

APPLICATION FOR ETHICAL APPROVAL

RESEARCH STUDENTS

This form is to be completed by the student within **SIX** months for full-time students and **TWELVE** months for part time students, after the commencement of the research degree or following progression to Part Two of your course.

Once complete, submit this form via the **MyTSD Doctoral College Portal** at (<https://mytsd.uwtsd.ac.uk>).

This document is also available in Welsh.

RESEARCH STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk, with the title 'Ethical Approval' followed by your name.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

SECTION A: About You (Principal Researcher)

1	Full Name:	Harriet Adams			
2	Tick all boxes that apply:	Member of staff:	☐	Honorary research fellow:	☐
	Undergraduate Student	☒	Taught Postgraduate Student	☐	Postgraduate Research Student
3	Institute/Academic Discipline/Centre:	Yr Athrofa: Psychology and Counselling			
4	Campus:	IQ, SA1 Campus, Swansea.			
5	E-mail address:	2219657@student.uwtsd.ac.uk			
6	Contact Telephone Number:				
For students:					

7	Student Number:	2219657
8	Programme of Study:	BSc Psychology
9	Director of Studies/Supervisor:	Dr Kate Williams

SECTION B: Approval for Research Activity

1	Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)	YES	☒	NO	☐
					Date
2	If Yes, please indicate source of approval (and date where known): Approval in principle must be obtained from the relevant source prior to seeking ethical approval	Research Degrees Committee	☐		
		Institute Research Committee	☐		
		Other (write in) Dr Kate Williams (Dissertation supervisor)	☒	07/08/24	

SECTION C: Internal and External Ethical Guidance Materials

	Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, location-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines. You may add rows to this table if needed.				
1	UWTSD Research Ethics & Integrity Code of Practice				☒
2	UWTSD Research Data Management Policy				☒
3	UWTSD Student Code of Conduct				☒
4	BPS Code of Human Research Ethics (2021)				☒
5	BPS Code of Ethics and Conduct (2021)				☒

SECTION D: External Collaborative Research Activity

If there are external collaborators then you should gain consent from the contact persons to share their personal data with the university. If there are no external collaborators then leave this section blank and continue to section E.

1	Institution					
2	Contact person name					
3	Contact person e-mail address					
4	Is your research externally funded?	YES	☐	NO	☐	
5	Are you in receipt of a KESS scholarship?	YES	☐	NO	☐	
6	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	YES	☐	NO	☐
7		Employed	YES	☐	NO	☐

8	Is the research being undertaken within an existing UWTSD Athrofa Professional Learning Partnership (APLP)?	If YES then the permission question below does not need to be answered.	YES	☐	NO	☐
9	Has permission to undertake the research has been provided by the partner organisation?	(If YES attach copy) If NO the application cannot continue	YES	☐	NO	☐

Where research activity is carried out in collaboration with an external organisation

10	Does this organisation have its own ethics approval system?	YES	☐	NO	☒
	If Yes, please attach a copy of any final approval (or interim approval) from the organisation (this may be a copy of an email if appropriate).				

SECTION E: Details of Research Activity

1	Indicative title:	Exploring the effect of chronotypes and time of testing on attention performance.		
2	Proposed start date:	Oct/Nov 2024	Proposed end date:	20/05/2025
	Introduction to the Research (maximum 300 words per section) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the points below: <i>Purpose of Research Activity</i> <i>Proposed Research Question</i> <i>Aims of Research Activity</i> <i>Objectives of Research Activity</i> Demonstrate, briefly, how <u>Existing Research</u> has informed the proposed activity and explain <i>What the research activity will add to the body of knowledge</i> <i>How it addresses an area of importance.</i>			
3	Purpose of Research Activity The purpose of this research activity is to explore whether chronotypes (natural body cycles) and the time of testing can influence performance on an attention-based task. Chronotypes, also referred to as an individual's preferred timing for daily activities (i.e., morning or afternoon/evening), and is a physiological process that aligns with the circadian rhythm, the body's natural sleep-wake cycle (Martinez-Perez et al., 2020). Many researchers, including Akram et al. (2018), Sabaoui et al. (2023) and Facer-Childs et al. (2018) have investigated the role of chronotypes within education. Facer-Childs et al. (2018) found that athletes with evening chronotypes were at a disadvantage when tested or undergoing learning activities during the morning. Based on this finding, they suggested that individuals who work, train or learn at times that do not align with their chronotype may experience a significant negative impact on their performance (Facer-Childs et al., 2018). However, a significant portion of the literature available on this subject overlooks its impact on individuals within higher education. Most studies have focused on young children, athletes, or professionals already in their careers (Sabaoui et al., 2023). Randler et al. (2017) observed that an individual's chronotype can change significantly over the course of their life, particularly during the transition from adolescence to adulthood, after which it remains relatively stable. Therefore, the studies conducted with primary and comprehensive school children are likely to show significant differences compared to the individuals within higher education who are in their early adulthood (Randler et al., 2017). Understanding the optimal times for young adults and students in higher education to perform is crucial for their learning and could lead to significant benefits in their university experience and academic performance.			

