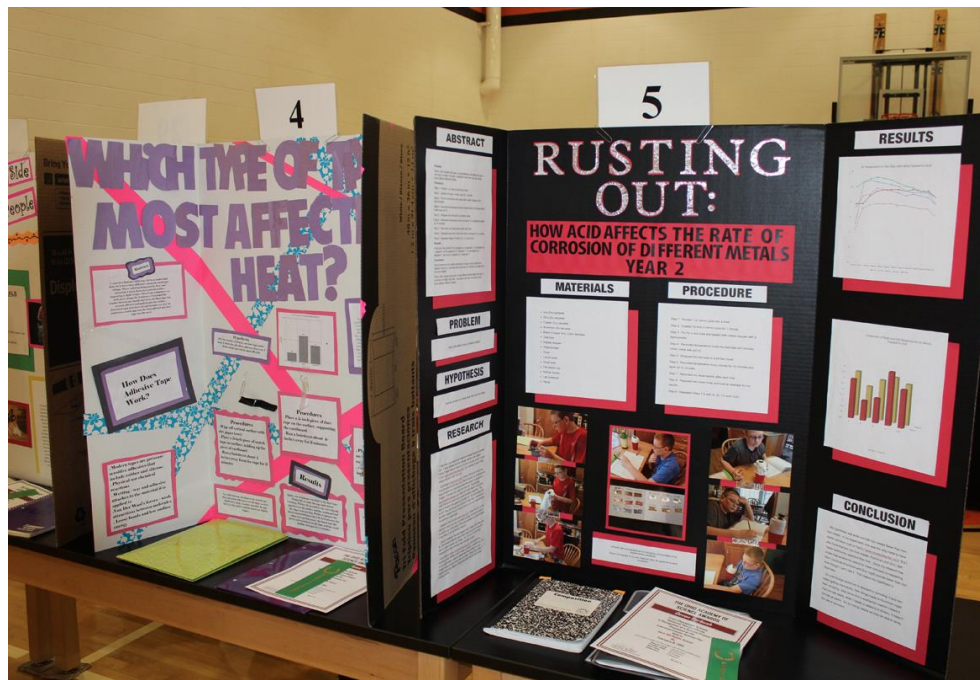


Presenting Posters

RACHELLE MARTIN &
JO NUNNERLEY

A new form of science fair boards....



What we are talking about

Why

How

Design

Priorities of information

Practical tips

Why a poster?

...more than presenting data

- Information fits a poster
- Can present one element of research or practice
- Networking
- Find people doing the same thing
- Can add to you CV
- Can add to posters to social media platforms for access afterwards
- Don't like public speaking
- Enables your contribution to a meeting
- A significant part of professional education
- Develops your experience
- Builds networks and contacts
- Tremendous source of feedback

How are posters viewed

Poster session

Poster verbal presentations

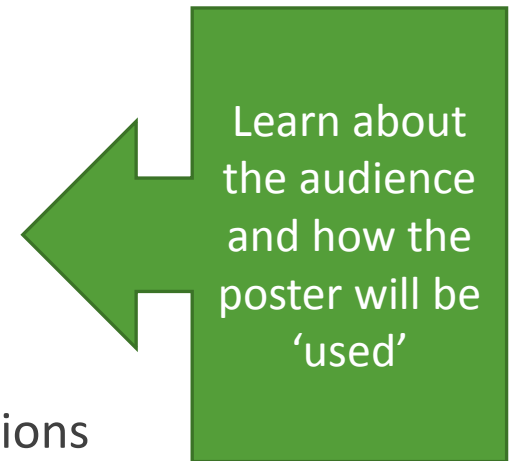
Creative poster sessions

- Walking tours
- Social events in Poster area

Some conferences no longer use verbal presentations

Digital v's print

Posters can mean prizes



Posters are not Presentations

Don't need abstract on the poster

Text: be as ruthless as if you were giving a one minute talk

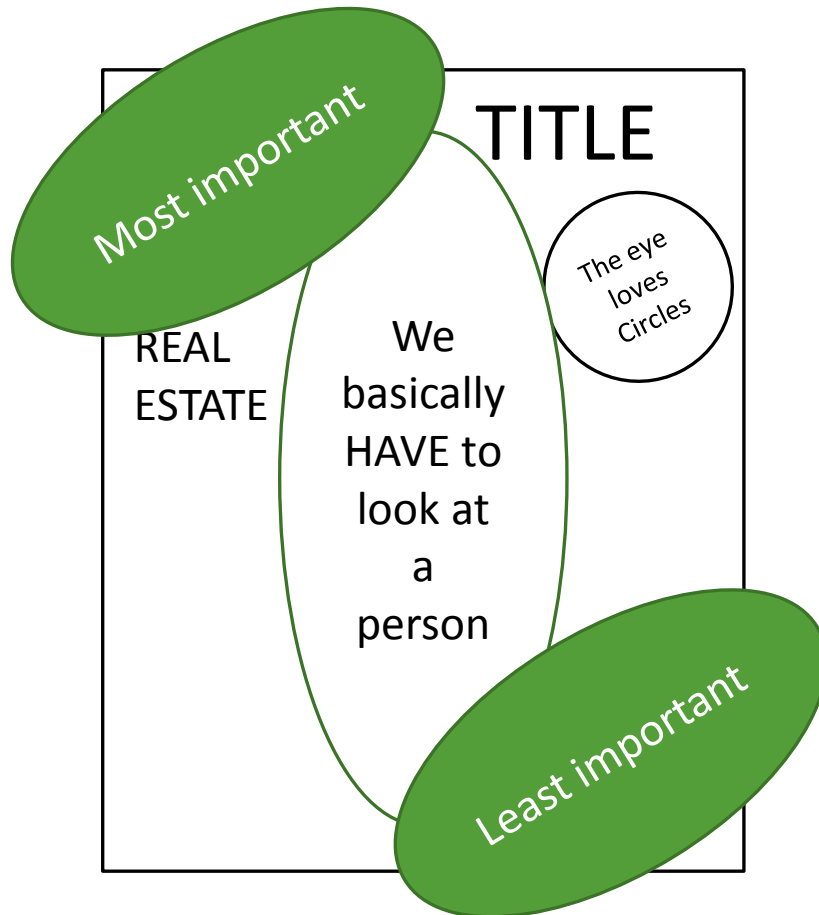
Font. *No Comic Sans*

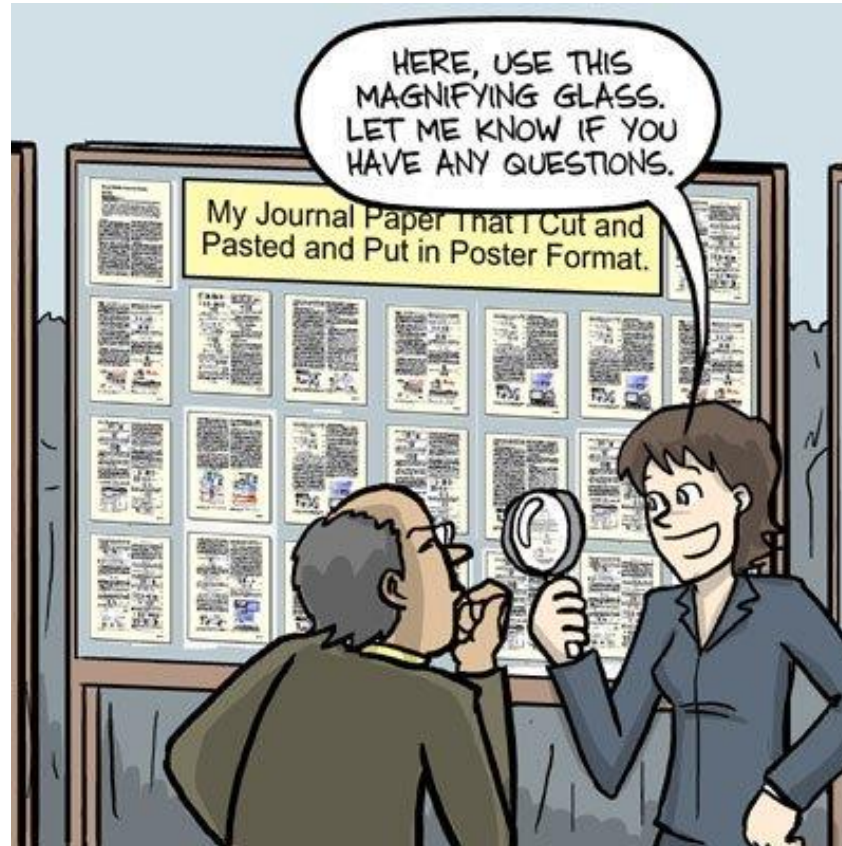
Tables and Graphs: Less ink is more. Less colour. Less data. Fewer Lines

Boxes. Just try it without the box. Don't underestimate white space

Tables and Graphs: Less ink is more. Less colour. Less data. Fewer Lines

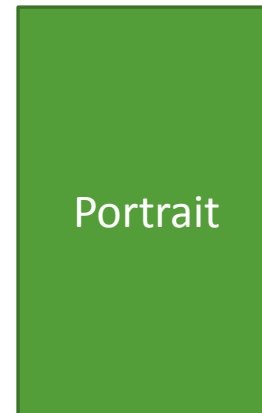
Learn from Magazine covers





Size is important

Check Conference requirements!



Posters should be visible and *readable* from two meters away.

Contents

Title

Researcher names, title and Affiliation

- Author order

Background

Method

Results conclusions

* contact details

Acknowledgements and logos

Pictures and logos

- Quality and size
- Order and placement

Practical design

Design

- Templates
- Graphic designer
- Medical illustrations
- Do it your self University thing

- Personal preference

Software:

Word Processor (Word, Pages, OpenOffice Writer)

Presentation Software (e.g., PowerPoint, Keynote, Impress)

Vector Graphics (e.g., Illustrator, Photoshop, **Inkscape**, OpenOffice Draw)

Desktop Publishing (e.g. Publisher, Adobe InDesign)

Apps: e.g., PosterGenius for Mac

CDHB – Medical Illustrations

Let them know in advance

- Use main department email
- Need at least 2 weeks including revisions and printing
- Printing done of site so takes couple of days

University of Otago template



Heading (about 100 point)

Presenters (about 72 point)



University Yellow 0C 25M 100Y 0K



University Red 0C 95M 90Y 0K



University Blue 100C 80M 10Y 0K

University Typefaces are (in order of preference):

Serif: Minion *or* Times *or* Garamond

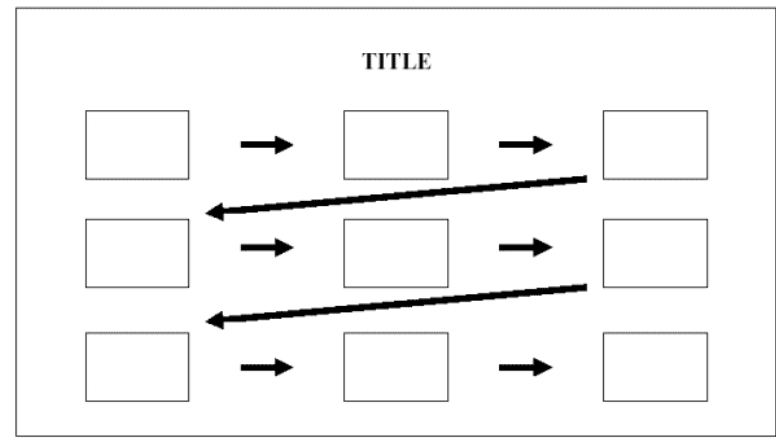
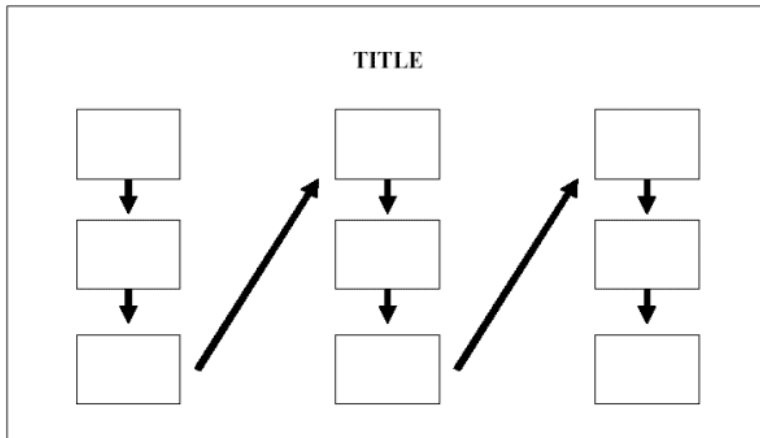
Sans Serif: Gil Sans *or* Arial *or* Helvetica

HINTS:

