TARMAC 2020 Programme – Presentations

Parallel session 1 (15.00-16.30)

Time	Title
15:00-15:10	Speed Networking
15:10-15:30	*Acute alcohol intoxication and the cocktail party problem*, Alistair Harvey
15:30-15:50	*The effects of post-traumatic alcohol intoxication upon episodic memory accuracy and completeness*, Benjamin Butterworth
15:50-16:10	*Remembering Molly: immediate and delayed false memory formation after acute MDMA exposure*, Lilian Kloft
16:10-16:30	*Do your eyes protect your memory? The susceptibility to spontaneous false memories after performing eye movements as used in EMDR*, Sanne Houben

Parallel session 2 (15.00-16.30)

Time	Title
15:00-15:10	Speed Networking
15:10-15:30	*What is the right type of evidence to support the claim that sleep benefits on memory?* Laura Mickes
15:30-15:50	*Using Confidence Judgements Provided During Versus After Memory Retrieval to Predict Eyewitness Memory Accuracy*, Emily Spearing
15:50-16:10	*Stark Individual Differences: Face Recognition Ability Influences the Relationship Between Confidence and Accuracy in a Recognition Test of Game of Thrones Actors*, Jesse Howard Grabman and Chad Dodson
16:10-16:30	*Predicting identification accuracy from responses to multiple lineups*, Ruth Horry

Parallel session 3 (15.00-16.30)

Time	Title
15:00-15:10	Speed Networking
15:10-15:20	*Lie-detection by Strategy Manipulation: Developing an Asymmetric Information Management (AIM) Technique*, Cody Porter
15:30-15:50	*A novel interactive face matching procedure: Performance of normal and superior face recognisers*, Harriet M. J. Smith
15:50-16:10	*The Effect of Pre-Crime Instructions on Eyewitness Identification*, Mario J. Baldassari
16:10-16:30	*Do image variability and names in missing person appeals improve prospective person memory?* Stefanu Juncu

Inside the Psychologist's Lab Session (16.30-17.30)

Time	Title
16:30-17:30	*What would you have done differently at the start of your career, knowing what you know now?* with Stephen Lindsay, Kimberly Wade, Lorraine Hope and Phil Higham

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Abstracts

<u>*SESSION 1*</u>
Acute alcohol intoxication and the cocktail party problem, **Alistair Harvey and Phil Beaman (University of Portsmouth, University of Reading)**
Participants completed an operation span measure, were assigned to an alcohol or placebo beverage treatment, then shadowed female speech presented to one ear while ignoring male speech presented to the other. Each participant's name had been covertly inserted in the ignored channel. They recalled whatever they could of the non-shadowed speech. Name detection – the "cocktail party effect" – was not influenced by alcohol or working memory capacity. However, low-span alcohol participants made more shadowing errors than high span counterparts, and low-spans showed weaker memory recency effects than high-spans. Alcohol memory deficits were statistically non-significant. The theoretical implications of the findings will be discussed. <alistair.harvey@port.ac.uk>

***The effects of post-traumatic alcohol intoxication upon episodic memory accuracy and completeness*, Butterworth, Hand, Lorimer, Gawrylowicz**
The effects of alcohol intoxication upon episodic memory functioning have long been contested. Previous research has found that pre-encoding alcohol intoxication impairs episodic memory completeness, and sometimes accuracy, which is consistent with theory. However there is a paucity of research investigating the effects of post-traumatic alcohol intoxication, which is common following a traumatic event. Half of our participants were intoxicated after watching an analogue trauma film and half received a placebo. We found that post-traumatic intoxication enhances episodic memory completeness, but not accuracy. This has implications for theory and practice (e.g. eyewitness testimony). <Benjamin.Butterworth@gcu.ac.uk>

