**Final Report (1,100)**

**Summary of Project: ‘Sex on the mind? Testing whether intuitive biases underly male sexual overperception’**

**Aims and Objectives**

The sexual overperception bias is the tendency for men to think that women are more interested in sex than the women actually are. According to the Error Management Theory (EMT), this happens because men have an evolved cognitive bias towards making the least costly error whenever they are uncertain (Nesse, 2005). If uncertain about female interest, then failing to approach an interested woman would be a more costly mistake than approaching an uninterested woman and experiencing rejection. This is because failing to approach an interested woman means missing a potential mating opportunity and so men assume women are interested (Haselton & Buss, 2000). This bias is supported by observational (Abbey, 1982; Henningsen & Henningsen, 2010) and self-report data (Haselton, 2003; Murray et al., 2017), though this research does not investigate the claim of the EMT that the sexual overperception bias is cognitive in nature.

To test the claim that sexual overperception is a cognitive bias, we redesign conjunction fallacy tasks to reflect sexual interest. Conjunction fallacy tasks have been previously used to measure intuitive biases (Gervais et al., 2017). For example, in the original conjunction fallacy task, participants read an excerpt about a woman called Linda that made Linda seem stereotypical of a feminist, and then rated it more likely that Linda was ‘a bank-teller and feminist’ than being a bank-teller only. This is a conjunction fallacy, as it cannot be more likely for a person to be a bank-teller and feminist than a bank-teller only, as the category of bank-teller includes both feminist and non-feminist outcomes (Tversky & Kahneman, 1983).

**Method**

We designed the following conjunction fallacy task to measure sexual interest:

*You go to a café. As you sit down, a young****woman/man****sitting at the table next to yours looks up at you and smiles.   
  
Which is more probable?*

* *The* ***woman/man*** *would like to chat*
* *The* ***woman/man*** *would like to chat and is* ***not/sexually interested*** *in you.*

We manipulated the gender of the target in the task (2 levels: male/female) and the task framing (2 levels: interested in sex or uninterested). We also investigate gender of participant (2 levels: male or female). This study had a 2X2X2 between-subjects design, giving the following eight conditions of interest:

* Men answering conjunction fallacies about interested male targets
* Men answering conjunction fallacies about non-interested male targets
* Men answering conjunction fallacies about interested female targets
* Men answering conjunction fallacies about non-interested female targets
* Women answering conjunction fallacies about interested male targets
* Women answering conjunction fallacies about non-interested male targets
* Women answering conjunction fallacies about interested female targets
* Women answering conjunction fallacies about non-interested female targets

**Changes to design**

After the funding request was accepted, the following changes to the methodological design were made:

1. The sexual overperception conjunction fallacy task was written to be about strangers rather than co-workers, as one reviewer suggested that participants would avoid making sexual inferences about co-workers.
2. The gender of the target (male/female) was changed to a between-subjects manipulation. If participants had to respond to both male and female targets in a within-subjects design, then the participants may feel like they are expected to answer differently for male and female targets which may falsely increase gender differences.
3. We designed another conjunction fallacy task to measure the female commitment scepticism bias. According to the EMT, women who mate with in an unreliable partner may invest heavily in pregnancy, childbirth and lactation to then raise a child alone. When uncertain about male commitment, then women have evolved to be sceptical of men’s commitment to avoid this mistake (Haselton & Buss, 2000).

All participants answer both the sexual overperception and the commitment scepticism frame, in a randomised order. See the commitment scepticism frame below.

*You have gone out to dinner a few times with a****woman/man****that you met through a mutual friend. Tonight,****she/he****starts holding your hand as you both walk to the restaurant.   
  