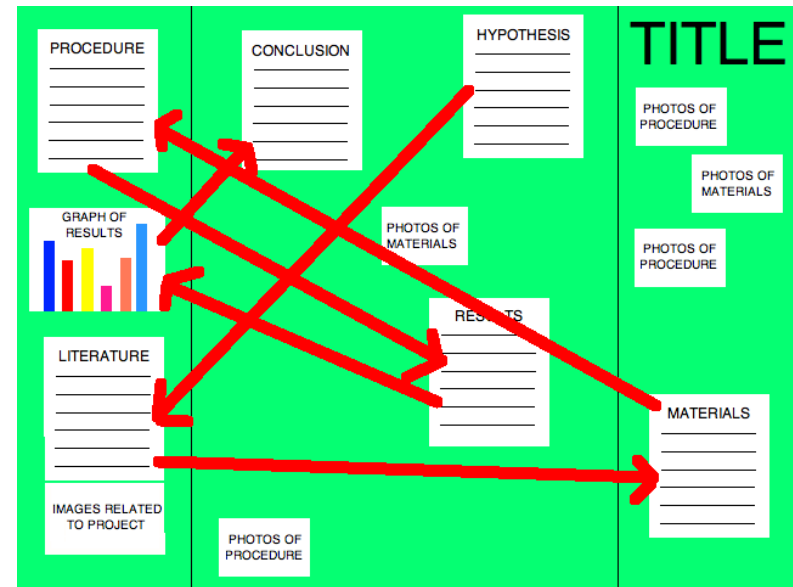
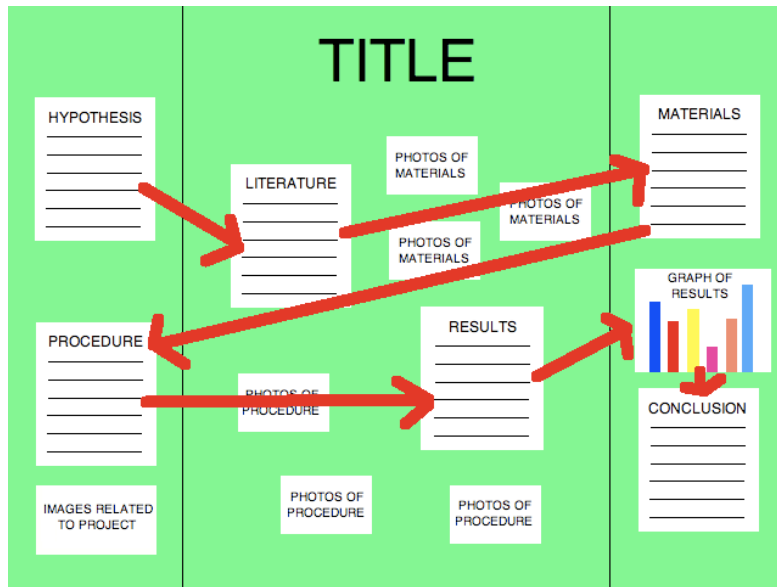
- Keep things SIMPLE
- Avoid using complicated background fills
- Avoid using drop shadows
- Don't over-clutter with text - it's a poster,
- Type size for body text should be about
- Use a contrasting type or colour for your
- Scanned images should be about 150-2 size
- Use two or three columns of text so that get too long to read easily

< 20mm margin - don't let text get too close to the edge

Think about flow



NOT



20% text, 40% graphics and 40% empty space

Two to three related background colours can unify the poster.

Colour can be used to emphasise

Suggestions:

- Headings: 72-100 point
- Body text: around 30 point
- Image resolution: 360 pixels/inch

Time Lines - Work Backwards

Deadline to printer

Final edits

Last edits

Edits

Layout

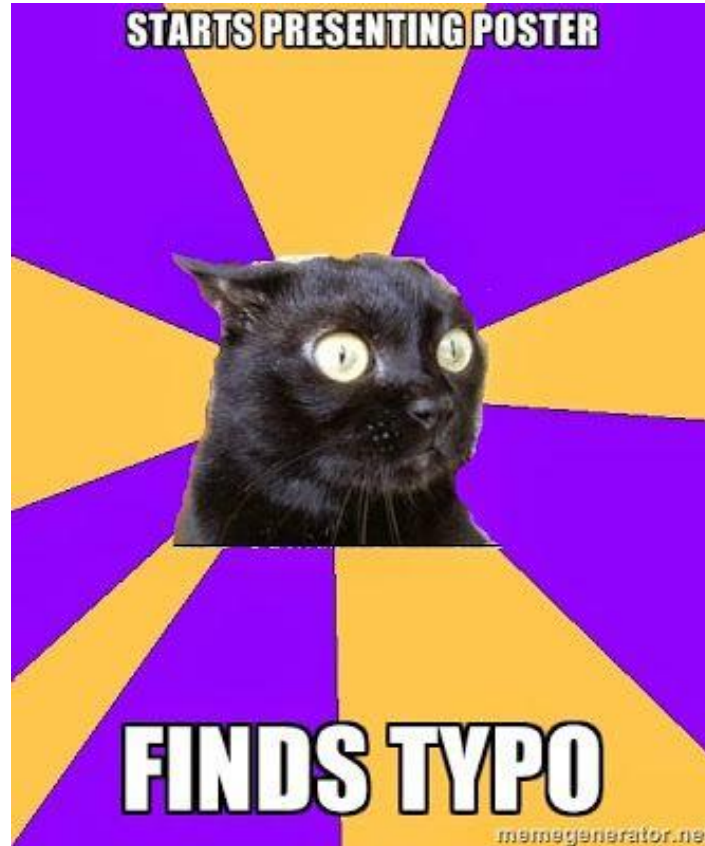
Even more text removed

Culled Text

Draft Text

Edit

A misake is
more obvious in
large Text



Printing

Textile Choice

Paper approx \$50

Textile approx \$70

Price – if CDHB talk to manager before you print your poster!

- Other avenues for funding

Ease of Transport

Put up and walk away?

Bribes and incentives

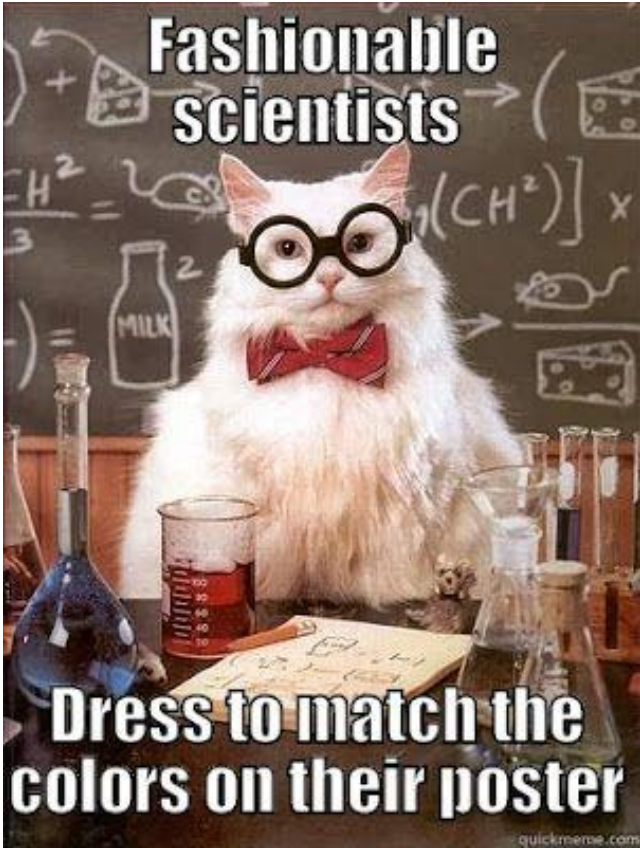
Take away poster or contact details

Wear good shoes!

Be prepared for questions

Good to have an elevator pitch for your poster





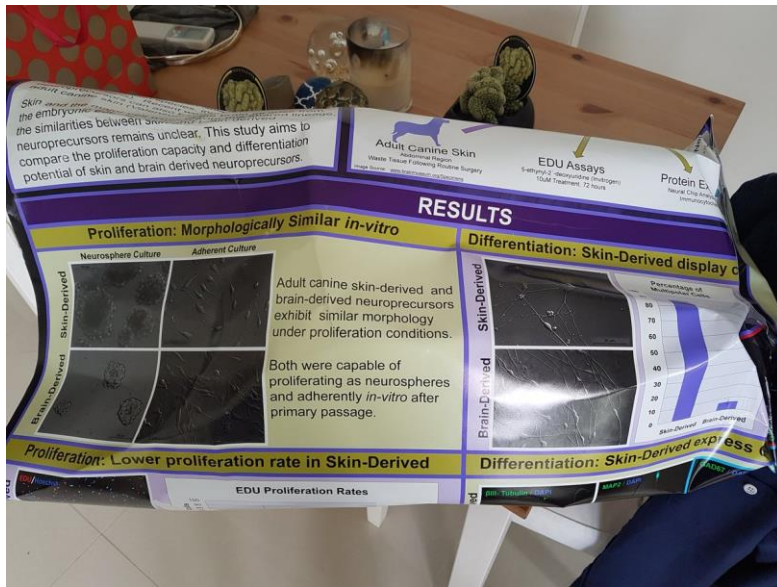
When the conference is over

Add to your CV

Add to ResearchGate

Hang it in the department you work in ...

Wrapping paper...picnic rug...



In case you forget our words of wisdom!

<http://colinpurrington.com/tips/poster-design>

<http://www.makesigns.com/tutorials/>

<http://www.makesigns.com/tutorials/scientific-poster-grading.pdf>

e-Posters:

<https://www.researchgate.net/publication/273521377> [How to Make an Effective e-Poster](#)

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TO CONSIDER

DESIGN	CONTENT	IMAGES	MEDIA	AVOID
Ds +3 Size	Cr +3 Research	Ir +3 Resolution	Mp +2 PDF	Am +3 Misspelling
Df +3 Fonts	Cp +2 Placement	Is +2 Size	Mh +2 Handouts	At +3 (Bad) Timing
Dc +2 Color	Cc +1 Conclusion	Ic +1 Color	Mq +1 QR Code	Ag +2 (Bad) Graphics
Db +1 Background	<p>WANT MORE ADVICE? You can find more information and videos about these tips and more at (http://www.makesigns.com/tutorials/) If you have questions or comments about this handout or scientific posters in general, feel free to drop a message via twitter (http://twitter.com/#!/makesigns) or leave us a comment on our Facebook page at (http://www.facebook.com/MakesignsCOM).</p>			Ar +2 (Not) Readable

TO AVOID

TRAVELING WITH YOUR POSTER

Ts +3 Supplies	Tt +3 Time	Tm +1 Materials
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TIME IS ON YOUR SIDE
Most scientific posters ordered from us by noon Central Time are printed the same business day!

ELEMENTS TO CONSIDER IN YOUR POSTER

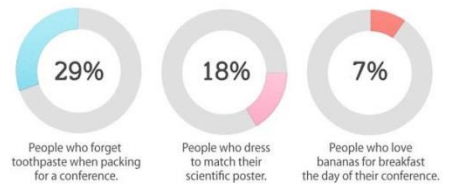
Ds - Size	Does your poster size meet the required size of the conference? Is your title, headings, and images easy to read?
Df - Fonts	Are you using a font that is easy on the eyes and people can read from a distance?
Dc - Color	Do your font colors have a good contrast with your background? You want your fonts easy to read.
Db - Background	Are you choosing a background that isn't too busy? Is your background distracting readers from your posters content?
Cr - Research	Remember less is more. Does your content open up a dialogue with the viewer? Does your content flow?
Cp - Placement	Does your content follow a time line Remember a reader should at the upper left, work their way down, then left to right by column.
Cc - Conclusion	Does your conclusion briefly review your research questions and the results you obtain?
Ir - Resolution	Are your images blurry or distorted? The lower the quality the worse your images will look.
Is - Size	Spacing out the images of your poster is key. Are your images too big and overbearing or too small and hard to determine?
Ic - Color	Make sure to keep the number of colors to a minimum. Is there a pattern or a theme to your colors?
Mp - PDF	You can create an online PDF version of your poster for people to download or look at later.
Mh - Handouts	You can offer handouts that go along with your scientific poster to give contact information or more in depth analysis.
Mq - QR Codes	You can place a QR Code to send viewers to a web page, document or get your contact info all by scanning your poster with a phone.

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Am - Misspelling	Check your spelling and punctuation. Have a friend or colleague look it over. We also offer a checklist for your poster on our site.
At - Timing	Is your due date getting close? Don't wait till the last minute to get your poster printed.
Ag - Graphics	Do your graphics and images make sense? Does your imagery go along with your poster?
Ar - Readable	Is your content hard to read? Does it make sense when you read it aloud? Did you have that friend look it over? Are they confused?



Some examples of posters

Some good and some that could be better!

