SA due to mental illness (Løvvik et al., 2014). Apart from contagion which was discussed above, the current analysis also included measures of two specific consequences, workability and impact of SP/SA on illness. These are discussed in turn.

Levels of workability were higher during SP than SA. Previous findings support this, indicating that individuals favour SP when they feel they can cope with their tasks, otherwise engaging in SA (Çetin, 2016; Dew et al., 2005; Lau et al., 2016). Workability, along with B-IPQ consequences, also obtained the highest effect sizes in the current analysis, highlighting the relevance of these factors. The average workability scores, however, were also low during SP. As poor workability often results in reduced work performance (Alavinia et al., 2009) which can have dangerous consequences within a healthcare setting (Letvak et al., 2012), the finding is concerning. Individuals who report frequent SP are more likely to have reduced workability (Dellve et al., 2011; Gustafsson & Marklund, 2011); the finding may reflect high SP frequencies in the current sample.

Whilst SA was generally rated as beneficial for illness by participants, SP was considered harmful. SP has previously been reported as harmful for health (Bergström et al., 2009; Dellve et al., 2011; Taloyan et al., 2012) whereas SA has been reported as beneficial (Dellve et al., 2011). Individuals appear to have engaged in SP when this was considered harmless or less negative for illness, whilst choosing SA when this was more beneficial. A limited number of studies have indicated that individuals choose SA (Collins & Cartwright, 2012; Hansson et al., 2006) and SP (de Vries et al., 2011; Gerich, 2016) when considered better for their health. The current findings however suggest that most participants chose SP when expected to be less negative rather than beneficial.

7.4.4 Emotional representations and coherence

Individuals were less concerned about their illnesses during SP than SA. Illness-related concerns do not appear to feature regularly in the SP literature. Greater concerns have been associated with experiencing more serious symptoms (Nowicka-Sauer et al., 2016). Furthermore, those who worry about their illness appear more likely to engage in SA (Bot et al., 2007), engage in longer SA periods (Giri et al., 2009) and fail to return to work (Sluiter & Frings-Dresen, 2008). Avoiding such worry has also been described as necessary to remain at work when experiencing chronic illness (de Vries et al., 2013). B-IPQ concern scores during SP and SA, however, were higher than reported in several studies (Broadbent et al., 2006; Tiemensma et al., 2016), including those working with MSDs (Kok et al., 2013; Sluiter & Frings-Dresen, 2008) and struggling to work with CMHDs (Løvvik et al., 2014). This highlighted the high levels of illness-related concern in the sample.

The obtained average B-IPQ emotional response scores were also higher than those recorded in many previous studies of various illnesses and diseases (Broadbent et al., 2015; Kok et al., 2013; Sluiter & Frings-Dresen, 2008; Tiemensma et al., 2016; Weldam et al., 2014). Whilst emotional response scores were higher during SA, they were not significantly different from those reported during SP. Studies of such responses and SP are limited, but this appears to contradict findings that greater emotional response is linked with remaining sick-listed following illness (Broadbent et al., 2015; Giri et al., 2009; Hoving et al.,

2010; Sluiter & Frings-Dresen, 2008). As levels of personal control, timeline, and causative factors did not vary between SP and SA, individuals may have been emotional due to chronic illnesses (Mahon et al., 2014) they had little control over.

B-IPQ coherence scores did not vary significantly between SP and SA. Broadbent et al. (2006) found that B-IPQ coherence was not significantly associated with severity or levels of perceived consequences; factors found to vary between SP and SA in the current study. Rather, it was associated with timeline and control scores, two factors that did not vary between SP and SA episodes. Furthermore, findings on whether coherence affects SA are mixed (Giri et al., 2009; Sluiter & Frings-Dresen, 2008). On average, scores were high, indicating that individuals understood their illnesses, possibly as all participants were healthcare workers. Several studies of individuals with chronic illnesses, however, reported similar or higher B-IPQ coherence scores (Broadbent et al., 2006; Kok et al., 2013; Kotsis et al., 2012; Nowicka-Sauer et al., 2016; Tiemensma et al., 2016; Weldam et al., 2014).

7.4.5 Practical and theoretical implications

Nurses were more likely to attend work whilst experiencing MSDs, CMHDs and headaches. All three conditions have negative implications in a healthcare setting, including, reduced levels of performance (Campo & Darragh, 2012; d'Errico et al., 2013), increased accidents and errors (Niven & Ciborowska,

2015; Suzuki et al., 2004) and reduced quality in delivery (Kim et al., 2016), respectively. Participants are likely to have attended with these conditions due to their frequency and limited sick leave allowances; avoiding work when symptoms, legitimacy, consequences, and concerns were greater and workability poorer. The high frequency of organisational causative factors, long illness timelines, low levels of illness control, and high degree of negative emotions and consequences experienced during both SP and SA however, are concerning. This is indicative of individuals struggling with long-term illnesses in an unhealthy working environment. The illustrated causative factors including manual handling, long working hours, excessive workload, and a lack of staff need to be tackled to promote illness prevention and recovery. The factors that are linked with illness outcomes during SP should also be investigated (explored in Chapter Eight). Furthermore, management should take steps to educate workers that CMHDs and migraines are valid reasons to take SA.

Treatment was considered less effective during SP. Whilst the negative working environment is a likely reason for this, the elevated frequency of MSDs and CMHDs which are frequently chronic during SP may also have been relevant. Chronic pain sufferers frequently manage their condition inadequately (Breivik et al., 2006), and whilst interdisciplinary interventions are suggested for such individuals (van Tulder, Koes, & Bouter, 1997; Gatchel, McGeary, McGeary, & Lippe, 2014), these appear to be infrequent in Malta. The studied facilities have a multi-disciplinary team at their disposal; this could be used to aid struggling workers, which currently occurs rarely and informally. Very few Maltese

establishments use the services of a psychologist, whilst Maltese establishments ranked last in the EU in knowing how to conduct psychosocial risk assessments (Irastorza, Milczerek, Cockburn, & European Agency for Safety and Health at Work, 2016). Assessing and tackling psychosocial risks and the provision of psychological support services therefore would also be beneficial.

On average, individuals attending work ill reported low workability scores. Its impact upon work performance should be studied (explored in Chapter Eight) as reduced performance levels in healthcare settings can be particularly concerning (Letvak et al., 2012). Nursing managers should provide support to struggling nurses, re-design tasks to make them more manageable, and hold discussions regarding when it would be best to engage in SA. Participants also attended work with a degree of contagion. Whilst minor, this could still be dangerous for vulnerable elderly patients and should be discouraged. Alternatively, steps should be taken by contagious workers to reduce transmission (Al Nuhait et al., 2017).

As individuals chose SP when symptoms were less serious, illnesses were less concerning, and fewer negative consequences were attributed to it, this suggests that SP/SA decisions involved a degree of volition. This corresponds with the view in SP theory that SP is a conscious decision (Johansson & Lundberg, 2004; Kristensen, 1991). It also supports the Cyclical Model of Presenteeism and Absenteeism where relevant decisions are influenced by illness perceptions and both perceived and actual consequences of such decisions. The findings are also in line with other theories that suggest that: SP depends on one's perceptions of their illnesses (Aronsson & Gustafsson, 2005; Kristensen, 1991; Johns, 2010); Johns

(2010) who postulated that SP/SA decisions may be influenced by beliefs regarding how work may impact health; and Cooper and Lu (2016) who suggested that outcome expectations, including individuals' beliefs of what they are able to do, and the outcomes of their actions, may influence SP. Further research on the impact of the perceived consequences of SP/SA on illness decisions appears warranted as they rarely feature in the SP literature.

7.5 Conclusion

The study demonstrated how illness perceptions vary between SP and SA, illustrating that they should be included in any SP or SA theory. During SP, illnesses were considered less severe, were of less concern and had fewer consequences than those reported during SA. Illnesses were also considered a less valid reason to take sick leave, were less contagious and had a less negative impact upon workability during SP. Conversely, undertaking treatment was more frequent and considered more effective during SA. Individuals appear to have attended when this was considered less harmful for illness and avoided work when this was considered more beneficial. Finally, MSDs, CMHDs and headaches were more frequent during SP, whilst digestive illnesses, infectious diseases, and post-operative recovery were more frequent during SA.

Whilst SA was considered salutogenic, SP was frequently considered harmful for illness. The overall levels of health in the studied sample appear to be poor, and thus understanding the correlates of illness outcomes during these periods may be beneficial. The low levels of workability during SP are also of concern as these may lead to poor levels of performance; studying the correlates of work performance during SP may thus also be warranted. These are explored in Chapter Eight.

Chapter Eight: Correlates of the Consequences of Presenteeism and Absenteeism

Summary

The following chapter presents an analysis of the correlates of presenteeism-related performance loss and reported illness outcomes following presenteeism and absenteeism. Cross-sectional data from 270 ward-based nurses working with older adults were analysed via hierarchical multiple linear regression. The described results revealed that illness perceptions were correlated with each of these outcome variables, as were a combination of variables not related to illness. These included occupational attitudes, personal factors and organisational factors. The chapter also presents a discussion of the findings, including relevant practical and theoretical implications.

8.1 Background and objectives

The study of sickness presenteeism (SP) is frequently justified by its consequences. The most commonly established include negative impacts upon work performance (Holden et al., 2011) and health (Skagen & Collins, 2016), the relevance of which were confirmed in the current investigation (Chapters Five through Seven). Within healthcare settings, decrements in work performance have further negative consequences including lower quality-of-care, greater patient falls and medication errors (Letvak et al., 2012). Such reductions in performance also have substantial financial repercussions. Letvak et al. (2012) estimated that falls and medication errors secondary to nursing SP increased US hospital costs by 2 billion dollars annually. Consequently, SP has often been reported to be costlier to organisations than sickness absenteeism (SA) (Collins et al., 2005).

As determined in Chapter Seven, SA is often considered a health promoting behaviour (Aronsson et al., 2000; Dellve et al., 2011), whereas SP is often believed to be negative for health (Bergström et al., 2009; Gustafsson & Merklund, 2011). However, the consequences of SA are not well understood (Collins et al., 2018). Gustafsson and Marklund (2011), for example, found that both frequent SA and SP had negative health consequences. Long-term SA is also considered counterproductive for recovery from physical (Buck et al., 2009) and mental (Waddell & Burton, 2006) illness. Conversely, some studies have reported that SP can have health benefits (de Vries et al., 2011; Irvine, 2011). Identifying factors that lead to more beneficial SA and SP episodes would thus be beneficial.

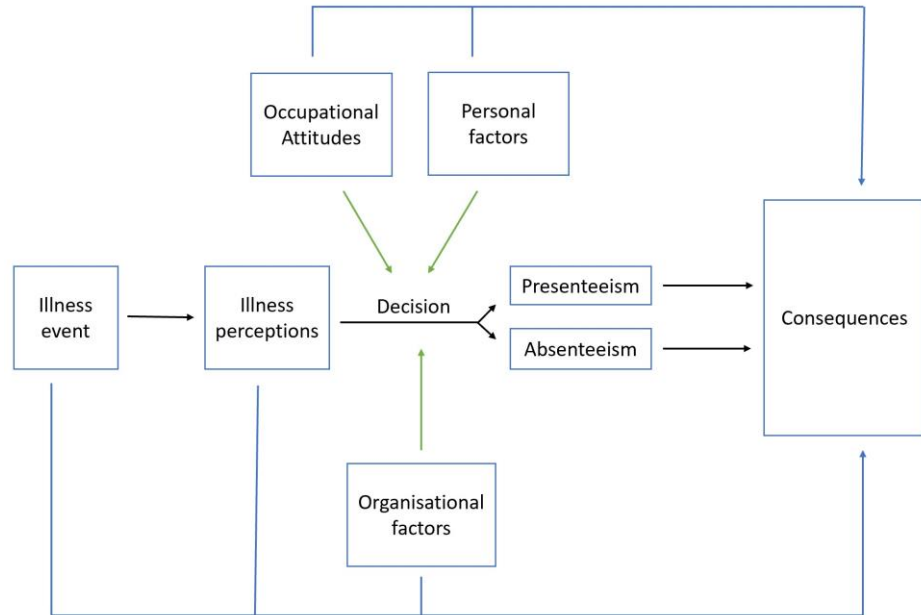
Studies in this respect are limited. Related findings originate from return and remain at work research, where the factors which foster return to work, or shorter SA durations, often following specific illnesses are analysed (e.g. Buck et al., 2011; Pomaki et al., 2010; Steenstra et al., 2005). Identifying the general factors associated with healthier SP and SA episodes, however, may benefit the scientific community as well as the nurses and their management to foster such episodes. This may also aid in reducing the frequency of SP and SA.

The correlates of reduced work performance during SP have been more widely analysed. Both physical (Campo & Darragh, 2012) and mental (Despiegel et al., 2012) illnesses have been linked with performance loss, as has illness severity (Sadosky et al., 2010). Burton et al. (2004), however, concluded that the impact of illnesses and diseases depended on the tasks in question. Several organisational factors have also been associated with reduced performance, including: reduced control (Alavina et al., 2009), limited adjustment latitude (2009), high job demands including emotional demands (Van den Heuvel et al., 2010), reduced work support (Abdullah et al., 2016), and job insecurity (Johns, 2011), amongst others. Productivity loss during SP is also affected by individual factors. Those who were: burnt out (Yildirim et al., 2014), dissatisfied with life (Yu et al., 2015), had lower quality of life (Merchant et al., 2014), considered absence as more legitimate, were more neurotic or less conscientious, and had greater family-work conflict (Johns, 2011) also appear to have greater performance loss.

Despite its relevance, few studies have used quantitative methods to determine the predictors of performance loss in healthcare settings (Terry & Xi, 2010; Wynne-Jones et al., 2009). Studies on samples of nurses are even more infrequent. Martinez and Ferreira (2012) and Skela-Savič et al. (2017) for example, analysed the correlates of performance loss on a sample of nurses, whilst Malhi et al. (2016) analysed the link between performance loss and stress in nurses. These studies, however, only presented bivariate analysis. Other published studies only focused on a limited set of predictors such as safety culture (Brborović et al., 2014), stress (Brborović et al., 2016), or socio-demographic and care home characteristics (Islam et al., 2017).

In view of the research gaps, and because the correlates of illness outcomes during periods of SP and SA, as well as performance loss during SP, have not been previously measured in nurses working in Malta, the current analysis aimed to explore if illness perceptions, attitudes, organisational and person-related factors were associated with these consequences of SP and SA (Figure 8.1).

Figure 8.1: The proposed associations between the consequences of presenteeism and absenteeism and their predictors



The analysis presented in this chapter therefore had the following objectives:

- I. To quantify the level of performance loss during SP.
- II. To determine the correlates of performance loss during SP.
- III. To identify the correlates of the impact of SP and SA on illness.

8.2 Methods

The methods for this second phase of the investigation were described in Section 6.2.

8.2.1 Data analysis

Hierarchical multiple linear regressions were used to identify the correlates of the consequences of SP and SA including performance loss during participants' last episode of SP, and perceived impact of participants' last episode of SP and SA on their illness.

Multiple linear regression is the statistical technique of choice when predicting a single scale dependent variable from several independent variables (Morgan et al., 2013). Furthermore, hierarchical models demonstrate how the addition of variables improves the prediction of other variables (Leech et al., 2015). A regression was thus conducted for each of the outcome measures. In each case, significant associations ($p < 0.05$) were first identified between the outcome measure and the other measured variables. Pearson product-moment correlation was used where both variables were scale level (Morgan et al., 2013), whereas where the independent measure was dichotomous, Pearson's point-biserial correlations was used (Gravetter & Wallnau, 2011). As explained in Chapter six; (i) only significantly correlated variables were entered into the regression, whilst

only variables that significantly contributed to the regression were retained. Dichotomous variables which contained fewer than 27 events were excluded from the analyses; (ii) control variables were also entered into the regression if they significantly correlated with the outcome variable. They however were retained even if they did not significantly contribute to the regression; (iii) in line with the proposed Cyclical Model of Presenteeism and Absenteeism, data were entered in three stages. Control factors were followed by illness perception variables. Finally, attitudinal, organisational and personal factors were entered; (iv) since many variable combinations were possible, that which produced the highest R^2 was presented (Field, 2005).

Controlling for demographic variables, particularly age and sex, as well as for general health (Johns, 2011; van den Heuvel et al., 2010), or other health markers such as specific chronic illnesses (Callen et al., 2013) appears to be a common trend in the published literature that explored the correlates of productivity loss due to SP. In fact, Johns (2011) noted that such productivity loss is traditionally viewed as involuntary and secondary to health decrements, thus the identification of psychosocial correlates beyond overall health challenges this.

This common trend also appears to extend to SP and SA studies that analysed health as an outcome measure. Gerich (2014) who studied the correlation between adjustment latitude and health events, controlled for general health and several demographic variables, such as sex, age and caregiving duties. Aronsson et al. (2011) who studied SA and SP as correlates of general health, considered sex and age as control variables, only including these when they had a significant

effect, whilst also noting that SP and SA acted as each other's controls. Rostad et al. (2015), who studied the factors associated with long-term health also included demographic factors and overall health as control variables. Longitudinal studies that analysed the impact of presenteeism on health have also used similar control variables. Bergström et al. (2009) for example, controlled for general health, absenteeism and demographic factors at baseline, amongst others. Gustafsson and Marklund (2011) who studied the impact of both absenteeism and presenteeism on a number of health-related outcome measures controlled for baseline demographics including age and sex, general health, absenteeism and presenteeism. Consistent with much of the published literature therefore, demographic variables, including sex and age, and a measure of overall health were used as control variables in this phase of the study. SP and SA frequency appear to be less commonly controlled for, however as they are proxies of overall health they were also included as control variables.

Field (2005) noted that 15 cases of data per predictor was a common rule of thumb to ensure a reliable regression model. He however noted that this and other rules of thumb oversimplified the issue, as the required sample size depended on the size of effect one was trying to detect. Field (2005) concluded that a sample size of 200 will always suffice when using up to 20 predictors to identify a large (.50) or medium effect (.30) size. To identify a small effect (.10) size, a sample upwards of 500 cases is necessary when dealing with two or more predictors. The current regressions, therefore, satisfied both the accepted rule of

thumb as well as the number of cases necessary to detect a medium or large effect size.