***Remembering Molly: immediate and delayed false memory formation after acute MDMA exposure*, Lilian Kloft, Henry Otgaar, Arjan Blokland, Stefan W. Toennes, Johannes G. Ramaekers**
The empathogen 3,4-Methylenedioxymethamphetamine (MDMA/ecstasy) is widespread in nightlife and crime; thus, understanding the drug's ramifications for memory becomes crucial. We conducted a double-blind, placebo-controlled trial to examine acute and delayed effects of MDMA on false memory in 60 healthy volunteers, using the DRM paradigm and two applied misinformation tasks with a virtual reality crime. Small MDMA-induced impairments of true memory in the DRM were detected at both time points but false memory was differentially affected. Episodic memory in the misinformation tasks was not consistently affected. Findings indicate a complex memory profile but no heightened vulnerability to misinformation after MDMA intoxication. <l.kloft@maastrichtuniversity.nl>

***Do your eyes protect your memory? The susceptibility to spontaneous false memories after performing eye movements as used in EMDR*, Sanne T. L. Houben, Henry Otgaar, Jeffrey Roelofs, Tom Smeets and Harald Merckelbach (Maastricht University, Catholic University Leuven, Tilburg University)**

Eye Movement Desensitization and Reprocessing (EMDR) is an effective treatment for post-traumatic stress disorder, but adverse memory effects are unknown. Using the Deese/Roediger- McDermott paradigm, we examined the susceptibility to false memories after performing eye movements, as used in EMDR. Participants received negative and neural word lists and completed a free recall (while performing eye movements or not) and recognition test immediately (Experiment 1) or 48 h later (Experiment 2). In Experiment 2, eye movement participants showed higher correct and false memory rates. Although far removed from clinical practice, eye movements might amplify both correct and false memory rates. <sanne.houben@maastrichtuniversity.nl>

SESSION 2
***What is the right type of evidence to support the claim that sleep benefits memory?* Laura Mickes and David P Morgan (University of Bristol)**

In a review on sleep and memory, the abstract begins with the statement, "Over more than a century of research has established the fact that sleep benefits the retention of memory" (p. 681; Rasch & Born, 2013). This is another way of saying that sleep aids consolidation of newly encoded information and is a commonly made claim in the literature. We consider the possibility that there must be specific patterns of interactions to make that claim. If this is the case, then before concluding that sleep benefits memory, experiments need to be conducted in a way that allows for this type of analysis. <laura.mickes@bristol.ac.uk>

***Using Confidence Judgements Provided During Versus After Memory Retrieval to Predict Eyewitness Memory Accuracy*, Emily Spearing and Kim Wade (University of Warwick)**

When eyewitnesses select a face from a police lineup, their confidence is believed to be a reliable indicator of how accurate their identification decision is. Identification accuracy shows a strong positive correlation with confidence, but only when identification decisions are made from unbiased lineups and when the appropriate statistical techniques are used to examine the accuracy-confidence relationship (Weber & Brewer, 2003; Wixted, Mickes & Fisher, 2018). Despite the growing body of research on accuracy and confidence in eyewitness memory, scientists have barely studied how confidence judgements should be obtained when eyewitnesses report details about criminal events (the perpetrator's clothes, etc). Across three experiments, we examined whether asking people to provide confidence judgements during versus after memory retrieval affects the confidence-accuracy relationship. Subjects watched a mock crime video, and after a delay, completed a memory recognition, recall, or cued-recall test for crime details and rated their confidence in each of their responses. *Immediate-confidence* subjects rated their confidence immediately after each response, whereas *Delayed-confidence* subjects rated their confidence after answering all of the questions in the memory test. As information about the source of memories is more difficult to retrieve after a delay, we expected immediate-confidence subjects to show a stronger accuracy-confidence relationship than delayed-confidence subjects. Our results suggest that the confidence-accuracy

relationship is strong regardless of the timing of confidence judgements, the type of questions asked, or the viewing conditions under which subjects watched the event. <e.spearing@warwick.ac.uk>

***Stark Individual Differences: Face Recognition Ability Influences the Relationship Between Confidence and Accuracy in a Recognition Test of Game of Thrones Actors*. Jesse Howard Grabman and Chad Dodson (University of Virginia)**
Growing evidence suggests face identifications made with high confidence are typically accurate (Wixted & Wells, 2017). However, few studies capture the complexities of real-world face recognition (e.g., non-experimental setting, varied contexts). Moreover, individual differences in face recognition ability may moderate the confidence-accuracy relationship (Grabman et al., 2019). In this study, we reanalyzed data from 32 participants who watched six seasons of the television show *Game of Thrones* for entertainment as the series aired (Devue et al., 2019). Participants provided confidence ratings on a 168-item old-new recognition test of actors and completed a standard test of face recognition ability. Highest confidence ratings were remarkably accurate -- even considering retention-intervals of >3 years and large changes in appearance. However, confidence was generally a better indicator of accuracy for stronger, as compared to weaker, face recognizers. <jhg5dq@virginia.edu>