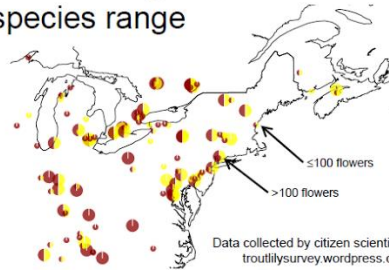
Why does anther colour vary in trout lily (*Erythronium americanum*)?

Emily Austen^{1,2} & Jessica Forrest¹

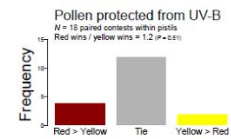
¹University of Ottawa, Canada; ²austen.emily@gmail.com; emilyjausten.wordpress.com



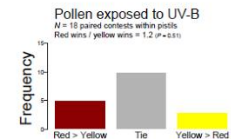
Red & yellow anthers occur throughout species range



Colour does not affect pollen tube growth



and neither colour is damaged by UV-B

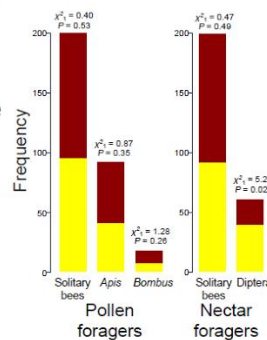


Contest outcome (colour growing more tubes)

When encountering a mixed array

Pollinators exhibit no preference

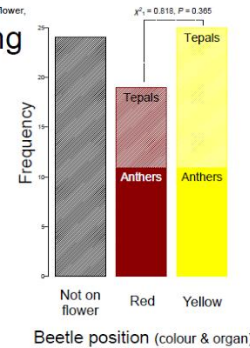
N = 575 flower patches visited, by 378 visitors, during 25 hours observation, at 6 sites



Given a choice between a red or yellow flower,

Pollen-feeding beetles are indifferent

N = 68 *Asclera ruficollis* beetles; 44 made a flower choice



Acknowledgments:

- Nearly 100 citizen scientists contributed data to occurrence map
- Stephan Schneider provided pizza & friendship during pollen tube study
- Peter Lin contributed a day of pollinator observations
- Doug Campbell, Tammy Sage & Spencer Barrett lent equipment
- James Thomson, Alison Parker & Stuart Campbell gave helpful advice

Research permissions granted by:

- University of Toronto's Koffler Scientific Reserve
- Lancaster County Conservancy PA
- Cornell Lab of Ornithology
- Huyck Preserve & Biological Research Station
- National Capital Commission (Ottawa-Gatineau)

This research was funded by:

- Natural Sciences & Engineering Research Council (Canada)
- Ottawa Field Naturalists' Club

Anther colour is seemingly (and surprisingly) ecologically neutral.

Introduction

A CoRE project at the Person Centred Research Centre (PCRC) at AUT currently aims to understand the experience of people living with mild cognitive impairment (MCI) and explore the day-to-day challenges and supports they face and how they might be improved. This is in collaboration with AUT's Faculty of Design and Creative Technologies. The interdisciplinary project will design and deliver a user-centred digital resource for people with MCI.

The PhD component related to this project applies an anthropological lens to the transfer of knowledge between design and the target userbase. The goal of this research is to promote critical reflection on the historical, cultural, social and service/economic underpinnings of the MCI project in ways that draw on more reflexive engagement between social and scientific knowledge, and to contribute to the development of an appropriate design intervention.

What is MCI?

First appearing in the scientific literature in 1983, MCI is a diagnostic category used to identify "the intermediate stage between the expected cognitive decline of normal aging and the more serious decline of dementia." This MCI involves subtle impairments in memory, language, thinking and judgment, these changes are not severe enough to interfere with their normal activities and do not qualify for a diagnosis of dementia.

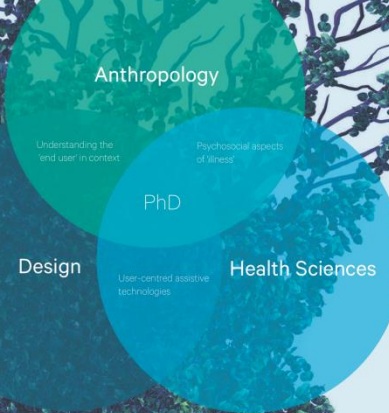
In the absence of laboratory tests for a definitive diagnosis of MCI, there has been considerable debate surrounding its clinical validity and utility in clinical care. On one side of the debate are those who argue that a diagnosis of MCI can be made with relative certainty on the other side are those who claim that it is vague and unreliable to be of much clinical or academic use.

While many argue that the value of the MCI category is its ability to predict some forms of dementia such as Alzheimer's disease, estimates of the annual rate of progression from MCI to Alzheimer's disease can vary from as little as 6% to as much as 28%. Others argue that the MCI category is indistinguishable from age-related decline and is characteristic of the "medialisation of ageing."

These debates are significant for user-centred design projects because designers, when often have unintended social effects, often can reinforce a particular identity, expectations, agendas and implications of various kinds, and design social roles and relations within families and communities. Some commentators have expressed some concerns over the status of an MCI diagnosis to put individuals onto a social and experiential pathway towards Alzheimer's disease. From a medical anthropology perspective, therefore, **Mediating for MCI requires an analytic frame.**

Method

Long-term ethnographic research in and alongside the project will emphasize how different states and characteristics of longitudinal lived-experiences are experienced within the design project. MCI participants will also be interviewed from a medical anthropology perspective to explore non-clinical or lay understandings of the MCI category and how and where it is distributed (spatially, temporally and meaning) in all accessible and documentable design workshops with MCI participants, family members, designers, and other stakeholders to explore how and to what extent, the end users inform the direction of the design process.



Why Anthropology?

Anthropology has historically focused on the lived experience of difference and thematic, and emphasized how the conceptual distinction between normal and abnormal is culturally defined rather than clearly demarcated or static. This more recent work in medical anthropology is important ally in studies of disability and ageing.

For research design practice to connect to particular subgroups (the end users) whose needs, if they are to be met, must be understood in context. **Broader historical, social, and cultural contexts** in which they are embedded. Since at least the 1970s design firms have used ethnography as a method of observational research derived from anthropology to better understand their end user's needs, but have tended to reduce ethnography to a passive watching tool rather than a method informed by more reflexive theories of culture.

Because design is itself a powerful site of cultural production, anthropology is an important critical and reflexive lens for designers. Design projects do not simply develop solutions to specific problems, but also shape possible futures by bringing new ideas and technologies into the world. The MCI project can therefore be seen as part of a broader conversation about the role of technology in caring for an ageing population, and this project is an opportunity to **reflect on the trajectory of current design imperatives in healthcare.**

Conclusion

This PhD research may (1) add to the interpretation of qualitative data during the design project, (2) facilitate engagement between different domains of knowledge, and (3) open up new and experimental forms of interdisciplinary collaboration.

By introducing a **layer of questions and perspectives** to the project, this research will clarify, describe and reflect on the design process as a cultural practice to various components, and create a space for interdisciplinary discussion about the wider contexts in which user-centred design interventions and the medical conditions they seek to address are framed.

References

1. Hays, D. (2015). *Design Imperative: Research for user-centered engagement*. London: Springer International Publishing.

2. Preece, J. (2000). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.

3. Preece, J., and T. Hartzel. (2001). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.

4. Preece, J., and T. Hartzel. (2001). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.

5. Preece, J., and T. Hartzel. (2001). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.

6. Preece, J., and T. Hartzel. (2001). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.

7. Preece, J., and T. Hartzel. (2001). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.

8. Preece, J., and T. Hartzel. (2001). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.

9. Preece, J., and T. Hartzel. (2001). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.

10. Preece, J., and T. Hartzel. (2001). *Participatory design: The challenge of user-centred design*. London: Taylor & Francis.



'Who is this person and what do they need from me today?'

Enhancing clinical care for people with long-term neurological conditions



Suzie Metzger, Nicola Kaye, Ann Szelei, Barbara McAvelliam, Gena Smith, Deborah Rowe, Marie Harwood, Eden Patten, Kathryn McPherson, and the Living Well Toolkit steering group

Centre for Person Centred Research, School of Clinical Sciences, AUT, Auckland, NZ

The Kiungwa Heaera Māori, Faculty of Medical and Health Sciences, University of Auckland, Auckland, NZ

Communication Design, School of Art and Design, AUT, Auckland, NZ

Health Research Council of New Zealand, Auckland, NZ



Background

Long-term neurological conditions result in significant personal, whānau/family and societal burdens that can be reduced with good quality care and support. However, consumers' expectations of quality care, including person-centred communication and continuity of care, are often not translated into routine practice. Evidence suggests that active strategies (e.g. co-design, knowledge brokerage) are required to support such translation.



Objectives

We aimed to design and implement a toolkit with consumer guidance, targeting specific processes in the long-term care pathway to act as structural support for:

- 1 improve communication
- 2 build strengths and harness skills to live well
- 3 enhance continuity of care



Conclusions

In practice, the toolkit addresses key steps to both empower people with neurological conditions, and support structural or system changes. Facilitating enhanced interaction between provider and clients is key to enhancing outcomes. These findings emphasise the value of understanding (and contextualising care by recognising) each patient as a unique individual, and taking time to listen to what is meaningful and important to them should not be underestimated. The Living Well Toolkit and accompanying clinicians' resource attempt to apply the key themes of this research into a workable solution that has the potential to be implemented widely. Future phases of this project will pilot and refine the toolkit before rolling out in a wider implementation trial.

Method

Drawing on the philosophy of client-centred care, we used focus groups and interviews to explore how to best operationalise support for these processes. Discussions were audio-recorded, transcribed and data coded into meaningful segments. Conventional content analysis was used to identify categories common to all three processes and subsequently guide the development of toolkit prototypes. Input on the prototypes was invited from two additional groups: a knowledge users group (service users, family members, representatives from advisory and service organisations) and an implementation committee (clinicians from key localities).



Results

Participants comprised people living with neurological conditions, family/whānau and clinicians contributed to focus groups (n=10) and interviews (n=14). Five themes were common to the three processes: Assume nothing, Discuss, Acknowledge expertise, Promote partnering and Tailor care (ADAPT). In collaboration with designers from the Design for Health and Wellbeing Lab (DfHWLab), these five themes were operationalised in a paper-based toolkit and a clinicians' resource. The paper-based toolkit comprises three sections: 'all about me', 'my needs today' and 'significant people in my life'. The toolkit is intended to be kept by the patient and used as they wish in health interactions. Key principles of knowledge translation were applied in the production of the toolkit. The clinicians' resource is a layered and interactive electronic file which provides more detail of and data underpinning ADAPT. In addition, following input from the implementation committee, a printed bookmark featuring the central orienting question 'Who is this person and what do they need from me today?' was produced.





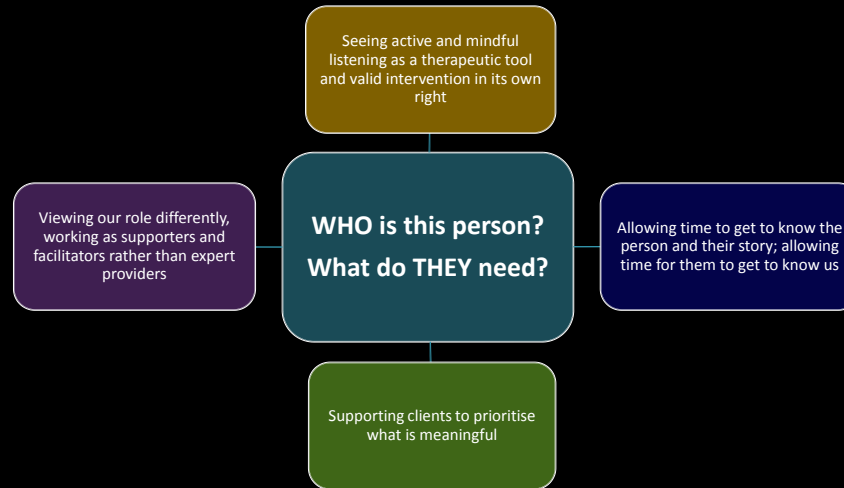
Advancing Speech Pathology Practice: Lessons from an Autoethnography

F Bright¹, N Kayes¹, K McPherson¹, P Boland², S Rutherford¹
 1. School of Rehabilitation and Occupation Studies, AUT University, Auckland, New Zealand
 2. Rehabilitation Teaching and Research Unit, University of Otago, Wellington, New Zealand
 Correspondence: felicity.bright@aut.ac.nz



BACKGROUND

It has been suggested that balancing 'technical skills'¹ with a 'human approach'² may promote a client-centred approach to treatment and may be more consistent with what clients see as important in rehabilitation. This poster draws on a co-autoethnography that explored how a philosophy of client-centred practice which explicitly incorporated both 'technical' and 'caring' skills informed clinical practice with people with acquired brain injury³. It reflects on how this approach to therapy could inform speech pathology practice with people with aphasia.