Which is more probable?*

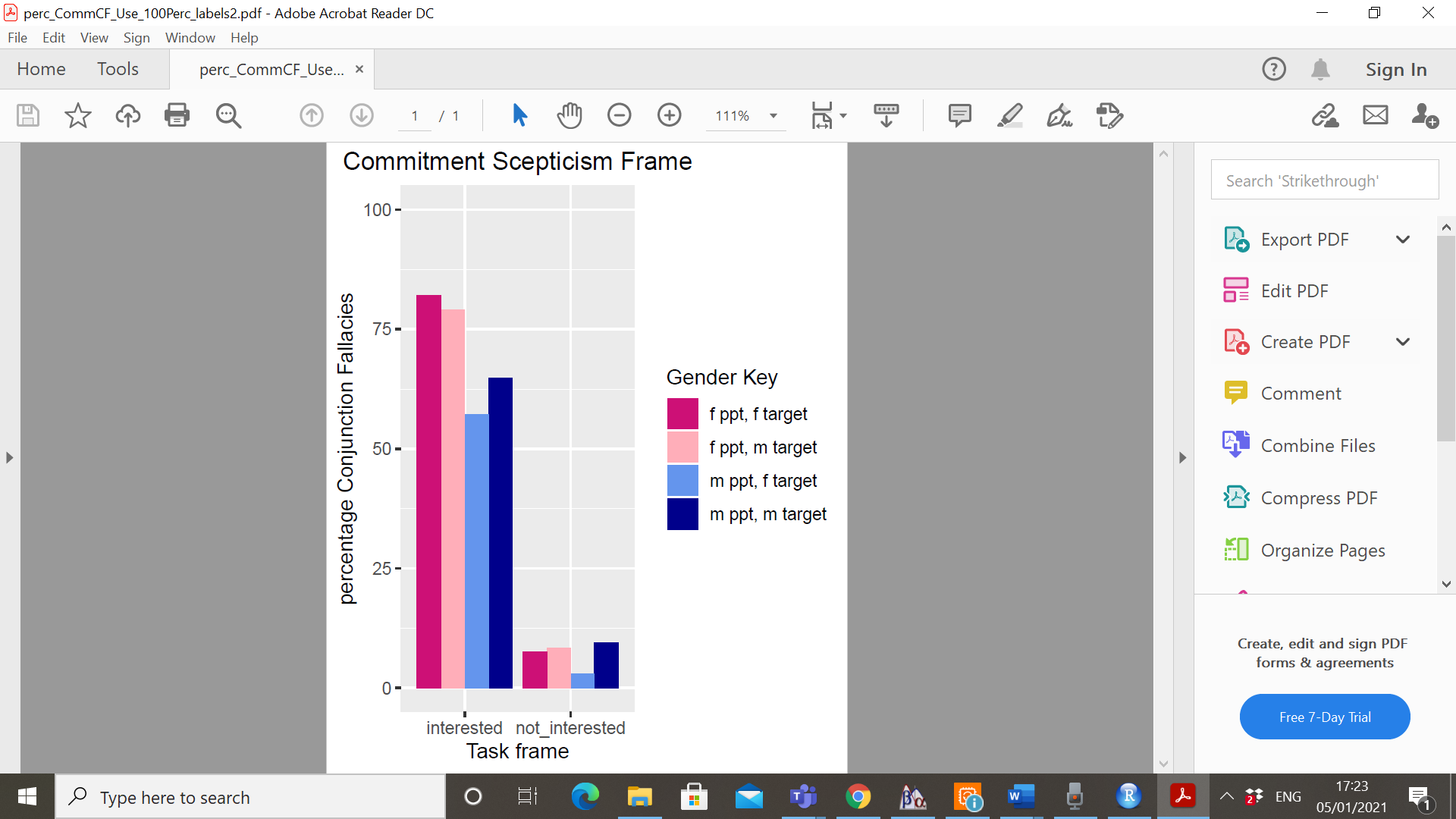
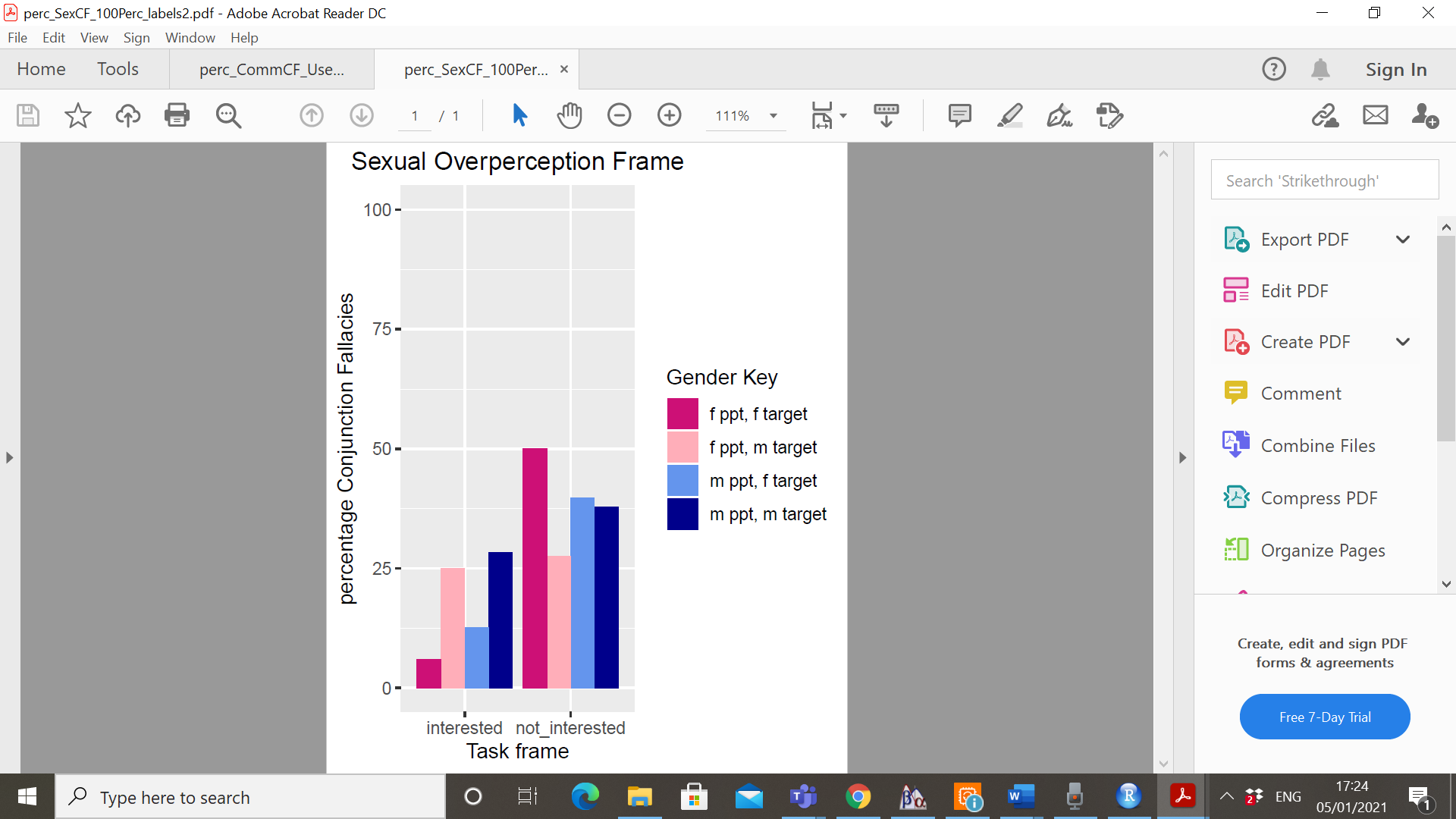
* ***She/He*** *wants to have sex with you*
* ***She/He*** *wants to have sex with you and is* ***not/interested*** *in a committed relationship with you.*