***Predicting identification accuracy from responses to multiple lineups*, Ruth Horry, Zahabiya Bambora, Lia Morgan, Hannah Rees, and Beth Whelband (Swansea University)**
In a typical eyewitness identification test, a witness views a single lineup; the guilt of the suspect is assessed from that single data point. We showed participants a series of five target-present or target-absent lineups for the same target person, each containing different images of the same six people. We estimated the likelihood of suspect guilt from the number of times the suspect was identified by the witness (0, 1, 2, 3, 4, 5, or 6). We also explored the magnitude of variability in response frequencies across different lineups and consider the implications of that variability for research and practice. <r.horry@swansea.ac.uk>

SESSION 3
***Lie-detection by Strategy Manipulation: Developing an Asymmetric Information Management (AIM) Technique*, C N Porter, E Morrison, R J Fitzgerald, R Taylor, A C Harvey**
Liars can, when prompted, provide detailed statements. Ideally, interview protocols to improve lie-detection should encourage (a) truth-tellers to be forthcoming and (b) liars to be verbally withholding. Research has investigated (a) but not (b). We designed an Asymmetric Information Management (AIM) technique to encourage truth-tellers and liars to adopt different verbal strategies. Truth-tellers (n = 52) and liars (n = 52) participated in one-of-two counterbalanced missions, and were assigned to either the AIM or control condition. Truth-tellers provided (and liars withheld) more information in the AIM, compared to the control condition. Therefore, a simple instruction can modify suspects' verbal strategies. <cody.porter@port.ac.uk>

***A novel interactive face matching procedure: Performance of normal and superior face recognisers*, Harriet M. J. Smith, Sally Andrews, Thom S. Baguley, Melissa F. Colloff, Josh P. Davis, David White, & Heather D. Flowe (Nottingham Trent University, University of Birmingham, University of Greenwich, University of New South Wales)**

The reduction of errors in unfamiliar face matching would have significant benefits to police investigations and the accuracy of tasks such as security screening. We have developed a novel interactive procedure, which provides the user with 3D structural information as they rotate a facial image to different orientations. We tested the performance of 'normal' (Experiment 1) and 'superior' (Experiment 2) face recognisers, comparing their performance using high quality (Experiment 3) and pixelated images (Experiment 4). The findings have theoretical and applied implications, underlining the utility of the interactive procedure for identity verification.

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***The Effect of Pre-Crime Instructions on Eyewitness Identification*, Mario J. Baldassari, Kara N. Moore, D. Stephen Lindsay, Lorraine Hope, Ira R. Hyman, Jr.**

Research on eyewitness identification often involves exposing participants to a simulated crime and later testing them on a lineup. The most realistic paradigm involves not warning participants of the upcoming crime or lineup task, but this realism comes at the cost of informed consent. Do the benefits of withholding a warning justify the ethical costs? We conducted a systematic review showing that in the lab, pre-crime instructions vary and often go unreported. We propose two experiments testing the effect of pre-crime instructions and exposure quality on line-up accuracy (both culprit present and culprit absent) and confidence.

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***Do image variability and names in missing person appeals improve prospective person memory?* Stefana Juncu, Hartmut Blank, Ryan Fitzgerald, Lorraine Hope**

Prospective person memory is implicated in searches for missing or wanted individuals. We investigated whether prospective person memory is improved by associating the target of the search with a name and providing photos that reflect variation in the search target's appearance. Participants (N = 242) studied three photographs of each target, taken either at the same event (low variability) or at different events (high variability). For half of the participants, a name was presented alongside the photographs. Both names and high variability photos improved discriminability, suggesting that public appeals for a missing or wanted person should include a name and use images that are representative of the person's variability in appearance across different contexts.

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