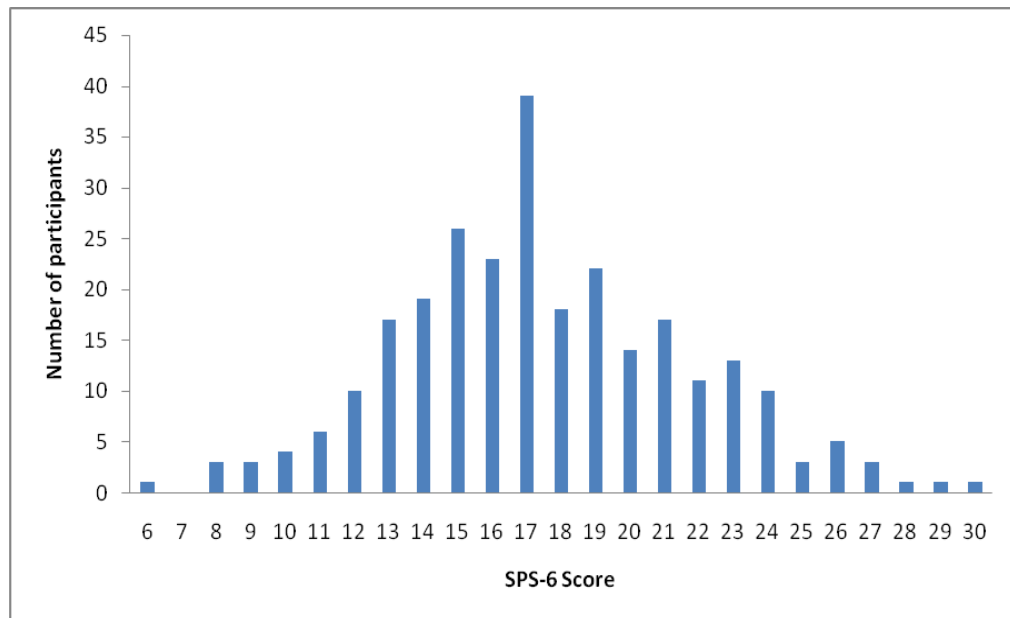
Multiple linear regression has several other conditions that were tested and met. These included that: (i) the outcome variables were scale level and normally distributed (Leech et al., 2015) - this was ensured via the use of histograms and that the skewness statistics of the dependant variables were less than an absolute value of 2 (George & Mallery, 2008; Kim, 2013); (ii) independent variables were primarily scale level, with the remaining variables of dichotomous nature; (iii) the relationship between the outcome variables and predictors was linear, tested via visual inspection of matrix scatterplots; (iv) the error (or residual) was normally distributed, and the variance of the residuals were constant (homoscedasticity), via a ZRESID / ZPRED plot; (v) and multicollinearity was not present. This was tested and met as described in Chapter Six (Leech et al., 2015).

8.3 Results

8.3.1 The correlates of performance loss during presenteeism

The Stanford Presenteeism Scale (SPS-6) (Koopman et al., 2002) was used to determine the degree of performance loss experienced during participants' last episode of SP. Scores could range from 6 till 30, with higher scores indicating better performance. A mean score 17.50 (SD = 4.22) was obtained, with the frequencies of the recorded scores illustrated in Figure 8.1 (Objective I).

Figure 8.1: Stanford Presenteeism Scale-6 (SPS-6) - frequency of scores



A hierarchical multiple linear regression was conducted to identify the correlates of the SPS-6. The means, standard deviations and intercorrelations of variables included in the regression are presented in Table 8.2. The variables that correlated significantly with SPS-6 scores but did not contribute to the regression are described in Table 8.1.

Table 8.1: Correlations with SPS-6 – variables not contributing to regression

Variable	Correlation coefficient
Consequences SP	-.16**
Control SP	.12*
Identity SP	-.13*
Expected impact of work on illness SP	.17**
Expected impact of staying home on illness SP	-.13*
Pregnancy SA	-.13*
Control SA	.13*
Workability SA	.17**
Vigour	.30***
Absorption	.14*
Overall engagement	.28***
Work demands	.13*
Managerial support	.20**
Peer support	.13*
Relationships	.13*
Extraversion	.13*
Emotional stability	.22***
Work attendance attitude	.12*
Emotional exhaustion	-.13*
Impact of family on sick leave	-.15*
Age	.24***

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism; SPS-6, Stanford Presenteeism Scale

Table 8.2: Means, standard deviations, and intercorrelations for SPS-6 and predictor variables

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5	6	7
1. Grade	1.23	.42	1-2	1						
2. Living with parents / family	.30	.46	0-1	-.27***	1					
3. Emotional response SP	6.07	2.84	0-10	-.12*	.12*	1				
4. Workability SP	5.03	2.13	0-10	.13*	-.01	-.19**	1			
5. Fatigue SA	.15	.36	0-1	-.01	-.09	.03	-.01	1		
6. Repercussions of SP on family	2.99	1.31	1-5	-.02	-.20**	.06	-.07	.10	1	
7. Dedication	4.54	1.10	0-6	.08	-.03	-.04	.16**	-.08	.01	1
8. SPS-6 score	17.50	4.22	0-6	.17**	-.18**	-.23***	.39***	-.17**	-.15**	.29***

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness Presenteeism; SA, Sickness Absenteeism; SPS-6, Stanford Presenteeism Scale; *M*, mean; *SD*, Standard Deviation

The three-step hierarchical multiple linear regression, constructed to predict SPS-6 scores, is presented in Table 8.3 (Objective II). Initially, control variables were entered. Three control variables were significantly related to the outcome variable: grade, living with parents or family, and age. Age, however, was removed from the regression due to multicollinearity with the other control variables. Furthermore, it did not contribute to the regression, $F(2, 267) = 6.77, p = .001$, adjusted $R^2 = .04$.

In the second stage, emotional responses, from the Brief Illness Perceptions Questionnaire (B-IPQ), workability during SP, and fatigue during SA were added, $F(5, 264) = 16.59, p < .001$, adjusted $R^2 = .23$. In the final stage, only two other variables contributed significantly to the regression: dedication, from the Utrecht Work Engagement Scale (UWES) and repercussions of SP on family. Their addition increased the variance explained by the final model, $F(7, 262) = 16.06, p < .001$. A final adjusted R^2 of .28 suggested that the final model explained 28% of the variance, indicating a large effect size (Leech et al., 2015). Individuals with greater performance loss during SP were found to: live with their parents ($\beta = -.18, p = .001$); reported fatigue during SA ($\beta = -.15, p = .004$); were more emotional about their illness during SP ($\beta = -.12, p = .029$); reported poorer workability during SP ($\beta = .32, p < .001$); were less work dedicated ($\beta = .21, p < .001$); and reported that SP had more negative repercussions on their family ($\beta = -.14, p = .007$). Grade failed to significantly contribute to the regression ($\beta = .07, p = .362$).

Table 8.3: Hierarchical multiple regression analysis summary predicting SPS-6.

Variable	Total	Model 1			Model 2			Model 3		
		<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
Grade										
<i>Nurse</i>	209	-	-	-	-	-	-	-	-	-
<i>Charge nurse</i>	61	1.37	.63	.14*	.72	.57	.07	.50	.55	.05
Living with parents										
<i>No</i>	190	-	-	-	-	-	-	-	-	-
<i>Yes</i>	80	-1.29	.57	-.14*	-1.44	.52	-.16**	-1.69	.51	-.18**
Fatigue SA										
<i>No</i>	229				-	-		-	-	
<i>Yes</i>	41				.63		-.18**	-1.80	.61	-.15**
Emotional response SP	270				.08		-.13*	-.17	.08	-.12*
Workability SP	270				.11		.36***	.63	.11	.32***
Repercussions SP on family	270							-.46	.17	-.14**
Dedication	270							.81	.20	.21***
R^2		.05			.24			.30		
ΔR^2		.05**			.19***			.06***		
Adj. R^2		.04			.23			.28		

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$

B, unstandardized regression coefficient; *SEB*, standard error of unstandardized regression coefficient; β , standardized beta coefficient; R^2 , explained variance; ΔR^2 , change in explained variance; Adj. R^2 adjusted explained variance; SP, Sickness Presenteeism; SA, Sickness Absenteeism; SPS-6, Stanford Presenteeism Scale

8.3.2 The correlates of impact of presenteeism on illness

Participants were asked to reflect upon the actual impact their last episode of SP had on their illness. This was measured by the following question; ‘what impact did attending work when ill actually have on your illness?’ Most respondents reported that SP had a harmful or very harmful impact upon their illness (74.9%). The findings were described in further detail in Section 7.3.3.

The correlates of this variable were analysed via a hierarchical multiple linear regression (Objective III). The inter-correlations of the variables entered into this regression are presented in Table 8.5. The expected impact of work on illness during SP was highly correlated with the outcome variable and explained much of its variance, $r(268) = .45, p < .001$. As the study was retrospective, recall bias, where the outcome of the illness episode influences recollections of thoughts prior to it (Pannucci & Wilkins, 2010), may have contributed to this. This variable was thus omitted from the analysis. Table 8.4 lists the variables that were significantly associated with the outcome variable but did not contribute to the regression.

Table 8.4: Correlations with actual impact of presenteeism on illness – variables not contributing to regression

Variable	Correlation coefficient
Infectious disease SP ¹	.16**
Consequences SP	-.19**
Timeline SP	-.16**
Identity SP	-.18**
Emotional responses SA	-.13*
Expected impact of work on illness SA	.16*
Vigour	.15*
Dedication	.16*
Absorption	.15*
Manager support	.13*
Peer support	.13*
Conscientiousness	.13*
Emotional exhaustion	-.17**

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism.

¹Variable omitted from regression due to < 27 cases

Table 8.5: Means, standard deviations, and intercorrelations for actual impact of presenteeism on illness and predictor variables

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5
1. Overall health	3.34	.85	1-5	1				
2. Workability SP	5.03	2.13	0-10	.15**	1			
3. Main illness cause SP	1.25	.43	1-2	.14**	.01	1		
4. Overall engagement	4.00	.93	0-6	.14**	.15**	.01		
5. Adjustment latitude	0.58	0.27	0-2	.14**	-.03	.07	.13*	
6. Actual impact of presenteeism on illness	2.26	.67	1-5	.15**	.18**	.14*	.18**	.15**

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$.

SP, Sickness Presenteeism; *M*, mean; *SD*, Standard Deviation

The hierarchical multiple linear regression is presented in Table 8.6.

Control variables were added first; only overall health significantly correlated with the outcome variable. During the second step, two illness-related variables were added: the main cause of illness during SP; and workability during SP. The B-IPQ consequences scale during SP also contributed to the regression but was omitted due to multicollinearity with overall health. This second stage significantly predicted the outcome variable, $F(3, 266) = 6.08, p = .001$. In the final stage of the regression, attitudinal, organisational and person-related variables were added. Of the measured factors, only adjustment latitude and the UWES overall engagement score significantly contributed to the regression, $F(5, 264) = 5.71, p < .001$. An adjusted $R^2 = .08$, indicated that the final equation now explained 8% of the dependant variable's variance, suggesting a small effect size (Leech et al., 2015).

The final model revealed that SP was less harmful to those who: attributed the main cause of their illness to a non-organisational factor during SP ($\beta = .12, p = .047$); perceived their workability during SP to be better ($\beta = .16, p = .010$); had greater work engagement ($\beta = .13, p = .032$); and had better adjustment latitude ($\beta = .12, p = .047$). Overall health did not contribute significantly to the regression ($\beta = .08, p = .209$).

Table 8.6: Hierarchical multiple linear regression analysis summary predicting impact of SP on illness and omitting expectations of impact of SP on illness.

Variable	Total	Model 1			Model 2			Model 3		
		<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
Overall health	270	.12	.05	.15*	.08	.05	.11	.06	.05	.08
Workability SP	270				.05	.02	.17**	.05	.02	.16*
Main illness cause SP										
<i>Organisational</i>	203				-	-	-	-	-	-
<i>Non-organisational</i>	67				.19	.09	.12*	.18	.09	.12*
Overall engagement	270							.09	.04	.13*
Adjustment latitude	270							.30	.15	.12*
R^2		.02			.06			.10		
ΔR^2		.02*			.04**			.03**		
Adj. R^2		.02			.05			.08		

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$

B, unstandardized regression coefficient; *SE B*, standard error of unstandardized regression coefficient; β , standardized beta coefficient; R^2 , explained variance; ΔR^2 , change in explained variance; Adj. R^2 adjusted explained variance; SP, sickness presenteeism.

8.3.3 The correlates of impact of absenteeism on illness

Participants were asked to recollect the actual impact that their last episode of SA had on their illness, via the following question: ‘what impact did staying home from work when ill actually have on your illness?’ Most participants (89.6%) felt that SA had been beneficial or very beneficial for their illness (Section 7.3.3). A multiple linear regression was constructed to identify the correlates of this variable (Objective III). The means, standard deviations and intercorrelations of the factors found in this regression are illustrated in Table 8.8. Variables significantly associated with the dependant variable but excluded from the regression are listed in Table 8.7.

Table 8.7: Correlations with actual impact of absenteeism on illness – variables not contributing to regression

Variable	Correlation coefficient
CMHDs SP	-.16**
Consequences SP	.13*
Timeline SP	.18**
Legitimacy SP	.20**
CMHDs SA	-.13*
Infectious disease SA ¹	-.13*
Consequences SA	.17**
Timeline SA	.17**
Identity SA	.20**
Coherence SA	.20**
Workability SA	-.20**
Expected impact of work on illness	-.20**
Agreeableness	.15*
Openness to experience	.12*
Emotional exhaustion	-.14*

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

SP, Sickness presenteeism; SA, Sickness absenteeism; CMHDs, Common mental health disorders

¹Variable omitted from regression due to < 27 cases

Table 8.8: Means, standard deviations, and intercorrelations for actual impact on health of absenteeism and predictor variables

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5
1. Identity SP	5.11	2.41	0-10	1				
2. Legitimacy SA	7.71	2.78	0-10	.04	1			
3. Expected impact of home on illness SP	3.91	.80	1-5	.09	.06	1		
4. Emotional stability	4.62	1.39	1-7	-.09	.03	-.00	1	
5. Adjustment latitude	0.58	.27	0-2	-.11*	-.01	-.06	-.04	1
6. Actual impact of SA on health	4.23	.81	1-5	.19**	.20***	.37***	.14**	-.20***

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$;

B-IPQ, Brief Illness Perceptions Questionnaire; SP, Sickness presenteeism; SA, Sickness absenteeism; *M*, Mean; *SD*, Standard deviation

No control variables correlated significantly with the outcome variable and therefore only a two-stage model is presented (Table 8.9). The outcome variable was strongly associated with the expected impact of absenteeism on illness, $r(268) = .52, p < .001$. As this finding may have been influenced by recall bias, the variable was omitted from the regression. In the first step, B-IPQ identity during SP, absence legitimacy during SA, and the expected impact of staying home during SP, significantly contributed, $F(3, 266) = 21.12, p < .001$, with an adjusted R^2 of .18.

During the second stage, two factors not related to illness episodes were included: emotional stability and work adjustment. The final model determined that SA had a more beneficial impact when: symptoms during SP were more severe ($\beta = .15, p = .006$); absenteeism was more legitimate ($\beta = .17, p = .002$); staying home was expected to be beneficial during SP ($\beta = .34, p < .001$); emotional stability was higher ($\beta = .14, p = .008$); and lower levels of work adjustment were present ($\beta = -.16, p = .004$). A final R^2 of .23, indicated that the equation explained 23% of the variance and had a medium effect size (Leech et al., 2015), $F(5, 264) = 16.60, p < .001$.

Table 8.9: Hierarchical multiple linear regression analysis summary predicting impact of absenteeism on illness.

Variable	Total	Model			Model		
		1			2		
		<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
Identity SP	270	.05	.02	.15**	.05	.02	.15**
Legitimacy SA	270	.05	.02	.18**	.05	.02	.17**
Expected impact of home on illness SP	270	.35	.06	.34***	.34	.06	.34***
Emotional stability	270	-	-	-	.08	.03	.14**
Adjustment latitude	270	-	-	-	-.48	.17	-.16**
R^2		.19			.24		
ΔR^2		.19***			.05***		
Adj. R^2		.18			.23		

* $p < .05$; ** $p < .01$; *** $p < .001$; $N = 270$

B, unstandardized regression coefficient; *SE B*, standard error of unstandardized regression coefficient; β , standardized beta coefficient; R^2 , explained variance; ΔR^2 , change in explained variance; Adj. R^2 adjusted explained variance; SP, sickness presenteeism; SA, sickness absenteeism;

8.4 Discussion

8.4.1 Summary of findings

A mean SPS-6 score of 17.5 revealed that nurses generally perceived their performance to be poor during SP (Objective I). The SPS-6 regression revealed that individuals with greater performance loss lived with their parents or family members, experienced fatigue during SA, experienced more illness-related emotions during SP, and reported less workability during SP. They also believed SP had more negative repercussions on their families and were less work dedicated (Objective II).

Participants who felt that SP was less harmful for their illness were more likely to have better workability during SP, believed that the cause of their illness was non-organisational, had greater levels of work engagement and better adjustment latitude (Objective III). Reporting absenteeism as more beneficial for illness was linked with greater absence legitimacy during SA, experiencing more severe symptoms during SP, expecting that SA could have been more beneficial during SP, higher emotional stability, and lower levels of work adjustment (Objective III).

8.4.2 Performance loss during presenteeism

Mean SPS-6 scores were lower than those obtained in studies of Portuguese (Martinez and Ferreira, 2012), Croatian (Brborović et al., 2014), Welsh (Islam et al., 2017), Slovenian (Skela-Savič et al., 2017) and Pakistani (Malhi et al., 2016) nurses. Whilst differing recall periods and cultural factors may have influenced the findings, participants appear to have experienced considerable performance loss during SP. The obtained mean SPS-6 score of 17.5 is also meaningful; scores of 18 or lower are considered indicative that performance and focus has been substantially affected by illness (Foster, 2002; Brborović et al., 2014).

8.4.2.1 Perceptions and type of illness

Three aspects related to illness influenced performance during SP: reporting fatigue during SA, emotional reactions during SP, and perceived workability during SP. As performance loss was secondary to illness, a link with illness-related variables was to be expected. These are discussed next in turn.

The relevance of fatigue in causing performance loss is well established, including in mentally and physically fatigued nurses (Barker & Nussbaum, 2011). Fatigue has been described as one of the illness types that impacts performance loss most (Holden et al., 2011) and Ricci et al. (2007) hypothesised that fatigue may increase impairment as it may indicate increased

disease severity and co-morbid psychological illness and could reduce the ability to compensate for illness-related work impairment. Walsh et al. (2014) corroborated this; psoriatic arthritis sufferers were more likely to experience severe disease and depression when also reporting fatigue. Additionally, individuals experiencing various illnesses reported greater performance loss when also reporting fatigue (Kessler et al., 2008; Ricci et al., 2007; Walsh et al., 2014).

Fatigue was recorded during SA; as increased symptom severity can foster SA (Krohne & Magnussen, 2011), this may indicate that performance loss occurred when fatigue was more severe. Increased illness severity has previously been associated with greater performance loss (Adler et al., 2006; Sadosky et al., 2010) and was also supported by bivariate findings in the current analysis. Finally, fatigue can also be considered an indicator of reduced work performance (e.g. Goetzl et al., 2004); one SPS-6 question referred to perceptions of reduced energy and may have contributed to the identified association.

Individuals who had greater emotional responses to illness during SP also recorded lower performance during the same episode. Illness-related emotional responses appear to have received limited attention in the SP performance loss literature, with van der Have et al. (2015) failing to identify a significant link between the two. Negative emotions can be experienced when illness is proving hard to control, is severe, or is longstanding (Mahon et al., 2014). Uncontrollable illness (Adler et al., 2006), illness severity (Lerner & Henke, 2008) and the presence of chronic illness (Collins et al., 2005) have all been associated with decrements in work performance. Bivariate analysis also

supported the link between illness severity and uncontrollability on work performance. Furthermore, studies of nurses have described how below-par work performance during SP results in negative emotions (Krane et al., 2014), as does the feeling that attending work ill is negative for health (Tveten & Morken, 2016). Finally, poor emotional health (Cosatti et al., 2018; Prochaska et al., 2011) and the presence of psychological disorders, such as depression (Lerner & Henke, 2008; Martinez & Ferreira, 2012) and anxiety (Martinez & Ferreira, 2012), which the current finding may also reflect, have also been associated with reduced work performance. The presence of CMHDs however, was not associated with performance loss in the current analysis.

