The relationship between stress, perceived quality of sleep, and anxiety among college students with and without children

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Research Students Declaration Form

(Thesis/Author Declaration Form)

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Degree for which thesis is submitted: Bachelor of Arts Honours Psychology

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Material submitted for award

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I would like to thank all of the participants who took part in my study. I am extremely grateful that you took the time to participate and help me in my journey towards my degree.

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Abstract

The current study aimed to assess the relationship between sleep, stress and anxiety among college students with children in comparison to college students without children. Research questions in this study will investigate what type of relationship exists between sleep, stress and anxiety, and the effect of this relationship on two groups: college student with children and college students without children. This study consisted of 48 participants (n=48), with 11 male participants and 37 female participants. Participants were college students and were recruited through convenience sampling. Participants were required to have access to the internet and were asked to complete several questionnaires as part of the study, which included a demographic questionnaire, the Perceived Stress Scale, the Sleep Quality Measure, and the GAD-7 Anxiety Scale. A Pearsons product-moment correlation coefficient and a multiple regression was used to assess the relationship between sleep, stress and anxiety. Results found a moderate positive relationship between these variables. A multivariate analysis was also conducted to assess the difference between how students with and without children experienced stress, sleep, and anxiety. Results found statistically significant difference in the mean scores of perceived stress, perceived quality of sleep, and perceived anxiety between these groups. The study supported previous evidence found between the relationship between sleep, stress and anxiety. However, results also found that students without children experienced greater levels of stress and anxiety with poorer quality of sleep compared to those with children.

Contents

Introduction

Stress and sleep are two major factors in an individual's life. Sleep is an important component in maintaining human homeostasis (Han, Kim, and Shim, 2012). The human body is continuously changing, and the body's stress system is responsible for adapting to these situations, so quality of sleep is not affected. Sleep problems are common among young people and the quality of sleep is deteriorating for many of them (Wang and Biro, 2021). Lazarus and Folkman (1984) defined stress as "the complex interaction between an individual and his/her environment that can impact one's well-being". College students face a number of stressful situations throughout their time in education (Saleh, Camart, and Romo, 2017). Many college students are susceptible to psychological distress, anxiety and depression, and sleeping disorders. There is a significant difference in the way men and women experience stress and how it affects their sleep. Women tend to experience higher levels of sleep disorders in comparison to men. Excessive stress can cause long and short-term disabilities in many of the human systems. Sleep disorders are closely associated with disturbances such as medical, psychological and social. Stress related insomnia is not usually permanent and only lasts for a few days. Insomnia is an extremely prevalent sleep disorder and can affect approximately 10-15% of adults (Drake et al., 2004). This can have a negative impact on a person's quality of life. This can affect a person's work performance, and physical and social functioning. More than half of college students suffer from poor sleep quality (Wang and Biro, 2021). This can be as a result of greater academic pressures and irregular schedules. College students' social lives can have a big impact on their quality of sleep as they have a newfound level of substantial freedom, minimal supervision, and unhealthy habits such as smoking and drinking. Students are less likely to admit when stressful

situations become too overwhelming for them to cope with, and they end up dealing with higher levels of stress.

Sleep disorders are extremely common among college students (Lee et al., 2013). These disorders often stem from the stress that they endure from their academic challenges and daily stressors. The stress that college students experience is predictable yet can still have major effects on their wellbeing and can lead to sleep deprivation. Stress and sleep problems are closely linked to each other and can affect both mental and physical health, which can lead to fragmented sleep patterns and adverse health outcomes. Sleep disturbances can also be linked to poor performance which can also become another stressor for many students. Sleep disturbances and disorders are also more prevalent among female students than male students. Women are more vulnerable to sleep disorders than men due to various factors such as cycling hormones and multiple social roles. In the study that Lee et al. Conducted, they recruited 103 female college students over the age of eighteen. Participants received a sleep hygiene leaflet and were asked to report on their sleep patterns. The participants were predominantly undergraduate students who were white, single, and had no children. However, many of the participants struggled with financial difficulties. The results of the study found that about 46% of participants experienced a significant level of daytime sleepiness and moderate morning fatigue. Approximately 25% of participants experiences moderate levels of depressive symptoms. The most common symptoms that were experienced by participants were fatigue, headaches, trouble sleeping, backaches, and upset stomach. None of the participants reported having a good quality of nightly sleep and 68% were diagnosed as insomniacs as a result of their scores on the Perceived Sleep Quality Index (PSQI). Overall, it was found that these women were sleep deprived and their circadian rhythms were not well-synchronised. The women's perception of their stress was directly positively

associated with sleep disturbances and depressive symptoms. The study also compared the impact of stress on physical and mental health of good sleepers and poor sleepers. The results showed serious existing problems and potential problems that the participants were facing, despite not having a history of physical or depressive problems.