	Reference list Akram, N., Khan, N., Ameen, M., Mahmood, S., Shamim, K., Amin, M., & Rana, Q. (2018). Morningness-eveningness preferences, learning approach and academic achievement of undergraduate medical students. <i>Chronobiology International</i>, 35(9), 1262-1268. https://doi.org/10.1080/07420528.2018.1474473 Facer-Childs, E.R., Boiling, S., & Balanos, G.M. (2018). Effects of time of day and chronotype on cognitive and physical performance in healthy volunteers. <i>Sports Medicine</i>, 4(1), 47. https://doi.org/10.1186%2Fs40798-018-0162-z Randler, C., Faßl, C., & Kalb, N. (2017). From Lark to Owl: Developmental changes in morningness-eveningness from new-borns to early adulthood. <i>Scientific Reports</i>, 7. https://doi.org/10.1038/srep45874 Sabaoui, I., Lotfi, S., & Talbi, M. (2023). Circadian Fluctuations of Cognitive Psychomotor Performance in Medical Students: The Role of Daytime and Chronotype Patterns. <i>Chronobiology in Medicine</i>, 5, 127-137. https://doi.org/10.33069/cim.2023.0018. (this box should expand as you type)
4	Research Question 1. Does chronotype and time of testing affect attentional performance? 2. Do individuals perform better when completing an attention task during the time of day that matches their chronotype. (this box should expand as you type)
5	Aims of Research Activity The aims of this research project are to investigate the following: • Participants performance on an attention-based task depending on the time of day at which they complete the study. • Participants performance on an attention-based task depending on their individual chronotype. • Whether there is an interaction between chronotype and time of testing on attention performance. (this box should expand as you type)
6	Objectives of Research Activity The objective of this study is to examine in further detail whether chronotypes have the ability to influence a person's performance on attention-based tasks depending on the time of day in which they complete the study. (this box should expand as you type)
	Proposed methods (maximum 600 words) Provide a brief summary of all the methods that may be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed. You do not need to justify the methods here, but should instead describe how you intend to collect the data necessary for you to complete your project.
7	Participant recruitment The research will take place in the 2nd floor Psychology Labs at UWTSD SA1 IQ campus. Participants will be recruited through the University's online Experiment Management System (EMS). Eligible psychology and counselling students can volunteer to participate in the study in exchange for two course credits.

	Data collection and Materials Participants will be provided with an information sheet (see appendix 1) and asked to complete a consent form (see appendix 2) before beginning the study. Participants will use the lab computer to complete the study through Qualtrics and SuperLab. To begin, participants will be directed to the computer where they will begin the Stroop test (Stroop, 1935), where they will be asked to respond to a series of 60 words (colour names) by pressing a button corresponding to the ink colour in which the word is written (i.e., the word 'red' appearing in red ink or blue ink). Each word will have a 5 second time limit. The total accurate ink colour responses will determine their attention performance. The total response time will also be used to analyse the accuracy of their results. Once completed, participants will be asked to complete the Morningness/Eveningness Questionnaire (MEQ; Horne & Ostberg, 1975; See appendix 3) along with a short demographic form. The MEQ contains 19 items designed to assess participants alertness throughout the day, categorising them as either morning or evening chronotypes. At the end of the questionnaire, participants will be debriefed by the researcher and given a paper copy of the questionnaire (See appendix 4). Design, Data, and Analysis: The numerical data from the Stroop Test will include the number of correct colours identified and the total time taken to complete the task. The overall scores will be converted into mean totals for each group for comparison. Additionally, numerical data will be gathered to categorise participants into morning or evening chronotypes by calculating the sample mean scores of the MEQ. A 2x2 between-subjects ANOVA will be conducted to analyse the collected data. This will examine the main effects of each independent variable (morningness/eveningness and time of testing) and their interactions with the dependent variable (performance on the attention task). (this box should expand as you type)		
	Location of research activity Identify all locations where research activity will take place.		
8	2nd floor Psychology Labs, IQ building. SA1 Campus, Swansea. (this box should expand as you type)		
	Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural and/or legal sensitivities or vulnerabilities of participants. If you live in the country where you will do the research then please state this.		
9	N/A (this box should expand as you type)		
10	Use of documentation not in the public domain: Are any documents NOT publicly available?	NO YES	☒ ☐
11	If Yes, please provide details here of how you will gain access to specific documentation that is not in the public domain and that this is in accordance with the current data protection law of the country in question and that of England and Wales.		