As in previous studies, individuals with poorer levels of work performance due to health also had lower levels of workability (Alavinia et al., 2009; de Vries et al., 2013; van den Berg et al., 2011; Vänni et al., 2012). Different illnesses have diverse impacts upon the ability to carry out skills and competencies (Burton et al., 2004) and the impact they have on job performance may therefore depend on the tasks in question (Alavinia et al., 2009; de Vries et al., 2013; van den Heuvel et al., 2010). As in the current analysis, Alavinia et al. (2009) found that functional limitations due to illness were more closely associated with productivity loss than numerous job-related factors. Shaw (1999) argued that the ability to cope with illness could be measured by individuals' level of physical, psychological and social functioning. Those with greater fatigue, emotional responses and poorer workability along with the associated decrements in performance do not appear to be coping with their illnesses.

8.4.2.2 Attitudinal and personal factors

Lower scores in all three UWES sub-scales and the overall engagement scale were linked with greater performance loss due to ill health, with the dedication sub-scale contributing to the regression. All three scales of the UWES have previously been positively associated with improved job performance (Bakker & Bal, 2010), whilst greater engagement has also been linked with positive healthcare outcomes including reduced infection, reduced patient mortality and improved client satisfaction (West & Dawson, 2012). The link between engagement and performance loss during SP does not appear to have been frequently studied. As in the current analysis, higher levels of engagement have been associated with reduced performance loss during SP (Becher & Dollard, 2016; McGregor et al., 2016). Grawitch et al. (2017) however, only identified a link between mental productivity loss and engagement, but not with physical productivity loss. As work engagement is described as a positive affectional and motivational state (Bakker et al., 2008) that involves great levels of vigour, dedication, and absorption (Schaufeli et al., 2006), the improved levels of performance are understandable. Additionally, engaged workers tend to have better health (Fiabane et al., 2013) and create more job resources, such as co-worker support and autonomy (Bakker & Bal, 2010; Schaufeli et al., 2009). Such factors are likely to have aided engaged workers to cope with work when unwell.

Those who felt that SP had a negative impact upon their family also performed more poorly when ill. Studies have illustrated that stress at home (Callen et al., 2013) and conflict between family and work commitments

results in occupational productivity loss during SP (Johns, 2011; Witt & Carlson, 2006; Yang et al., 2016). Based on Hobfoll's (1989, 2001) Conservation of Resources model, which states that individuals aim to protect their resources during periods of stress, it has been argued that resources spent on the family detract from those available for work, resulting in performance loss (Witt & Carlson, 2006). This appears to be occurring in the current analysis, where the consequences of attending ill appear to be spilling over into participants' family life (Panari & Simbula, 2016), resulting in reduced work performance. Conflict between work and family roles also impact health (Frone et al., 1997), emotional exhaustion, and job satisfaction (Ahmad, 2008) negatively, and may also have contributed to performance decrements.

Individuals who lived with their parents or family members reported greater performance loss than those living with a partner, were married or lived alone. Married (Merrill et al., 2012; Nakagawa et al., 2014; Yu et al., 2015) and cohabiting (Holden et al., 2010) individuals have previously been reported to experience less performance loss than those who were not married or cohabiting, respectively. This may in-part be due to mental health; nurses who live with a partner have better mental health than those who live alone (Perry et al., 2015). Others have failed to identify a link between marital status and work performance (AbuAlRub, 2004; Lu, Lin, & Cooper, 2013). As individuals who live with their parents are usually younger, it is also possible that age influenced this finding. Bivariate analysis confirmed the relevance of this factor, and several studies have reported that older individuals experience less limitations at work and less performance loss due to illness (Aysun & Bayram, 2017, Burton et al., 2004; Collins et al., 2005; Merrill et al., 2012; van den

Heuvel et al., 2010). This may reflect workers with greater health-related limitations having dropped out of the workforce with increasing age (van den Heuvel et al., 2010). However, older employees also appear to perform better in several facets of performance such as superior organisational citizenship, safety, and reduced counterproductive behaviour (Ng & Feldman, 2008). Conversely, Letvak et al. (2013) noted that whilst nurses above the age of 50 had better mental well-being, they experienced more pain, were less fit, had a greater prevalence of health issues, and greater productivity loss.

Performance loss during SP was not associated with either SP or SA frequency. Johns (2011) identified limited associations between work performance and various measures of SP and SA, with measures similar to those used in the current analysis found to be uncorrelated. Johns (2011) concluded that SP and performance loss were different concepts, with different predictors, and warned that those who considered presenteeism to be a reduction in productivity due to health were essentially only measuring one of its consequences. Organisational factors also had a limited impact upon performance loss. The finding is not new; in a study of individuals with rheumatoid arthritis, presenteeism-related performance loss was linked to disease and health variables, but not organisational factors (Boot et al., 2018).

8.4.3 Impact of presenteeism and absenteeism on illness

8.4.3.1 Illness perceptions and type

Bivariate analysis revealed that participants who had more severe symptoms, chronic illnesses and illnesses of concern were more likely to consider SA as having been beneficial for their illness. On the other hand, greater symptoms, chronicity and consequences were associated with more negative illness outcomes during SP episodes. Of these factors, only symptom severity during SP contributed to the SA illness outcomes regression, highlighting severity's importance. More serious symptoms have previously been associated with greater absenteeism (Dall et al., 2013; Morken et al., 2012; Väänänen et al., 2003). Individuals with severe symptoms have been reported to benefit from SA but are less likely to return to work than those with less severe illness (Sullivan, Adams, Thibault, Corbière, & Stanish, 2006). Those with less severe illnesses may have benefitted less from SA due to reduced absence legitimacy, as discussed further on. That severity was recorded during SP, may suggest chronicity also played a role. Due to frequent illness, individuals with more chronic illnesses often attend work despite severe symptoms and beliefs that SP was harmful, and SA was beneficial (Hansson et al., 2006).

Those with greater workability were also more likely to appraise their illness outcomes positively following SP. Individuals often attend work ill as they do not feel sick enough to stay home (Al Nuhait et al., 2017; Bracewell et

al., 2010). The finding, however, is at odds with previous negative associations between SP frequency and workability (Gustafsson & Marklund, 2011; Pit & Hansen, 2016), thought to be due to the negative impact of SP on health.

Perceived absence legitimacy during SA was associated with better reported illness outcomes during SA. Krane et al. (2014) found that less visible illnesses, such as CMHDs, and less severe illnesses were considered less valid reasons for SA by nursing home workers. This may partially explain why attending with less severe symptoms was associated with less beneficial illness outcomes during SA. Furthermore, bivariate analysis indicated that those with CMHDs were less likely to benefit from SA. It has been reported that individuals with mental illnesses engaged in SP as they were concerned that co-workers would question the legitimacy of their SA (Ashby & Mahdon, 2010). Such feelings of concern could potentially reduce the health-promoting effects of SA for individuals experiencing issues such as anxiety. This was corroborated by Tarasuk and Eakin (1995) who noted that feelings of mistrust, reduced social support, and reduced job security could all result from reduced illness legitimacy, potentially inhibiting recovery. Finally, during periods of SA, participants were required to obtain certification from a doctor; health professionals doubting the legitimacy of illnesses could also result in negative health outcomes (Reid et al., 1991) and may have contributed to the current findings.

Attributing illness to non-organisational causes, rather than organisational causes, was associated with better illness outcomes during SP. The finding is logical; on-going exposure to factors perceived to have caused illness would not foster recovery. Guidelines regarding working with MSD

pain (Buck et al., 2009) and mental health disorders (Harnois & Gabriel, 2002) encourage the development of healthy workplaces to foster illness control and recovery. Studies have shown that workers are aware that illness can be caused by work (Wynne-Jones, Buck, Porteous, et al., 2011) and nurses consider MSDs an occupational hazard that was part of the job (Dew et al., 2005; Krane et al., 2014); highlighting nurses' awareness that SP can be detrimental to health.

Individuals who had more positive expectations regarding the impact of staying home on illness during SP, also reported better illness outcomes during SA. Workers hold beliefs about the impact of SP and SA on health, with SP frequently being considered harmful (Giæver et al., 2016; Grinyer & Singleton, 2000; Krohne & Magnussen, 2011) and SA believed to facilitate recovery (Hansson et al., 2006). Often, such conclusions may be linked to the belief that organisational factors lead to the development of ailments (Hansson et al., 2006; Wynne-Jones, Buck, Porteous, et al., 2011), a factor also found to be relevant in the current analysis. Expectations have been found to predict illness outcomes; Heymans et al. (2006) and Steenstra et al. (2005) showed that expectations of recovery predict a return to work following SA. The current analysis therefore adds to such findings.

8.4.3.1. Organisational, attitudinal and personal factors

All three sub-scales of the UWES, vigour, dedication and absorption, as well as the overall engagement scale, were significantly and positively associated with illness outcomes during SP. This corroborated with engagement being described as a positive emotional and motivational state of occupational wellbeing (Bakker et al., 2008). Engaged individuals are described as having more energy, more mental resilience, have higher levels of work involvement, and experience time passing more rapidly when working (Bakker et al., 2008); SP is thus more likely to be experienced positively. Positive links between engagement and personal resources, including optimism (Garrosa et al., 2011) and self-efficacy (Salanova et al., 2011) in nurses, may also explain the association; both of which facilitate SP and prevent SA (Schreuder et al., 2013). Engaged participants may therefore have had more optimistic views of the impact of SP on illness. Furthermore, self-efficacy has been linked with the self-management of chronic medical conditions at work (Munir et al., 2009), and buffers the negative effects SP can have on health (Lu et al., 2014).

As the study was cross-sectional, it is also possible that positive illness outcomes during SP helped foster engagement. More engaged healthcare workers have better health levels (Fiabane et al., 2013; Setti & Argentero, 2011) and studies of SP frequency have often reported a negative association with engagement (Karanika-Murray et al 2015), which may indicate that individuals who are ill more frequently, are less engaged. In fact, Nahrgang, Morgeson, and Hofmann (2011) found that workers who perceived that their

workplace contained more risks and hazards were less engaged. It is thus possible that the relationship may occur in both directions; whilst engagement leads to better health outcomes during SP, this may in turn result in greater engagement.

Greater work adjustment was positively associated with the effect of SP on illness. Several studies have linked greater adjustment with reduced SP frequency as it is believed to be health promoting (Gerich, 2014; Miraglia & Johns, 2016). The current analysis supports this, and adjustment has also been shown to aid those with chronic illnesses to return to work (Hansson et al., 2006; Irvine, 2011; Johansson et al., 2006). This is particularly relevant due to the high prevalence of MSDs and CMHDs in the studied sample (Section 7.3.1). The findings also highlighted that those with poor adjustment rated SA as more beneficial than those who had greater adjustment; this is likely to reflect the perceived need to escape a negative workplace in order to recover (Hansson et al., 2006; Wynne-Jones, Buck, Porteous, et al., 2011). In fact, poorer adjustment has been associated with greater SA (Johansson & Lundberg, 2009; Gerich, 2014). It is also possible that those with greater adjustment experienced negative illness outcomes during SA. The adjustment latitude scale included factors such as the ability to postpone work and to work from home. Thus, greater adjustment may have resulted in working from home during SA and work piling up, which may harm recovery. Leaveism, which includes working when on leave (Hesketh & Cooper, 2014), has been associated with poorer self-rated health (Gerich, 2015a).

Individuals who were more emotionally stable were more likely to report that SA had benefitted them. Emotional stability has been linked with

greater work engagement, which as discussed, has also been associated with positive illness outcomes. Conversely, low levels of emotional stability (or high neuroticism), has been linked with burnout (Langelaan, Bakker, van Dooren, & Schaufeli, 2006). The current bivariate analysis linked greater emotional exhaustion, a facet of burnout (Maslach et al., 1996), with worse illness outcomes during both SP and SA. Individuals high in neuroticism, a predictor of mental health issues (Cheng & Furnham, 2001), also have pessimistic explanatory styles for negative outcomes and they often have inadequate coping styles, favouring avoidance of stressors rather than engaging in problem solving (O'Brien & DeLongis, 1996). Such factors may have contributed to the current findings.

8.4.5 Implications for practice and research

Diminished performance levels in a hospital environment not only reduces patient satisfaction (Argentero et al., 2008), but may also have serious implications including, a lower quality of care, greater medication errors and more frequent patient falls (Letvak et al., 2012). The current analysis revealed that many nurses experienced great decrements in performance during SP, illustrating the need to monitor nursing health and performance (Letvak et al., 2012).

The correlates of performance loss during SP indicated that nurses were struggling to cope when ill. Bivariate analysis revealed that greater levels of peer and management support, better workplace relationships and manageable demands were all associated with better performance when ill. Initiatives that make demands more manageable, such as the provision of better equipment and the re-design and re-distribution of work tasks, as well as initiatives that improve work support and relationships, may therefore be beneficial.

Organisational changes may also benefit health. Workers who attributed the cause of illness to organisational factors had worse illness outcomes during SP, whereas adjustment latitude was associated with improved illness outcomes. The actual perceived causes were described and discussed in Chapter Seven and should be tackled directly. Consideration, however, should also be given to fostering special arrangements for those who are attending work ill. These may include allowing nurses to work at a slower pace, take longer breaks, work shorter hours, and potentially postpone certain

tasks. Bivariate correlations also associated increased manager and peer support with better illness outcomes during SP, and thus should be fostered.

Overall many of the findings were reflective of the Job Demands and Resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti et al., 2001). Excessive workplace demands and related factors, including spill over effects of SP on family, and organisational causative factors were linked with poorer performance and health. This model assumes that excessive demands result in fatigue and emotional exhaustion (Bakker & Demerouti, 2007), which were also linked with negative outcomes in the current analysis. Conversely, resources such as social support, adjustment latitude, and better relationships were linked with better health and work performance. The model also assumes that such resources result in improved work engagement (Bakker & Demerouti, 2007), which was also linked with better health and work performance. This highlights the practical value of the model; work performance during SP and illness outcomes are likely to be improved if demands are realistic and resources are available (Bakker & Demerouti, 2007). Adjustment latitude, however, was associated with poorer illness outcomes during SA; the studied organisations should investigate if participants are working from home during SA. If occurring, this should be discouraged.

Various correlates indicated that those experiencing worse illnesses benefitted more from SA, reported that SP was more harmful, and experienced greater productivity loss during SP. Whilst such individuals are likely to benefit from organisational changes, interventions that recognise and treat health complaints early on and support those already experiencing chronic illnesses are necessary (Letvak et al., 2012). Several correlates associated with

negative outcomes suggested the presence of mental illnesses. The government of Malta provides an Employee Support Program (ESP) for workers of public organisations that the current participants should be made aware of and encouraged to use. ESPs generally aim to improve employee wellbeing and work performance, often through the provision of counselling services (Mogorosi, 2009). As increased emotional responses were linked with reduced performance, participants may also benefit from emotional intelligence training (Karimi et al., 2015). Individuals with CMHDs were found to benefit less from SA; stigmas regarding mental illnesses need to be challenged to improve illness legitimacy.

This chapter illustrates the relevance of participants' expectations and attributions and thus highlights that worker participation should be encouraged when developing policy, conducting work assessments, or planning work changes that may impact upon their health and performance. This often results in better physical and psychological outcomes (Burgess-Limerick, 2018). Furthermore, limited research appears to have explored the impact of such participation on nursing health and would be an interesting avenue for future studies.

Engagement was associated with better work performance and more favourable illness outcomes during SP. The predictors of engagement in nurses in Malta do not appear to have been previously studied and in-view of its benefits may warrant further study. A healthier workplace (Nahrgang et al., 2011), a manageable workload, the presence of work control, appropriate reward and recognition, a sense of community, perceived fairness, and work mirroring workers' values (Leiter & Maslach, 2004) have been reported to be

key factors in fostering engagement and preventing burnout, including in nurses (Freeney & Tiernan, 2009). The studied organisations should therefore aim to enable these antecedents.

In line with the proposed model (Figure 8.1), the studied consequences all correlated with illness perceptions. The second stage of the model was also relevant to each studied consequence; however, organisational factors did not contribute to the model on performance loss, whilst person-related factors and attitudes did not contribute to the SP and SA illness outcomes model, respectively. This demonstrates that whilst the consequences of SP and SA are not solely predicted by illness-related factors, the relevance of further categories of factors may depend on the consequence in question. The specific relevant factors also varied between outcome measures, highlighting the value of analysing each outcome. As the model appears to be of value when studying the consequences of SP and SA, further studies which investigate this model in other populations are thus warranted.

The current analysis also contributed to the published literature on performance loss by highlighting the relevance of several under-studied factors, including engagement, the repercussions of SP on family, and illness-related emotional responses. Further studies that determine the relevance of these factors in other populations of nurses are warranted. The factors that correlated with illness outcomes following specific episodes of SP and SA were also analysed. Studies usually analyse the predictors of overall health and it could be debated that this novel approach may aid organisations to enhance the positive aspects of SP and SA episodes. Further studies using similar outcome variables are thus recommended.

8.5 Conclusions

On average, performance levels during SP were poor. Associations between performance loss and fatigue, illness-related emotion and workability, also indicated that participants were struggling during SP. Participants need to be supported via health-related interventions and organisational changes. These could include manageable work demands, social support, and adjustment latitude. Such changes could also aid to improve illness outcomes during SP, where worse outcomes were linked with organisational causes of illness and a lack of adjustment latitude. Fostering work engagement also appears to be a valuable method to boost performance and illness outcomes during SP, and the aforementioned organisational changes could also aid in this respect. Nurses should be involved in any changes that may impact upon their health and performance at work.

Those who benefitted less from SA included those who experienced reduced absence legitimacy and were less emotionally stable. This highlights that absence legitimacy, particularly with respect to mental illness should be tackled, but also that support services like an ESP need to be available for such individuals. Performance loss was also associated with factors that may indicate mental issues, including emotional reactions, fatigue, the impact of SP on family life, and living with parents. This indicates that such support services may also benefit performance. As SA was less beneficial for those with greater adjustment latitude, this needs to be investigated and tackled.

Chapter Nine: Discussion and Conclusion

9.1 Introduction

The thesis explored the factors that lead nurses working with older adults to engage in sickness presenteeism (SP) and sickness absenteeism (SA), and the consequences of their behaviour. As SP had not been previously studied in a similar sample in Malta, and in the absence of comprehensive SP theories (Lohaus & Habermann, 2018), an exploratory qualitative interview study was first conducted (Phase I - Chapter Five). The themes emerging from this study were then investigated further via a cross-sectional quantitative survey (Phase II), the analysis of which were presented in Chapters Six to Eight. Overall, the thesis had the following aims:

- I. To establish the frequency of SP and SA in the studied population.
- II. To determine the factors that foster SP and SA in the studied population.
- III. To identify and explore the perceived consequences of SP and SA.
- IV. To establish the extent to which perceived consequences of SP and SA impact on decision-making processes concerning these sickness behaviours.
- V. To contribute to the further development of SP theory.

The current chapter is divided into six sections. The findings of the four studies are first summarised. This is followed by a discussion which brings together the findings of these studies. A third section illustrates the strengths and limitations that should be considered when interpreting the findings and is followed by sections on the implications for research and theory, and the implications for practice. A conclusion then brings the thesis to a close.