Verlander, Benedict, and Hanson (1999) conducted a study to investigate the stress and sleep patterns of college students. They recruited 227 participants for the study. The participants were presented with three questionnaires: a demographic questionnaire, the Derogatis Stress Profile, and the Sleep Questionnaire. The demographic questionnaire was used to ensure that participants had no sleep disorders and contained questions about their lifestyle such as their use of sleep aids, caffeine and alcohol consumption, and smoking habits. The Derogatis Stress profile was used to assess three types of stress based on the participants' self-reports. The results of the study found that scores of emotional responses on the Derogatis Stress Profile were the best predictor of sleep patterns, and it predicted scores on five of the seven scales of the sleep questionnaire. There is a significant correlation between environmental factors and sleep disorders and poor quality of sleep. Environmental events, such as daily stressors, can be associated with sleep disorders because of the emotional response that may have been elicited by that event. They also suggested that there may be an individual predisposition that can act as a mediator between an event and the response that came from it. These mediating factors include a person’s coping mechanisms and attributes that affect how they perceive stress. Using coping mechanisms, such as relaxation techniques, people can reduce stress and minimize sleeping difficulties.

A study was conducted by Zhang, Li and Yin (2020) to investigate how psychological stress is related to sleep quality. They found that 60% of college students have sleep problems

which were found to be connected to psychological stress. The cognitive model of insomnia was applied to the students which states that stress can cause arousal before sleep which can lead to reports of a decreased quality of sleep. People who suffer from psychological stress are more likely to have a perpetual bias which can be associated with negative emotions. This can lead to a poorer quality of sleep. The study was conducted with 315 participants. Their sleep quality was measured using the Pittsburgh Sleep Quality Index. Results found that there was a positive relationship between psychological stress and sleep, meaning that higher levels of stress led to higher levels of sleep difficulties.

Many students report insufficient and unsatisfactory sleep, and that they have difficulties with falling asleep and maintaining sleep, with over 60% of them having a poor sleep quality and 25% of them being at risk for a sleep disorder (Amaral et al., 2018). There are many factors that can contribute to the poor quality of sleep such as variable sleep patterns and high media usage. The additional stress of college being a major transitional period and the demanding workload can also contribute to sleep difficulties. They found that during periods of high stress, academic stress can negatively affect sleep, which can result in fewer hours of sleep, more sleep disturbances and later waking times. They also found that pre-sleep cognitive activities following a stressful period can lead to poor sleep quality. Female students also tend to have a lower quality of sleep due to higher depressive symptoms. Female students also reported higher levels of co-rumination, meaning that they excessively talk about their problems causing them to dwell on the negative emotions attached to the event that they experienced.

Many students have multiple roles in society such as raising a family or being in a workplace (Leger, 1996). This additional role as a college student can cause problems for many people and they can encounter problems such as time management, role management,

institutional barriers, self- doubt, psychological support, and the health and energy resources that are available to them. These factors can be stress inducing for many students and they may feel that there is little support available to them. In interviews that were conducted by Leger, participants reported feeling ‘overwhelmed’ and that they are ‘absolutely exhausted’ since continuing their studies and their other roles in society. These interviews caused distress and panic in the students as they recalled their past experiences. Students with children are more likely to enroll and stay in college as their newfound role as a parent may motivate them to build a good life for their families. However, the combination of work, college, and home life can be anxiety inducing for many.