	(this box should expand as you type)
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	Does your research relate to one or more of the seven aims of the Well-being of Future Generations (Wales) Act 2015?	YES	NO
12	A prosperous Wales	☐	☒
13	A resilient Wales	☐	☒
14	A healthier Wales	☒	☐
15	A more equal Wales	☐	☒
16	A Wales of cohesive communities	☐	☒
17	A Wales of vibrant culture and thriving Welsh language	☐	☒
18	A globally responsible Wales	☐	☒
19	If YES to any of the above, please give details:		
	Gaining insight into individual sleep patterns and their effects on daily activities, performance and learning abilities could play a significant role in promoting a healthier Wales. (this box should expand as you type)		

SECTION F: Scope of Research Activity

	Will the research activity include:	YES	NO
1	Use of a questionnaire or similar research instrument?	☒	☐
2	Use of interviews?	☐	☒
3	Use of focus groups?	☐	☒
4	Use of participant diaries?	☐	☒
5	Use of video or audio recording?	☐	☒
6	Use of computer-generated log files?	☒	☐
7	Participant observation with their knowledge?	☐	☒
8	Participant observation without their knowledge?	☐	☒
9	Access to personal or confidential information without the participants' specific consent?	☐	☒
10	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
11	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
12	Investigation of participants involved in illegal activities?	☐	☒
13	Use of procedures that involve deception?	☐	☒
14	Administration of any substance, agent or placebo?	☐	☒
15	Working with live vertebrate animals?	☐	☒
16	Procedures that may have a negative impact on the environment?	☐	☒

17	Other primary data collection methods. Please indicate the type of data collection method(s) below.	☒	☐
	Details of any other primary data collection method: This study will include the Stroop Test, adapted from Stroop (1935). This test will be conducted using SuperLab and will consist of two phases; a short practice trial followed by the main test of 60 words. SuperLab will be programmed to track correctly matched responses to the ink colours displayed on the screen, while also recording the response time to respond to each word and the overall completion time. (this box should expand as you type)		

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

If there are no participants then do not complete this section, but go directly to section H.

	Who are the intended participants:	YES	NO
1	Students or staff at the University?	☒	☐
2	Adults (over the age of 18 and competent to give consent)?	☒	☐
3	Vulnerable adults?	☐	☒
4	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☐	☒
5	Prisoners?	☐	☒
6	Young offenders?	☐	☒
7	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
8	People engaged in illegal activities?	☐	☒
9	Others. Please indicate the participants below, and specifically any group who may be unable to give consent.	☐	☒
	Details of any other participant groups: (this box should expand as you type)		

	Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
10	How many participants are expected?	Approximately 60 participants will be required for this study. This is due to there being two between-subjects IVs within this study, each with two levels (morning/evening chronotype and morning/afternoon testing time), resulting in 4 possible groups. (this box should expand as you type)
11	Who will the participants be?	Participants will be students over the age of 18 within the Psychology and counselling department at UWTSD.

		<i>(this box should expand as you type)</i>
12	How will you identify the participants?	Participants will be recruited through the Experiment Management System (EMS) in exchange for 2 EMS credits. Participants will sign up through the online system and be identified when they attend the labs using their unique EMS ID code. A different unique ID code will then be assigned to their data. <i>(this box should expand as you type)</i>

	Information for participants:	YES	NO	N/A
13	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
14	Will you tell participants that their participation is voluntary?	☒	☐	☐
15	Will you obtain written consent for participation?	☒	☐	☐
16	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
17	If the research is observational, will you ask participants for their consent to being observed?	☐	☐	☒
18	Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
19	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
20	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
21	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
22	If NO to any of above questions, please give an explanation			
	<i>(this box should expand as you type)</i>			

	Information for participants:	YES	NO	N/A
24	Will participants be paid?	☐	☒	☐
25	Is specialist electrical or other equipment to be used with participants?	☐	☒	☐
26	Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐
27	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☒	☐	☐
28	If YES to any question, please provide full details			
	Participants will not be informed that they are being dividing into morning or evening groups based on their MEQ responses. They will also be unaware that the time of testing could affect their attention performance. However, this information will be disclosed to them during the debrief. <i>(this box should expand as you type)</i>			

SECTION H: Anticipated Risks

	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them. If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.		
1	Full risk assessment completed and appended?	Yes	☐
		No	☒
2	Risks to participants For example: sector-specific health & safety, emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information		
	Risk to participants: 1. Potential risk of distress. Participants may find the Stroop test to be challenging or frustrating, leading to feelings of frustration or anxiety. 2. Concerns may arise from the MEQ The MEQ may raise concerns for participants regarding their sleeping habits or inquiries about their mood. 3. Data protection. Participants may have concerns regarding the use and storage of their data during this study. <i>(this box should expand as you type)</i>	<i>How you will mitigate the risk to participants:</i> 1. This study will comply with both BPS Code of Human Research Ethics (2021) and UWTSD Research Ethics & Integrity Code of Practice Guidelines. They will be informed prior to starting the experiment that they are able to withdraw from the study at any point during the study should they no longer wish to continue or if they become distressed. They will be reminded that there will be no penalty for withdrawing from the study. Also, they will be informed of the nature of the attention task and the focus of the sleep questionnaire prior to participating. 2. If participants start to feel uncomfortable during the MEQ task, they may notify the researcher and request to withdraw from the study at any point without penalty. If they have any concerns regarding the MEQ results or their responses to certain questions, they can contact the researcher who will signpost to the supervisor to provide further guidance. 3. The researcher will inform the participant that any data will be kept confidential, and all participant data will remain anonymous. Personal details, such as participants age, gender, and signatures will be stored securely in accordance with UWTSD Research Data Management. Electronic data from both Qualtrics and SuperLabs will be stored within a password-protected OneDrive file on the researcher's university account, and paper consent forms will be kept in a locked cabinet within the labs. All data will be destroyed after it has been approved by the module external examiner at the end of the course. <i>(this box should expand as you type)</i>	