We believe that having an underlying practice philosophy of client-centredness, of focusing on the person we were working with and getting to know them and their story was central to this new way of working. This permeated the way in which we worked with our clients, resulting in a shift to 'being with' rather than 'doing to'.

WHAT QUESTIONS DOES THIS RAISE FOR APHASIA THERAPISTS?

What is our philosophy of practice? Could a philosophy of client-centredness better facilitate engagement in rehabilitation?

Are we listening to understand what the person is saying or are we also listening to understand and get to know *the person* – who they are and what their story is?

Do we value skills such as listening, relating, engaging and caring in our practice? Do we see them as valid, valued interventions in their own right?

REFERENCES

- Hamerell, K. W. (2006) Perspectives on disability and rehabilitation: Contesting assumptions, challenging practice. Philadelphia, PA: Churchill Livingstone
- Feld, J. K., McPherson, K.M. & Kayes, N.M. (2012). Perspectives on quality of care for people who experience disability. *BMJ Quality and Safety*, 20(1), 87-92
- Bright, F.A.S., Boland, P., Rutherford, S., Kayes, N.M. & McPherson, K.M. (2012). Implementing a client-centred approach in rehabilitation: An autoethnography. *Disability & Rehabilitation*, 34(12), 997-1004



Hope in People with Aphasia: A Longitudinal Qualitative Study



Felicity Bright¹, Nicola Kayes¹, Clare McCann², Kathryn McPherson¹

¹. School of Rehabilitation and Occupation Studies, AUT University, Auckland, New Zealand

². Speech Science, Department of Psychology, University of Auckland, Auckland, New Zealand

Correspondence: felicity.bright@aut.ac.nz

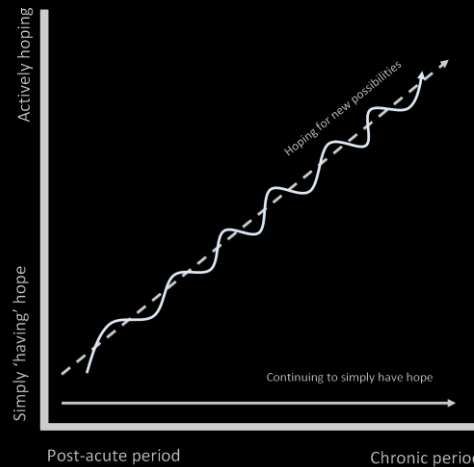
BACKGROUND AND AIMS

Hope has been shown to be important for life after stroke¹. People with aphasia have reported that having a sense of hope is essential for the post-acute recovery period². This study aimed to explore hope at two time-points in recovery: the post-acute period (3-6 months post stroke) and the chronic period (~18 months post-stroke).

METHODS

The study drew on an Interpretive Description methodology. Semi-structured interviews were conducted with five people with aphasia in the post-acute period and with four of these participants in the chronic period. Data were analysed using multiple techniques including coding, thematic analysis, diagramming and memoing.

THE EXPERIENCE OF HOPE OVER TIME



In the post-acute period, the dominant form of hope for all participants appeared to be 'simply having hope', a broad sense of hope for the future².

HOPING FOR NEW POSSIBILITIES

Over time, some participants had an increased focus on active forms of hope and a sense of looking forward to the future and what could be.

These participants appeared to:

- Perceive on-going recovery and progress
- Have significant social supports
- Continue to link with rehabilitation and support services
- Had a sense of being "more comfortable in [their] own skin, with a stronger sense of identity.

CONTINUING TO SIMPLY HAVE HOPE

In contrast, other participants appeared caught in the present, struggling to look to the future with little change over time. They had few hopes for the future, just a hope that the future would be good.

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

A sense of hope appears to be important throughout recovery however several factors appear important for helping people develop active hopes for the future.

It may be beneficial for clinicians to be mindful of the role of social supports, progress and on-going access to rehabilitation and recovery services in facilitating an active form of hope. Explicitly addressing provision of long-term supports may help people to both: (a) develop an increasing sense of hope and possibility about the future and (b) take steps toward making these happen.

REFERENCES

1. Bright, F.A.S., Kayes, N.K., McCann, C.M. & McPherson, K.M. (2011). Understanding hope after stroke: A systematic review of the literature using concept analysis. *Topics in Stroke Rehabilitation*, 18(5), 499-508
2. Bright, F.A.S., Kayes, N.K., McCann, C.M. & McPherson, K.M. (2012). Hope in people with aphasia. *Aphasiology*, E-pub date 17 September, 2012. DOI:10.1080/02687038.2012.718069

Voice(s) in Action: Using the Listening Guide in Observational Research

Felicity Bright¹, Nicola Kayes¹, Linda Worrall² & Kathryn McPherson¹

¹AUT University, Centre for Person Centred Research, Auckland, New Zealand. ²CCRE-Aphasia, University of Queensland, Brisbane, Australia
Correspondence: felicity.bright@aut.ac.nz; @flissbright

This poster illustrates how the Listening Guide and Voice Centred Relational Method may be used with observational and interview data. We draw on data from a study exploring how rehabilitation practitioners engage patients with communication difficulties in stroke rehabilitation.

Research Method

Voice Centred Relational Method & Listening Guide^{1,2,3}

- Focus on the voices of participants in data
- Participants commonly present a number of voices (stories or perspectives²) within text
- Use Listening Guide - sequential readings (listening) of text - to attend to voices in data, how participants speak of themselves
- Method commonly used with interview data and relatively small data sets

Modifying for Observational Data

Key Principles

- Analyze and compare verbal and non-verbal data in all sequential listenings of data
- Focus of listenings determined by theoretical framework of study (Symbolic Interactionism) and research question
- Compare and contrast front-stage performances (observed interactions) and back-stage data (interviews and stimulated recall) - consider action, talk-in-action and talk-about-action
- Use analytic memo-ing to capture emergent analysis and to assist in developing participant narratives

Process

- Analyze each individual interaction using Listening One of Listening Guide and analytic memos. Attend to what is happening, how people are acting and what they take into account when acting.
- Conduct Listenings Two-Four with selected interactions; further develop analytic memos, as demonstrated in Figure 1.
- Create narratives for each participant drawing on Listening Guide and memos
- Compare and contrast across dyads and across participant groups

Reflections on Modified Approach

- This method can be modified for different data sources
- Theoretical framework helps refine the focus of the Listening Guide and analytic memos (e.g. Goffman: compare front-stage and back-stage performances)
- Comparing voices in action and talk-about-action provides deeper insight into the complexity of clinical practice



Figure 1: Process of using Listening Guide to analyze one observed interaction

References

- ¹ Gilligan, C., Spencer, S., Weinberg, K. & Bertsch, I. (2005). On the Listening Guide. In S. Hesse-Biber & F. Leavy (Eds.), *Emergent methods in social research* (pp. 253-271). Thousand Oaks, CA: Sage.
- ² Mauthner, N., & Doucet, A. (1998). Reflections on a Voice-Centred Relational Method of data analysis: Analysing maternal and domestic voices. In J. Ribbens & R. Edwards (Eds.), *Feminist dilemmas in qualitative research: Private life and public texts* (pp. 119-144). London: Sage.
- ³ Mikel Brown, L., & Gilligan, C. (1992). *Meeting at the crossroads: Women's psychology and girls' development*. Cambridge, MA: Harvard University Press

Voices of Rehabilitation Providers: Talking About Engagement

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Introduction

- Patient engagement in rehabilitation services occurs within relationship
- The rehabilitation provider's actions and perceived values and attitudes influence whether a patient engages or not¹.
- Attending to the rehabilitation provider, how they act and why they act as they do is anticipated to contribute to our understanding of patient engagement.

Study Aim

- To explore rehabilitation provider perspectives of engagement, including how they speak of the patient, themselves and their role in engagement.

Method

- **Theoretical perspective:** Symbolic interactionism
- **Participants:** 14 rehabilitation providers
- **Data gathering:** 2 focus groups and 4 individual interviews
- **Data analysis:** Voice Centered Relational Method including Listening Guide and I-Poems^{2,3}

References

1. Bright, F., Kayes, N., Worrall, L. & McPherson, K. (In press). A conceptual review of engagement in healthcare: Relevance for rehabilitation. *Disability & Rehabilitation*.
2. Mauthner, N., & Doucet, A. (1998). Reflections on a Voice-Centred Relational Method of data analysis: Analysing maternal and domestic voices. In J. Ribbens & R. Edwards (Eds.), *Feminist dilemmas in qualitative research: Private lies and public texts* (pp. 119-144). London: Sage.
3. Mikel Brown, L., & Gilligan, C. (1992). *Meeting at the crossroads: Women's psychology and girls' development*. Cambridge, MA: Harvard University Press

One provider: A multiplicity of voices

Each provider spoke with a range of voices when describing their views of engagement. Each voice presents different ways of working to facilitate engagement and different views of the role of the patient and provider in engagement. Each voice highlights how personal and structural contexts influence engagement practices and perspectives.

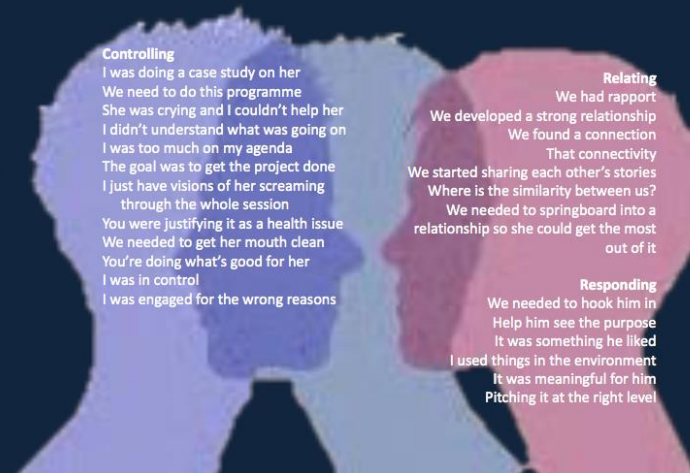


Figure 1: I-poems representing voices within the narrative of one rehabilitation provider

Discussion

- The ways in which providers work appear to be influenced by a number of factors including:
 - ◊ Thoughts & feelings about engagement
 - ◊ Perceptions of the patient
 - ◊ Their view of their role in engagement and rehabilitation
 - ◊ How much they emphasised therapeutic relationship
- These factors influenced their work and potentially, how their patients engaged in rehabilitation.

Clinical Implications

- It is valuable to attend to commonly unspoken aspects of practice, "the things we don't talk about" as one participant said
- This can be helped by:
 - ◊ Acknowledging provider's thoughts and feelings about the patient, their practice and engagement
 - ◊ Considering how these came to be and what their effects might be for engagement practices and patient engagement

Voice(s) in Action: Using the Listening Guide in Observational Research

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What matters most in the therapeutic relationship in neurorehabilitation?

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What do we already know?

There is growing recognition of the role that therapeutic relationships have on outcome in neurorehabilitation. However, conceptual understanding of the therapeutic relationship within this context is limited.

What did we aim to do?

To explore what matters most in the therapeutic relationship from the perspective of patients accessing neurorehabilitation services

How did we do it?

- Qualitative Descriptive methodology
- Purposeful sampling
- Participants were n=15 people currently receiving rehabilitation following a neurological event.
- Semi-structured interviews
- Conventional content analysis

Why does this matter?

- This research has advanced our understanding of what matters most to the therapeutic relationship in a neurorehabilitation setting.
- Findings offer a more nuanced understanding of the therapeutic relationship in than existing theories derived in psychotherapy offer.
- Health psychologists may have a role in supporting practitioners to develop a relational approach to practice, enabling them to tap into the true potential of the therapeutic relationship as a covariate of outcome.

Connect with me as a person

The practitioner does the right thing by me through:

- knowing me, my unique context and what matters most to me
- connecting with me on a human level and seeing me as a person
- genuinely caring about me and my outcome
- sharing a bit about themselves and making me feel at ease

Just being able to relate to that person. Maybe you've got to share your life a bit you know to have had, actually had a conversation about yourselves [...] you could have someone who's incredibly competent but just not fun going to... and maybe you don't trust them [Person with spinal cord injury].

Show me you know how

The practitioner does the right thing by me through:

- demonstrating their skills, knowledge and ability to meet my unique needs
- giving me trust and confidence they will do the right thing by me
- helping me to understand their clinical decision making

So I think it's important to gain the faith of the person that you are dealing with. You have to prove to them that you know what you are doing [Person with a traumatic brain injury].

Be my professional

Just openly and honestly like we are talking now, there are no issues, they are willing to explain to me if I have got any questions or anything like that [...] they are punctual when they say they are going to be there [Person with traumatic brain injury].