9.2 Summary of findings

The qualitative interview study presented in **Chapter Five** found that the antecedents and consequences of SP and SA could be categorised into four themes: illness perceptions, occupational attitudes, organisational factors, and personal factors. The antecedents will be summarised first (Aim II). Regarding illness perceptions, SP was favoured when symptoms were not severe, and illness was controllable and long lasting. Several consequences also featured as antecedents (Aim IV); SP was favoured when illness was not contagious, it did not interfere with work, and illness exacerbation was not likely. SA was favoured in the opposite situations; however, participants believed nursing could be harmful to health and still attended ill.

Attitudes influenced SP and SA decisions (Aim II); these were often linked to perceived consequences of absence (Aim IV). Organisational factors that fostered SP included: enjoyable work, feeling responsible or indispensable, and concerns regarding work piling up or tasks being missed if on SA. A lack of concern about such implications fostered SA. Attitudes towards co-workers

also encouraged SP including to prevent burdening co-workers, to protect co-worker vacation leave, to avoid frequent SA, or in response to co-workers attending ill. Conversely, SA was favoured if SP could burden co-workers and when co-workers favoured SA when ill.

Organisational factors like a positive workplace atmosphere and teamwork promoted SP (Aim II). A negative atmosphere, limited teamwork, limited managerial support, long working hours, nursing shortages, the presence of lesser qualified replacements, and co-workers encouraging absence all fostered SA. Workload was found to elicit both SP and SA. Administrative measures also played a role: vacation leave flexibility; higher paying work days; and the cancellation of vacation leave immediately following sick leave encouraged SP. Conversely, the provision of replacements for absent workers could encourage SA.

Individual factors also played a role (Aim II). Participants described having illness behaviour preferences and engaging in SP or SA based on the legitimacy of SA. Individuals, particularly those with chronic illnesses, stated that SP was necessary as they needed to work and wanted to set a positive example for their children. Family members, however, could also encourage SA.

The consequences of SP and SA were also investigated in Chapter Five (Aim III). Reduced work performance was considered a primary consequence of SP and could vary depending on illness-related factors and organisational factors, including workload and support. SP was also considered harmful for illness, more so when coupled with excessive demands and a lack of support.

Absenteeism was often considered beneficial if one could rest when at home. Further consequences of SP and SA were also identified.

Chapter Six studied the frequency of SP and SA (Aim I) as well as the correlates of both SP and SA frequency and propensity in the studied population (Aim II and IV). Most participants engaged in two to five SP and SA episodes in the last 12 months, SP occurring most commonly. Increased SP frequency was associated with increased: SA frequency; emotional responses during SP; reporting that SA had been beneficial for illness; and believing SP was necessary following recent SA. Increased SP frequency was also associated with lower: digestive illness reporting during SA; illness coherence during SP; and managerial and co-worker support. Greater SA frequency was linked with greater: SP frequency; comorbidity during SA; illness consequences, chronicity and symptoms during SP; and engaging in SA on medical advice. Frequency of SA was negatively associated with digestive illness reporting during SA; the expected impact of work on illness during SP; and work attendance attitudes.

Participants with a propensity for SP were more likely to: report reduced workability during SP; experience reduced emotional responses during SA; be work engaged; and experience excessive work demands. A propensity for SA was associated with reporting manageable work demands.

Chapter Seven analysed how illness types and perceptions varied between participants' last SP and SA episodes (Aim II), a few of which were perceived consequences (Aim IV). During SP episodes, musculoskeletal disorders (MSDs), common mental health disorders (CMHDs) and headaches

or migraines were more prevalent. Digestive illnesses, infectious diseases, and post-operative recovery were more prevalent during SA. Consequence, identity, and concern scores from the Brief Illness Perceptions Questionnaire (B-IPQ) were significantly higher during SA than SP, as were contagion and legitimacy scores. Workability scores were lower during SA than SP. Individuals undertook treatment more frequently during SA, during which it was also considered more effective than during SP. SP was considered harmful for illness, whilst SA was believed to be beneficial (Aim III); participants appeared to choose SP when this was expected to be less harmful for illness, and engaged in SA when this was expected to be more beneficial for illness.

Chapter Eight explored the correlates of performance loss during SP and the correlates of the perceived impact of SP and SA episodes on illness (Aim III). Performance during SP was found to be poor, with greater performance loss associated with: living with parents or family members; reporting fatigue during SA; greater emotional responses during SP; lower workability during SP; greater negative repercussions of SP on families; and lower work dedication.

The impact of SP on illness was considered more harmful when: illness during SP was attributed to organisational factors, and when workability, adjustment latitude and work engagement were poorer. Better illness outcomes following SA were associated with: greater illness legitimacy during participants' last SA episode; greater symptoms during SP; expectations that staying home would have benefitted illness during SP; greater emotional stability, and reduced work adjustment.

9.3 Analysis of findings

The prevalence of SP and SA in the studied sample (Chapter Six) was higher than reported in many similar samples (e.g., Elstad & Vabø, 2008) (Aim I). This corroborated with findings that SP and SA rates in Malta are the highest in Europe (Eurofound, 2016). The finding is important; SP was considered harmful for illness (Chapter Seven) and linked with greater performance loss than has been reported in many nursing samples (e.g., Brborović et al., 2014; Islam et al., 2017) (Aim III). Whilst SA benefitted illness (Chapter Seven), SP and SA frequency were positively correlated (Chapter Six), supporting previous findings that individuals with poorer health engage in more SP and SA (Johns, 2011; Miraglia & Johns, 2016) (Aim II). The factors associated with SP, SA and their major consequences are discussed in the following sections.

9.3.1 Illness perceptions

As proposed in the Cyclical Model of Presenteeism and Absenteeism (Section 5.6.6) and indicated in interview and survey findings (Chapters Five through Seven), illness perceptions played a major role in influencing SP and SA decisions (Aim II). Illness instigates the decision between SP and SA (Aronsson & Gustafsson, 2005) and models of SP have previously highlighted the possible relevance of such subjective illness appraisals (Aronsson & Gustafsson, 2005; Johns, 2010; Kristensen, 1991). Additionally, and as

proposed by the model, illness perceptions also contributed to models of the consequences of SP and SA (Chapter Eight) (Aim III). The individual perceptions are discussed in the following sections.

9.3.1.1 Illness severity, comorbidity and chronicity

Interview (Chapter Five) and survey (Chapter Seven) findings linked milder illnesses with SP and greater symptoms with SA (Aim II); a common finding in the scientific literature (Collins & Cartwright, 2012; Krane et al., 2014). In line with previous findings, increased SA frequency (Chapter Six) was also associated with increased symptom severity (DaCosta DiBonaventura et al., 2012; Cocker et al., 2011) and comorbidity (Cocker et al., 2011; Holden et al., 2011) (Aim II). Furthermore, experiencing severe symptoms was linked with reporting SA as beneficial for illness, SP as harmful, and an impaired performance during SP (Chapter Eight) (Aim III). This may explain the preference for SA when symptoms were severe.

Mixed findings were obtained regarding the impact of temporality on illness behaviour (Aim II). Interview findings indicated that chronic and recurrent illnesses, including MSDs, headaches, and stress, required both SP and SA. However, due to factors like the finite allocation of sick leave per annum, SP was necessary more often (Chapter Five). Survey findings confirmed that the aforementioned illnesses were more prevalent during SP than SA. Nevertheless, the length of illness was not significantly different between SP and SA episodes (Chapter Seven). Longer illness timelines were

also associated with both increased SP and SA frequency; however, chronicity only contributed to the SA frequency model. Furthermore, a link with SP or SA propensity was not identified (Chapter Six). Whilst surprising, other factors linked to chronic illness, such as its cause or affective reactions, may have been more relevant, as discussed later. Moreover, illnesses and diseases that were rarely recurrent were associated with reduced SP and SA frequencies (Chapter Six), as postulated by Whysall et al. (2018). Chronic illness has previously been associated with both SP and SA (MacGregor et al., 2008; Munir et al., 2008), but is usually more strongly associated with SP (Aronsson et al., 2011; Caverley et al., 2007; Rantanen & Tuominen, 2011). Exceptions, however, exist (MacGregor et al., 2008). These studies measured chronicity via the presence of chronic diseases, rather than the actual timeline of illness events, as in the current study.

9.3.1.2 Consequences of illness

Interview (Chapter Five) and survey findings (Chapter Seven) determined that during SP participants reported: less negative consequences, had better workability, were less contagious, expected SP to be less harmful, and SA to be less beneficial for their illnesses, than during SA. These factors similarly influenced SP and SA behaviour in physicians (Giæver et al., 2016), highlighting that perceived consequences of SP and SA influence illness behaviour choice (Aim IV).

Lower workability has been linked with choosing SA rather than SP (Çetin, 2016; Gudgeon et al., 2009), even in studies of nurses (d'Errico et al., 2013). Whilst workability was higher during SP than SA (Chapter Seven), it was not associated with either SP or SA frequency. Lower workability was however, associated with a propensity for SP rather than SA (Chapter Six). More frequent SP has been previously associated with lower workability (Pit & Hansen, 2016). This may be due to the harmful impact of SP on health (Miraglia & Johns, 2016), as indicated by the correlation between poorer workability and poorer illness outcomes in Chapter Eight. Findings may also be indicative of chronic illness which often results in lower workability (Collins et al., 2005) and higher SP propensity (Caverley et al., 2007). The link between reduced workability and SP propensity is notable, as reduced workability was also linked with poorer productivity during SP (Chapter Eight), a common finding in the scientific literature (de Vries et al., 2013; van den Berg et al., 2011). This can be especially dangerous in a hospital environment (Letvak et al., 2012). Therefore, whilst participants generally chose SP when their workability was better, those who preferentially engaged in SP had lower levels of workability (Aim IV).

Both interview (Chapter Five) and survey (Chapter Seven) findings indicated that illness was less contagious during SP than SA. Infectious and digestive illnesses were also more prevalent during SA (Chapter Seven), possibly in-part due to contagion. Contagion has been described as a relevant driver of SA in healthcare settings (Giæver et al., 2016); however, in line with previous studies (Gudgeon et al., 2009; Tan et al., 2014), a degree of contagion was reported during SP (Chapter Five and Seven). Healthcare workers

generally appear to attend when contagious illness is mild (Rebmann et al., 2016), does not influence their tasks (Chiu et al., 2017) and take measures to reduce transmission (Al Nuhait et al., 2017). Contagion had a limited effect on illness behaviour frequency; a weak negative bivariate association was identified with SA frequency, possibly as they are rarely chronic (Aim IV).

Sickness presenteeism was frequently considered harmful for illness outcomes (Chapter Five and Seven) (Aim III) and is supported by the scientific literature (e.g., Giæver et al., 2016; Gustafsson & Marklund, 2011). Findings throughout the thesis also appear to indicate that individuals choose SP when this was expected to be beneficial, or less harmful, for their illnesses. Similarly, SA appears to have been favoured when this was considered the better health option (Chapters Five till Seven) (Aim IV). Whilst such expectations have not featured regularly in the SP literature, similar findings have been reported (Collins & Cartwright, 2012; de Vries et al., 2011; Gerich, 2016). Interestingly, SP frequencies were greater in those who reported benefitting from SA more greatly (Chapter Six) (Aim IV). This indicated that SA was health-promoting (Aronsson et al., 2000) and may aid those with chronic and severe illnesses to control symptoms and continue attending in a state of SP (Hansson et al., 2006). Expectations were also positively associated with the actual reported impact of SA on illness (Chapter Eight) and have previously been linked with health outcomes (Mondloch et al., 2001) including predicting a return to work (Heymans et al., 2006), further illustrating their importance.

The findings presented in this section therefore support the cyclical nature of the proposed model; SP and SA appear to be influenced by both the perceived and actual illness-related consequences of these decisions. Whereas

individuals may choose to engage in SP due to factors such as feeling able to cope with work tasks or believing that illness transmission was unlikely, the negative health consequences of SP imply that a more frequent attendance whilst ill would result in factors such as poorer workability.

9.3.1.3 Illness cause, control and coherence

In line with previous findings (Hoving et al., 2010), interviews indicated that more controllable illnesses encouraged SP (Chapter Five). However, illness control scores were not significantly different during SP and SA episodes (Chapter Seven) (Aim II), with low levels recorded during both episodes. Control was slightly higher during SA; the more frequent use of treatment and its greater effectiveness during SA, possibly due to the greater severity of illness during SA (Côté et al., 2001; Aalto-Setälä et al., 2002), may have contributed to this finding.

Perceptions of low control during SP, and that SP was harmful, were possibly elicited by negative organisational factors workers had little control over (Chapter Five). Organisational factors appear to have caused most morbidity and led to both SP and SA (Chapter Seven). However, the organisational causative factors presented in Chapter Seven have been linked with the development of MSDs (Smedley et al., 1995), CMHDs (Mark & Smith, 2011), and headaches (Lin et al., 2007) in nurses; all of which were significantly more prevalent during SP (Chapter Seven) (Aim II) and have previously been linked to SP in healthcare workers (Krane et al., 2014). Poorer

illness outcomes during SP were also associated with attributing illness to organisational causes (Chapter Eight) (Aim III). Workers have previously been reported to attend work ill, despite acknowledging that organisational factors caused their illnesses (Grinyer & Singleton, 2000; Wynne-Johns, Buck, Porteous, et al., 2011a).

Participants described choosing SP or SA based on their understanding of illness, derived from factors such as previous experience, training, and professional advice (Chapter Five). In fact, illness coherence was high and not significantly different between periods of SP and SA (Chapter Seven). Nevertheless, those with greater SP frequency understood their illness to a lesser extent (Aim II). Previous studies have illustrated that understanding one's symptoms can aid in controlling the condition, facilitating SP (de Vries et al., 2011; Tveten & Morken, 2016). However, individuals who struggle to control their illnesses report lower levels of understanding (Broadbent et al., 2006) and have been reported to engage in frequent SP periods (Hansson et al., 2006).

9.3.1.4 Emotional representations

Survey findings (Chapter Seven) revealed that individuals were more concerned about illnesses during periods of SA than SP, most likely due to greater symptoms and negative consequences during SA (Broadbent et al., 2006). Concern levels, however, had little impact upon SP and SA frequency, propensity or their consequences (Chapter Six and Eight) (Aim II). Illness-

related emotional responses, such as anger, fear, or depression, had a more substantial effect. Whilst high during both SP and SA episodes (Chapter Seven), those with greater emotional responses during SP also reported greater SP frequencies (Chapter Six) (Aim II) and performance loss (Chapter Eight) (Aim III). This may suggest that emotion was secondary to frequent or chronic illnesses (Yohannes et al., 2010), concerns about illness progression and control (Mahon et al., 2014) and reduced coherence. As described in Chapter Five and by Krane et al. (2014), negative emotions may also have been linked to poor performance during SP. As nurses are subject to great emotional demands (Eurofound, 2016), which also drive SP (d'Errico et al., 2016), this may have increased the impact of emotional responses in the studied sample. Greater emotional responses during SA, however, were linked with reduced SP propensity (Chapter Six) (Aim II). As illness during SA was more severe and disabling, and thus likely to increase emotion (Broadbent et al., 2015), this finding may reveal that a propensity for SP does not occur when experiencing the most severe illnesses. In fact, during bivariate analysis, greater illness-related concerns during SA were associated with reduced SP propensity, whilst greater emotional responses during SA were linked with increased SA frequency.

Emotion may not have solely been a reaction to increased levels of SP, SA and its consequences; the processing of emotional information may also have led to variations in behaviour. This is a basic tenant of Emotional Intelligence (Mayer et al., 2008) and nurses who are more emotionally intelligent have been found to engage in less SP (Karimi et al., 2015). Greater emotional representations may also indicate the presence of mental health

disorders. CMHDs and poor emotional health have been linked with increased SA (Goetzel et al., 2004; Uribe et al., 2017), SP (Aronsson et al., 2000; Uribe et al., 2017) and work performance decrements (Ashby & Mahdon, 2010; Wada et al., 2013). The presence of CMHDs did not contribute to models of SP/SA frequency or propensity (Chapter Six); however, apart from occurring more frequently during SP (Chapter Seven) (Aim II), they were also linked during bivariate analysis with poorer illness outcomes during SA (Chapter Eight) (Aim III). Whilst it has been suggested that both SP and SA could benefit those with mental disorders (Simpson et al., 2015), interview findings (Chapter Five) revealed that SA policy, which obligated staying indoors, displeased those with CMHDs, as this did not facilitate recovery. In line with previous findings (Holden et al., 2011), fatigue, often a symptom of depression (Ricci et al., 2007), was also linked with reduced work performance (Chapter Eight) (Aim III). This may also reflect the impact on individuals struggling with work demands whilst ill.

9.3.1.5 Illness legitimacy

Whilst interview findings illustrated that reduced illness legitimacy could encourage both SP and SA (Chapter Five), survey data found that absence legitimacy was higher during SA than SP (Chapter Seven) (Aim II). This may partly explain the greater prevalence of MSDs and CMHDs during SP; CMHDs have been described as an illegitimate reason for SA (Giæver et al., 2016; Krane et al., 2014), whereas findings on MSDs are mixed (Dew et

al., 2005; Giæver et al., 2016; Krane et al., 2014). Conversely, digestive illnesses, infectious diseases and physical issues like post-operative recovery, which were more prevalent during SA, appear to enjoy greater legitimacy, particularly if symptoms are severe (Giæver et al., 2016; Krane et al., 2014). Despite findings to the contrary (Johns, 2011), legitimacy did not contribute to models of SP/SA frequency or propensity (Chapter Six). Reduced legitimacy, however, was linked with poorer illness outcomes during SA (Chapter Eight) (Aim III). Social interactions at work, career opportunities and job security can all be compromised by reduced legitimacy, complicating recovery and a return to work following SA (Tarasuk & Eakin, 1995). This may have further encouraged those with ‘illegitimate’ illnesses to engage in SP.

9.3.2 Organisational factors and attitudes

As highlighted in the proposed model (Section 5.6.6), the factors that influenced SP and SA decisions and their consequences were not limited solely to illness-related factors. Those who enjoyed their job, felt responsible, and were concerned about their tasks, described these as reasons to choose SP during the first study (Chapter Five). This indicated that work engagement (Schaufeli & Bakker, 2003) may impact SP and SA. Survey findings corroborated this; greater engagement was linked with a propensity for SP. Bivariate findings also associated vigour with lower SA frequency (Chapter Six) (Aim II). Similar associations between SP and engagement have previously been reported (Kinman & Wray, 2018), illustrating that positive

attitudes can foster SP (Dew et al., 2005; Schreuder et al., 2013). Consistent with previous findings, the engaged also had better work performances (Becher & Dollard, 2016; McGregor et al., 2016) and health outcomes during SP (Fiabane et al., 2013) (Chapter Eight) (Aim III). Engagement has been described as a state of occupational wellness which includes persisting with work and resilience when faced with difficulties (Bakker et al., 2008). The findings contrast with those of emotional exhaustion, a facet of burnout (Maslach et al., 1996). Whilst this did not contribute to any of the second study's models, it was associated with greater SP frequency, a lower propensity for SA (Chapter Six), worse illness outcomes during SP and SA, and poorer levels of performance during SP (Chapter Eight). Emotional exhaustion and burnout have previously been linked with increased SP (Brborović et al., 2017; Miraglia & Johns, 2016), which in turn results in further emotional exhaustion (Demerouti et al., 2009).