3	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities	
	N/A <i>(this box should expand as you type)</i>	
4	Risks to the investigator For example: personal health & safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest	
	Risk to the investigator: 1. Researcher email There is a possibility that inappropriate or unprofessional communication could be directed at the researcher, including via email. 2. Accusation of harm/impropriety Possible allegations of inappropriate, harmful or unprofessional behaviour could be made about the from the participant. 3. Physical safety within the lab There is a risk of physical harm within the labs, which may involve dangerous behaviour from other students or accidents involving equipment or computers. 4. Risk of data protection violations. There is the risk that participant data may become public or used for other non-research purposes. <i>(this box should expand as you type)</i>	<i>How you will mitigate the risk to the investigator:</i> 1. The researcher will ensure that their university email is used as the only point of contact between them and the participants. They will follow all UWTSD and BPS Ethics guidelines when working with the participants. Any concerning or inappropriate correspondence will be documented and reported to the lab manager/ project supervisor. 2. The researcher will ensure to follow all relevant UWTSD and BPS procedures regarding professional behaviour and the study will not commence until all approvals have been received. If the researcher becomes aware of any issues, these will be reported to the supervisor immediately. 3. If issues arise to either the participant or researcher, the study will be immediately suspended, and the academic supervisor will be informed immediately. If a participant becomes agitated, the researcher will terminate the study, remove themselves if they feel their personal safety is at risk and inform the lab manager. Also, research will only take place in the labs during open university hours from Monday-Friday 9am – 5pm. All lab sessions will be scheduled in advance to ensure that no unauthorised individuals are present. The lab manager will be informed of any incidents that occur. 4. All electronic data collected from Qualtrics and SuperLab will be stored securely on password protected computer files, only accessible by the researcher. Paper documents (consent forms) will be stored in locked files within the Labs. The storage of research data

		and participant information will be in accordance with UWTSD Research Data Management rules. Data will only be used and shared for intended purposes. <i>(this box should expand as you type)</i>
5	University/institutional risks For example: adverse publicity, financial loss, data protection	
	Risk to the University: 1. Adverse publicity. Researchers not adhering to codes of research ethics. 2. Data protection. Data leaks and exposures or data could be used for alternative purposes <i>(this box should expand as you type)</i>	How you will mitigate the risk to the University: 1. The researcher will conduct themselves with professionalism and respect towards all participants, fellow students and staff within the labs. They will comply with the UWTSD Research Ethics and Integrity Code of Practice, the Student Code of Conduct, and the BPS Code of Human Research Ethics (2021). 2. The researcher will adhere to the UWTSD Research Data Management Policy and UWTSD Data Protection and Storage Protocol. Data and study information will be kept confidential at all times, with proper management and secure storage of data in both the lab and online files. Data will only be shared with project supervisors and examiners when requested. Upon completion of the research project, data will be deleted from the researcher's computer, and physical copies will be disposed of properly. <i>(this box should expand as you type)</i>
6	Environmental risks For example: accidental spillage of pollutants, damage to local ecosystems	
	Risk to the environment: N/A <i>(this box should expand as you type)</i>	How you will mitigate the risk to environment: <i>(this box should expand as you type)</i>

Disclosure and Barring Service				
	If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.	YES	NO	N/A
7	Does your research require you to hold a current DBS Certificate?	☐	☒	☐

8	If YES, please give the certificate number. If the certificate number is not available please write "Pending"; in this case any ethical approval will be subject to providing the appropriate certificate number.	
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SECTION I: Feedback, Consent and Confidentiality

1	Feedback What de-briefing and feedback will be provided to participants, how will this be done and when? At the end of the study, the researcher will debrief the participant, explaining the true objectives and purpose of the research and offering an opportunity to address any final questions. The researcher will also emphasise that once the participant leaves the lab, their data cannot be withdrawn as it will be anonymous. Finally, participants will receive a physical debrief from (See appendix 3) to take home, outlining the key research aims and providing contact details of both the researcher and the research supervisor. <i>(this box should expand as you type)</i>
2	Informed consent Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation. Participants will be aware that the study includes a sleep pattern questionnaire and a short attention-based computer task when signing up via EMS. They will receive an information sheet (See appendix 1) on arrival, outlining the study's research title and providing basic details about the questionnaire and attention task. Participants will be given a consent form (See appendix 2), and they must check every box and sign the consent form to provide full consent, otherwise they will not be permitted to proceed with the study. <i>(this box should expand as you type)</i>
3	Confidentiality / Anonymity Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case. Participants will be identifiable to the researcher solely through their unique EMS identification code used during sign-up. All research data will be anonymised, with EMS numbers being replaced by a unique participant ID. Only anonymised data will be used for analysis and the reporting of the final results. This data will be securely stored in a password-protected file on the researcher's profile on the lab computer, within their password protected Qualtrics account, and in their password protected University OneDrive account, in compliance with UWTSD Data Protection and Storage Protocol. The researcher will ensure that all participant data remains confidential and is used exclusively for its intended purposes. <i>(this box should expand as you type)</i>

