

JULY 2021

APPLIED PSYCHOLOGY AND HUMAN FACTORS GROUP

School of Psychology, University of Aberdeen

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Congratulations to Dr Hamlet!

On Monday 21st of June Oliver Hamlet, after three years of hard work, passed his PhD viva! The PhD thesis entitled '*It's all about the mission: Assessing the utilisation of non-technical skills across offshore transport and search and rescue helicopter crews*' was supervised by Dr Amy Irwin and Prof Rhona Flin, involved close collaboration with industrial partners (many thanks to, among others, Bristow helicopters and CHC helicopters) and culminated in the production of the HeliNOTS system: <https://research.abdn.ac.uk/applied-psych-hf/helinots/>

Dr Hamlet has already set up a new consultancy company - Axiom Human Factors, and plans to pursue the topic of cognitive readiness as a post-doc in the future.



The quarterly APHF newsletter presents an activity summary of the research, industrial and clinical members. If you would like to receive the newsletter direct via email contact a.irwin@abdn.ac.uk.

Introducing - Helen Silver MacMahon



Helen is a veterinary nurse and Senior Trainer and Content Development Lead at VetLed and has worked in general practice, referral hospitals and nursing education over the past 21 years.

Helen is passionate about developing the veterinary professions understanding of Human Factors as a powerful aid in improving patient safety, enhancing performance and supporting the wellbeing of the veterinary team. Helen is delighted to be collaborating with Dr Amy Irwin currently to explore the experience of rude or uncivil behaviours (such as shouting, ignoring someone or making demeaning comments) within veterinary practice through a profession wide survey as part of the VetLed Civility Saves Lives campaign.



In 2021, Helen was awarded MSc (with distinction) in Patient Safety and Clinical Human Factors at the University of Edinburgh. For her dissertation project Helen researched situational awareness in the veterinary operating theatre and has a special interest in non-technical skills. In her role at VetLed she enjoys applying this knowledge to develop and deliver professionally relevant training for all members of the veterinary team.

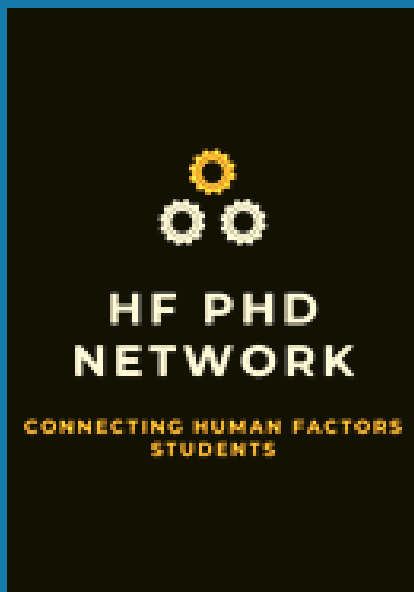


VetLed

ENHANCING PERFORMANCE IN PRACTICE

Human Factors PhD student network

By Jill Poots, PhD student, Leeds Beckett University



Sometimes it feels like Human Factors students are few and far between! To facilitate networking between HF PhD students, Jill Poots has created a Human Factors PhD Student Networking group to share knowledge and experience between Human Factors PhD students.

The vision is that the group will be a student-led space to discuss literature, practise presentation skills and support each other on the PhD journey. Whilst the group seeks to connect PhD students studying Human Factors, this is not exclusive, and any PhD student with an interest in the field, or prospective PhD students are encouraged to join.

The group can be found on LinkedIn: <https://www.linkedin.com/groups/13976684/>



Media

The Ergonomist: Dr Oliver Hamlet and Dr Amy Irwin contributed an article outlining Dr Hamlet's research on cognitive readiness in helicopter crews. The article was entitled 'Preparing for the unpredictable' and can be viewed here:

https://www.ergonomics.org.uk/common/Uploads/d%20files/Publications/The_Ergonomist-Preparing_for_the_unpredictable.pdf

The article was also used as the front cover for the magazine:



BBC RADIO FOUR: FARMING TODAY

Dr Amy Irwin was interviewed as part of the BBC Radio Four regular Farming Today programme on the 4th of June. Dr Irwin discussed the importance of non-technical skills (such as situation awareness and teamwork) for farming safety (look out for the new Farming CRM training outlined later in this newsletter!) and outlined recent research conducted with Jana Milhulkova to examine farmer attitudes towards wearing helmets when riding ATVs.