The provision of replacements had mixed impacts upon SP and SA decisions in the first study (Chapter Five) and may explain why replacements, work piling up, and perceptions regarding SP as a burden to co-workers had little impact on reported SP and SA frequency, propensity (Chapter Six) (Aim II) or their consequences (Chapter Eight) (Aim III) during quantitative multivariate analysis. Bivariate links, however, associated work piling up during SA with a propensity for SP and a reduced SA propensity, whereas replacements were linked with greater SA propensities and reduced SP propensities (Chapter Six). Reduced replaceability (Caverley et al., 2007; de Vries et al., 2011) and concerns about burdening co-workers (Kim et al., 2016; Krane et al., 2014) have previously been linked with fostering SP. The link

between these factors and propensity, but not frequency, suggests it may be due to attitudes rather than health levels; none of these factors were associated with SP or SA illness outcomes (Chapter Eight). Other attitudes towards co-workers also appeared to influence SP. As indicated by interview findings (Chapter Five), fears that SA could result in co-workers' vacation leave being cancelled was associated with SP propensity during bivariate analysis (Chapter Six). A multivariate link between attending work ill following recent SA and greater SP frequency was also identified (Chapter Six) (Aim II). The correlation with frequency, rather than propensity, may suggest that this was secondary to more frequent ill health, resulting in a need to choose between illness behaviours more frequently (Gerich, 2016). A link with illness outcomes during SP, however, was not identified (Chapter Eight). This finding also suggests, as proposed in the Cyclical Model, that occupational attitudes that influenced SP and SA decisions were also affected by prior illness episodes (Aim IV).

In the first study, good relationships and support at work both encouraged SP and made it possible, whilst the opposite situation promoted SA (Chapter Five). However, survey findings linked greater co-worker and supervisor support with lower SP frequency (Aim II). A bivariate link between better relationships and reduced SA frequency was also identified (Chapter Six). Whilst support encourages SP (Kim et al., 2016), it has also been linked with lower SP (Kinman & Wray, 2018), possibly due to its health-promoting effects (Miraglia & Johns, 2016). Notably, interview findings (Chapter five) and bivariate analysis (Chapter Eight) linked greater co-worker and supervisor support with better performance and illness outcomes during SP. This mixed relationship can also be explained by the proposed Cyclical Model; whereas

better levels of support can encourage and make SP possible, better levels of support also predict better illness outcomes during SP. In turn, this results in fewer future illness events and thus fewer instances where participants need to choose between SP and SA. This is also highlighted by the Job Demands-Resources (JD-R) model (Demerouti et al., 2001); support helps individuals to cope with work demands and is health-promoting. Greater support has previously been associated with improved worker performance (AbuAlRub, 2004), wellbeing (Wallace & Lemaire, 2007), illness management (Munir et al., 2009) and reduced exhaustion (Lu, Cooper, & Lin, 2013).

Interview findings highlighted a mixed relationship between work demands and SP and SA decisions. High workloads and long working hours made coping difficult and encouraged SA. Concerns about co-workers and tasks also fostered SP (Chapter Five). These findings supported the premise that individuals' illness decisions were informed by the possible consequences of SP and SA (Aim IV). Survey findings supported the latter link; greater job demands were correlated with SP and not SA propensity. Greater work demands were also associated with increased SP frequency during bivariate analysis. Positive links between demands and SP have previously been reported (Biron et al., 2006; Demerouti et al., 2009; Kinman & Wray, 2018). Excessive job demands can be detrimental to health (Bakker & Demerouti, 2007), and can lead to increased SP frequency (Miraglia & Johns, 2016) including due to increased levels of exhaustion (Thun et al., 2016). Furthermore, SP could also be considered a demand (Thun et al., 2014), causing a vicious cycle. However, the greater impact of demands on the propensity rather than frequency model, as well as interview findings, indicate

that attitudes influenced these results, with participants attending in response to greater workload (Demerouti et al., 2009) (Aim II and IV). Contrary to interview findings (Chapter Five), a link was not identified between demands and illness outcomes (Chapter Eight). Greater demands were also associated, during bivariate analysis, with poorer work performance during SP (Chapter Six); this corroborated with interview findings (Chapter Five) and previous findings (Palo & Pati, 2013; Pohling et al., 2016).

Whilst interview findings revealed that control of working hours facilitated coping, and thus SP (Chapter Five), bivariate findings linked greater adjustment latitude with lower levels of SP (Chapter Six). This is a common finding, likely due to the health benefits of adjustment latitude (Miraglia & Johns, 2016; Gerich, 2016). Greater adjustment correlated with better illness outcomes during SP (Chapter Eight), supporting this conclusion. Conversely poorer adjustment latitude was associated with better illness outcomes during SA (Aim III). This may indicate that such individuals needed to escape the workplace to recover (Wynne-Jones, Buck, Porteous, et al., 2011) and possibly that those with greater adjustment worked from home during SA. The first study however, did not indicate that the latter took place (Chapter Five).

9.3.3 Personal factors

As was previously described (Hansson et al., 2006; Robertson et al., 2012), interview findings illustrated that internal attendance standards varied between participants (Chapter Five). Stronger internal attendance beliefs were associated with reduced SA frequency during multivariate analysis, and increased SP propensity during bivariate analysis (Chapter Six) (Aim II); this corroborated with interview (Chapter Five) and previous findings (Johns, 2011; Väänänen et al., 2008). Attendance attitudes were not associated with SP frequency, as previously described by Gerich (2016), or illness outcomes (Chapter Eight). A positive bivariate association with work performance was however identified (Chapter Eight); such individuals may have been more work dedicated, which as illustrated by engagement findings was linked with greater reported performance. Findings may also indicate that feeling strongly about attendance depended on being able to cope with work tasks; Krane et al. (2014) reported that ill nursing staff were unlikely to be spared more demanding work tasks and that underperformance was not an option.

The second phase of the investigation also included a measure of the Big Five personality variables. A few studies have linked personality variables to SP (Johns, 2011; Lu, Lin, & Cooper, 2013) and SA (Conte & Jacobs, 2003; Judge et al., 1997) frequency; however, no links were identified between the Big Five personality factors and SP/SA frequency and propensity in the second phase of this investigation (Chapter Six). This finding may have been influenced by the brief nature of the measure used to investigate personality variables. Longer, more reliable measures of personality may have resulted in

different results. Personality was however linked with the studied consequences (Chapter Eight). Most notably, higher emotional stability was associated with better illness outcomes during SA (Aim III). Neuroticism, the opposite pole of emotional stability, has been linked with negative affect (McCrae & Costa, 1987) and inadequate coping strategies (O'Brien & DeLongis, 1996). This may also explain a positive bivariate link between emotional stability and reported performance during SP.

Interview findings illustrated that participants chose SP, despite chronic illness, to support their family and to set an example for their children. Presenteeism and ongoing illness had negative spill-over effects upon family life, and family members could encourage SA (Chapter Five). Such factors did not contribute to SP or SA models (Chapter Six), but bivariate analysis linked family encouraging SA with greater SP frequency (Chapter Six) and performance loss during SP (Chapter Eight). More notably, greater negative repercussions of SP on family were associated with increased productivity loss within this model (Chapter Eight) (Aim III). Conflict between family and work has previously been associated with SP (Camerino et al., 2010) and performance loss (Johns, 2011). This may occur as illness limits resources, which individuals conserve for family, rather than work demands (Hobfoll, 1989; Witt & Carlson, 2006). Those married or living with a partner however, had better SP work performance than those who were not (Chapter Eight). This finding is not uncommon (Merrill et al., 2012; Yu et al., 2015); living with a partner may be conducive to better mental health (Perry et al., 2015).

Qualitative findings revealed that health professionals' advice helped inform illness perceptions and SP/SA decisions (Chapter Five). Quantitative

findings illustrated that those who chose SA when advised to do so by a health professional also engaged in SA more frequently (Chapter Six) (Aim II). As previously discussed, legitimacy facilitated SA, and having illness rubber-stamped by a health professional may have boosted SA legitimacy (Crout et al., 2005; Hooftman et al., 2008). The finding may also indicate that those with a lower health locus of control (Wallston et al., 1976) take more SA; similar findings exist for a general locus of control (Ng et al., 2006), or that those with worse illnesses made greater use of medical services (Côté et al., 2001; Mojtabai & Olfson, 2006).

Interview findings suggested that charge nurses were more likely than nurses to engage in SP due to factors like added responsibility, work piling up and flexible hours (Chapter Five). Charge nurses had a propensity for SP and lower SA frequency than nurses, but grade did not contribute to either model (Chapter Six). Higher grade has previously been linked with reduced SA (Ferrie et al., 2005; Morikawa et al., 2004) and increased SP (Aronsson et al., 2000). Charge nurses also described that as their job involved less manual handling, this facilitated attendance when experiencing MSDs, as their job performance was not affected (Chapter Five). This, and factors such as flexible hours, may explain a bivariate link indicating that charge nurses had greater work performance during SP than nurses (Chapter Eight). Charge nurses are also typically older and a positive bivariate link between age and reported performance was also identified. Mixed findings have previously been reported regarding age and performance when unwell (Aysun & Bayram, 2017; Letvak et al., 2013).

9.4 Strengths and limitations

The current investigation had several strengths. It was the first to study the predictors and consequences of SP in a sample in Malta. Mixed method methodologies have rarely been used to study SP and SA decisions; the current investigation allowed for the benefits of both qualitative and quantitative research methods to be used to better understand the investigated constructs (Creswell et al., 2011). The questionnaire used in the second phase was formulated following an initial qualitative study, included established measures, and was piloted to ensure suitability. Both studies employed procedures to reduce selection bias, whilst the second phase of the investigation was representative of the studied population in terms of socio- and occupational-demographic characteristics.

The individual studies uncovered relevant factors that appear under-researched in the scientific literature. Several methods used to analyse SP/SA decisions also rarely feature in the published literature. These included: studying the correlates of both SP, SA and their consequences; analysing both SP/SA frequency and propensity; comparing illness perceptions during SP and SA episodes; and analysing the correlates of illness outcomes following SP/SA. Most studies employ measures of SP frequency (Dhaini et al., 2017; Thun & Løvseth, 2016) or productivity loss secondary to illness (Malhi et al., 2016; Martinez & Ferreira, 2012), however very few studies use more than one of these measures (Miraglia & Johns, 2016). Different outcome measures had different predictors, illustrating the advantage of this approach (Johns, 2011).

The studies had a few common limitations. Known as the ‘healthy worker effect’, the chosen data collection methods may have omitted the most poorly nurses who during data collection were on SA, long-term SA, or had already left their job. Less healthy individuals are also less likely to participate in health-related surveys (Etter & Perneger, 1997). This was offset during the first phase by selecting participants from a list of all hospital employees; only one individual chose not to participate. During the second phase, wards were visited by the researcher on multiple occasions over a period of eight weeks. Furthermore, the above-average response rate and high levels of illness suggest that poorly nurses participated. Both phases of the thesis also required retrospection, which may have introduced recall-bias (Pannucci & Wilkins, 2010). Most SP studies, however, have used retrospection. Nurses have been found to recall quantitative SA data satisfactorily (Gaudine & Gregory, 2010) and illness perceptions have previously been collected retrospectively (e.g. Broadbent et al., 2006).

Both data collection phases had restricted sample sizes; however, qualitative data collection was only completed once saturation was reached. The quantitative sample size was similar to the average sample size of published occupational health psychology research papers (Spector & Pindek, 2016). The cross-sectional design of the quantitative study made it difficult to determine the direction of associations; this was reduced by using variables relating to participants’ last SP/SA episodes, whilst the mixed method methodology used allowed for quantitative and qualitative findings to be compared. Future longitudinal studies which analyse the pathways of the proposed model, however, are warranted.

Little information was made available to the researcher regarding the studied population. Whilst statistics on a few occupational and demographic characteristics of the population were presented in Chapter Six, other aspects such as ethnicity, tenure, and qualifications were unavailable. The first qualitative study, however, did not indicate that these factors influenced SP and SA decisions or their consequences.

As nurses working with ward-based older adults in Malta were studied, the findings might not necessarily apply to other nursing groups or other countries. The investigation is of value however; such nurses represent the largest group of nurses in Malta, and their number is expected to rise due to the ageing population. Similar studies in other nursing populations, however, would be of value. Finally, it is acknowledged that individuals engage in sick leave and presenteeism for reasons other than illness (Aysun & Bayram, 2017); this is unlikely to have affected the findings as, during both phases, participants were asked to focus on the times they stayed home or attended work when sick.

A few limitations were specific to the quantitative analyses. SP and SA statistics may have been skewed by social desirability bias, with individuals underestimating their SA and possibly over-estimating their SP (Hansen & Andersen, 2008). The high scores received for both variables, however, suggests that this did not occur. The multi-item measurement scales used in the Phase Two questionnaire were found to be reliable in the studied population, with alpha coefficients above the frequently accepted threshold of $\geq .60$. Some authors have debated that $\geq .70$ is preferable (Taber, 2017) and a few measures fell below this criterion (See Section 6.2.5). The study also used the two-item scales from the Ten-Item Personality Inventory to measure personality factors.

Due to their short nature and reported low alpha scores, the reliability of these scales has previously been called into question (Gosling, n.d.). Gosling et al. (2003) debates that test-retest scores are more appropriate to determine the reliability of these scales. Due to the design of the current investigation, this could not be determined in the studied population and should therefore be taken into consideration when interpreting the obtained results. The questionnaire also included several single-item dependent and independent measures; whilst many were sourced from previous published studies and their efficacy demonstrated, it is also possible that their lower levels of reliability influenced the findings (Wanous, Reichers, & Hudy, 1997). However, these enabled a more concise questionnaire which may have improved response rates. Furthermore, some data were lost by transforming SP and SA frequency into binomial variables; however, this facilitated comparison with previous studies and was also statistically more desirable.

Common method variance (CMV) was also a consideration during the second phase of this investigation. Three components make up the variance of each variable: trait variance, that due to the construct of interest; method variance, the remaining systematic influences on the variable; and error variance, the unsystematic influences due to limitations in the measures' reliability (Spector, 1994). Systematic method variance can increase or decrease the relationships between variables and occurs most frequently when, as in the current study, self-report measures are used and the same individuals provide both the independent and the dependent measures (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Podsakoff et al. (2003) suggested that this occurs for various reasons, including: individuals wanting to appear

consistent in their answers and thus seeking out similarities in the questions posed to them; the theories participants develop about the relationship between the measured variables; social desirability bias; and positive and negative affectivity. Podsakoff et al. (2003) thus suggested several remedies which included both statistical controls of CMV and recommended research procedures. These included: obtaining dependent and independent variables from different sources; separating the measurement of these two types of variables temporally; and modifying the questions and their scales to boost anonymity, reduce ambiguity and provide varied scales.

It could be debated however, that CMV had a limited effect on the current study. Firstly, Conway and Lance (2010) and Spector (2006) argued that it is a misconception that the relationship between two self-reported variables would necessarily be inflated and that methods other than self-report are superior. In fact, Spector (1994) highlighted that negative affectivity can influence measures considered to be more objective than self-report measures. Spector (2006) stressed that if all self-report measures were beset by CMV, these would all be correlated; this however was not the case. Also, whilst social desirability and negative affectivity could inflate some correlations, the effect was found to be limited and restricted to only a few variables. Spector (2006) also concluded that limited evidence supported the premise that obtaining data solely from self-reports inflated correlations, and when this occurred it may indicate that self-report measures were a better measure of the construct at hand. Conway and Lance (2010) instead recommend that researchers should have valid reasons for using self-reported variables. In the current study, variables such as SP and illness perceptions could only be retrieved in this

manner. Furthermore, obtaining SA frequency scores from organisational records was undesirable and would have impacted anonymity negatively, possibly increasing bias and harming participation rates (Podsakoff et al., 2003). The current study, as suggested by Podsakoff et al. (2003) also had systems in place to preserve anonymity, thus reducing social desirability bias, prevented ambiguity via a pilot exercise and the use of validated and reliable tools, and made use of varied scales. Conway and Lance (2010) also suggested avoiding an overlap between measured constructs, and this was reduced by testing for multicollinearity. Furthermore, as the study formed part of a mixed-method study, the triangulation of results can provide a degree of reassurance that findings are due to trait, rather than method variance. Statistical tests to control for CMV were not used in the current study; however, these are not recommended as they are often ineffective or resource intensive (Conway & Lance, 2010).

9.5 Implications for theory and further studies

The following sections address the contribution of this thesis to the development of SP theory (Aim V). Section 9.5.1 argues that SP decisions include conscious elements and discusses the Cyclical Model of Presenteeism and Absenteeism in light of the investigations' findings. This discussion reveals the need for additional future studies, and this is the focus of Section 9.5.2

9.5.1. Implications for theory

Whilst recognising that unconscious elements exist, Kristensen (1991) primarily regarded the decision to avoid work when sick as a conscious coping act. Subsequent researchers have acknowledged the conscious elements of the decision to engage in SA (Hackett & Bycio, 1996; Väänänen et al., 2008; Virtanen et al., 2000) and this view has also informed SP theory; researchers focus on the factors that inform the *decision* to attend work when ill (Aronsson et al., 2011; Hansen & Andersen, 2008; Johansson & Lundberg, 2004; Johns, 2010). The current thesis substantiates this focus (Aim V). Participants described the choice between illness behaviours as two sides of the same coin (Aronsson & Gustafsson 2005), and as a rational, but restricted decision. Individuals considered the potential consequences of their actions and appear to have chosen SP when illness was less severe, less contagious, workability was better, and SP was expected to have a less harmful impact upon health.

This suggests that the decision was indeed logical. However, it was also constrained by factors such as chronic illness and the presence of negative organisational causative factors.

Based on Johns' (2010) Dynamic Model of Presenteeism and Absenteeism and Phase I findings, the thesis presented a Cyclical Model of Presenteeism and Absenteeism (Section 5.6.6) (Aim V). Johns (2010) proposed that fully engaged attendance is interrupted by a health event; this resulted in individuals choosing between SP and SA. The decision was also modulated by person-related factors (e.g., work attitudes and personality) and context-related factors (e.g., job demands and absence policy). Johns (2010) also noted that SP and SA decisions resulted in consequences; he proposed that health consequences could influence future SP and SA decisions. Johns (2010) noted that the model was not comprehensive and further theoretical development was necessary. The literature review (Chapter Three) confirmed that various person and context factors appeared to influence SP and SA decisions; however, findings on the relevance and direction of action of various individual factors remained mixed.

The Cyclical Model assumes that illness events result in SP and SA; individuals' appraisal of their illnesses, however, was proposed to play an important role in SP and SA decisions. The first interview study indicated that various illness perceptions that mirrored the factors originally highlighted in the Common Sense Model (CSM) of Self-Regulation (Leventhal et al., 1980; Moss-Morris et al., 2002) influenced such decisions. This indicated that the CSM may be a useful framework to comprehensively analyse the link between such perceptions and SP/SA decisions. The quantitative analyses presented in

Chapters Six and Seven confirmed this and supported the relevance of illness perceptions during SP and SA decisions.