The practitioner does the right thing by me through:

- being open, honest, and transparent in their communication
- sharing knowledge and checking understanding
- managing expectations
- being truly present and authentic in their interactions with me
- being passionate about what they do and pushing the boundaries of their knowledge to meet my unique needs

You get the feeling you can do the things she teaches you, and she tends to make you believe in yourself a lot more than you normally would [Person with traumatic brain injury].

I think you've got to trust that they know what they're doing, that they care about what they are doing, that they are going to do it to the best of their ability, that they've got your best interest at heart [Person with spinal cord injury].

Do the right thing for me

The practitioner does the right thing by me through:

- valuing my contribution and expert knowledge
- supporting the development of partnership grounded in mutual trust and respect
- making me feel listened to and heard
- fostering dignity and empowerment

Value me and my contribution

That they will listen and they will actually be interested, and they actually respect that you actually know what you are talking about [...] that the patient is the expert on what they are experiencing [Person with idiopathic intracranial hypertension].

She was amazing [...] I'm maybe more capable now because I just really trusted her [Person with spinal cord injury].

The X-factor

When all components of the relationship work together, the whole becomes greater than the sum of the parts. It was a special feeling that clients struggled to identify but it was obvious when it was there. It was this that clients perceived could bring about more than what could have been.

PERSONALITY, SEX DIFFERENCES, AND MATE CHOICE IN THE EUROPEAN SERIN

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INTRODUCTION

- Animals can demonstrate individual behavioural traits that are consistent over time and in different contexts, also known as personality traits (Réale et al. *Philosophical Transactions B*, 2010).
- Personality has increasingly been the focus of ecological studies to understand the evolution and maintenance of these and its consequences.
- While several hypothesis have been considered, sexual selection has been scarcely studied although it is possible that it may play an important role in the origin and maintenance of personality differences (Schuett et al. *Bio Reviews* 2010).

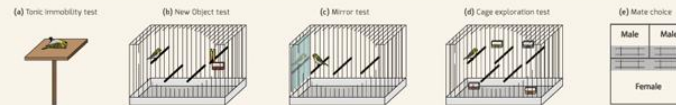
OBJECTIVES

- Study consistent interindividual differences in behaviour in the serin (*Serinus serinus*).
- Understand how sexes differ in their behavioural traits.
- Understand how different behavioural contexts are related and differ between sexes.
- Explore a possible role of personality traits in female mate choice.



METHODS

- Wild serins (30 males and 17 females) were captured, and maintained in an indoor aviary until the end of the experiments.
- Individuals were subjected to four behavioural tests to assess fear (a), neophobia (b), sociability (c), and exploration (d), and tested for repeatable individual differences in two rounds.
- Mate choice tests were performed in an aviary (e) with a random female and a unique combination of two males with similar colouration.



RESULTS

REPEATABILITY

Males and females differ in their consistency

Trait	All	Repeatability
Fear	All	0.6389 P<0.007
	Males	0.6387 P<0.017
Neophobia	All	0.6380 P<0.002
	Females	0.6373 P<0.028
Sociability	All	0.6389 P<0.000
	Males	0.6387 P<0.012
Exploration	All	0.6384 P<0.001
	Females	0.6373 P<0.028

Note: Repeatability (on a scale from 0=non-repeatable to 1=100% for the same personality trait). Sample size: Total: 46; Males: 30; Females: 17

SEX DIFFERENCES

Males are more sociable than females (t=-2.017, P=0.050)

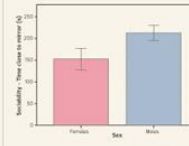


Figure 1. Sex differences calculated with t test, for the 4 personality traits, here we present the only significant difference, for sociability.

MATE CHOICE

Female number of visits to males was related to their own personality trait (sociability: $\chi^2=10.455$, p=0.001)

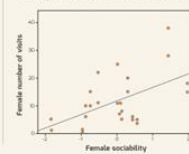


Figure 2. Relationship between female number of visits to males in the mate choice test and female sociability. A GLM repeated measures was performed to test female visits using two PCs of female personality as covariates. PC2 with significant and regression female sociability.

RELATIONSHIP ACROSS BEHAVIOURAL TRAITS

Females and Males differ in their behavioural syndrome



CONCLUSIONS

- Individuals showed repeatability in the four behavioural tests.
- Males and females differed in their consistency and behavioural responses across the different tests.
- Behavioural traits were correlated, indicative of a possible behavioural syndrome, but differed between females and males: More neophobic males were also more sociable, and females that were more sociable were less fearful and marginally less explorative.
- In mate choice tests, female personality was related with its own behavioural performance.
- Our results stress the importance of looking for sex differences in personality, and for considering the influence of personality in mate choice context.

Acknowledgments: We thank everyone of the Behavioural Ecology Group for the support. This work is funded by FCT, Portugal, Project SF19/BD/44837/2008. We held the necessary Portuguese licenses for conducting this work.

IS PLUMAGE MAINTENANCE SEXY OR UNATTRACTIVE?

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INTRODUCTION

In several species, ornamental traits are signals of individual quality which are costly to maintain, as they involve physiological costs, increased risk of predation and time spent in self-maintenance (Walther and Clayton 2005; Delhey, Peters et al. 2007).

Maintenance behaviour may have a signalling effect to mate choice, since females can benefit by choosing a mate based on honest information (Zampiga, Hoi et al. 2004; Amat, Rendón et al. 2010).

OBJECTIVES

We propose to clarify the importance of maintenance behaviour, in particular preening, on mate choice in the serin, *Serinus serinus*, a sexual dimorphic finch with a carotenoid-based bright yellow plumage.

Our main goals are to verify if females consider preening as quality indicator or in contrary reject it as a negative signal related to ectoparasites infestation.

MATERIALS AND METHODS

- The capture of birds was made in 2008 and 2010 in Coimbra, Portugal.
- Birds were identified (rings), aged and sexed. We took several morphometric parameters (weight, length of wing, tarsus and tail, beak width, depth and length), counted parasites and measured colour extent.
- Colour reflection of males' plumage was measured using a spectrophotometer Ocean Optics USB4000 (Ocean Optics, Dunedin, FL, USA), with two lamps emitting deuterium and halogen. Three random measurements of each of the four areas of yellow – crown, bib, breast and tail – were made and the averaged to the analysis. The values resulted were used to calculate colour variables, according to Montgomerie (2006) adapted from Cardoso and Mota (2008): full brightness, UV brightness, hue, saturation and saturation total UV.

- We calculated a general score based on Principal Component analysis. We ranked males considering saturation, being the most colourful males the ones with highly saturated ornamental plumage colouration.
- We tested male and female serins (N = 22 females and 34 males) in mate-choice trials in a three-compartment indoor aviary during breeding season, to assess female preference when introduced to a pair of males, being one more colourful and the other less colourful. The trials lasted for 1 hour, being the first 30 minutes to acclimatization.



RESULTS AND DISCUSSION

Female mate choice and preening behaviour

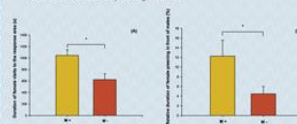


Figure 1. (A) Duration of female visits to the response area (seconds) (N = 2,178, p = 0.041) and (B) Relative duration of female preening in front of males (%) (N = 3,057, p = 0.042), of more colourful males (MC) and less colourful males (LC). The results are described as means ± SEM, N = 22.

- Females preferred more colourful males (Figure 1 - A), and they also performed preening during more time in front of these males (Figure 1 - B). This may be suggestive of a possible role of preening as a courtship behaviour in serins.

Morphometry, Colouration and Parasites
 Increased preening behaviour was not related to ectoparasites number, or any morphometric parameters.

Male preening behaviour

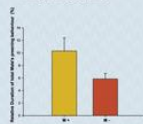


Figure 2. Relative duration of total preening behaviour (%) of more colourful males (MC) and less colourful males (LC) (N = 2,042, p = 0.010). The results are described as means ± SEM, N = 22.

- More colourful males spent more time in preening than the less colourful ones (Figure 2), although it was only marginal to significance mostly due to a greater variance in more colourful males.

The influence female presence and absence in each male's preening behaviour

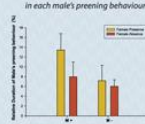


Figure 3. Relative duration of preening behaviour (%) of more colourful males (MC) (N = 1,332, p = 0.210) and less colourful males (LC) (N = 4,141, p = 0.872), in presence and absence of females. The results are described as means ± SEM, N = 22.

- Male's preening behaviour in presence and absence of female was not different (Figure 3). These results suggest that males don't perform preening to display towards females.

In conclusion, it's clear that maintenance behaviour is an essential element of avian behaviour (Cotgreave and Clayton 1994), and our results suggest that it may also be important to female mate choice.

To our knowledge, this is the first experiment that provides evidence for differences in preening time dedication depending on individual colouration. Further work is necessary to understand the relative importance of preening behaviour in mate choice by comparing the behaviour performance outside the breeding season.

Acknowledgements:
 We are grateful to all people of Ethology Laboratory for the support, to the CBIG and FCT for all the technical assistance. We also thank Covadim Branquinho for the graphic design.



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CAROTENOID-BASED COLOUR ORNAMENTATION PREDICTS SOCIAL DOMINANCE IN SERINS, *Serinus serinus*

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1 > INTRODUCTION

Social interactions frequently take the form of dominance hierarchies that help settling disputes. Phenotypic traits that reliably signal an individual's fighting ability or aggressiveness may predict individual's position within those dominance hierarchies (reviewed by Searl 2006 in Bird Coloration). We asked if the carotenoid-based, yellow plumage ornamentation of European Serins (*Serinus serinus*), a gregarious species that feeds in flocks, predicts social dominance in a feeding context. We tested if colour, colour extension, age and body size predicted dominance.

2 > MATERIAL AND METHODS

- 28 male birds captured from the wild were colour-ringed, aged and measured yellow colour extension and body size (PC1 from a PCA on body weight, wing tarsus and beak length)
- Colour reflection in the bird-visible range (320–700 nm) was measured in the forehead, throat, breast and belly. We computed mean brightness, hue, saturation and UV chroma across these body parts.
- 7 groups of 4 same-sex unfamiliar birds were formed 2 days before the tests.
- Over 5 consecutive days agonistic interactions in a feeding context were filmed for 30 minutes after 2h of food deprivation.
- We recorded the number of attacks and displays between the males, and calculated David's score to rank the members of each group in a dominance hierarchy.

3 > RESULTS

- Aggressiveness was repeatable among individuals between successive days ($R=0.34$, $F_{1,16}=3.58$, $P<0.001$).
- Dominance relationships were highly consistent: steepness value from David score = 0.70 ± 0.063 .
- The best model (AICc model selection) indicates that colour saturation is the best predictor of social dominance (Table 1), with dominant males having more saturated yellow.
- Focusing on colour saturation of each individual body part, forehead saturation is the best predictor of dominance (Figure 1, Table 2).

4 > CONCLUSIONS

- Dominance hierarchies were stable/repeatable, and ornamental colour saturation, particularly in the forehead, was related to higher dominance.
- Carotenoid-based colour ornamentation may be a reliable predictor of social status in male serins, since carotenoids are a limited dietary resource required both for pigmentation and immune function (Lozano, 1994; Dikos 70).
- Since female serins also prefer saturated yellow colouration in males (Leitão et al. accepted BES), the same carotenoid signal may be used both in intra- and inter-sexual contexts.
- Future work should experimentally manipulate forehead yellow saturation to control for correlated variables and determine whether this colour patch functions as a badge of status per se.

Table 1. Model selection, using mean colour across body parts

Model order	Predictors in the best model	AICc	ΔAICc
1	sat	149.636	0
2	hue, sat	151.574	1.938
3	hue, sat, age	153.019	3.383

Predictors in the full model: brightness (br), saturation (sat), hue, chroma (UV chroma extension, crown extension, body size, age). In addition to the above predictors, these models fit Male Information Criteria (also included "group" as a fixed factor to control for differences among experimental groups. Models with a $\Delta AICc < 2$ are considered similarly well supported.

Table 2. Model selection, using colour saturation for each body part

Model order	Predictors in the best model	AICc	ΔAICc
1	fs	144.929	0
2	fs, body size	145.647	0.718
3	fs, ts, body size	148.213	3.284

Predictors in the full model: group (fixed factor), forehead saturation (fs), throat saturation (ts), breast saturation (bs), belly saturation (bl) body size, age. See legend of Table 1 for the colour acronyms.

Forehead saturation predicts social dominance:
 $F_{1,16}=11.538$; $p<0.003$

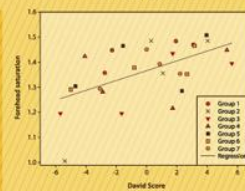


Figure 1. Relationship between forehead saturation and David score (social dominance). Different symbols are used for individuals in different groups.