If you missed the episode you can listen again here:

<https://www.bbc.co.uk/programmes/m000wlg8>



Development of the FLINTS system for farmers

By Nejc Sedlar, PhD student,
University of Aberdeen

Throughout the past few months, the NTSAg research team has been working on the development of a behavioural marker system for farmers, also known as The Farmer List of Non-Technical Skills (FLINTS). After several years of exploratory research into non-technical skills involved in farming, a selection of farming relevant skills (e.g. situation awareness) were identified along with their associated elements (e.g. information gathering, comprehension of situation, and anticipation of future events). The aim of the system is to allow for the **direct observation, rating and feedback of farmer non-technical skill performance.**

The next stage of the system development process involved running multiple discussion group sessions with two to three farmers and / or farming experts at a time. These discussion sessions involved going through the identified skills and individual elements, in order to assign positive and negative behaviours to each of these. Through these discussion groups we were able to identify the most relevant behaviours specific to farming, as well as make use of appropriate terminology in order to make the system fully accessible to farmers and other professionals involved in the field.



Following four discussion groups and two review sessions, we are now in the final stages of reviewing the system and making preparations for its release.

We would also like to take this opportunity to thank each of the participants that kindly took time out of their schedules to share their insights and expertise with us. The input of these individuals has been instrumental to the development of this system.

FLINTS - A behavioural marker system

By Dr Amy Irwin, University of Aberdeen

What is a behavioural marker system?

Behavioural marker systems should be evidence based (e.g. developed using research findings), context specific (a unique set of skills for a particular industry / job role) and designed in conjunction with subject matter experts (e.g. farmers, farm safety professionals). The actual system itself should describe the key skill categories needed for safe work practice, along with the elements and observable behaviours that produce those skills. FLINTS includes five skill categories based on more than 6 years of farming research and input from expert discussion groups.

What are the skills covered in FLINTS?

Thinking skills: situation awareness, decision-making.

Interaction skills: teamwork & communication, leadership.

Plus the skill of task management.

Why use FLINTS?

FLINTS provides a (**free to use**) competency framework to support the development and enhancement of farmer non-technical skills.

FLINTS can be used to structure toolkit talks, as a rating tool to assess skill performance and as an aid for individual self-development.



Farmer NTS training

Dr Amy Irwin, Ilinca-Ruxandra Tone, Nejc Sedlar and Kura Human Factors were pleased to be awarded a small grant from the University of Aberdeen Knowledge Exchange and Commercialisation fund to develop the first farmer non-technical skills training program.

Borrowing techniques developed over decades within the aviation industry (where non-technical skill training is mandated) and using the latest farming research, the modular training program has been designed to be interactive, utilise experiential learning, and includes examination of case studies and practical examples to enhance farmer non-technical skills. Similar training programs have had substantial impacts on safety within other high risk industries, and it is hoped this new format of training will help to reduce farmer fatalities and improve safety in the UK's most dangerous industry.

The team will be running an online taster session within Farm Safety week (see below) you can also contact the Kura team via their website: <https://kurahumanfactors.com/> to discuss the training program further.



REFLECTION ON KURA HUMAN FACTORS INTERNSHIP

By Ilinca-Ruxandra Tone, PhD student, University of Aberdeen

It has been a privilege to be able to contribute to the development of the first CRM-style training for enhancing farmers non-technical skills in collaboration with KURA Human Factors. Combining our academic knowledge on agricultural safety accumulated over more than six years as a research group led by Dr. Amy Irwin with the practical expertise of KURA across high-risk industries ensures that the training we have created as an interdisciplinary team is best placed to make a difference in farmers' lives and to hopefully help reduce the alarming accident rates of the most dangerous industry in the UK.

Over the past three months, I have been working intensely as a project intern on completing a media analysis and designing training materials. Throughout this process, I have learnt a lot from our industry collaborators whom I would like to thank for their excellent advice, thorough suggestions, and invaluable insight. Although my internship is now coming to an end, I look forward to the future implementation of the training, its successful receipt and positive impact.



CASM - A HUMAN FACTORS TOOL

By James Thacker, Mountain Assurance

CASM is a proposed Human Factors tool for leaders, instructors and mountain guides operating in avalanche terrain when off piste skiing, ski touring and mountaineering. Work in terrain exposed to, or capable of producing avalanches has always been framed by the technical skills required to recognise and mitigate hazard by observation and monitoring of the snowpack. Despite this, technical skills alone are not enough to protect us from harm, and correspondingly avalanche researchers have turned to Human Factors research for the answers in these dynamic and uncertain environments.

CASM stands for:

Communicate, Alter Command Gradient, Situational Awareness and Minimise Disruption.

Many guides, instructors and leaders will already carry out some of the practices that these headings aim to capture. The concepts of Human Factors and non technical skills such as Situational Awareness are unfamiliar to many practitioners given the early adoption within the sector. It is hoped that CASM can be used alongside other established technical skills to reduce the risk of lapses in non-technical skills such as “heuristic traps” which are often referred to in avalanche education. The aim is the safe conduct of a mountaineering, climbing or skiing day.



