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UNIVERSITY OF WALES
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ECPS6001: Psychology Empirical Project
Research Proposal

Assessment Component 1: Research proposal (1,000 words) worth 10% of the overall module mark for the Psychology Empirical Project. The proposal form will be marked in line with the Level Six Grading Rubric. The boxes below will expand as you type.

Student Name and University ID number:	Joe Bloggs (123456)
Proposed Supervisor's name:	*Only complete this if you have already been in contact with a potential supervisor who has agreed to supervise you in principle.* *Dr Jane Smith*

Psychology Research Area (tick all that apply)

All relevant boxes ticked

Social Psychology	Developmental Psychology	Biological Psychology	Forensic Psychology
Health Psychology	Individual Differences ✓	Educational Psychology	Political Psychology
Cognitive Psychology ✓	Clinical Psychology	Counselling Psychology	Occupational Psychology
Other: indicate briefly (not included in word count)			

Proposed Study Design (tick all that apply)

All relevant boxes ticked

Quantitative ✓	Experimental ✓	Applied (with UWTSD students	Online Questionnaire Survey
Qualitative	Quasi Experimental	Focus Groups	Online
Mixed Methods	Applied (with external organisation)	Interviews	Lab-based study ✓
If Applied, and involving an external organisation, please indicate your plans for gaining appropriate approvals from the organisation: (not included in the word count)		*Other study design: indicate briefly (not included in word count)*	

Suggested Research Title/Area: (between 10-15 words and must reflect the essence of your proposed research question, study design and study population and should be more specific than a broad topic area).

The impact of pain on attentional bias in undergraduate students: an investigation using the dot-probe paradigm.

Good title = defines topic area, design, and population of interest

Background: 250 words
Why is your study important? What theory and empirical research evidence supports your research question? (Please provide a rationale for your study including a brief review of relevant psychological literature and theory and a minimum of five references).

Research regarding attentional dispositions and how they process pain-related information has been previously examined (e.g., Asmundson et al., 1997; Bar-Haim et al., 2007; Dehghani et al., 2004; Schoth et al., 2012). Attention is a process of how the importance of stimuli is determined by inner mechanisms of the mind and filtered as such (Kahneman, 1973). Shinn-Cunnigham (2008) suggests attention entails the interaction between perceptual objects and selective attention. Individual differences in selective attention, such as biases to attention, interact with the ability to perceive stimuli, and this ability to visually perceive stimuli influences processes of attention. A theoretical link between attentional bias and pain was established by Pincus and Morley (2001), who suggest it is the result of an overlap between three different schemas of the self, pain, and illness. Attentional bias is dependent upon the extent the pain schema is integrated (Pincus & Morley, 2001). Those who experience frequent pain possess an attentional bias towards pain-related information. The model examines attentional biases in those with chronic pain and serves to provide an explanation as to why biases occur. Therefore, the aim of the study is to explore whether chronic pain influences attention to pain related information, either by biasing those with chronic pain towards pain-related information (due to information capturing their attention), or away from it due to inhibitory mechanisms enforcing a protective avoidance element (Haggman et al., 2010). The rationale is to establish the direction of any potential attentional bias effects.

Well-written and clear mini review with coherent sentences and citations to support arguments. Links to theory and empirical research. Clear aims and rationale.

Reference List: (Not included in word count)

Asmundson, G.J., Kuperos, J.L., & Norton, G.R. (1997). Do patients with chronic pain selectively attend to pain-related information?: preliminary evidence for the mediating fear. *Pain, 72*(1-2), 27-32. https://doi.org/10.1016/S0304-3959(97)00010-9

Balota, D.A., Marsh, E., & Marsh, E.J. (2004). *Cognitive psychology: Key Readings*. Psychology Press.

Bar-Haim, Y., Lamy, D., Pergamin, L., Bakermans-Kranenburgm, M.J., & Van Ijzendoorn, M.H. (2007). Threat-related attentional bias in anxious and non-anxious individuals: a analytic study. *Psychological Bulletin, 133*(1), 1-24. https://doi.org/10.1037/0033-2909.133.1.1

Dehghani, M., Sharpe, L., & Nicholas, M. K. (2004). Modification of attentional biases in chronic pain patients: a preliminary study. *European Journal of Pain, 8*(6), 585-594. h doi.org/10.1016/j.ejpain.2004.02.003

Kahneman, D. (1973). *Attention and effort*. Prentice Hall.

Pincus, T., & Morley, S. (2001). Cognitive-processing bias in chronic pain: a review and integration. *Psychological Bulletin, 127*(5), 599-617. https://doi.org/10.1037/0033-290

Posner, M. I., & Petersen, S. E. (1990). The attention system of the human brain. *Annual Review of Neuroscience, 13*(1), 25-42. https://doi.org/10.1146/annurev.ne.13.030190.0

Schoth, D. E., Nunes, V. D., & Liossi, C. (2012). Attentional bias towards pain-related information in chronic pain; a meta-analysis of visual-probe investigations. *Clinical Psychology Review, 32*(1), 13-25 https://doi.org/10.1016/j.cpr.2011.09.004.