Subtle but Persistent Effects Following Adolescent Exposure of JWH-018 "Spice" on Learning and Memory Performance in Adulthood

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PURPOSE

Little is known about the toxicology of 1-(1-Pentyl-1H-indol-3-yl)-1-naphthalenylmethanone (JWH-018) and the related compounds reported used in Spice products. However, there is some evidence that these synthetic cannabinoids cause both dependence and withdrawal. Like many of the Spice compounds, JWH-018 strongly binds with CB₁ receptors, acting as a receptor agonist and influencing a number signaling pathways. According to Vardoulakis et al. the subjective effects associated with ingestion of Spice products are the result of JWH-018 and sister compounds acting on CB₁ receptors. As the number of users has increased, so have reports concerning the side effects. For example, earlier in the past decade the American Association of Poison Control Centers reported that a total of 13 calls related to the use of synthetic cannabinoids had been reported. However, by 2010 the number of calls exceeded 3,000 while in Sweden there is a marked increase in the number of cases of what has come to be known as "Spice toxicity".

The present study was conducted as a first step to examine the influence of the potent synthetic CB₁ agonist JWH-018 on learning and memory performance in Morris water maze (MWM) tasks of varying difficulty. Specifically, the animals were trained on a cued version of the MWM to evaluate whether nonassociative factors (e.g., sensorimotor/visioning deficits) affected place learning performance. A series of non-cued MWM trials of varying difficulty were used to evaluate learning, memory, and vis probe trials, retention. First, a simple response version learning task was employed to explore possible response perseveration and memory.

MATERIALS AND METHODS

The subjects consisted of 17 male experimentally naive Long-Evans rats (Charles River, Wilmington, MA). The research protocol was reviewed and approved by the Institutional Animal Care and Use Committee of Palm Beach Atlantic University. The animals were cared for in a manner consistent with procedures of animal care described in the *Guide for the Care and Use of Laboratory Animals*.

Assessment of Nonmemory-Related Deficits.

Activity Assessment. General locomotor activity levels were evaluated for 7 minutes in a 24 "X24" chamber consisting of 9 squares (i.e., a 3x3 grid). General measures of activity were determined by the number of squares crossed during the measurement period. The number of rearing was also recorded.

Sensorimotor Assessment - Rotarod Test. In the rotarod test, a motor created a wooden drum (20 cm in circumference) at 10 rpm and a speed of 10 rpm or more. The drum will be stopped until the subject prevents the rat from slipping and allowed 100 rotations of the foot. Approximately 15 cm of foot padding was placed beneath the apparatus to prevent injury to the rat's feet.

Water Maze Navigation Task. In addition to tests of spatial learning and learning vis performance, the water maze protocol employed in the present experiment was used to evaluate the possibilities that nonassociative factors such as motivational changes or sensorimotor disturbances might impact swimming performance. By changing the parameters of the place procedure to make the task more of a challenge, we hoped that the procedure would be sensitive to non-memory impairment should they occur.

With the exception of general activity, behavioral testing occurred in a circular swimming pool 183 cm in diameter and composed of white acrylic plastic. Water was filled to a depth of 30 cm and made opaque by the addition of a non-toxic white paint (Cargill, Inc., Shelton, PA). The pool was located in a room that approximately 16.8 square meters in size. An escape platform painted the white and 14 cm x 11 cm in diameter was located 13 cm from the wall of the swimming pool. To the east wall was the platform, extended 12 mm above the surface of the water. For all remaining water maze place the platform was submerged 11 cm below the surface of the water.

Cued Place Learning Task. Using a visible platform, the cued water maze task was included to assess sensorimotor (e.g., swimming ability, vision) and motivational deficits as well as to determine the animals in the various elements of the water maze. This was done to assess if sensorimotor procedure that could influence performance during the spatial place and learning vis tasks. Training on the cued water maze navigation task began when the rat swam 10 days after the last drug exposure.

Place Learning Water Maze Task. The place learning task consisted of spatial reference memory-based learning. The task involved learning the location of a submerged platform located in the same area on all trials within a given place. Behavioral research in our laboratory involving the behavioral effects of different synthetic cannabinoids (mostly) demonstrated minor deficits using the standard version of this MWM task. We used our testing protocols (called Simple or Complex) to determine if the complex version of this maze sensitive to place learning memory impairment over the post drug exposure period.

The Simple Place Learning Task. This protocol involved 10 trials per day for 7 days. In order to facilitate spatial learning, a number of cued spatial cues will be located around the room. The rat will be allowed to remain on the platform for 20 seconds after each trial. After daily swimming, retention was evaluated with probe trials, consisting of a single daily 60 seconds free swim with no escape platform present.

The Complex Place Learning Task. In this task, all rats were trained four consecutive trials per day for 7 days. To increase the difficulty of the water maze task, the available non-cue cues were minimized and more illuminated by single 40 watt and light bulb, thus leaving few cues for navigation. Similar to the simple version of the task, probe trials were administered after the completion of the day, four and five.

Learning Set Acquisition Training. Learning set acquisition requires the animals to learn a cue location for the escape platform each day for 3 consecutive days. Training began on post-drug exposure day 7 and continued through day 9. The average performance on trial 2 of each day was used as the index of learning (short-term memory because in the task the animal is required to recall its position on the immediately preceding trial). The rat will be allowed to sit on the platform for 15 seconds in the completion of each trial.

RESULTS

Assessment of General Activity and Motor Ability

An ANOVA was used to explore the possible effect of the drug on motor performance. No drug associated effects were suggested in terms of quadrant crossings or rearing ($p > .05$). When the rats were tested using the rotating rod, the rats improved across sessions but no drug effects were observed on either the number of slips or the number of falls.

Water Maze Navigation Task

Cued Place Learning Task. The learning ability of the rats during the initial phase of training was examined by analyzing the swim trials in blocks of five swims. Using the swim time to the escape platform as the dependent measure, the data were analyzed using a 1-Between, 2-Drug groups, 1-Within (4 blocks of trials) analysis of variance (ANOVA). Swim times to the escape platform were comparable for both groups. Escape times decreased as a function of training for all animals, but the drug X trials interaction was nonsignificant.

Place Learning Water Maze Task.

The Simple Place Learning Task. The relevant results associated with the simple version of the place learning task are presented in Figure 1. Analysis of the resulting data with a 2 (drug groups) X 2 (blocks) ANOVA indicated a nonsignificant main effect of drug, but significant main effects of days and blocks, suggesting that changing swim times generally improved with days as well as between days. In addition, significant drug X days, and drug X blocks interactions were found. The three-way interaction was nonsignificant. Decomposition of the two-way interaction revealed the following. Swim times were significantly higher for the JWH-018 rats than saline controls on day 1 but not on day 2. Similarly, JWH-018 rats were impaired on blocks one and two but not on blocks three and four.

When the probe trials were considered a JWH-018 mediated impairment was observed (see Figure 1, inset). Specifically, main effects of drug, and days were found and, as evidenced by the lack of a significant drug X days interaction, the difference between the groups remained.

The Complex Place Learning Task. For the assessment of the complex place learning data, the four daily trials were normalized and averaged and the navigation performance was assessed over a five-day period. The results are presented in Figure 2. Using a 1-Between, 1-Within ANOVA, the analysis revealed main effects of the drug treatment and test days, suggesting that drug swim times differed and that the swim times generally decreased across the five-day test period. However, as can also be seen in Figure 2, the drug group X test days interaction was nonsignificant.

When the probe trials were assessed, only the main effect of days was significant indicating that the rats spent more time in the target quadrant on later days but both groups responded in a similar manner.

Learning Set Acquisition Training. The swim time data associated with the MWM learning set task is presented in Figure 3. Data involved averaging each trial from the five days of testing. Although the main effect of drug group was nonsignificant, not surprisingly, the main effect of trials was significant. Thus, while across trials the swim times for the two groups were comparable, their performance improved with training. In addition, the drug X trial interaction was detected suggesting differential changes in swim times as a function of trial position. Focusing on trial one vs. trial 2 performance in the decomposition of the interaction revealed significant reductions in swim times from trial one to trial two (see Figure 3, trials 1 & 2). Although trial 1 of Figure 3 suggests a difference in swim times, post hoc comparison of the two groups revealed that the trial 1 swim times were not significantly different. Conversely, saline rats found the escape platform on trial 2 significantly faster than the JWH-018 treated rats. The swim time results are consistent with the number of quadrants crossed which was also higher in the drug-treated rats.

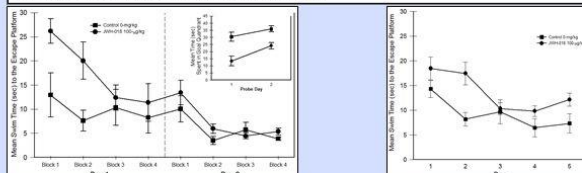


Figure 1.



Figure 3.



DISCUSSION

Collectively, the cannabinoids include a number of compounds that act as agonists at endogenous cannabinoid receptors sites. Included in this group are the compounds derived from the Cannabis sativa plant which includes Δ⁹-THC and Δ⁸-THC, endogenous cannabinoids such as Anandamide and 2-arachidonyl glycerol (2-AG) and a number of synthetic cannabinoids. The latter compounds were synthesized for research purposes at Hebron University (HU compounds), Pfizer Pharmaceuticals, with a large group synthesized by J. W. Hoffman in the 1990s (labeled JWH compounds).

Recently, a number of these synthetic cannabinoids have been detected in products labeled as Spice or K2 and include JWH-018, JWH-073, JWH-398, JWH-250 and HU-210. Although advertised as substances for nonhuman consumption, synthetic cannabinoids such as JWH-018 are mixed into a solvent and then sprayed on the plant as if delivering what was formerly a leafy high. In fact, JWH-018 was the first synthetic cannabinoid ever reported through the "Early Warning System" utilized in Europe to monitor emerging trends. Since JWH-018 is a potent CB₁ receptor agonist, capable of activating multiple signaling pathways in the brain, the subjective effects of Spice are considered the result CB₁ receptor activation by JWH-018, Spice and K2 preparations.

Of particular concern here is the possibility that adolescent exposure can lead to a number of disturbances in cognitive processes that persist long after abstinence. Consistent with this are reports of working memory impairments in adolescent but adult rats exposed to Δ⁹-THC when subsequently tested in adulthood. However, the issue remains open for further inquiry as the residual effects associated with adolescent exposure are not always found.

In summary, the results reported here provide that adolescent exposure of at least one common psychoactive constituent of K2 (Spice) compounds, JWH-018, can produce alterations in learning and memory performance in adulthood. To repeat, during adolescence a number of areas of the brain are undergoing developmental changes with higher levels of novelty and sensation-seeking considered a common feature of adolescence. Because presynaptic CB₁ cannabinoid receptors have been discovered at serotonergic, noradrenergic, glutamatergic, and GABAergic synapses in many areas of the brain including those critical for accurate responses and memory processes, these abused synthetic cannabinoids should be examined in greater detail. Doing so may further define the specific consequences associated with adolescent use.

SELECTED REFERENCES

- I. Stenqvist, P. Daborny and A. Salvato, "Cannabinoid receptors 1 and 2 (CB1 and CB2), their distribution, ligands and functional involvement in nervous system structures: A short review." *Pharmacology, Biochemistry and Behavior*, Vol. 80, No. 4, 2004, doi:10.1016/j.pbb.2004.05.010
- X. L. Block, R. Farooq and K. Braverman, "Acute effects of marijuana on cognition: relationships to chronic effects and smoking techniques." *Pharmacology, Biochemistry and Behavior*, Vol. 41, No. 3, 1992, 99-111. doi:10.1016/0304-3940(92)90045-8
- J. M. Court, "Cannabis and brain function." *Journal of Paediatrics and Child Health*, Vol. 34, No. 1, 1998, 1-7. doi:10.1046/j.1469-7610.1998.0014.x
- S. J. Heedeman, R. Arasteh, M. L. Bioner, "Comparative effects of alcohol and marijuana on mood, memory and performance." *Pharmacology, Biochemistry and Behavior*, Vol. 33, No. 1, 1991, 93-101. doi:10.1016/0304-3940(91)90045-7
- T. Pany, J. Wiedler and A. N. M. Schifflinger, "Cannabinoid modulation of executive functions." *European Journal of Pharmacology*, Vol. 383, No. 2-3, 2003, 459-461. doi:10.1016/j.eurpsy.2003.02.009
- R. Kandel and S. N. Datta, "Cannabinoid function in learning, memory and plasticity." In: R. G. Peeters, Ed., *Handbook of experimental pharmacology*, Springer-Verlag, Berlin, 2000, pp. 447-478.
- W. Adams and G. Lovato, "Windows of vulnerability in psychopathology and therapeutic strategy in the adolescent rodent model." *Behavioral Pharmacology*, Vol. 15, No. 1-4, 2004, 341-352.
- M. R. Domercq, C. A. Asad, G. Manzanao, A. Scherloh, C. T. Wojcik, H. U. Dock, W. Ziegansberger, B. Lutz and G. Hammer, "Cannabinoid receptor type 1 located on presynaptic terminals of principal neurons in the forebrain controls glutamatergic synaptic transmission." *The Journal of Neuroscience*, Vol. 24, No. 21, 2004, 5794-5799. doi:10.1523/JNEUROSCI.0772-04.2004
- M. Haring, G. Manzanao, B. Lutz, and K. Mönig, "Identification of the cannabinoid receptor type 1 in serotonergic cells of raphe nuclei in mice." *Neuroscience*, Vol. 146, No. 3, 2007, 1212-1219. doi:10.1016/j.neuroscience.2007.02.021
- K. F. Hoffman and C. R. Lopez, "Mechanisms of cannabinoid inhibition of GABA(A) synaptic transmission in the hippocampus." *The Journal of Neuroscience*, Vol. 20, No. 7, 2000, 2470-2479.
- K. A. Szeily, P. L. Pather, L. P. James and J. H. Moran, "Marijuana-based Drugs: Innovative Therapeutics or Designer Drugs of Abuse? Molecular Intervention, Vol. 11, No. 1, 2011, 36-41. doi:10.1124/mi.11.1.6
- C. C. Crepeau, M. Maclean and E. J. Van Bockstaele, "Cannabinoid receptors are localized to noradrenergic axon terminals in the rat forebrain cortex." *Brain Research*, Vol. 1127, 36-44. doi:10.1016/j.brainres.2006.09.110

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Dr. Megan Seeds
www.pbastrat.com



Private Provisioning of Public Adaptation Goods: The Case of Irrigated Agriculture in Central Arizona

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Do Arizona's water institutions facilitate climate change adaptation?