Rationale and Research Aims/ Hypothesis

Stress related sleep disturbances are quite common among college students, and especially in female college students. The current study is being conducted to investigate the relationship between stress, sleep, and anxiety in college students with and without children. The scientific rationale for conducting this study is to broaden the knowledge surrounding the topic of the relationship between stress and anxiety, and sleep among college students and to investigate whether this experience differs depending on whether you have children. The study consists of three research questions. The first research question will investigate if there is a relationship between sleep, stress, and anxiety. The null hypothesis states that there will be a relationship between these variables. The second research question will investigate if there is a negative impact on sleep due to stress and anxiety. The null hypothesis states that there will be a negative impact on sleep due to these variables. The third research question will investigate how the experience differs in regards to sleep affected by stress and anxiety in college students with and without children. The null hypothesis states that college students with children will report greater levels of stress and anxiety and a poorer quality of sleep in comparison to college students without children.

Methods

Participants

Participants in this study were college students with and without children. This study consisted of 48 people (n=48), with 22.9% of participants being male (n=11) and 77.1% of participants being female (n=37). Convenience sampling was used to gain participants for this study as the study was exposed through social media platforms, such as Instagram and Facebook.

Participants were required to be at least 18 years of age, a college student, and have no current diagnosis of any neurological or psychological conditions. Participation in this study was voluntary which means that there was no incentive to participate.

Measures/materials

This study utilised a number of different scales which were presented on Google Forms for the participant to complete. Participants were required to have access to a smartphone or laptop with an internet connection in order to complete the questionnaires that they were presented with

Firstly, a demographic questionnaire was presented to participants. This questionnaire asked questions such as age, employment status, and whether the participant had children or not.

Then, participants were required to answer the Perceived Stress Scale. This is a 10 item questionnaire which is scored on a Likert Scale from 0 to 4. It is used to assess levels of stress in the last month. The Perceived Stress scale is a self report measure which can be beneficial in finding out how people react to situations in their lives. The Perceived Stress Scale is a popular measure of stress and has been widely used in studies since it was created in 1983. This scale will require reverse scoring for question 4,5,7, and 8. When this is done all scores need to be added together. Scores ranging from 0-13 would indicate low levels of stress. Scores ranging from 14-26 would indicate moderate levels of stress. Scores between 27-40 would indicate high levels of stress.

Participants were then asked to complete the sleep quality measure. This is a four item questionnaire that is scored on a Likert Scale from 1 to 4, which measured their perceived quality of sleep quality. A score of 16 would indicate an extremely poor quality of sleep.

Lastly, participants were presented with the GAD-7 Anxiety Scale. This is a 7 item scale which is scored on a Likert Scale from 0 to 3, with categories including “not at all”, “several days”, “more than half the days”, and “nearly every day”. Scores are added together for the

seven questions. A score of 0-5 can indicate mild anxiety, 6-10 would indicate moderate anxiety, 11-15 would indicate moderately severe anxiety and 16-21 would indicate severe depression and anxiety

Design

This study is an quantitative study. It is a within groups, cross sectional study.The independent variables that have been identified in this study are college student without children and college students with children. The dependent variables that were identified in this study are sleep, stress, and anxiety.

Procedure

Prior to the commencement of the study, an ethical review was conducted by the review board in the National College of Ireland, who approved the study to be conducted as it was a minimal risk to participants. Possible ethical risks that were identified included distress to the participant due to the nature of some questions regarding their levels of stress and anxiety.Data collection began in December 2021. An online survey was created on Google Forms, and was distributed via Facebook and Instagram as participants were gained by convenience sampling.

Due to the participation being done online, participants were provided with a link, which they would need a smartphone or laptop to have access to. Participants were not asked to provide any identifying information to keep confidentiality and anonymity for them. Participants were required to read an information sheet (see Appendix A) which detailed what the study was about and what would be done with the information they provided. They were then also asked to read a consent form (see Appendix B) which outlined the participants rights in the study, such as the right to withdrawal before the study is submitted, and their eligibility to participate in the study.

After consent had been obtained, participants were presented with a demographic questionnaire (see appendix D), which was used to collect data such as the participants' age and whether they had children or not and their employment status. They were then presented with the Perceived Stress Scale, which is a 10 item question on a Likert scale of 0 to 4, to measure their levels of stress in the last month. Participants also completed the Sleep Quality measure, which is a four item question that is scored on a Likert scale from 1 to 4, to measure their perceived quality of sleep. Participants were finally presented with the GAD-7 Anxiety Scale, which is a a 7 item questionnaire which is measure on a Likert scale from 0 to 3. Participants were then asked to submit their responses for later analysis. Participation took approximately 10 minutes.