Consistent with other models of SP (e.g., Johns, 2010; Lohaus & Habermann, 2018), the proposed model illustrated that factors other than those related to illness also influence SP and SA decisions. Based on Phase I findings, three categories of such factors were proposed; occupational attitudes, organisational factors, and personal factors. The relevance of factors beyond health were supported in both phases of the investigation. However, in each hierarchical model the variance explained by a combination of these factors was less than that explained by the studied illness perceptions. Furthermore, not all of these categories of factors contributed to each model. Person-related factors did not contribute to the SP frequency model or the propensity model, suggesting that such factors were less relevant in influencing SP decisions. Conversely, the measured organisational factors did not influence the SA frequency model. In view of the percentage of unexplained variance in each model, it is also likely that relevant unmeasured factors and possibly categories of factors, remain. Future studies of the Cyclical Model of Presenteeism and Absenteeism are therefore warranted.

The Cyclical Model also proposes that SP and SA decisions could be influenced by both their perceived consequences and the actual consequences of previous SP and SA episodes. Survey findings provided evidence that the illness perceptions that influenced SP and SA decisions were cyclical in nature. Individuals' decisions appeared to be informed by the possible consequences of attending or staying home (e.g., how performance and illness outcomes would be impacted by attending ill). Furthermore, certain illness perceptions, such as

illness-related emotion, appeared to be associated with the frequency of past illness episodes. Greater SP frequency was also associated with reported positive illness outcomes following SA. Some of the factors unrelated to illness that were associated with SP and SA also appeared linked to the perceived or actual consequences of SP and SA. For example, the link between greater work demands and a propensity for SP was likely related to concerns regarding the possible impact of non-attendance on such demands (Section 6.4.5). Conversely, whilst interview findings suggested support could encourage SP, the negative association between social support and SP frequency was likely due to the positive relationship between social support and health outcomes (Section 6.4.4.2). The cyclical nature of the model therefore aids in providing an explanation for findings in the SP literature that are frequently contradictory. Longitudinal studies are however required to ascertain the cyclical nature of the proposed model. A similar explanation for conflicting SP findings has also been offered by Miraglia and Johns' (2016) Dual-Path Model of Presenteeism (Section 3.2.8), where factors can influence SP decisions both directly and via their indirect impact upon health and job attitudes.

Whilst several models of SP and SA acknowledge the various consequences of these episodes (e.g., Johns, 2010; Lohaus & Habermann, 2018), the proposed Cyclical model appears to be the first model to highlight the possible predictors of these consequences. Furthermore, whilst much research has studied the predictors of health-related performance loss, few attempts have been made to understand the factors associated with other consequences, such as the illness outcomes of SP and SA episodes. The proposed model therefore appears to provide a novel and necessary

contribution to the SP and SA literature. Interview and survey findings highlighted that illness perceptions affected each of the studied consequences; however, the impact of factors unrelated to illness varied. Organisational factors did not contribute to the performance loss model. Person-related factors did not contribute to the SP illness outcomes model, whereas attitudes did not contribute to the SA illness outcomes model. Since much variance remained unexplained in each of these models, further studies are warranted.

Whilst the investigation aimed to identify the factors that influenced the studied illness behaviours and their consequences, the proposed model only highlighted relevant categories of factors. This was deemed necessary as the specific relevant factors varied between the studied outcome measures. Additionally, it appears that other factors relevant to SP and SA decisions and consequences remain unidentified. The more general categories, however, may allow the model to be applied when studying SP and its consequences in other settings.

As an alternative to SP and SA, the emergence of leaveism (Hesketh & Cooper, 2014) indicates that this should be included in future models of SP, including the proposed model. Leaveism may have predictors and consequences which differ from those of SP and SA. Future studies would have to ascertain if the predictors of leaveism fall within the categories highlighted by the current model, what the consequences of leaveism are, and the predictors of these consequences. The updated model is presented in Figure 9.1.

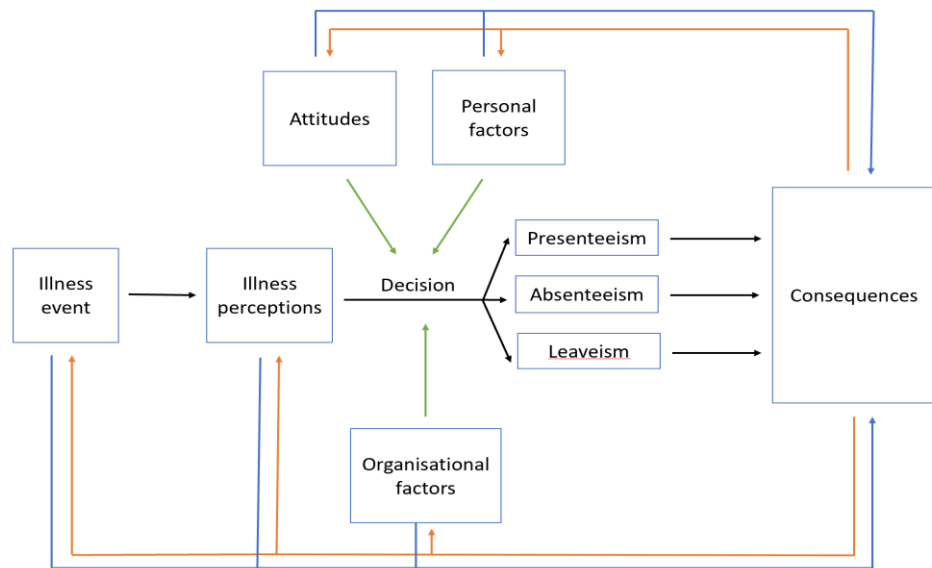


Figure 9.1: The updated Cyclical Model of Presenteeism and Absenteeism

9.5.2 Implications for future studies.

Studies that have comprehensively analysed illness perceptions in SP and SA decisions appear to be infrequent. Research that has made use of the CSM, B-IPQ or related measures to study SP and SA decisions prior to this thesis were not found. Whilst various studies of performance loss during SP used instruments which measured several facets of health and illness (Ospina et al., 2015), most quantitative studies of SP and SA only feature measures of general health, disease types, or a combination of the two (Caverley et al., 2007; Gerich, 2016; Whysall et al., 2018). Other illness perceptions feature occasionally (e.g., Cocker et al., 2011), but not comprehensively. The inclusion of subjective appraisals of illness in future SP and SA research may further knowledge of this decision-making process. This thesis also identified illness perceptions omitted from the B-IPQ which appear to play a role in SP and SA

decisions, and would therefore warrant inclusion. These included contagion, workability and expectations of the impact of SP and SA on illness. Illness legitimacy also appears relevant. Despite the great impact of emotional representations in the current thesis, they are less developed in the B-IPQ than cognitive representations (Wyke, Adamson, Dixon, & Hunt, 2013). This suggests that development of this area may also be beneficial.

The quantitative analyses also highlighted the value of using various SP and SA outcome measures. Studies often assume that factors that raise SP, lower SA. Whilst indeed so on occasion, these two behaviours were positively associated and often had different correlates (Gerich, 2016; Whysall et al., 2018). Whilst interview findings regarding how illness perceptions vary between SP and SA episodes (Chapter Five) were largely replicated when survey data of such episodes were compared (Chapter Seven), some factors had unexpected directions of association with SP and SA frequency (Chapter Six). The comparison of illness perceptions during SP and SA episodes presented in Chapter Seven appears to be a novel and useful approach to investigating SP decisions. Further studies, including those that measure illness perceptions via a diary method, are warranted. Correlates of SP frequency highlighted that this outcome measure is highly influenced by the rate of illness events (Gerich, 2015b). This does not detract from the value of measuring SP frequency and identifying its correlates; SA provides an incomplete picture of occupational health (Caverley et al., 2007) and the correlates of both variables can be used to understand and improve worker health. Conversely, the measure of SP and SA propensity allowed for the identification of likely attitudinal pathways (Gerich, 2015b). As the use of diverse quantitative outcome measures and

methodologies appears to have aided understanding SP and SA, further studies using such approaches would be beneficial.

Whilst much research has studied the predictors of health-related performance loss, few attempts have been made to understand the factors associated with other consequences, such as the illness outcomes of SP and SA. Other consequences do not appear to have been studied at all, such as the impact of SP on personal life and the burdening of co-workers. Such studies are thus warranted. The findings can have useful practical implications as the correlates of SP and SA were found to vary from those of their consequences.

Several variables which influenced SP/SA decisions and their consequences have also not featured prominently in the scientific literature and may warrant further research. These include emotional representations, expectations, the attributed cause of illness, the impact of recent sick leave, work engagement, work attendance attitude, work-family conflict and the impact of health professionals. Further under-researched factors identified in this thesis also suggesting they may play a role included: emotional intelligence, locus of control, and leaveism.

9.6 Implications for practice

This thesis highlighted that SP was frequently harmful for health and had negative impacts upon work performance. Furthermore, the high prevalence of SP and SA (Caverley et al., 2007) and several of the correlated factors indicated a great level of sickness in the studied sample. In order to address these issues, the studied organisations should implement changes to reduce the frequency of illness via a combination of primary, secondary and tertiary prevention (Cooper, 2012).

Primary prevention involves tackling hazards to prevent illness from occurring (Cooper, 2012). The investigations' findings, which provide an insight regarding nurses' health and their illness behaviours, can serve as a springboard for creating awareness and encouraging change (Rainbow & Steege, 2017). Communicating the prevalence of CMHDs, for example, could aid in challenging stigmas; this would not only foster greater acceptance of workplace changes, but would also aid with tertiary prevention. Common illnesses such as MSDs, CMHDs, headaches and fatigue, which individuals often experience concurrently (Smedley et al., 1995), are unlikely to be prevented unless organisational factors are tackled holistically (Choobineh et al., 2010). Amongst the hazards that should be addressed, Chapter Seven highlighted that manual handling and various psychosocial factors, including work-related stress, long working hours, workload, a lack of staff and demanding clients, were amongst the most common. Manual handling can be tackled through a combination of training and the provision of appropriate

lifting equipment. The benefit of greater workplace support in reducing SP was highlighted in Chapter Six; if fostered, this could reduce stress and make workload, clients and working hours more manageable. Consideration should also be given to ensuring that the number of staff members are always adequate and reducing the 12-hour shift. An adequate number of staff members is also likely to reduce attitude-driven SP; workers are less likely to attend due to worries regarding co-workers' vacation leave or the burdening of colleagues.

The thesis revealed that nurses attended work with a slight degree of contagion (Chapter Seven). Healthcare workers should stay home when contagious or should take measures to limit infection (Gudgeon et al., 2009). Chapter Five illustrated that some effort to reduce contagion by those who attended ill did take place. However, the importance of, and the methods by which, the spread of disease can be avoided should be communicated.

Secondary prevention entails identifying and addressing illness early on, thus limiting their development (Cooper, 2012). The current investigation determined that absenteeism was health-promoting. The studied organisations should communicate the benefits of SA and develop a policy which guides workers as to when SA should be taken. Findings from Chapters Six and Eight revealed that those with greater symptoms, lower workability and greater emotional responses should be encouraged to avoid work. Furthermore, such a document should highlight that SA is legitimate even following recent SA, when contagious illness is mild, and when experiencing mental health disorders. As discussed, communicating the findings of this thesis may aid in challenging CMHD-related stigmas. Discrimination could also be challenged

via formal instruction and discussions about mental illness (Corrigan & Penn, 2015).

It is also essential to enhance the health-promoting effect of SA. Greater adjustment latitude was associated with poorer illness outcomes during SA (Chapter Eight). It should be investigated if such individuals were carrying out work from home when unwell, which should be discouraged. Furthermore, sick leave policy, which prohibited individuals from leaving their home may have limited the benefit of SA for those with CMHDs (Chapter Five). This policy should thus be amended.

Greater emotional responses and reduced workability were associated with greater SP frequency and propensity (Chapter Six), respectively, as well as greater performance loss. Those with poorer workability were also more likely to consider SP as harmful to health (Chapter Eight). Introducing organisational systems which measure these variables may be useful to identify vulnerable individuals. Screening has previously proved useful in nurses (Noben et al., 2015) and where necessary such individuals should be referred to support services such as those described next.

Tertiary prevention involves supporting individuals already experiencing long-term illnesses (Cooper, 2012). The high rate of illness in the studied samples indicates that workers require support to understand their illness and aid their recovery. Absenteeism may have aided those with worse illnesses to continue attending in a state of SP (Hansson et al. 2006) and should not be discouraged. Reducing physical and psychosocial barriers, as discussed during primary prevention, should aid such individuals to continue attending in

a state of SP, and possibly aid recovery. Adjustment latitude was also found to foster better illness outcomes during SP (Chapter Eight) and is an important consideration in aiding those with more chronic illnesses. Modified work allows earlier return to work and can aid both those with physical (Breen et al., 2005) and mental (Harnois & Gabriel, 2002) health disorders to cope and recover whilst at work.

The studied organisations have medical and physiotherapy departments experienced in treating MSDs, the most commonly reported illness (Chapter Seven). This already occurs on a casual basis and formalising this service or referring staff to other public services should be encouraged. Psychological complaints, such as high levels of stress, emotion experienced during illness, and SP negatively influencing family life, could be tackled by the government Employee Support Program (ESP), available for all public officers including the studied nurses. The service may also aid those high in neuroticism that benefitted less from SA. Mimura and Griffiths (2003) found evidence that personal support was more effective at reducing stress in nurses than environmental changes. According to the coordinator of this service (S. Kahlil, personal communication, February 9, 2018), awareness of this service is negligible amongst healthcare workers, and therefore campaigns which boost awareness should be conducted. The program primarily offers counselling, but also holds training for employees on self-care, and training for management-level employees on how to identify and tackle psychosocial workplace issues; both may be beneficial in the studied organisations.

Finally, expectations both influenced illness behaviour and predicted illness outcomes during SP and SA. This illustrates the value of involving

nurses in the design of programmes introduced to improve their health and reduce SP. Worker participation results in better solutions and ensures that changes are better accepted (Burgess-Limerick, 2018), and thus should occur prior to any of these practical implications being implemented.

9.7 Conclusion

Sickness presenteeism and sickness absenteeism were highly prevalent in the studied population, suggesting a high frequency of illness. Whereas SP was generally considered harmful for illness and involved substantial performance loss, SA was considered beneficial. During SP, illnesses were perceived as less serious, less concerning and absence legitimacy was lower. Conditions including MSDs, CMHDs and headaches were more prevalent during SP, whereas digestive illnesses, infectious diseases and post-operative recovery more frequently gave rise to SA. Participants also appeared to consider the consequences of the studied illness behaviours. During SP, illnesses were perceived to have less serious consequences on participants' lives, were less contagious, and workability was better, than during SA. Furthermore, attending work ill was expected to be less harmful during SP than SA, whereas avoiding work was expected to be less beneficial for illness during SP than SA. Nurses reported understanding their illnesses and generally attributed their cause to organisational factors such as manual handling and psychosocial risk factors. During both SP and SA however, illness controllability was low, timelines were similar, and emotion instigated by illness was high. This suggested that chronic illness, negative organisational causative factors and the high prevalence of illness constrained participants' choice between SP and SA.

Participants reporting more frequent SP also engaged in SA more frequently. Frequent SA was linked with greater symptoms, comorbidity and

long-standing illness, whereas those engaging in SP more frequently had poor workability and were emotional about organisationally-caused illnesses they had difficulty understanding. Attitudes, expectations and personal factors also appeared to influence SP and SA decisions. Those with more frequent SA had lower internal attendance standards, expected SP would be more negative for illness, and were more likely to engage in SA on the advice of medical professionals. Conversely, more frequent SP was linked with greater work engagement and reporting that recent sick leave could necessitate SP. Finally, organisational factors also played a role. Reduced managerial and peer support were linked with SP, likely due to their negative impact upon health, whilst greater work demands were linked with increased SP and reduced SA.

The correlates of SP and SA varied from those of their consequences. Additionally, the correlates varied between the different consequences, justifying the value of studying them. Performance loss during SP was more likely in those who were fatigued, experienced illness-related emotion and poor workability. Lower levels of work dedication, SP negatively impacting family life, and living with one's parents were also associated with performance loss. Perceiving poorer illness outcomes following SP was associated with attributing illnesses to organisational causes, poorer workability, and lower levels of adjustment latitude and work engagement. Finally, reporting better illness outcomes following SA was associated with experiencing greater symptoms, greater illness legitimacy, expecting that avoiding work could have benefitted illness, greater emotional stability and lower work adjustment.

In view of the findings, healthier work environments, which reduce negative causative factors, need to be fostered. Relevant medical services

should also be provided to support those already suffering from illnesses. Such changes would reduce the frequency of SP and SA whilst promoting recovery and performance within the workplace. A comprehensive model of SP and SA is yet to be published. Based on the findings of this thesis, a new Cyclical Model of Presenteeism and Absenteeism was proposed. In comparison to previous models of SP, greater importance is given to individuals' appraisal of their illnesses and the impact the potential consequences of SP and SA may have on individuals' decisions. The model also addresses the predictors of these consequences. Further studies, however, are required to test and refine the model.

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Appendix A – Ethics Approval Form: Phase I



Direct line/e-mail
+44 (0) 115 8232561
Louise.Sabir@nottingham.ac.uk

Faculty of Medicine and
Health Sciences

7th July 2014

Research Ethics Committee
School of Medicine Education Centre
B Floor, Medical School
Queen's Medical Centre Campus
Nottingham University Hospitals
Nottingham
NG7 2UH

Luke Fiorini
PhD Student Occupational Health Psychology
c/o Professor Amanda Griffiths
Division of Psychiatry and Applied Psychology
School of Medicine
Yang Fujia Building
Jubilee Campus
Nottingham
NG8 1BB

Dear Luke

Ethics Reference No: OVS19062014 SoM PAPsych

Study Title: Predictors and consequences of presenteeism and absenteeism: A qualitative study of nurses in geriatric settings in Malta.

Short title: Working when unwell.

Chief Investigator/Supervisor: Professor Amanda Griffiths, Dr Jonathan Houdmont, Lecturer, Division of Psychiatry and Applied Psychology, School of Medicine.

Lead Investigator/Student: Luke Fiorini, PhD Student Occupational Health Psychology, Psychiatry & Applied Psychology, School of Medicine.

Duration of Study: 06/2014-09/2014 3mths **No of Subjects:** 20

Thank you for your letter dated 6th July 2014 responding to the issues raised by the Committee and the following revised documents were received:

Working when unwell:

- FMHS Research Ethics Application form version 2, Date 30/06/2014
- Appendix I – Interview guide version 2.0, Date 30/06/2014
- Appendix II – Letter of consent to participate from Chief Nursing Manager Elderly and Community Care Department, St Vincent DePaul Residence (SVPR) Hospital, Santa Venera, Malta dated 14th May 2014.
- Appendix II Letter of consent to participant Chair Person, Research Committee, Rehabilitation Hospital Karin Grech (RHKG) Malta, dated 13th May 2014.
- Appendix III – Participant Information Sheet, version 2, Date 30/06/2014
- Appendix IV – Participant Consent Form version 1, Date 30/06/2014.

These have been reviewed and are satisfactory and the study is approved.

Approval is given on the understanding that the Conditions of Approval set out below are followed.

1. A Favourable opinion is given on the understanding that all appropriate ethical and regulatory permissions are respected and followed in accordance with all local laws of the country in which the study is being conducted and those required by the host organisation/s involved.