Arizona's future water resources and water management are likely to be challenged by climate variability, change, and population growth.^{1,2,3} In 1980, the state **Groundwater Management Act (GMA)** was negotiated under the premise that the agricultural sector – which consumes 70% of the state's water resources⁴ – would ultimately irrevocably relinquish water rights to meet growing municipal and industrial demand. Policies associated with the **Central Arizona Project (CAP)** furthered this aim. Importantly, this plan largely did not account for either the risks of climate change (e.g. changes in the relative values of ground and surface water) or the potential role of the agricultural sector in provisioning public goods for adaptation to climate change.

We take an institutional approach to explore how mechanisms in Arizona's water policy targeted at the agricultural sector have produced public goods in the past 30 years, and ask what changes might be needed to ensure adequate provisioning of public adaptation goods by private actors in the agriculture sector in the future.

Provisioning of public goods

Public goods are susceptible to under-provisioning because, by definition, their benefits are shared widely while their costs are not. A typical response to this dilemma is for government to provide the public good. Alternatively, as in the case examined here, provision of public goods may be a largely unintended consequence of private action.⁵ Because private actors may well experience costs or risks in participating in the production of public goods, institutional arrangements are critical.

		Beneficiaries	
		Private	Public
Providers	Private	Private action, private benefit <i>Farmers switching crops; adopting drip irrigation to maintain productivity</i>	Private action, public benefit <i>Farmers adopting conservation measures to enhance reliability of future public water supply</i>
	Public	Public action, private benefit <i>Public subsidies for adoption of drought-tolerant crops; public subsidies for input costs</i>	Public action, public benefit <i>Public investment in desalination, dam construction, water infrastructure, or pricing</i>

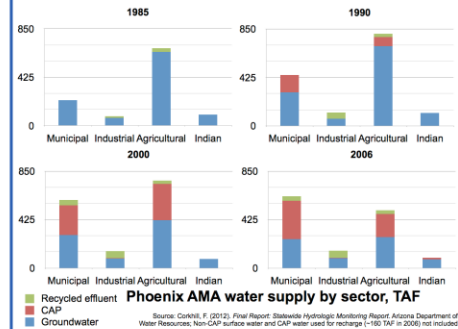
Source: Tompkins & Eakin (2012)

Acknowledgements:

This material is based upon work supported by the National Science Foundation (NSF) under Grant SES-0951366, Decision Center for a Desert City II: Urban Climate Adaptation, and by the National Oceanic and Atmospheric Administration (NOAA) Climate Program Office under a Sectoral Applications Research Program (SARF) grant. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of NSF or NOAA. We thank the survey participants and colleagues M. Anderson, R. Aggarwal, S. Walters, and C. Rufinac. Photograph by Kevin Dooley (2009).

Safe yield and full use of CAP

A key strength of the agricultural sector is the relative flexibility of many farm operations. In response to incentives under CAP and the GMA, as well as other factors, agricultural water use has shifted and decreased, substantially providing for safe yield and full use of CAP water, the public goods that have been prioritized.



Anticipatory adaptation and public adaptation goods

The need for anticipatory adaptation measures – in advance of, or exceeding any incentives determined by private perceptions of climate risk – complicates the classic public goods scenario. Initial uncertainties in provisioning public adaptation goods may include:

- The necessary timing and spatial scale of adaptation measures
- How contributions to a *public adaptation good* are aggregated (e.g. a simple sum, weighted threshold, or in reference to a "weakest link")⁶

Existing policies have had mixed effects on public goods provisioning

Current institutions have successfully buffered farmers from some signals of climate change and variability. This seemingly contradictory result stems from the perceived need to keep agriculture viable so that it can continue to provide public goods. Adaptation in the agricultural sector happens more in the context of institutional signals than environmental signals.

Institution	Public good: safe yield	Public good: full use of CAP
CAP water priced below cost (direct subsidy)	Positive effect; Shifts groundwater extraction to surface water use	Positive effect; Increases use beyond market demand
Base Program with flex credits (market-based)	Minimal effect	Minimal effect
BMP Program (technical assistance/performance standards)	Negative effect compared to Base Program	Positive effect

While farmers have little incentive to respond individually to potential emerging climatic and hydrological threats, as a sector, irrigated agriculture already plays a role in public-goods provisioning in relation to water management. Two questions should concern policymakers:

- What institutions might best ensure that agricultural actors continue to have the *flexibility* to provide public goods?
- Do current institutions incentivize production of the *appropriate* public goods at *adequate* levels?

The case of irrigated agriculture in central Arizona illustrates lessons on both the potential, as well as the pitfalls, entailed in different mechanisms for public goods provisioning. We argue for new attention as to how institutional arrangements can play instrumental roles in generating adaptive outcomes for coupled social-ecological systems.

References

- ¹ Gleason, P., & Robinson, C. (2010). Vulnerability assessment of climate-induced water shortage in Phoenix. *PNAS*, 107(50), 21299-21300.
- ² Hoerling, M., & Eischeid, J. (2007). Past peak water in the Southwest. *Southwest Hydrology*, 20(7)(January/February), 18-19, 38.
- ³ Hart-Diamond, G. (2010). Water, climate change, and sustainability in the southwest. *PNAS*, 107(25), 21254-21262.
- ⁴ Garmonza, G., Singar, M., Daugherty, D., Clark-Johnson, S., & Hart, W. (2011). *Watering the Sun Corridor: Managing choices in Arizona's megaproject area*. Maricopa Institute for Public Policy, Arizona State University.
- ⁵ Tompkins, E.L., & Eakin, H. (2012). Managing private and public adaptation to climate change. *Global Environmental Change* 22(1), 3-11.
- ⁶ Eakin, S., and Robinson, D. T. C. (2012). Adaptation to climate change in the European Union: Efficiency vs. equity considerations. *Environmental Policy and Governance*, 20(3), 158-179.



A Novel Approach to Campus Health and Wellness: The UCLA Healthy Campus Initiative



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Live Well is a campus-wide wellness movement with the goal of making UCLA the healthiest university campus in America.

<http://healthy.ucla.edu/>

CAMPUS POPULATION

Live Well includes the entire campus community:
~4,000 faculty
~26,000 staff
~42,000 students
~200 buildings = 17 million ft² built space
419 acres (0.66mi²); smallest UC campus

CORE VALUES

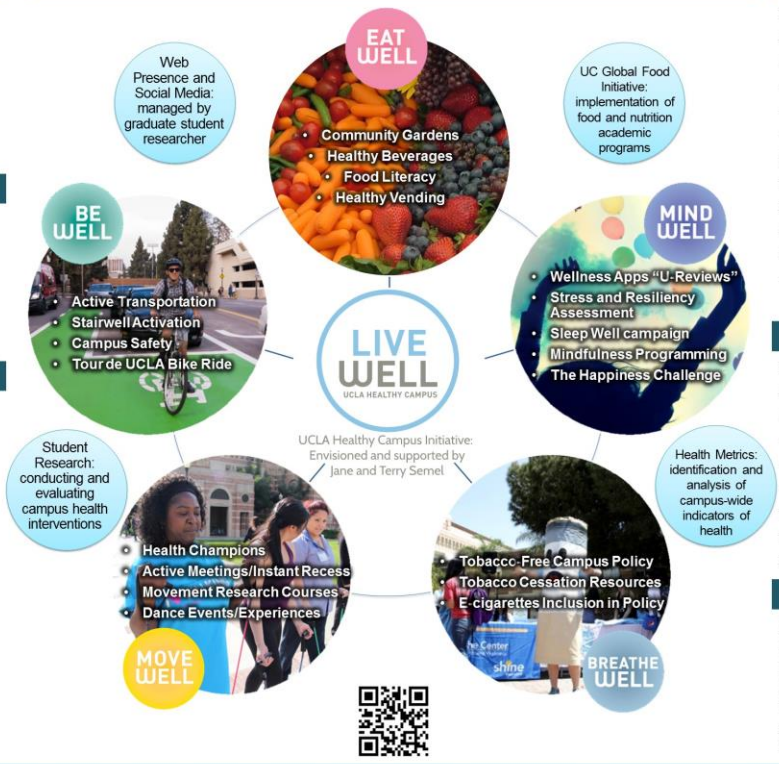
A "healthy campus" is a place that:

1. Fosters high-level wellness
2. Encourages personal responsibility
3. Respects diversity
4. Strives to reduce inequalities in health
5. Is integrative

PROCESS

- Support and integrate existing health-related groups, programs, and activities
- Use best practices to coordinate new approaches and programs
- Map campus assets and learn from different stakeholders
- Organize community collaborations and facilitate bottom-up approaches
- Host monthly steering committee meetings and area-specific working groups
- Fund and facilitate student projects related to Live Well goals and values
- Develop metrics to measure health and wellness changes
- Maintain a website and other campus communications for resources and events

STRUCTURE



CHALLENGES AND SUCCESSES

- Challenges:
- Cross-campus coordination of large groups
 - Branding and recognition
 - Student turnover and leadership transition
 - Large and diverse campus population
 - Wide range of health disparities
- Successes:
- Bringing together diverse health groups
 - Practical, action-based projects
 - New data collection and publications
 - Impact beyond the UCLA campus
 - UC President Napolitano recommendation for a Live Well model at all UC campuses

KEYS TO SUCCESS

- Organizational integration
- Administration buy-in
- Interdisciplinary leadership
- Including non-traditional stakeholders
- Targeted and adaptable use of resources
- Combination of research and practice
- Collaboration between pods
- Graduate student researcher input
- FUN!

ACKNOWLEDGEMENTS

UCLA Healthy Campus Initiative is envisioned and supported by Jane and Terry Semel. A special thank you to Live Well leadership including Dr. Wendy Slusser, Dr. Michael Goldstein, Louise Iino, pod leaders and graduate student researchers, and steering committee members.



Why Collaborate?

Examining the impact of faculty & librarian collaboration on students' information literacy skill development in the First Year Seminar (FYS)

<http://projecturl.com>

Methods

Start of Semester Student Survey

Gauged students' familiarity with libraries, librarians & library resources

End of Semester Student Survey

Students' self-reported use of library resources & interactions with librarians

Librarian Survey

Librarians' report on collaborative efforts with FYS instructors

Faculty Survey

Faculty report on IL outcomes covered & collaborative efforts with librarians

Rubric-based Assessment of Student Essays

106 sample essays from 9 FYS sections evaluated by 3 librarians

Faculty Interviews

5 FYS instructors discuss experiences integrating IL into the FYS & working with librarians

Our Question

Does collaboration between first year faculty and librarians make a difference to first year students' information literacy skill development?

6 teaching librarians 385 first year students 5 years of the FYS curriculum
4 core skills including IL 24 FYS instructors 0 student learning assessments

St. Mary's College of Maryland Team Members



Acknowledgements

This project is part of the program "Assessment in Action: Academic Libraries and Student Success" which is undertaken by the Association of College and Research Libraries (ACRL) in partnership with the Association for Institutional Research and the Association of Public and Land-grant Universities. The program, a cornerstone of ACRL's Value of Academic Libraries initiative, is made possible by the Institute of Museum and Library Services.

The project team would also like to thank Katy Arnett, professor of educational studies at St. Mary's College of Maryland for her assistance with the rubric component of this assessment project.