SECTION J: Data Protection and Storage

	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	YES	NO
1	"Personal data" means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person. Any video or audio recordings of participants is considered to be personal data.	☒	☐
	If YES, provide a description of the data and explain why this data needs to be collected:		

2	This study will gather participants' age and gender in order to provide demographic information and will NOT be linked to participant names or EMS ID. Names will be collected on the consent form, but these will be stored separately to all other study data in a locked cabinet in the Psych Labs. <i>(this box should expand as you type)</i>		
	Does it involve special category data (as defined by the GDPR)?	YES	NO
3	"Special category data" means sensitive personal data consisting of information as to the data subjects' – (a) racial or ethnic origin, (b) political opinions, (c) religious beliefs or other beliefs of a similar nature, (d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992), (e) physical or mental health or condition, (f) sexual life, (g) genetics, (h) biometric data (as used for ID purposes),	☐	☒
	If YES, provide a description of the special category data and explain why this data needs to be collected:		
4	<i>(this box should expand as you type)</i>		

	Will data from the research activity (collected data, drafts of the thesis, or materials for publication) be stored in any of the following ways?	YES	NO
5	Manual files (i.e. in paper form)?	☒	☐
6	University computers?	☒	☐
7	Private company computers?	☐	☒
8	Home or other personal computers?	☐	☒
9	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☒	☐
10	"Cloud" storage or websites?	☒	☐
11	Other – specify:	☐	☒
12	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of backup procedures, password protection, encryption, anonymisation and pseudonymisation: All manual files, including paper consent forms, will be securely stored in a locked cabinet within the Psychology labs. Once they are no longer needed following module completion confirmation from the external examiners, they will be disposed of appropriately. All research data will be stored electronically, with Qualtrics and SuperLab data being stored in the researcher's University accounts under password protection. The Qualtrics data will be downloaded in an anonymised format into SPSS and stored in a password-protected file on the researcher's University OneDrive account. Any SuperLab data will be transferred from the lab computers to the researcher's secure University OneDrive file and a secure memory stick. All collected data will only be linked through unique participant ID codes. <i>(this box should expand as you type)</i>		

Data Protection			
	Will the research activity involve any of the following activities:	YES	NO

13	Electronic transfer of data in any form?	☒	☐
14	Sharing of data with others at the University outside of the immediate research team?	☐	☒
15	Sharing of data with other organisations?	☐	☒
16	Export of data outside the UK or importing of data from outside the UK?	☐	☒
17	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☐	☒
18	Publication of data that might allow identification of individuals?	☐	☒
19	Use of data management system?	☒	☐
20	Data archiving?	☐	☒
21	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and Data Protection Act (2018) (and any international equivalents, where appropriate):		
	Data from SuperLab will be downloaded and transferred from the lab computers onto a secure encrypted memory stick, which will be used to transfer the data onto the researcher's password-protected University OneDrive file. Qualtrics data will be downloaded in an anonymised format into SPSS and stored in a password-protected file on the researcher's University OneDrive file. The final dissertation materials will be shared with UWTSD academic staff in the form of a written report and presentation. <i>(this box should expand as you type)</i>		
22	List all who will have access to the data generated by the research activity:		
	Harriet Adams (researcher), Dr Kate Williams (Dissertation supervisor), External Examiners on request. <i>(this box should expand as you type)</i>		
23	List who will have control of, and act as custodian(s) for, data generated by the research activity:		
	Harriet Adams (researcher) <i>(this box should expand as you type)</i>		
24	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.		
	The study will collect data using both Qualtrics and SuperLab. Data from Qualtrics will be stored in its anonymous format within the researcher's password protected Qualtrics account. It will be downloaded to excel and SPSS, where it will be transferred onto the researcher's password-protected University OneDrive account. Data collected from SuperLab will be anonymous and will be transferred from the lab computer via a secure memory stick to the researcher's University OneDrive account. Any data on the memory stick will be deleted after transferring. Paper consent forms will be securely stored in a locked cabinet within the Psychology Labs. After the completion of the Psychology Empirical Project, and external examiner confirmation, all data and consent forms will be deleted/destroyed. All data storage will adhere to the UWTSD Research Data Management Policy. <i>(this box should expand as you type)</i>		
25	Please indicate if your data will be stored in the UWTSD Research Data Repository (see https://researchdata.uwtsd.ac.uk/). If so please explain. <i>(Most relevant to academic staff)</i>		
	Any data gathered during this study will not be stored in the UWTSD Research Data Repository at this point and will not be held after the conclusion of the empirical project.		