2. You must follow the protocol agreed and inform the Committee of any changes using a notification of amendment form (please request a form).
3. You must notify the Chair of any serious or unexpected event.
4. This study is approved for the period of active recruitment requested. The Committee also provides a further 5 year approval for any necessary work to be performed on the study which may arise in the process of publication and peer review.
5. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

Yours sincerely



Dr Clodagh Dugdale
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

**Faculty of Medicine & Health Sciences Research Ethics Committee
Membership 2014/2015**

*denotes attendance at 16th June 2014

Chair	Dr Clodagh Dugdale, Lecturer in Sports and Exercise Medicine, Division of Rheumatology, Orthopaedic and Dermatology, School of Medicine.*
School	Representative
School of Life Sciences	Dr Vince Wilson, Reader and Basic Scientist, Pharmacology* Dr Kostas Tsintzas, Associate Professor, Human Physiology.
School of Medicine	Dr David Turner, Clinical Associate Professor in Microbiology, Division of Medical Sciences and Graduate Entry Medicine*
School of Medicine	Dr Kimberly Edwards, Director of Postgraduate Courses/Epidemiologist, Division of Rheumatology Orthopaedics and Dermatology. Dr Neil S Coulson, Associate Professor in Health Psychology, Division of Rehabilitation & Ageing.
School of Medicine-Non Clinical	Dr Philip Clark, Laboratory Manager, Pre-Clinical Cancer Studies, Division of Oncology* Dr Charlotte Billington, Research Fellow, Division of Respiratory Medicine* Dr Debbie Palmer-Green, Research Fellow, Division of Rheumatology Orthopaedics and Dermatology
School of Medicine-Derby	Dr Caroline Chapman, Associate Professor, Breast Surgery, Division of Medical Sciences and Graduate Entry Medicine.* Dr Saoirse O'Sullivan, Associate Professor in Vascular Medicine, Division of Medical Sciences and Graduate Entry Medicine Derby.*
School of Medicine - Clinical	Dr Paul Maddison, Consultant Neurologist/Honorary Clinical Associate Professor, Queen's Medical Centre, NUH* Dr Daren Forward, Consultant Orthopaedic Trauma Surgeon, Honorary Consultant Lecturer
Primary Care	Dr Richard Knox, General Practitioner/ Part-time Lecturer Dr Christine Johnson, General Practitioner/Part-time Lecturer Division of Primary Care, QMC Campus
School of Health Sciences	Dr Stephen Timmons, Associate Professor/Senior Lecturer, Division of Nursing.
Lay (Out of Faculty)	Professor Nigel White, Professor of Public International Law, School of Law, University of Nottingham. Lydia Davies-Bright, PhD Student, School of Law.* Dr Andy Peters, Associate Professor, SPMRC, School of Physics and Astronomy.* Susan Pritchard, Research Associate, SPMRC, School of Physics and Astronomy* Mary Beime, Retired Mental Health Nurse, Birmingham and Solihull Mental Health Foundation Trust.*
Medical Students nominated by Medical student Society	To be appointed.
Postgraduate Student Member	Jyothika Kumar, PhD Student, Division of Psychiatry and Applied Psychology.* Charlotte Buchanan, PhD Student, SPMRC, School of Physics & Astronomy
Administrator	Mrs Louise Sabir, Division of Respiratory Medicine, School of Medicine*

Appendix B – Ethics Approval Form: Phase II



Faculty of Medicine and
Health Sciences

Research Ethics Committee
School of Medicine Education Centre
B Floor, Medical School
Queen's Medical Centre Campus
Nottingham University Hospitals
Nottingham
NG7 2UH

Direct line/e-mail
+44 (0) 115 8232561
Louise.Sabir@nottingham.ac.uk

11th August 2015

Luke Fiorini
PhD Student Occupational Health Psychology
c/o Professor Amanda Griffiths
Division of Psychiatry and Applied Psychology
School of Medicine
Yang Fujia Building
Jubilee Campus
Nottingham
NG8 1BB

Dear Luke

Ethics Reference No: OVS19062014 SoM PAPsych – please always quote
Study Title: Predictors and consequences of presenteeism and absenteeism: A
qualitative study of nurses in geriatric settings in Malta.

Short title: Working when unwell.

Chief Investigator/Supervisor: Professor Amanda Griffiths, Dr Jonathan
Houdmont, Lecturer, Division of Psychiatry and Applied Psychology, School of
Medicine.

Lead Investigator/Student: Luke Fiorini, PhD Student Occupational Health
Psychology, Psychiatry & Applied Psychology, School of Medicine.

Duration of Study: 09/2015-12/2015 3mths **No of Subjects:** 20

Thank you for your letter dated 4th August 2015 notifying the Committee of
amendment no 1: 4th August 2015 as follows:

- Phase 1: interviews with a sample of nurses from two hospitals in Malta has now
been successfully completed and the questionnaire developed as planned.
- Phase 2: Starting distribution of questionnaire developed in phase 1 to a wider
sample of nurses in the same two hospitals as previously planned and approved.

and the following revised documents were received:

Working when unwell:

- FMHS Research Ethics Application form version 1, Date 01/08/2015
- Appendix I – Questionnaire version 1, Date 01/08/2015
- Appendix II – Letter of consent to participate from Chief Nursing Manager
Elderly and Community Care Department, St Vincent DePaul Residence (SVPR)
Hospital, Santa Venera, Malta dated 14th May 2014.
- Appendix II Letter of consent to participant Chair Person, Research Committee,
Rehabilitation Hospital Karin Grech (RHKG) Malta, dated 13th May 2014.
- Appendix III – Participant Information Sheet, version 1, Date 01/08/2015
- Appendix IV – Participant Consent Form version 1, Date: 01/08/2015.
- Appendix V – Detailed Study Proposal, version 1, Date: 01/08/2015

These have been reviewed and are satisfactory and the study is approved.

Approval is given on the understanding that the Conditions of Approval set out below are followed.

1. A Favourable opinion is given on the understanding that all appropriate ethical and regulatory permissions are respected and followed in accordance with all local laws of the country in which the study is being conducted and those required by the host organisation/s involved.
2. You must follow the protocol agreed and inform the Committee of any changes using a notification of amendment form (please request a form).
3. You must notify the Chair of any serious or unexpected event.
4. This study is approved for the period of active recruitment requested. The Committee also provides a further 5 year approval for any necessary work to be performed on the study which may arise in the process of publication and peer review.
5. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

Yours sincerely



Professor Ravi Mahajan
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

Appendix C - Organisational Access Permission Letters

 <p>Servizzi Residenzjali Dipartiment għall-Anzjani u Kura fil-Komunità Elderly and Community Care Department</p>	 <p>ST. VINCENT DE PAUL RESIDENCE <small>Helping residents in the heart of our services</small></p>
<p>www.health.gov.mt</p>	
<p>DIRETTORAT</p>	
<p>14th May 2014</p>	<p>Dipartiment għall-Anzjani u Kura fil-Komunità Centru Midma Soċjali 469 Triq il-Kbira San Guzepp Santa Venera CMR 02</p>
<p>Tel.: 2144 1311-3 Fax: 2124 2707 E-mail: ecsd@gov.mt</p>	
<p>Consent form to gain access to St. Vincent DePaul Residence (SVPR)</p>	
<p>This is to certify that consent has been given to Luke Fiorini, a PhD student in Occupational Health and management at the Faculty of Medicine & Health Sciences, University of Nottingham, to carry out interviews with members of the nursing staff of St. Vincent DePaul Residence (SVPR). The findings of this initial study shall then be utilised to formulate a focused questionnaire on the same topic which shall be distributed to the hospitals' nursing staff. This data collection forms part of his study "Predictors and consequences of presenteeism and absenteeism: A study of nurses ". The interviews will be analysed and anonymous findings will be presented in his PhD thesis and may be used in academic journal articles</p>	
<p>Residenza San Vincenz de Paul Triq l-Imġeriet Luqa Tel: 2122 4461 Fax: 2124 7093 www.supr.gov.mt</p>	
<p>The ethical rights of individual participants shall be protected at all times; participating nurses shall do so voluntarily, will be informed of their ethical rights as well as the purpose of the study in writing and shall be asked to sign a consent form. No information shall be published that may allow the participants to be identified.</p>	
	
<p>Mr Rudolph Cini, Chief Nursing Manager St. Vincent DePaul Residence (SVPR)</p>	

Consent form to gain access to the Rehabilitation Hospital Karin Grech (RHKG)

This is to certify that consent has been given to Luke Fiorini, a PhD student in Occupational Health and management at the Faculty of Medicine & Health Sciences, University of Nottingham, to carry out interviews with members of the nursing staff of the Rehabilitation Hospital Karin Grech (RHKG). The findings of this initial study shall then be utilised to formulate a focused questionnaire on the same topic which shall be distributed to the hospitals' nursing staff. This data collection forms part of his study "Predictors and consequences of presenteeism and absenteeism: A study of nurses". The interviews will be analysed and anonymous findings will be presented in his PhD thesis and may be used in academic journal articles

The ethical rights of individual participants shall be protected at all times; participating nurses shall do so voluntarily, will be informed of their ethical rights as well as the purpose of the study in writing and shall be asked to sign a consent form. No information shall be published that may allow the participants to be identified.



F/ The Chairperson,
Research Committee,
Rehabilitation Hospital Karin Grech

Mrs. Charmaine Attard MSc. Nursing
Director Nursing Services
RHKG

13 MAY 2014

Date

Appendix D – Participant Information Sheet: Phase I

Participant Information Sheet

Final version 1.0: 30 June 2014-

Title of study: Working when unwell

Name of Researcher: Luke Fiorini

We would like to invite you to take part in our research study. Before you decide we would like you to understand why the research is being done and what it would involve for you. The researcher will go through the information sheet with you and answer any questions you have. Talk to others about the study if you wish. Feel free to ask questions if there is anything that is not clear.

What is the purpose of the study?

This study is being conducted as part of a PhD in Occupational Health (Psychology and Management) at the University of Nottingham. Part of this study is being carried out at the Rehabilitation Hospital Karin Grech (RHKG). It aims to:

- Discover the reasons that lead nurses to decide whether or not to attend work when ill
- Explore the consequences of those decisions

Why have I been invited?

You are being invited to take part because you are a nurse working at RHKG. We are inviting approximately 20 participants like you to take part: participants are being chosen at random from a list of nurses working at the hospital.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. This would not affect your legal rights.

What will happen to me if I take part?

A date and time will be arranged for an interview which is likely to take around 30 minutes. During this time you will be asked about the reasons that lead you to decide whether or not to attend work when ill and the consequences of these decisions. The interview will take place in a private room within the hospital and will be audio recorded. It will later be transcribed and analysed along with the other interviews.

The interview and subsequent transcription will only be seen by the researcher and his supervisors. All information will be anonymised, and any analyses will not reveal your identity. If you say something you wish to withdraw just say so.

Expenses and inconvenience allowance

Participants will not be paid to participate in the study

What are the possible disadvantages and risks of taking part?

There are few disadvantages and risks of taking part. You can withdraw at any point, and you are free not to answer any questions you do not wish to answer. As the interview focuses on illness and the consequences of your decisions, you may feel temporary distress.

What are the possible benefits of taking part?

The information collected from this study may help us understand the pressures and motivators that nurses face when ill. A greater understanding of these issues would facilitate the management of nurses' health.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions. The researchers contact details are given at the end of this information sheet. If you remain unhappy and wish to complain formally, you should then contact the Research Ethics Committee Administrator, c/o The University of Nottingham, School of Medicine Education Centre, B Floor, Medical School, Queen's Medical Centre Campus, Nottingham University Hospitals, Nottingham, NG7 2UH. E-mail: louise.sabir@nottingham.ac.uk.

Will my taking part in the study be kept confidential?

We will follow ethical and legal practice and all information about you will be handled in confidence. No one outside the project will be aware of any information that you provide; that includes people from the Rehabilitation Hospital Karin Grech (RHKG).

If you join the study, some parts of the data collected for the study will be looked at by authorised persons from the University of Nottingham to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a research participant and we will do our best to meet this duty.

All information which is collected about you during the course of the research will be kept **strictly confidential**, stored in a secure and locked office, and on a password protected database. Any information about you which leaves the institution will have your name and address removed (anonymised) and a unique code will be used so that you cannot be recognised from it.

Your personal data (name, ward, contact number) will be kept for 12 months after the end of the study so that we are able to contact you about the findings of the

study *and possible follow-up studies* (unless you advise us that you do not wish to be contacted). All research data will be kept securely for 7 years. After this time your data will be disposed of securely. During this time all precautions will be taken by all those involved to maintain your confidentiality, only members of the research team will have access to your personal data.

What will happen if I don't want to carry on with the study?

Your participation is voluntary and you are free to withdraw at any time up to the point the data are analysed, without giving any reason. This is another reason why we code the data using a unique code. You are unable to withdraw after this as the analyses draw together the information provided by all participants, and it becomes impractical to extract individual data.

Withdrawal also applies during the interview itself. If you change your mind about participating once the interview has begun, you can stop it at any point and the data file will be destroyed.

What will happen to the results of the research study?

Once the data collection is completed the resultant interview transcripts will be analysed, a report provided to the RHKG, and the findings used within the PhD student's thesis. A journal article may also be prepared and submitted for publication in an appropriate refereed journal. You can obtain a copy of the RHKG report by contacting the researcher / PhD student. The report will be completed within three months of the completion of the interview stage. Quotations used within the report will not be identifiable as you or any other individual. If you have used names these will be changed.

Who is organising and funding the research?

This research is being organised by the University of Nottingham and is being funded by the researcher.

Who has reviewed the study?

All research in the University of Nottingham is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the Medical School Research Ethics Committee.

Further information and contact details

PhD student/researcher: Luke Fiorini lwxlaf@nottingham.ac.uk

Tel: 2340 3367

Supervisor: Prof Amanda Griffiths amanda.griffiths@nottingham.ac.uk

Supervisor: Dr Jonathan Houdmont jonathan.houdmont@nottingham.ac.uk

Appendix E – Participant Consent Form: Phase I

CONSENT FORM

Final version 1.0: 30.06.2014

Title of Study: Working well unwell

Name of Researcher: Luke Fiorini

Name of Participant:

1. I confirm that I have read and understand the information sheet version number 1.0 dated 30.06.2014 for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. I also understand that I may choose not to answer a question without providing a reason for doing so
3. I understand that relevant sections of my data collected in the study may be looked at by the research group and by other responsible individuals for monitoring and audit purposes. I give permission for these individuals to have access to these records and to collect, store, analyse and publish information obtained from my participation in this study. I understand that my personal details will be kept confidential.
4. I understand that the interview will be audio recorded using a portable audio recorder and that anonymous direct quotes from the interview may be used in the study reports.
5. I understand that information about me recorded during the study will be kept in a secure database. If the data are transferred it will be made anonymous. Data will be kept for 7 years after the study has ended and then securely destroyed.
6. I agree to take part in the above study.

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of Person taking consent	Date	Signature

Appendix F – Participant Information Sheet: Phase II

Participant Information Sheet

Final version 1.0: July 2015

Title of study: Working when unwell

Study ID:

Name of Researcher: Luke Fiorini

We would like to invite you to take part in our research study. Before you decide we would like you to understand why the research is being done and what it would involve for you. The researcher will go through the information sheet with you and answer any questions you have. Talk to others about the study if you wish. Feel free to ask questions if there is anything that is not clear.

What is the purpose of the study?

This study is being conducted as part of a PhD in Occupational Health (Psychology and Management) at the University of Nottingham. Part of this study is being carried out at the Rehabilitation Hospital Karin Grech (RHKG). It aims to:

- Discover the reasons that lead nurses to decide whether or not to attend work when ill
- Explore the consequences of those decisions

Why have I been invited?

You are being invited to take part because you are a nurse working at RHKG. We are inviting as many nurses as possible who work with geriatric patients to take part.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. You will also be provided with a copy of the latter to keep. If you decide to take part you are still free to withdraw at any time and without giving a reason. This would not affect your legal rights.

What will happen to me if I take part?

You will be given a questionnaire which is likely to take around 20 minutes to complete. It will ask about episodes when you last felt unwell as well as questions about your work situation. The questionnaire can be completed at a time and location that is most convenient for you and when completed you will be asked to drop off the completed questionnaire in a sealed box located on your designated ward. The questionnaire is anonymous and thus no analysis of the data you provide will reveal your identity.

However, if you find this study interesting, at the end of the questionnaire you have the option of providing a contact telephone number should you be interested in participating in further studies on the topic. Alternatively should you prefer you can instead send an email to the researcher stating your interest to participate in these further studies (contact details

at the end of this document). You are under no obligation to complete this section should you not wish to provide this information.

Expenses and inconvenience allowance

Participants will not be paid to participate in the study. A lottery draw however is being organised to thank individuals who participate: four one-for-all vouchers are being raffled, each with a value of not less than 25 Euros. Should you wish to participate in this draw, fill in the section which asks for a contact number should you win. The number you provide will solely be used for this purpose. You are under no obligation to fill in this section.

What are the possible disadvantages and risks of taking part?

There are few disadvantages and risks of taking part. You can choose not to hand in the questionnaire despite having provided consent or skip any question you are uncomfortable answering. As the questionnaire focuses on illness and the consequences of your decisions, you may feel temporary distress. If so, please speak to your general practitioner.

What are the possible benefits of taking part?

The information collected from this study may help us understand the pressures and motivators that nurses face when ill. A greater understanding of these issues would facilitate the management of nurses' health.

What if there is a problem?

If you have a concern about any aspect of this study, please contact the researchers who will do their best to answer your questions. The researchers contact details are given at the end of this information sheet. If you remain unhappy and wish to complain formally, you should then contact the Research Ethics Committee Administrator, c/o The University of Nottingham, School of Medicine Education Centre, B Floor, Medical School, Queen's Medical Centre Campus, Nottingham University Hospitals, Nottingham, NG7 2UH, UK. E-mail: louise.sabir@nottingham.ac.uk.

Will my taking part in the study be kept confidential?

We will follow ethical and legal practice and all information about you will be handled in confidence. Data which would allow your answers to be traced such as your name or ID card number are not going to be collected on the questionnaire, it is thus anonymous. Should you choose to provide a telephone number at the end of the questionnaire, this will not be used to identify you. No one outside the project will be aware of any information that you provide; that includes people from the Rehabilitation Hospital Karin Grech (RHKG).

If you join the study, some parts of the data collected for the study will be looked at by authorised persons from the University of Nottingham to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a research participant and we will do our best to meet this duty. Additionally, all information which is collected will be stored in a secure and locked office, and on a password protected database. All research data will be kept securely for 7 years. After this time data will be disposed of securely. During this time all precautions will be taken by all those involved to maintain your confidentiality.

What will happen if I don't want to carry on with the study?

You are free to skip any question you do not feel comfortable answering or withdraw from the study entirely, even after signing the consent form, by choosing not to hand in your questionnaire. As the questionnaires are entirely anonymous, once these are handed back to the researcher withdrawal will not be possible as we will not be able to identify your questionnaire.

What will happen to the results of the research study?

Once the data collection is completed the data will be analysed, a summary report provided to the RHKG, and the findings used within the PhD student's thesis. A conference presentation and/or journal article may also be prepared and submitted for publication to an appropriate refereed journal. You can obtain a copy of the RHKG report by contacting the researcher / PhD student. It is planned that the report will be completed within three months of the completion of the questionnaire data collection stage.

Who is organising and funding the research?

This research is being organised by the University of Nottingham and is being funded by the researcher.

Who has reviewed the study?

All research involving people conducted by researchers from the University of Nottingham is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the Faculty of Medicine and Health Sciences Research Ethics Committee.