Upon submission, participants were provided with a debriefing sheet (see Appendix C). This sheet provided a summary of the study and contact details for support teams, the researcher and the research supervisor if the participants felt as though they were negatively impacted during the study.

Analysis of the data was conducted using IBM SPSS statistics programme. Initially, descriptive statistics were run to gain an understanding about the participants involved in the study. Variables such as age, gender, and whether the person had children or not were assessed. A Pearson's product moment correlation coefficient and a multiple regression was used to assess the relation between sleep, stress and anxiety. A multivariate analysis was also conducted to assess the relationship between these variables in relation to how they effect

Results

Descriptive statistics were run for categorical variables as can be seen in table 1. In this study, there were 37 female participants (77.1%) and 11 male participants (22.9%). 15 participants in this study had children (31.3%), while the remaining 33 did not (68.8%). Participants also reported their employment status, with 8 participants working full time and 8 participants being unemployed (16.7%), 31 participants were part-time employees (64.6%), and 1 participant was retired (2.1%).

Table 1

descriptive statistics for gender, age, and if the participant has children

Variable	Frequency	Valid %
Gender		
Male	11	22.9
Female	37	77.1
Employment status		
Full time	8	16.7
Part time	31	64.6
Retired	1	2.1
Unemployed	8	16.7
Children		
Yes	15	31.3
No	33	68.8

Descriptive statistics were also run for continuous variables as can be seen below in table 2. The mean age of participants was 23.87 years of age (SD= 6.738). The mean score on the Perceived Stress Scale was 23.58 (SD= 7.064). The mean score on the Sleep Quality Measure was 8.63 (SD= 2.96). The mean score on the GAD-7 anxiety scale was 11.38 (SD=6.99).

Preliminary analyses were conducted to ensure no violations of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. After consideration of the histogram, Q-Q plot and Kolmogorov-Smirnov score, the age variable is not normally distributed. The total score for PSS, SQM and GAD had a relatively normal distribution.

Table 2

Table for descriptive statistics – age, total PSS, total SQM, total GAD

Variable	*M*	*SD*	Standard error
Age	23.87	6.738	.347
Total PSS	23.58	7.064	.343
Total SQM	8.63	2.96	.343
Total GAD	11.38	6.99	.343

The relationship between sleep, stress, and anxiety was assessed using a Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality and linearity. There was a medium positive relationship between

the variables, which can be seen in table 3 below, with high levels of stress and anxiety being associated with higher reports of poor quality of sleep

Table 3

Correlation between sleep, stress and anxiety

Variable	1.	2.	3.
1. Total PSS	.709	.463	1.00
2. Total SQM	.463	.709	1.00
3. Total GAD	1.00	.463	1.00

A standard multiple regression was used to assess how the relationship between stress and anxiety effected sleep. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. There was a statistically significant relationship between these variables, F (2,45)= 27.063, p<.001, R^2=.546

Table 4

Standard multiple regression table

Variable	R^2	B	SE	*t*	*p*
Total PSS	.546	.616	.107	-2.827	<.001
Total SQM		.534	.257	5.735	.043
Total GAD		-7.760	2.745	2.082	.007

A one-way between groups multivariate analysis was performed to investigate the difference in sleep, stress, and anxiety among students with and without children. The three dependent variable that were used were sleep, stress, and anxiety. The independent variables were students

with children and students without children. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. There was/was not a statistically significant difference between students with and without children, $F(3,44)=258.49$, Wilks Lambda=.054, partial eta squared=.95. Students without children reported a higher level of perceived stress (M= 24.97, SD=7.06) than students with children (M=20.53, SD=6.25). Students without children also reported higher levels of poor quality of sleep (M=9.97, SD=2.17) than students with children (M=5.67, SD=2.23). Students without children also reported higher levels of anxiety (M=13.85, SD=5.03) compared to students with children (M=5.93, SD=7.74)