	<i>(this box should expand as you type)</i>		
26	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	YES	☒
27	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	YES	☒

SECTION K: Declaration

	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
1	Signature of applicant:	H.Adams	Date: 25/09/24

For STUDENT Submissions:

2	Director of Studies/Supervisor:	Dr Kate Williams	Date: 04.10.24
3	Signature:	<i>K. E. Williams</i>	

For STAFF Submissions:

4	Academic Director/ Assistant Dean:		Date:
5	Signature:		

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed ALL RELEVANT sections of the form in full.
☒	I confirm that the research activity has received approval in principle
☐	I have attached a copy of final/interim approval from external organisation (where appropriate)
☐	I have attached a full risk assessment (where appropriate) ONLY TICK IF YOU HAVE ATTACHED A FULL RISK ASSESSMENT
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Academic Director.

RESEARCH STUDENTS ONLY

Once complete, submit this form via the **MyTSD Doctoral College Portal** at (<https://mytsd.uwtsd.ac.uk>).

RESEARCH STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk, with the title 'Ethical Approval' followed by your name.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

Appendix

1. Information sheet



Centre for Psychology and Counselling
SA1 Campus

Swansea

Participant Information Sheet

Title of Study: Exploring the effect of chronotype and time of testing on attention performance.

Research Team: Student Researcher: Harriet Adams (2219657@student.uwtsd.ac.uk) and Supervisor: Dr Kate Williams (kate.williams@uwtsd.ac.uk)

Date:

Invitation Paragraph:

You are being invited to take part in a research project being conducted by a third-year student within the Psychology and Counselling department at The University of Wales Trinity Saint David (UWTSD) for their Psychology Empirical Project. Before you decide to take part, it is important for you to understand why the research is being conducted and what participation will involve.

Please take time to read the following information carefully and discuss it with the researcher if you wish. Ask if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part. Thank you for reading this.

Purpose of Research:

The purpose of this study is to explore whether attention performance on a Stroop task varies depending on a person's wake/sleep cycle and the time they are tested.

What does taking part involve:

This study will involve an in-person experimental lab-based task. During this study you will be required to do the following:

- Provide demographic information of age and gender.
- Take part in a computer-based task involving the Stroop test (Stroop, 1935), where you will be required to respond to a series of 60 words (colour names) by pressing a button corresponding to the ink colour in which the word is written (i.e., the word 'red' appearing in red ink or blue ink). Each word will have a 5 second time limit. You will also have 10 practice trials to begin.
- You will then be asked to complete a 19-item questionnaire on your levels of activeness throughout the day and night.

At the end of the study, you will be debriefed by the researcher, and you will be provided with the study debrief sheet.

How long will the study take:

This study is expected to take around 20 minutes to complete. If you have signed-up via the Experiment Management System (EMS), you can expect to receive 2 credits.

Benefits of participating:

Whilst there are no immediate benefits for those people participating in the study, it is hoped that this work will contribute to the existing body of knowledge on the role of sleep and attention within learning and higher education settings.

Risks of participating:

There are no immediate risks to participation in this study. However, there is a possibility of potential stress due to the fast-paced and potentially challenging nature of the Stroop computer-based task. If you feel you would be uncomfortable engaging in this computer task, you are advised not to take part in this study or if you do commence with this task but feel it becomes too overwhelming, again you can withdraw from the task without reason and without penalty. Some people may also be concerned with completing questions about their waking/sleeping habits and activity levels. Again, if you feel this would be the case, you are advised not to take part in this study, or if you start answering these questions and feel it is too overwhelming you can withdraw from the task without reason and without penalty and consult with the research supervisor for further signposting. You can also choose not to answer any questions on this questionnaire if you are not comfortable answering them.

Participation and withdrawal:

Participation in this study is completely voluntary and you also have the option of not answering any questions throughout any part of the study if you do not feel comfortable answering them. You can withdraw at any point during the study without penalty. If you wish to withdraw during the study, please inform the researcher. You do not need to give a reason for withdrawing. **However, please note, once you leave the lab environment, it will not be possible to withdraw your data, as it will be anonymous.**

How will your data be used and processed:

Your data will only be used for the purpose of the research activity. Your name will only be collected on the consent form and consent forms will not be related to study data. This study will also collect demographic data of age and gender. This is for the purpose of descriptive statistics, which form the standard reporting measures in psychology. Once the data is collected, it will be aggregated for presentation purposes by calculating the mean age and total gender numbers. This data will also not be linked to your name. The researcher will not disclose data information or use it for any other purposes.

How will your data be collected and stored:

All collected raw data will be kept in a raw format and then aggregated for analysis purposes. Computer data will be collected via SuperLab, and this data will be stored on the SuperLab computer within the Psychology labs. It will only be accessed by the researcher through a password protected

university account. All SuperLab data will be anonymous and copied from the lab computer to the researcher's university OneDrive account, which will also be protected with password. If there would be a need to transfer data by a memory stick, the memory stick will be encrypted, and the data will be deleted once transfer is completed. Qualtrics data also be anonymous and stored in the researcher's password protected Qualtrics account. Qualtrics data will be downloaded in an anonymised format into excel and SPSS and stored in a password-protected file on the researcher's University OneDrive account. Physical consent forms will be preserved in a securely locked filing cabinet located in the Psychology Labs and separate from the anonymised electronic data. This data will be subsequently deleted after the module assessment undergoes evaluation by the end of year examination board.