Further information and contact details

PhD student/researcher: Luke Fiorini

lwxlaf@nottingham.ac.uk

Tel: 2340 3367

Supervisor: Professor Amanda Griffiths

amanda.griffiths@nottingham.ac.uk

Supervisor: Dr Jonathan Houdmont

jonathan.houdmont@nottingham.ac.uk

Appendix G - Participant Consent Form: Phase II

CONSENT FORM

Final version 1.0: July 2015

Title of Study: Working well unwell

REC ref:

Name of Researcher: Luke Fiorini

Name of Participant:

1. I confirm that I have read and understand the information sheet version number 1.0 dated July 2015 for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. I also understand that I may choose not to answer a question without providing a reason for doing so
3. I understand that relevant sections of my data collected in the study may be looked at by the research group and by other responsible individuals for monitoring and audit purposes. I give permission for these persons to have access to these records and to collect, store, analyse and publish information obtained from my participation in this study. I understand that my personal details which would allow me to be identified will not be collected.
4. I understand that all information collected during the study will be kept in a secure database. Data will be stored in an anonymous state at all times including if it is to be transferred. Data will be kept for 7 years after the study has ended and then securely destroyed.
5. I agree to take part in the above study.

_____	_____	_____
Name of Participant	Date	Signature

_____	_____	_____
Name of Person taking consent	Date	Signature

Appendix H – Interview Guide: Phase I

‘Working when Unwell’- Interview Guide

Thanks for agreeing to help me with my research. My name is Luke Fiorini and I want to understand more about the decisions people make about whether or not to go to work when they are feeling ill. I am doing it as part of a PhD at the University of Nottingham. I work as a lecturer at the University of Malta where I primarily lecture in the field of occupational health. I also work as a physiotherapist and spent many years working in hospitals.

Everything you say is completely confidential. With your permission, I would like to record our conversation, but this is simply so that I don’t have to write extensive notes and can concentrate on what we are saying. You don’t have to answer all my questions if you don’t want to and we can stop the interview at any time. All the data will be stored securely. A summary of the findings will be made available to the hospital and I can also provide you with a copy directly via e-mail should you like one. Findings shall also be used in academic research reports. I would however like to assure you that anything you say will not be directly or indirectly attribute to you.

I have an information sheet for you here that summarises all that I have just said, and a ‘consent form’ which states that I have explained everything properly to you and that you are happy to take part. I would be grateful if you would sign the consent form. I will, of course, keep these separately from my record of our conversation.

1. Can you tell me about a time **when you have gone to work** despite feeling that you were unwell and really should have taken sick leave?
 - Does this happen often?
 - Can you tell me about other times?
2. What made you **decide to go to work**?
 - Particular aspects of your illness?
 - Job-related issues
 - Domestic issues
 - Consequences of going to work
 - Consequences of not going to work
3. Can you tell me about a time when you **decided to stay at home** when you were feeling unwell?
 - Does this happen often?
 - Can you tell me about other times?
4. What made you **decide to stay at home**?
 - Particular aspects of your illness?
 - Domestic issues
 - Job-related issues
 - Consequences of staying home
 - Consequences of not staying at home
5. In general do your **co-workers** attend work or stay home when ill? Does what they do in this respect have any influence on what you do?
6. Is there **anything else we haven’t covered** which you think is relevant to the issue of working or staying at home when not feeling well?

Thanks very much for your help – it is much appreciated. On the basis of the information I have gathered in these interviews, I will be designing a short questionnaire to send out to a large group of nurses. I would be grateful if you would fill it in for me when it comes round next year. And if you want to know the final results please email me at the address on the information sheet.

Appendix I – Questionnaire: Phase II

Part A – Attending work when unwell

Instructions: Please answer the following questions about ***the last time*** you ***attended work despite feeling unwell*** (e.g. pain, cold, depression etc) by circling the correct answer. If you have never attended work when unwell in the last 12 months, please skip this section and progress to part B.

1. Circle the health condition/s you experienced **the last time you attended work** despite feeling sufficiently unwell to take sick leave (you can circle more than one):

Common mental health disorder e.g. anxiety / stress / depression	Major mental health disorder e.g. schizophrenia / bipolar disorder	Musculoskeletal disorder e.g. back problem / elbow pain / arthritis	Bone fracture	Other Injury e.g. sprain / strain / dislocation
Respiratory disease e.g. flu / URTI / COPD / asthma	Other Infectious disease e.g. viral infection / mumps / hepatitis	Fatigue	Digestive – e.g. diarrhoea / gall stones / ulcer	Headache / migraine
Sense organ e.g. eye / ear health problem	Cancer – any form / body site	Circulatory - e.g. angina / MI / stroke	Any blood disorder	Genitourinary – e.g. urinary tract infection
Skin disorders e.g. eczema / dermatitis	Endocrine / metabolic e.g. diabetes / thyroid	Period (menstrual) related symptoms	Pregnancy-related health problems	Post-op recovery
Other (please specify):				

Instructions: Reflect upon how you felt **when you last chose to attend** work when unwell and circle the number which best corresponds to how you had felt when ill (circle one):

2. How much did your illness affect your life?	0 - No affect at all	1	2	3	4	5	6	7	8	9	10 - Severely affected my life
3. How long did you think your illness would continue?	0 – A very short time	1	2	3	4	5	6	7	8	9	10 -Forever
4. How much control did you feel you had over your illness?	0 – Absolutely no control	1	2	3	4	5	6	7	8	9	10 -Extreme amount of control
5. If you had treatment, to what extent did you think this would help your illness? (if you took no form of treatment make an X here _____)	0 – Not at all	1	2	3	4	5	6	7	8	9	10 - Extremely helpful
6. Did you experience	0 – No	1	2	3	4	5	6	7	8	9	10 - Many severe

many symptoms from your illness?	symptoms at all											symptoms
7. How concerned were you about your illness?	0 – Not at all concerned	1	2	3	4	5	6	7	8	9	10 - Extremely concerned	
8. How well did you feel that you understood your illness?	0 – Don't understand at all	1	2	3	4	5	6	7	8	9	10 - Understand very clearly	
9. How much did your illness affect you emotionally? (e.g. did it make you angry, scared, upset or depressed?)	0 – Not at all affected emotionally	1	2	3	4	5	6	7	8	9	10 -Extremely affected emotionally	
10. How contagious was your illness?	0 – Absolutely not contagious	1	2	3	4	5	6	7	8	9	10 -Extremely contagious	
11. Do you believe that your co-workers would have considered your illness as a valid reason for you to take sick leave?	0 – Absolutely not	1	2	3	4	5	6	7	8	9	10 -Definitely	
12. How would you rate your work ability when attending with this health issue/s compared with your life-time best?	0 – Completely unable to work	1	2	3	4	5	6	7	8	9	10 - Work ability at life-time best	
13. What impact did you expect attending work when unwell would have on your illness?	Very harmful	Harmful			No Effect			Beneficial		Very beneficial		
14. Had you instead chosen to stay home, what impact did you expect this would have had on your illness?	Very harmful	Harmful			No Effect			Beneficial		Very beneficial		
15. What impact did attending work when ill actually have on your illness?	Very harmful	Harmful			No Effect			Beneficial		Very beneficial		

16. Please list (most important first) up to three factors that you believe **caused your illness** in the first place.

1. _____
2. _____
3. _____

Instructions: Please describe your work experiences **when you last attended work when unwell**. These experiences may be affected by many environmental as well as personal factors, and may change from time to time. For each of the following statements, circle **one** of the following responses to show your agreement or disagreement with this statement.

17. Because of my health problem, the stresses of my job were much harder to handle.	Strongly disagree	Somewhat disagree	Uncertain	Somewhat agree	Strongly agree
18. Despite having my health problem, I was able to finish hard tasks in my work.	Strongly disagree	Somewhat disagree	Uncertain	Somewhat agree	Strongly agree
19. My health problem distracted me from taking pleasure in my work.	Strongly disagree	Somewhat disagree	Uncertain	Somewhat agree	Strongly agree
20. I felt hopeless about finishing certain work tasks, due to my health problem.	Strongly disagree	Somewhat disagree	Uncertain	Somewhat agree	Strongly agree
21. At work, I was able to focus on achieving my goals despite my health problem.	Strongly disagree	Somewhat disagree	Uncertain	Somewhat agree	Strongly agree
22. Despite having my health problem, I felt energetic enough to complete all my work.	Strongly disagree	Somewhat disagree	Uncertain	Somewhat agree	Strongly agree

Part B – Staying home when unwell

Instructions: Please answer the following questions about **the last time** you were **away from work due to sickness** (e.g. pain, cold, depression etc) by circling the correct answer. If you have never been away from work when unwell in the last 12 months, please skip this section and progress to part C.

1. Circle the health condition/s you experienced **the last time** you were **away from work due to illness** (you can circle more than one):

Common mental health disorder e.g. anxiety / stress / depression	Major mental health disorder e.g. schizophrenia / bipolar disorder	Musculoskeletal disorder e.g. back problem / elbow pain / arthritis	Bone fracture	Other Injury e.g. sprain / strain / dislocation
Respiratory disease e.g. flu / URTI / COPD / asthma	Other Infectious disease e.g. viral infection / mumps / hepatitis	Fatigue	Digestive – e.g. diarrhoea / gall stones / ulcer	Headache / migraine
Sense organ e.g. eye / ear health problem	Cancer – any form / body site	Circulatory - e.g. angina / MI / stroke	Any blood disorder	Genitourinary – e.g. urinary tract infection
Skin disorders e.g. eczema / dermatitis	Endocrine / metabolic e.g. diabetes / thyroid	Period (menstrual) related symptoms	Pregnancy-related health problems	Post-op recovery
Other (please specify):				

Reflect upon how you felt **when you last stayed home from work when unwell** and circle the number which best corresponds to how you had felt when ill:

2. How much did your illness affect your life?	0 - No affect at all	1	2	3	4	5	6	7	8	9	10 - Severely affected my life
3. How long did you think your illness would continue?	0 – A very short time	1	2	3	4	5	6	7	8	9	10 - Forever
4. How much control did you feel you had over your illness?	0 – Absolutely no control	1	2	3	4	5	6	7	8	9	10 - Extreme amount of control
5. If you had treatment, to what extent did you think this would help your illness? (if you took no form of treatment make an X here _____)	0 – Not at all	1	2	3	4	5	6	7	8	9	10 - Extremely helpful
6. Did you experience many symptoms from your illness?	0 – No symptoms at all	1	2	3	4	5	6	7	8	9	10 - Many severe symptoms
7. How concerned were you about your illness?	0 – Not at all concerned	1	2	3	4	5	6	7	8	9	10 - Extremely concerned
8. How well did you feel that you understood your illness?	0 – Don't understand at all	1	2	3	4	5	6	7	8	9	10 - Understand very clearly
9. How much did your illness affect you emotionally? (e.g. did it make you angry, scared, upset or depressed?)	0 – Not at all affected emotionally	1	2	3	4	5	6	7	8	9	10 - Extremely affected emotionally
10. How contagious was your illness?	0 – Absolutely not contagious	1	2	3	4	5	6	7	8	9	10 - Extremely contagious
11. Do you believe that your co-workers would have considered your illness as a valid reason for you to take sick leave?	0 – Absolutely not	1	2	3	4	5	6	7	8	9	10 - Definitely
12. Had you attended work, how would you have rated <u>your work ability</u> when attending with this health issue/s compared with your life-time best?	0 – completely unable to work	1	2	3	4	5	6	7	8	9	10 - Work ability at life-time best
13. What impact <u>did you expect</u> staying home from work when unwell would have on your illness?	Very harmful	Harmful		No Effect			Beneficial		Very beneficial		
14. Had you instead chosen to go to work, what impact <u>did you expect</u> this would have had on your illness?	Very harmful	Harmful		No Effect			Beneficial		Very beneficial		
15. What impact did staying home from work when ill <u>actually have</u> on your illness?	Very harmful	Harmful		No Effect			Beneficial		Very beneficial		

16. Please list (most important first) up to three factors that you believe **caused your illness** in the first place:

1. _____
2. _____
3. _____

Part C: Information about your work situation

Instructions: Circle the answer which best describes your situation

1. How many times have you gone to work despite feeling sufficiently unwell (e.g. pain, cold, depression) to take sick leave in the last 12 months?	More than 5 times	2-5 times	Once	Never attended work when unwell	Have not been unwell during the past 12 months
2. How many times over the past 12 months, have you been away from work due to sickness (cold, pain, depression etc)?	More than 5 times	2-5 times	Once	Never stay home when unwell	Have not been unwell during the past 12 months

Instructions: Circle the answer which best describes you

3. At my work, I feel bursting with energy.	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always
4. At my job, I feel strong and vigorous	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always
5. I am enthusiastic about my job.	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always
6. My job inspires me.	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always
7. When I get up in the morning, I feel like going to work.	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always
8. I feel happy when I am working intensely.	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always
9. I am proud of the work that I do.	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always
10. I am immersed in my work.	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always
11. I get carried away when I am working.	0. Never	1. Almost never	2. Rarely	3. Sometimes	4. Often	5. Very often	6. Always

Instructions: *In what way can you adjust your work if you feel out of sorts, have pain, have a cold, or something similar?*

12. I can do necessary work and postpone the rest.	Always	Sometimes	Never
13. I can choose among work tasks.	Always	Sometimes	Never
14. I can get help from workmates.	Always	Sometimes	Never
15. I can work at a slower pace than usual.	Always	Sometimes	Never
16. I can take longer breaks.	Always	Sometimes	Never
17. I can shorten the workday.	Always	Sometimes	Never
18. I can go home and do the work later.	Always	Sometimes	Never
19. I can work without being disturbed at the workplace.	Always	Sometimes	Never
20. I can work from home.	Always	Sometimes	Never

Instructions: *Circle the answer which best describes your situation:*

21. If I'm absent from work, my colleagues fill in for me.	<i>Always</i>	<i>Often</i>	<i>Sometimes</i>	<i>Never</i>
22. If I'm absent from work, my colleagues undertakes the following proportion of my tasks.	None/small proportion	Less than half	More than half	Virtually all
23. If I'm absent from work, a replacement fills in for me.	<i>Always</i>	<i>Often</i>	<i>Sometimes</i>	<i>Never</i>
24. If I'm absent from work, a replacement undertakes the following proportion of my tasks.	None/small proportion	Less than half	More than half	Virtually all
25. If I am absent from work, the work just piles up until I get back.	<i>Always</i>	<i>Often</i>	<i>Sometimes</i>	<i>Never</i>
26. If my health problem coincided with a day on which I receive a higher rate of pay, I am more likely to attend E.g. Sunday.	<i>Definitely</i>	<i>Probably</i>	<i>Probably not</i>	<i>Definitely not</i>

27. Different groups at work demand things from me that are hard to combine.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
28. I am subject to personal harassment in the form of unkind words or behaviour.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
29. I have unachievable deadlines.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
30. If work gets difficult, my colleagues will help me.	Never ¹	Seldom ²	Sometimes ³	Often ⁴	Always ⁵
31. I am given supportive feedback on the work I do.	Never ¹	Seldom ²	Sometimes ³	Often ⁴	Always ⁵
32. I have to work very intensively.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
33. I have to neglect some tasks because I have too much to do.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
34. There is friction or anger between colleagues.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
35. I am unable to take sufficient breaks.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
36. I am pressured to work long hours.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
37. I have to work very fast.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
38. I am subject to bullying at work.	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹
39. I have unrealistic time	Never ⁵	Seldom ⁴	Sometimes ³	Often ²	Always ¹

pressures.					
40 I can rely on my superior to help me out with a work problem	Never ¹	Seldom ²	Sometimes ³	Often ⁴	Always ⁵
41. I get help and support I need from colleagues.	Strongly disagree ¹	Disagree ²	Neutral ³	Agree ⁴	Strongly agree ⁵
42. I receive the respect at work I deserve from my colleagues.	Strongly disagree ¹	Disagree ²	Neutral ³	Agree ⁴	Strongly agree ⁵
43. I can talk to my superior about something that has upset or annoyed me about work.	Strongly disagree ¹	Disagree ²	Neutral ³	Agree ⁴	Strongly agree ⁵
44. My colleagues are willing to listen to my work-related problems.	Strongly disagree ¹	Disagree ²	Neutral ³	Agree ⁴	Strongly agree ⁵
45. I am supported whilst undertaking emotionally demanding work.	Strongly disagree ¹	Disagree ²	Neutral ³	Agree ⁴	Strongly agree ⁵
46. Relationships at work are strained (tense).	Strongly disagree ⁵	Disagree ⁴	Neutral ³	Agree ²	Strongly agree ¹
47. My superior encourages me at work.	Strongly disagree	Disagree ²	Neutral ³	Agree ⁴	Strongly agree ⁵

Instructions: Here are a number of personality traits that may or may not apply to you. Please circle the answer next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

<u>I see myself as:</u>							
48. Extraverted, Enthusiastic	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly
49. Critical, Quarrelsome.	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly
50. Dependable, self-disciplined.	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly
51. Anxious, easily upset.	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly
52. Open to new experiences, complex.	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly

53. Reserved, quiet.	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly
54. Sympathetic, warm.	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly
55. Disorganised, careless.	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly
56. Calm, emotionally stable	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly
57. Conventional, uncreative	1. Disagree strongly	2. Disagree moderately	3. Disagree a little	4. Neither agree nor disagree	5. Agree a little	6. Agree moderately	7. Agree strongly

58. How important is it to you not to be absent from work?	Very important	Important	Not important	Not important at all		
59. In general I would say my health is:	Excellent	Very good	Good	Fair	Poor	
60. I feel burned out from my work:	Never	A few times a year or less	A few times a month	Once a week	A few times a week	Every day

Instructions: Please indicate the degree to which you agree with the following statements by circling the answer which reflects your opinion.

61. It can be necessary to attend work unwell to avoid my co-workers' vacations leave being cancelled.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
62. Attending work when unwell can be necessary if I have recently taken sick leave.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
63. It can be necessary to attend work when unwell to avoid having my vacation leave being cancelled.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
64. Attending work when unwell often results in me burdening my co-workers.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree

65. Attending work when unwell has negative repercussions on my family.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
66. I take sick leave when unwell because my family encourage me to do so.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
67. I take sick leave when unwell because my colleagues encourage me to do so.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
68. I take sick leave when unwell because a doctor / health care professional advised me to do so.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree

Part D: Basic information

Instructions: Please complete the following section by circling the category that best describes you:

Male Female 1. Gender

2. Age: _____ (enter number)

3. Grade

Nurse	Charge / deputy charge nurse	
Full-time	Part-time	Reduced hours

4. Employment

5. Position

Reliever	Fixed post in a ward
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6. Living status

living with a partner / married	living alone	living with parents / family members	Other
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7. Household responsibility:

Contribute to the care of dependent relatives living in your home, including children, elderly or disabled relatives	Do not contribute to the care of dependent relatives living in your home, including children, elderly or disabled relatives
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Thank you for participating and completing this questionnaire! If you are interested in participating in further research on the topic (interviews / questionnaires) please enter a contact telephone number in the space provided _____ alternatively, contact the researcher by email on the address given on the information sheet, stating your interest in participating in further research on the topic.

If you wish to participate in the lottery draw please enter a contact telephone number in the space provided. Telephone numbers will be drawn at random to determine the winners.