Discussion

The main aims of this study was to observe the relationship between sleep, stress and anxiety in students with and without children. Although there is vast amounts of research in the area of sleep, stress and anxiety among college students, further studies could be done to focus on the effect of these variables on college students with children as it is a large demographic of people. This study found that there was a statistically significant relationship between sleep, stress and anxiety, which supports current evidence surrounding this area. This means that we can accept the null hypothesis which states that there will be a relationship between these variables in which stress and anxiety can negatively impact quality of sleep. Results also reported that students without children reported higher levels of stress and anxiety, and poorer quality of sleep compared to students with children. Given these results, we must fail to accept the null hypothesis that states that students with children will have greater levels of stress and anxiety with a poorer quality of sleep. Although current literature on this area is scarce, it seems to differ from the findings in this study. Hudson and O'Regan (1994) conducted a study in which they explored a number of variables that contributed to levels of stress in third level students. These included work commitments, relationship commitments, number of children and finances. This study found that female student reported higher levels of stress as they had less free time compared to the male participants. Results of this study were statistically significant as it found that having children greatly increased the levels of stress that college students experienced. However, number of children did not seem to have a big impact on the levels of stress experienced.

Stress in college students can have physical effects, such as an increase in cortisol levels (Scharp & Dorrance Hall, 2017). Students also reported other physical symptoms such as

headaches and disruptions to their sleeping patterns. These factors can also be linked to increased risk of cardiovascular problems in both men and women later in life. Students are also at a greater risk for suicide attempts and other psychological health issues. This research also suggested that people are less likely to seek help as they can feel ashamed when they feel that they are not meeting their goals in life in relation to their academic success. The study highlighted that the stressors that are faced by college students with children are completely normal to experience, which helped to reduce any embarrassment they had, leading them to seek support for their problems rather than struggling alone.

Other studies have also supported the argument that college students with children report greater levels of stress (Wallace, Boynton, & Lyle, 2017). 64% of students reported that both academic and personal stressors affected their quality of sleep. However, due to the limited research available, a connection has not been made regarding continuous or intermittent stress patterns affecting the quality of sleep.

College student reported that having on-site childcare being available to them made their role significantly less stressful as it gave them the opportunity to get their own education while also feeling comfortable that their child was also receiving education (Gonchar,1995). Students are at a greater risk of dropping out if they have several other societal responsibilities and there are no accommodations and support available to them.

This study was subject to some limitations. Due to the nature of the study being conducted online, it sometimes proved difficult to engage participants in the study. Initial analyses were also misinterpreted meaning statistical analyses took up a greater proportion of time than initially anticipated. There was little literature regarding this topic, making it difficult to find studies supporting the findings that were discussed above. Future research into this area

could seek to include a more diverse sample, with more males and students with children participating. A larger sample size is also suggested to increase the generalizability of the results. Future studies could also investigate if the number of children that a student has will have a major impact on the levels of stress that they experience. Gender could also be examined to see if there is a significant difference in male students' experience compared to female students. Future studies could also consider investigating other factors that affect the persons levels of stress such as finances, support systems, and employment status.

To conclude, while research into the area of sleep, stress and anxiety among college students with and without children is scarce, research does show that college students with children report high levels of stress for many reasons such as childcare, finances, work commitments, and conflicting societal roles. However, the current study found that the opposite occurred, as college students without children reported greater levels of stress, anxiety and sleep compared to those with children.

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Appendices

Appendix A

I would like to invite you to take part in a research study as part of my final year project. Please take the time to read the following information carefully and ask questions if anything is unclear or if you would like more information.

Who am I and what is this study about?

My name is Meaghan Bissett. I am a final year student currently working towards completing my final year project. The aim of this study is to investigate the difference of stress, sleep and levels of anxiety among students with children compared to students without children. Completion of this study will contribute to my grade in order to gain a level eight QQI qualification in psychology.

What will taking part involve?

This study will be conducted primarily on the internet and completion of the surveys should last approximately 15 minutes. Participants will be required to have access to the internet in order to complete the questionnaires. The study will involve topics such as stress and sleep habits.

Why have you been invited to take part?