How can you contact the researchers if you have any questions:

You can contact the research student via email: Harriet Adams – 2219657@student.uwtsd.ac.uk

You can also contact the research supervisor via email: Dr Kate Williams – kate.williams@uwtsd.ac.uk

If you have any immediate questions, please ask the researcher now. If you are happy to continue, please read, complete, and sign the corresponding consent form.

2. Consent form



Centre for Psychology and Counselling
SA1 Campus
Swansea

Participant Consent Form

Title of Study: Exploring the effect of chronotype and time of testing on attention performance.

Research Team: Student Researcher: Harriet Adams (2219657@student.uwtsd.ac.uk) and Supervisor: Dr Kate Williams (kate.williams@uwtsd.ac.uk) .

Date:

1. I confirm that I have read and understand the Information Sheet for the above study.	Yes	No
2. I had an opportunity to ask questions and have them answered satisfactorily.	Yes	No
3. I understand that I may ask further questions at any time.	Yes	No
4. I understand that my participation is voluntary, and I am free to withdraw from the study at any time during the study without penalty or giving any reason.	Yes	No
5. I understand that my fully anonymised data will be utilised for only this research study, which is being conducted by a third-year Psychology student for the purpose of their undergraduate Psychology Empirical project and will be deleted once external examiner approval for the project has been obtained.	Yes	No
6. I have been informed that if I feel I would be uncomfortable answering personal questions about my wake and sleep patterns, or completing the attention-based Stroop computer task, that I should not take part in this study.	Yes	No
7. I understand that I may decline to answer any questions.	Yes	No
8. I understand that any data collected will be anonymised and stored in an anonymous format and once I leave the lab it will not be possible to trace the data back to me to withdraw.	Yes	No
9. I understand that the anonymised data provided will be securely stored and accessible only to the members of the research team directly involved in the study, and that confidentiality will be maintained.	Yes	No
10. I confirm that I am over 18 years old	Yes	No
11. I confirm I have normal or corrected-to-normal vision and colour vision.	Yes	No
12. I agree to take part in the above study.	Yes	No

Participant Name _____ Date _____ Participant Signature _____

Researcher Name _____ Date _____ Researcher Signature _____

There should be two signed copies, one for the participant, one retained by researcher for records.



3. Morningness/Eveningness Questionnaire

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54 Morningness-Eveningness Questionnaire

Morningness-Eveningness Questionnaire

Instructions:

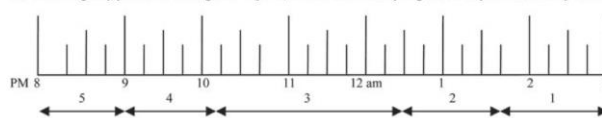
1. Please read each question very carefully before answering.
2. Answer ALL questions
3. Answer questions in numerical order.
4. Each question should be answered independently of others. Do NOT go back and check your answers.
5. All questions have a selection of answers. For each question place a cross alongside ONE answer only. Some questions have a scale instead of a selection of answers. Place a cross at the appropriate point along the scale.
6. Please answer each question as honestly as possible. Both your answers and the results will be kept, in strict confidence.
7. Please feel free to make any comments in the section provided below each question.

The Questionnaire with scores for each choice

1. Considering only your own "feeling best" rhythm, at what time would you get up if you were entirely free to plan your day?



2. Considering only your own "feeling best" rhythm, at what time would you go to bed if you were entirely free to plan your evening?



3. If there is a specific time at which you have to get up in the morning, to what extent are you dependent on being woken up by an alarm clock?

- Not at all dependent ☐ 4
Slightly dependent ☐ 3
Fairly dependent ☐ 2
Very dependent ☐ 1

4. Assuming adequate environmental conditions, how easy do you find getting up in the mornings?

- Not at all easy ☐ 1
Not very easy ☐ 2
Fairly easy ☐ 3
Very easy ☐ 4

5. How alert do you feel during the first half hour after having woken in the mornings?

- Not at all alert ☐ 1
Slightly alert ☐ 2
Fairly alert ☐ 3
Very alert ☐ 4

6. How is your appetite during the first half-hour after having woken in the mornings?

- Very poor ☐ 1
Fairly poor ☐ 2
Fairly good ☐ 3
Very good ☐ 4



54 Morningness-Eveningness Questionnaire

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7. During the first half-hour after having woken in the morning, how tired do you feel?

- Very tired ☐ 1
Fairly tired ☐ 2
Fairly refreshed ☐ 3
Very refreshed ☐ 4

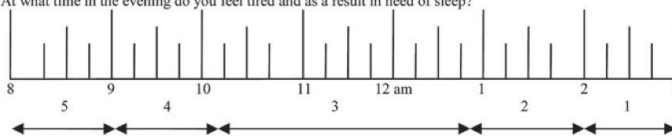
8. When you have no commitments the next day, at what time do you go to bed compared to your usual bedtime?

- Seldom or never later ☐ 4
Less than one hour later ☐ 3
1-2 hours later ☐ 2
More than two hours later ☐ 1

9. You have decided to engage in some physical exercise. A friend suggests that you do this one hour twice a week and the best time for him is between 7:00-8:00 a.m. Bearing in mind nothing else but your own "feeling best" rhythm, how do you think you would perform?