HUMAN FACTORS TRAINING IN CONSTRUCTION

By Simon Mahon, Kura Human Factors

KHF have been busy these last few months working with a UK construction major, helping them develop an internal human factors competence across the business. Utilising KHF's strengths in facilitation and translating years of knowledge built up in the aviation sector has resulted in a highly successful collaboration.

This 5 day programme known as the HFPC (Human Factors Performance Coaching) course, takes delegates from across all functions of the business and upskills them with coaching skills to help them deliver HF models and concepts.

They can then reflect this back into their operations to reduce what is known as Practical Drift.

Practical drift is a reality for every business out there. While pursuing success in a dynamic, complex environment with limited resources and multiple goal conflicts, a succession of small, everyday decisions eventually produce breakdowns on a massive scale. It is identifying these incremental steps we take from 'Work as Imagined' to 'Work as Done' that the delegates become empowered to identify and reduce in their own operations after completing the course.

Farm Safety Week

By Stephanie Berkeley, Farm Safety Foundation (Yellow Wellies)

This month sees the **ninth** annual Farm Safety Week campaign (19-23 July), managed and funded by the Farm Safety Foundation (or Yellow Wellies as many know us). In a year when the Health & Safety Executive (HSE) is likely to report that fatal injuries in Agriculture, Forestry and Fishing have almost double compared to 2019/2020, Yellow Wellies will, again, bring together five countries over five days with ONE clear goal – to speak up for safety and encourage farmers to rethink risk so we can reduce the number of life-changing and life-ending incidents happening on our farms

The campaign will highlight the HSE's 2020/21 Fatal Injuries in Agriculture, Forestry and Fishing GB Report and encourage those living and working in the industry across, Scotland, England, Wales, Northern Ireland and the Republic of Ireland to rethink risk.

One specific area that farmers need to wake up to is tiredness and, according to research carried out by the Foundation, most farmers surveyed (69%) have taken risks or have seen risks being taken as a result of both tiredness and rushing.



This meshes with recent research carried out by UoA PhD student Ilinca-Ruxandra Tone, who found that when farmers are fatigued and under stress, their situation awareness – the ability to perceive the current situation, to understand what is going on and to predict future consequences – may be impaired.

To learn more about Farm Safety Week visit www.yellowwellies.org or follow @yellowwelliesUK on Instagram/Twitter/Facebook



APHF Farm Safety Week activities

FLINTS

The APHF will launch the FLINTS behavioural marker system in July. The marker system will be publicly available on the NTSAg website by mid-July. Farmers, farm safety professionals and farming organisations are also invited to contact a.irwin@abdn.ac.uk for their **free** printed copy

FATIGUE

PhD student Ilinca-Ruxandra Tone will present her recent research on fatigue, along with tips on how to manage fatigue, in a lunchtime seminar on the 20th of July.

FARMER CRM TRAINING TASTER SESSION

The APHF team in collaboration with KURA Human Factors will present a mid-morning taster session of the newly developed farmer safety critical skills training program on July 22nd. The session will be delivered online with time set aside for Q&A at the end.

TWITTER

The APHF and NTSAg teams will also be regularly tweeting about farm safety, and sharing relevant leaflets and other materials, throughout the week. Follow along via @APHFAberdeen or @NTS_Ag



Research

PERCEPTIONS OF PSYCHOLOGICAL THERAPY IN TRANSGENDER AND NONBINARY INDIVIDUALS

Congratulations to Jack Hellberg (current UG student), Dr Amber Keenan (Principal Clinical Psychologist, Gender Identity Clinic, NHS Grampian) and Dr Ceri Trevethan for their successful application to the BPS Undergraduate Research Assistant Scheme funding for 2021. Jack's summer research project will explore how perceived stigma impacts perceptions of psychological therapy in transgender /nonbinary individuals.

Psychological therapies can be important for many LGBTQIA+ individuals because of the many unique social and personal obstacles they face (e.g. Almeida et al., 2009). There is growing evidence for the importance of a high-quality therapeutic relationship on the effectiveness of psychological treatment (e.g. Coco et al., 2011; Gelso et al., 2012).

However, information about what makes therapist-client relationships particularly effective or ineffective for transgender/non-binary individuals is sparse.

This population of people have only recently come into mainstream research, and it is both scientifically and ethically imperative that the field of psychology examines the mechanisms that effect these people. Specifically, this study aims to determine how inclusionary or non-inclusionary language on the part of a therapist influences the client-therapist relationship, as this has practical implications for the effectiveness of treatment. There is potential in this developing field of research to facilitate drastic and systemic change in the way gender non-conforming people are treated in health care in general.