Shinn-Cunningham, B. G. (2008). Object-based auditory and visual attention. *Trends in cognitive sciences, 12*(5), 182-186. https://doi.org/10.1016/j.tics.2008.02.003

Correct formatting of APA references included

Please state the main research question(s) or hypotheses(s): (100 words max)

Research questions:

1. Are those who experience chronic pain attentionally biased towards pain-related stimuli compared to controls?
2. If so, what is the direction of any attentional bias?
3. Does the intensity of chronic pain influence levels of attentional bias?

It is hypothesised that individuals who experience chronic pain will display an attentional bias to pain related stimuli compared to controls and the direction any attentional bias is displayed may either be towards or away from pain related stimuli. Also, those with high intensity chronic pain will elicit greater attentional bias than those reporting low intensity chronic pain.

Clear and comprehensive research questions and hypotheses specifically related to each research question

Methodological Details (500 words)

Please summarise the key methodological approach: (you can include copies of proposed study materials as appendices if you wish). You must include details of the following:

- *Participants: Who will your participants be, how will you access and recruit them, and how many are needed?*
- *Design: Using appropriate terminology clearly define key elements of your design (IVs, DVs, Qual approach, expt. manipulations etc). How do you plan to analyse your main data?*
- *Materials: What are the main measures, scales, experimental tools or other materials required for your study?*
- *Procedure: How will you carry out the study – define briefly what will happen to a participant in your study from the point of consent to the study debrief*

Clearly states target population, justifies target population and group, provides justification for sample size

Participants:

Undergraduate students over the age of 18 studying a Psychology related course at UWTSD who sign up using the department's Experimental Management System (EMS) in exchange for course credit. There is no specific inclusion or exclusion criteria. The study will target two participant groups, those reporting experiencing chronic pain and those who do not. The study will require ~100 participants, with ~50 participants in each group. In contrast to similar studies by Yang et al. (2013) with 48 participants and Kuperos and Norton (1997) with 41 participants, this study will be larger by comparison to ensure power behind the data is robust.

Full clear and specific explanation of the design and tasks involved with justification. Describes IVs and explains how many levels there are with each and what they are (including which is between and within). Clearly describes the DV.

Design:

A 2x2 quantitative mixed experimental design. The experiment itself will consist of the dot-probe word paradigm task. The first independent variable will be participant group, with two levels, 'healthy' and 'pain' (between-subjects). The second independent variable will be word types with two levels, 'pain-related' and 'neutral', exposed to both groups (within-subjects). The dependent variable will be response time (in milliseconds) and accuracy of seeing the dot after exposure to the word-pair stimuli.

Response time and accuracy data will be transferred into mean totals for each group. Four 2x2 mixed ANOVAs will be conducted. The first two will be based on the first two research questions (one on response time and one on accuracy data) to establish a main effect of responses between the two participant groups (chronic pain vs. control), and a main effect of responses to the word type variable (pain vs. neutral). An interaction effect will also be established. Furthermore, if there is a bias within the pain group, the direction of this (either towards or away from pain-related information) will be established. The second two ANOVAs (one on response time and one on accuracy data) will be conducted to analyse the third research question to establish a main effect of responses between the two chronic pain participant groups (high vs. low intensity chronic pain), and a main effect of responses to the words (pain vs. neutral). Any interaction effect will also be examined.

Clearly describes the data itself and how it will be prepared for analysis. Clearly explains all aspects of analysis plan and in line with research question

Materials:
Graded Chronic Pain Scale (Von Korff et al., 1992): includes seven-items that asks for chronic pain experience and to rate the severity. This will allow categorisation into the two groups. The dot-probe paradigm (Halkiopoulos, 1981) requires a response to a dot appearing above one of two words presented either to the left or right of the screen, with one being a pain-related and the other being neutral. This will be programmed in SuperLab, with 40 trials and words gathered from Hagmann et al's (2010) pain-related dot-probe study.

Explains each measure/material with appropriate citations

Procedure:
Participants will complete the study in the Psychology labs. Following consent, they will complete the Chronic Pain Scale questionnaire, then the dot-probe paradigm task on the computer. Forty trials of word pairs will be displayed on the screen for 500 milliseconds each, followed by the dot. Participants will be required to press 'A' on the keyboard if the dot is on the left of the screen and 'L' for the right. Once all 40 trials have completed, the study will conclude, and participants will be debriefed.

Clearly explains what happens to participants and in what order

Key Ethical considerations (150 words)

In this section you are required to briefly outline any specific ethical considerations for your project. All projects will be expected to adhere to the BPS code of human research ethics, and you will need to submit a full ethics form which will document your specific processes for informed consent, debriefing, and data protection. Here you need to briefly note additional or specific key ethical considerations for your particular project e.g. potential for distress or discomfort, any deception, research with vulnerable populations or sensitive topic areas, and briefly outline how you expect to manage these risks within your project.

Participant will be deceived to an extent as they will not be aware of being categorised into different groups. This will be revealed fully during debrief, along with information about the concept of the study as well as offering the opportunity to ask further questions. The questionnaire requiring participants to state their type of chronic pain may be intrusive and cause distress. Participants will be informed of this prior to consenting and will be ensured their data is held strictly confidential and anonymously. A participants' chronic pain may become uncomfortable during the study. Therefore, timings will be considered when designing the study to avoid them being too long and participants will be reminded they can withdraw at any time without penalty if they become uncomfortable.

Clearly explains ethical considerations specific to the nature of the study