- Would be on good form ☐ 4
Would be on reasonable form ☐ 3
Would find it difficult ☐ 2
Would find it very difficult ☐ 1

10. At what time in the evening do you feel tired and as a result in need of sleep?



11. You wish to be at your peak performance for a test which you know is going to be mentally exhausting and lasting for two hours. You are entirely free to plan your day and considering only your own "feeling best" rhythm which ONE of the four testing times would you choose?

- 8:00-10:00 a.m. ☐ 6
11:00 a.m.-1:00 p.m. ☐ 4
3:00-5:00 p.m. ☐ 2
7:00-9:00 p.m. ☐ 0

12. If you went to bed at 11 p.m. at what level of tiredness would you be?

- Not at all tired ☐ 0
A little tired ☐ 2
Fairly tired ☐ 3
Very tired ☐ 5

13. For some reason you have gone to bed several hours later than usual, but there is no need to get up at any particular time the next morning. Which ONE of the following events are you most likely to experience?

- Will wake up at usual time and will NOT fall asleep ☐ 4
Will wake up at usual time and will doze thereafter ☐ 3
Will wake up at usual time but will fall asleep again ☐ 2
Will NOT wake up until later than usual ☐ 1

14. One night you have to remain awake between 4-6 a.m. in order to carry out a night watch. You have no commitments the next day. Which ONE of the following alternatives will suit you best?

- Would NOT go to bed until watch was over ☐ 1
Would take a nap before and sleep after ☐ 2
Would take a good sleep before and nap after ☐ 3
Would take ALL sleep before watch ☐ 4

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54 Morningness-Eveningness Questionnaire

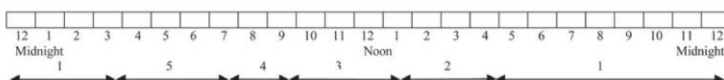
15. You have to do two hours of hard physical work. You are entirely free to plan your day and considering only your own "feeling best" rhythm which ONE of the following times would you choose?

- 8:00-10:00 a.m. ☐ 4
11:00 a.m.-1:00 p.m. ☐ 3
3:00-5:00 p.m. ☐ 2
7:00-9:00 p.m. ☐ 1

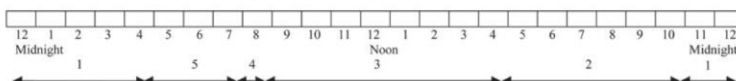
16. You have decided to engage in hard physical exercise. A friend suggests that you do this for one hour twice a week and the best time for him is between 10-11 p.m. Bearing in mind nothing else but your own "feeling best" rhythm how well do you think you would perform?

- Would be on good form ☐ 1
Would be on reasonable form ☐ 2
Would find it difficult ☐ 3
Would find it very difficult ☐ 4

17. Suppose that you can choose your own work hours. Assume that you worked a FIVE hour day (including breaks) and that your job was interesting and paid by results. Which FIVE CONSECUTIVE HOURS would you select?



18. At what time of the day do you think that you reach your "feeling best" peak?



19. One hears about "morning" and "evening" types of people. Which ONE of these types do you consider yourself to be?

- Definitely a "morning" type ☐ 6
Rather more a "morning" than an evening type ☐ 4
Rather more an "evening" than a "morning" type ☐ 2
Definitely an "evening" type ☐ 0

4. Debrief form.



Centre for Psychology and Counselling
SA1 Campus
Swansea

Participant Debrief Sheet

Title of Study: Exploring the effect of chronotype and time of testing on attention performance.

Research Team: Student Researcher: Harriet Adams (22196572@student.uwtsd.ac.uk) and Supervisor: Dr Kate Williams (kate.williams@uwtsd.ac.uk)

Thank you for taking part in this study.

The aim of this study was to explore whether individual chronotypes (natural body clock related to wake and sleep cycles), which will be calculated from your responses on the Morningness/Eveningness Questionnaire (MEQ; Horne & Ostberg, 1975) and time of testing (morning or afternoon) influences attention performance as measured through the Stroop task (Stroop).

Through conducting a controlled laboratory study, we aimed to isolate specific variables to effectively explore the research questions:

1. Do chronotypes and time of testing influence attention performance.
2. Do those who complete the attention-based task during the time that aligns with their chronotype (e.g., morning person tested during a morning session) perform better than those who are completing the task at a time that does not align with their chronotype (e.g., morning person tested during the afternoon).

There was a slight element of concealment in this study concerning the purpose of the MEQ and Stroop task, which was necessary to prevent participants from guessing the true aims of the study and potentially altering their behaviour or responses during the tasks.

If you wish to withdraw your data from the study, you must tell the researcher before leaving the lab. After leaving the lab, all your data will be anonymous, and we will not be able to trace it back to you.

If taking part in this study has raised any questions or concerns, please contact the researcher: Harriet Adams on 22196572@student.uwtsd.ac.uk or contact the research supervisor: Dr Kate Williams on kate.williams@uwtsd.ac.uk