**Results**

A logistic regression was used to predict whether the participants made a conjunction fallacy error on both the sexual overperception and the commitment scepticism task. Significant three-way interactions were predicted. Men should make the most conjunction fallacies on tasks about sexually interested women. Conversely, women should make the most conjunction fallacies on the commitment frame regarding male targets who wanted sex but were uninterested in a relationship. These findings would support the claim of the EMT that male sexual overperception, and female commitment scepticism, are driven by cognitive biases.

A significant three-way interaction was found for the sexual overperception frame. This occurred as women made the most conjunction fallacies for uninterested female targets. This suggests that participants were driven by personal experiences, as the predominantly heterosexual women in our sample were perhaps unlikely to have experience of talking to sexually interested women. This finding did not support the male sexual overperception bias.

On the commitment scepticism task, both men and women rated the target who initiated hand-holding as interested in sex and a committed relationship. This contradicts the female commitment scepticism bias, as women did not rate men to be uninterested in relationships.



*Figure 1: The percentage of participants making a conjunction fallacy on both the sexual overperception (left) and commitment scepticism tasks (right). The x axis groups by task framing (interested versus not interested), and the coloured bars denotes the gender of participant and the gender of the target in the task.*

**Impact**

This study found no support for either the male sexual overperception bias or the female commitment scepticism bias on a conjunction fallacy task. This finding has theoretical impact by contradicting the claim of the EMT that men and women have cognitive biases affecting their perceptions of the opposite sex. The unwanted advances that women report receiving from men may be underlined by a different mechanism, such as a behavioural bias. These findings have impact for both the way that sexual overperception should be defined and how it could be addressed.

**Summary on spending of funds**

A total of €473.29 from the EHBEA Student Research Grant supported this study. All of this money was spent on participant payment. We recruited 1,397 participants for a 6-minute survey via Prolific, each paid 75p for their time. The remaining participant payments were funded by my PhD research budget.

I would like to thank the members of EHBEA for both their financial and academic support throughout this project. The comments of both reviewers on the initial funding application were helpful in improving the finalised design of this task.

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