You have been invited to participate in this study. Participation in the study is voluntary and you have the right to refuse to participate. You may also withdraw consent at any time up until you submit your response form without any consequences as all data will be anonymous.

What are the possible risks and benefits of taking part in the study?

Benefits of participating in this study would include contributing to the advancement of the current literature surrounding the topic of the relationship between stress and sleep. Participation may also give you the opportunity to widen your interests and expand your knowledge.

While the study is relatively low risk, some participants may become distressed throughout the course of the study as it may remind them of some unpleasant events that they have experienced.

Will taking part be confidential?

Participation in the study will be confidential and all data will be completely anonymous.

How will the information provided be recorded, stored, and protected?

Consent forms and any data collected will be stored on my personal computer with only myself and my research supervisor having access to this information until after my degree has been conferred.

What will happen to the results of the study?

The results of the study will only be used to complete my dissertation.

Who should you contact for further information?

Please contact myself or my research supervisor using the information provided below if you have any questions relating to the study.

Researcher's name: Meaghan Bissett

Researcher's e-mail: x19484284@student.ncirl.ie

Supervisor name: Dr David Mothersill

Supervisor email: david.mothersill@ncirl.ie

Appendix B

I voluntarily agree to participate in this study

I understand that I can withdraw consent at any stage until I submit my data with no consequences of any kind

I have read the information sheet provided and understand the aims of the study and any risks that may arise. I have had the chance to ask the researcher questions about the study

I understand that the current study aims to investigate the relationship between stress and sleep.

I understand that I will not benefit directly from participating in this study

I agree to have my data stored by the researcher

I understand that all data provided will be confidential

I understand that my identity will remain anonymous, and all data will be unidentifiable

I understand that my data will be used to complete an undergraduate student thesis

I understand that if I confide in the researcher that myself or someone else is at risk of harm, they will have to report it to the relevant authorities. It will be discussed before reporting but they may be required to report with or without my permission

I understand that consent forms and data will be retained on the researcher's computer. Only the researchers and research supervisor will have access to this information until the exam board confirms the results of the thesis.

I understand that I am free to contact any of the people involved in the research at any time to seek further clarification and information regarding the study.

- I am over the age of 18
- I am currently a college student
- I have no current diagnosis of any neurological and psychological conditions
- I consent to participate in this study

Appendix C

Researcher name: Meaghan Bissett

Contact information: X19484284@student.ncirl.ie

Supervisor's name: Dr David Mothersill

Contact information: david.mothersill@ncirl.ie

Dear Participant,

I would like to thank you for taking the time to participate in this study in order to complete my Final Year Project. The study was conducted in order to investigate the relationship between stress, sleep and levels of anxiety among students with children.

If you are interested, I can provide the results of the study when analyses have been conducted. If this study has caused you any distress, a list of contact information is available below. Please do not hesitate in contacting me or my supervisor if you have any questions.

Samaritans: (01) 671 0071

AWARE: 1800 80 48 48

Irish Association for Counselling and Psychotherapy: 01 230 3536

Appendix D

Demographic questionnaire

Please provide details of your age, gender, employment status, and if you have children below.

- Age: _____
- Gender
    - Male
    - Female
    - Prefer not to say
- Employment status
    - Full time
    - Part time
    - Unemployed
    - Retired
- Do you have children?
    - Yes
    - No
- If so, how many?:_____

Appendix E

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by ticking how often you felt or thought a certain way, with 0=never and 4=very often

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and "stressed"?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Appendix F

Sleep quality measure

The questions in this scale ask about you and your quality of sleep. In each case you will be asked to tick the box that most applies to you and your quality of sleep, with 1=every night and 4= never

1. do you have difficulty falling asleep?
2. do you wake a lot during the night?
3. Do you wake up too early without being able to get back to sleep?
4. do you wake up feeling unrefreshed?

Appendix G

GAD-7 Anxiety Scale

Over the last two weeks, how often have you been bothered by the following problems, with 0=not at all and 3=nearly every day

1. Feeling nervous, anxious, or on edge?
2. Not being able to stop or control worrying?
3. Worrying too much about different things?
4. Trouble relaxing?
5. Being so restless that it's hard to sit still?
6. Becoming easily annoyed or irritable?
7. Feeling afraid, as if something awful might happen?