RESILIENCE

Learning & Teaching Enhancement Project: Student resilience

By Caitlin Tawse, UG Psychology student, University of Aberdeen

My name is Caitlin and I am a psychology and business joint honours student at the University of Aberdeen, entering my final year of my undergraduate degree in September. I have a keen interest in many fields of psychology and I am currently acting as an intern with the APHF group on the topic of student resilience, with the aim of developing an online course for university students. Resilience is a crucial skill for students to possess in order to guide through life, and their career.

UCAS (2018) links resilience with the ability to cope with set-backs, critiques, and the ability to stay calm under pressure. We are particularly interested in academic resilience which has been defined as “the heightened likelihood of success in school and other life accomplishments despite environmental adversities brought by early traits, conditions and experiences” (Wang et al. 1994). While resilience encompasses many traits, the most prevalent include persistence, persevering, self regulation and monitoring yourself.



Interpersonal memory

Dr Devin Ray, an academic member of the APHF, founded the study of interpersonal memory, that is, remembering and forgetting during conversation or interpersonal interaction.

Dr Ray's past work documented how remembering details about other people can strengthen relationships and draw people closer together as well as how forgetting such details can damage relationships. His current work has two distinct strands – theoretical and applied. His theoretical work is focused on understanding the moderators and boundary conditions of interpersonal memory. How does the impact of remembering and forgetting change depending on who we are interacting with, what specifically we remember or forget, and why we appear to have remembered or forgotten? Dr Ray's applied work is focused on the strategic deployment of interpersonal memory. How can we display memory more effectively during conversation? And how can we remember more about the people we talk to and interact with?



LEARNING & TEACHING ENHANCEMENT PROJECT: ARTICULATION STUDENTS

By Dr Heather Branigan, Dr Jacqui Hutchison, Carrie Matson-McArthur

Over the last decade or so, it has been increasingly acknowledged that systemic transitions (i.e., transitions between different educational settings, such as from high school to university) pose challenges to students. The aim of our current project is to understand the experiences of students who enter university via the articulation route (i.e., those who have completed the equivalent to their first year of study at a further education institution such as college).

We will achieve this by conducting focus groups with articulation students from across the University of Aberdeen. Ultimately our goal is to develop guidelines for HE institutions across the sector to help support our students in becoming resilient learners and achieve their best possible outcome.

We are delighted to have been awarded funding from Aberdeen University's LTEP, which aligns with Quality Assurance Agency (QAA) Scotland's theme of Resilient Learning Communities. The funding has allowed us to recruit a student intern for the project and we look forward to progressing the research!

Preprints and papers

PREPRINTS (papers submitted to journals but not yet published - these can all be accessed for free).

Irwin, A., Hall, D. & Ellis, H. (2021) Managing clients and patients: Exploring the experience of client-based incivility in veterinary practice. <https://psyarxiv.com/jm3cv/>

Irwin, A., Perkins, J., Hillari, L. & Wischerath, D. (2021) Is the future of work experience online? An examination of stakeholder attitudes towards online internships. <https://psyarxiv.com/uawbs/>

PAPERS (papers published in academic journals)

Tone, I-R. & Irwin, A. (2021). Watch out for the bull! Farmer risk perception and decision-making in livestock handling scenarios. *Journal of Agromedicine*. <https://www.tandfonline.com/doi/full/10.1080/1059924X.2021.1920528>

CONFERENCE PAPERS

Tone, I-R. & Irwin, A. (2021). Safety in the Field: Assessing the Impact of Stress and Fatigue on Situation Awareness in Irish and British Farmers. <https://www.springer.com/gp/book/9783030746070>



Kaminska, A., Irwin, A., Ray, D. & Flin, R. (2021). Pilot, is a pilot, is a pilot? Exploration of effects of professional culture in helicopter pilots. https://link.springer.com/chapter/10.1007%2F978-3-030-74608-7_83

ACHIEVEMENTS

PROMOTIONS AND PRIZES

Congratulations to Dr Amy Irwin on her promotion to Senior Lecturer within the School of Psychology, University of Aberdeen. It is excellent to see Dr Irwin's outstanding and wide-reaching teaching, research and public engagement achievements being recognised in this way. Dr Irwin was also awarded the University of Aberdeen Public Engagement prize this year based on her activities for the APHF and NTSaG research groups.

CONTACT DETAILS

If you would like further information about any of the projects featured in the newsletter, would like to join the APHF as an associate member, or would like to explore a potential collaboration with the team please contact Dr Amy Irwin (APHF lead) in the first instance:
Email: a.irwin@abdn.ac.uk

Alternatively take a look at the APHF website:
<https://research.abdn.ac.uk/applied-psych-hf/>



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