Project Results

Starting Points

First year students have some high school experience with libraries but familiarity with research & librarians varies (n = 377).

- 98%** visited school or public library
- 82%** did research at the library
- 77%** borrowed library materials
- 67%** used a library database
- 58%** consulted a librarian for research assistance
- 64%** had library or research instruction

Relationships

24 librarian-faculty relationships analyzed using the following scale

- 5** Collaborative assignment development
- 4** Faculty integrates some librarian feedback
- 3** Discussion of course materials (no changes)
- 2** Librarian received syllabus, assignments
- 1** Any contact between librarian & faculty

We are doing more consulting than collaborating

- 3** Mean collaboration score
- 1** Most frequent # of classes taught by librarians per FYS.

Collaboration ↑ Students' Use of Library Information Resources

The mean faculty-librarian collaboration score was significantly higher for students who



Where Collaboration Fell Short

There was NO correlation between faculty-librarian collaboration levels and students' higher level IL skills (based on rubric evaluation of sample essays).

Overall scores were **BELOW TARGET (3)**.

- X** Research Question Formulation (mean = 2.54)
- X** Appropriateness of Sources (mean = 2.28)
- X** Relevance of Sources (mean = 2.4)
- X** Integration of Sources (mean = 2.01)
- X** Citation of Sources (mean = 1.99)



Actions & Recommendations

Immediate Action

Share project results with faculty.
Revise FYS IL learning outcomes.
Survey 2014 FYS students.

Shift in Practice

Librarians need to place greater emphasis on the IL learning outcomes for the FYS when working with faculty.

Shift in Thinking

Consultation is not collaboration. Faculty & librarians need to be active partners & IL skills need FYS faculty reinforcement.

Wider Implications

IL instruction needs to be expanded throughout the college curriculum to build advanced IL skills.

Future Planning

Need to build partnerships between the Writing Center & Library for better IL instruction.

Assessment and Enhancement of a University Worksite Wellness Program

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Meg Sheppard, PhD, CHES – msheppard@atsu.edu

ABSTRACT

A.T. Still University (ATSU) offers the *Still Healthy Lifestyle Program* to increase employee knowledge regarding health and wellness topics. Researchers in the College of Graduate Health studies health education department developed a needs assessment tool to describe university employees' interest and engagement in current wellness efforts at the university. This presentation summarizes methods used by researchers to assess employees' self-reported interests and preferences for the delivery of university-sponsored wellness resources.

PURPOSE

The concept of wellness has been explored in higher education since the 1970s; worksite wellness has been a topic of study since the 1950s. A literature review analysis found traditional worksite wellness programs in university settings focus on individual productivity and return on investment. The focus of previous research seems to conflict with needs assessment data suggesting university employees prefer wellness resources designed to enhance whole person wellbeing. The survey was designed to assess gaps between wellness needs and available wellness resources leading to development of new health education resources.

METHODOLOGY

Following university approval, an online mixed-methods wellness survey was created in Google Forms to collect demographic data, wellness interest topics, and awareness and use of the current *Still Healthy Lifestyle Program*. Volunteers were recruited via email across the ATSU system and included full-time and part-time administrators, faculty, and staff. All employees were eligible to participate regardless of age, race, ethnicity, disability, or any other factors and free to decline participation with no penalty or prejudice. Information about the study and contact information for the investigators was distributed prior to data collection.

SURVEY CREATION

An assessment of current literature and surveys was conducted to identify tools already in use to assess employee interest in health and wellness topics. No suitable tool was identified, so researchers created a comprehensive tool to assess the wellness needs of employees. The *Still Healthy Lifestyle Questionnaire* was developed using the ATSU's seven dimensions of wellness model. The researchers collected demographic data including age, gender, racial/ethnic group, department affiliation, years of service, and employment status. Participants reported general awareness of wellness programs, services, and resources (Likert scale), and interest in a comprehensive list of 40 wellness topics (response options included: yes, no, maybe). The *Still Healthy Lifestyle Questionnaire* was checked for face and content validity and received exempt institutional review board status. Descriptive statistics were analyzed using SPSS version 21; wellness topics were ranked and categorized using the wellness model (table).

DATA COLLECTION

Data were collected during a 3 week period in the spring of 2014. The Benefits Coordinator in the human resource department sent an email to all ATSU employees (n=1,802) with a link to the survey. A reminder was sent to all university employees 1 week after the initial recruitment email. After 3 weeks, the survey was closed and the data were analyzed.

FINDINGS

Three hundred ninety-three or 22% of employees completed the survey. The majority of participants were enrolled in the ATSU employee insurance plan (89%), participated in the *Still Healthy Lifestyle Program* (81%), and reported being satisfied (43.5%) or very satisfied (17.5%) with the program. Discrepancies were found between participants who are aware of wellness programming and those who are enrolled. Participants were interested in a variety of wellness topics (table); the majority of wellness topics that interested participants did not align with current resources offered by the *Still Healthy Lifestyle Program*.

Emotional	Environmental	Intellectual	Physical	Social	Spiritual	Vocational
<ul style="list-style-type: none"> Stress management Body image Deaths and dying Co-dependency 	<ul style="list-style-type: none"> Emergency prep Conservation, recycling Depression Anxiety School safety 	<ul style="list-style-type: none"> Mental exercise Lifelong learning Hobbies Culturally aware 	<ul style="list-style-type: none"> Healthy eating Exercise Cancer detection Sleep disorders HEI, stroke Dementia Arthritis Cholesterol Chiropractic Blind/presbyopia Sports injury Food safety 	<ul style="list-style-type: none"> Communication Relationships Alcoholism Social media Caring for elderly Parenting 	<ul style="list-style-type: none"> Alternative health Chiropractic Social media Emotional Empathy Forgiveness Personal values 	<ul style="list-style-type: none"> Flexibility in workplace Conflict resolution Time management Work-Actual talent Employee rights Teamwork

*Majority interest (>50%), +strong plurality (50-40%), weak plurality (<40%).



CONCLUSIONS AND IMPLICATIONS

Periodic re-assessment of employee wellness needs is necessary to make sure the wellness programs offered align with the needs and interests of the employees. Wellness programming could also be developed for specific substrata within an employee population (e.g. gender, age). Programs should periodically be re-evaluated for novelty and innovation, functionality, and relevance.

ATSU is a leading health sciences university that includes a doctor of health education program whose faculty represent subject matter experts and experienced educators. Based on study outcomes, a pilot project will be developed by health education faculty to locate and create wellness resources that meet employee expectations and needs based on wellness interests and preferred format.

QUALITATIVE FEEDBACK

Feedback on the Current Wellness Program?

Male, 40 years, full-time staff
I appreciate that ATSU offers a comprehensive list of wellness topics. I would like to see more information on the current wellness programs offered by the university. I would like to see more information on the current wellness programs offered by the university.

Female, 40 years, part-time staff
I appreciate the comprehensive list of wellness topics. I would like to see more information on the current wellness programs offered by the university.

Male, 40 years, full-time staff
I appreciate the comprehensive list of wellness topics. I would like to see more information on the current wellness programs offered by the university.

Suggestions to Improve the Wellness Program?

Female, 40 years, full-time staff
I would like to see more information on the current wellness programs offered by the university.

Female, 40 years, full-time staff
I would like to see more information on the current wellness programs offered by the university.

Male, 40 years, full-time staff
I would like to see more information on the current wellness programs offered by the university.

Female, 40 years, part-time staff
I would like to see more information on the current wellness programs offered by the university.

REFERENCES

- Myers, J. G., & Mabley, A. K. (2004). Wellness of undergraduates: Comparisons of traditional and nontraditional students. *Journal of College Counseling, 7*, 40-48.
- National Institute for Health Care Management. (2011). Building a stronger evidence base for employee wellness programs. *Meeting Brief, NCI-NCM Foundation*.
- Hib-Mog, P. E., Kumpke, K. L., Ward, R. M., Reed, J., Myers-Novels, B., & Behavious, S. E. (2015). Worksite health promotion programs in college settings. *Journal of Education Health Promotion, 4*(2), doi: 10.4103/2277-6533.134818
- Roback, S., van Lathrop, E. J., van Empelen, P., & Boudry, A. (2009). Determinants of participation in worksite health promotion programs: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity, 6*(26).
- A.T. Still University. (2015). *Still well: student wellness program*. Retrieved from https://www.atstu.edu/student_wellness/

INTERNET INEQUALITY: THE IMPACT OF HOME INTERNET ACCESS ON SCHOOL SUCCESS

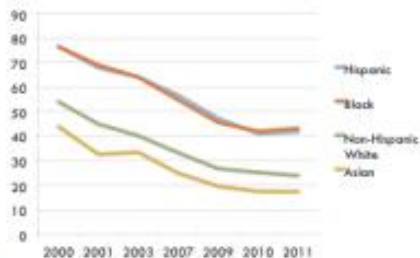
— Department of Economics — The University of Texas at Austin

ABSTRACT

In addition to a wide education gap between Hispanic and non-Hispanic White students, there also exists a persistent gap in home internet access between these groups. In my research, I identify a link between these two trends by analyzing data from the Current Population Survey. My research shows that lower rates of home internet access contribute to educational gaps between ethnic groups and that home internet access relates to higher school success.

BACKGROUND

Percent of Households Lacking Internet Use, by Race and Ethnicity



- Total internet access has increased but gaps in access persist between race/ethnic groups
- Factors affecting access include income, ethnicity, age, and level of education
- Previous studies suggest both positive and negative effects of home computer access on education



Source: Shutterstock/Bonetti

METHODOLOGY

DATASET

• Used cross-sectional data on students ages 13-17 from the 2009, 2010, and 2012 Current Population Surveys

SUCCESS ESTIMATOR

• Generated a variable measuring grade retention to estimate school success for each student

REGRESSION MODEL

• Employed an Ordinary Least Squares regression model to identify correlations between internet access and school success

RESULTS

- Hispanic students are significantly more likely to be below grade level than their White peers
- Differences in school success are mostly attributed to income
- Some differences can be explained by differences in access to home internet
- Students who lack internet access, regardless of race or income, have lower success in school



CONCLUSION

Home internet access has a significant effect on school performance, and it explains some difference in educational outcomes between first generation Hispanics and Whites. While increased home internet access may decrease grade retention and dropout rates, it is unlikely to affect gaps in school success between different racial and ethnic groups

I would like to thank [redacted] and the UT Department of Economics for supporting this research project.

Sexting Themes: New Medium for Old Behavior

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Sexting has recently become a hot topic in popular and academia media. Often, consensual and non-consensual acts are both labeled as sexting in these discussions, and the focus is on the risks and harms of sexting while issues of consent and gender-based violence are absent. This discourse tends to regurgitate traditional gender roles and sexual double standards (Ringrose, Harvey, Gill & Livingstone, 2013). Also, risks are portrayed differently for males and females, with the potential for female "sexual corruption", emotional and reputational damage highlighted in particular (Draper, 2012; Karaiian, 2012). This study aimed to provide a description of non-consensual sexting.

Method. 141 Canadian undergraduate students completed an online survey about their experiences, and those of people they knew, with the manufacture and sharing of sexual images without consent. Participants were also asked if they had seen technology used in a positive way following such incidents. A thematic analysis was conducted on the written descriptions.

Results. Participants exclusively described images of women and girls, which shaped the analysis. Three main themes emerged: Heterosexual Intimate Partner Revenge; Use of Images in Sexual Harassment; and, Increasing Male Social Capital. Descriptions of non-consensual sexting incidents mirrored those found in media discussions of sexting and wider societal discourse about gender and sexuality. Participants described: female responsibility for male sexuality, including how their images were used without consent; male use of images for revenge; male use of images to gain status from peers, and, images used to sexually harass girls and women.

Sexual images are being used to bolster male social status ("prove" masculinity) by denigrating and violating the women and girls in them. Use of images for revenge and harassment suggests that these behaviors would be better conceptualized as technology-mediated sexual violence, as suggested by several researchers who have studied sexting (e.g., Henry & Powell, 2015; Ringrose & Harvey, 2015). Notably, a small subset of people did focus on individuals using the images without permission instead of on the sender. Issues of consent, right to privacy, and healthy sexuality were absent from the descriptions suggesting that a shift away from the risks of sexting, to discussions about consent and sexual violence in a digital world is needed.

References:

- Draper, N. R. A. (2012). In your teen at risk? Discourses of adolescent sexting in United States television news. *Journal of Children and Media, 6*(2), 221-236.
- Henry, N., & Powell, A. (2015). Beyond the "meat": technology-facilitated sexual violence and harassment against adult women. *Australian & New Zealand Journal of Criminology, 48*, 104-118.
- Karaiian, L. (2012). Lolita speaks: sexting, teenage girls and the law. *Critique Media Culture, 8*, 57-73.
- Ringrose, J., & Harvey, L. (2015). Bodies, tech-use, sex, pimps and lites: Mediated body party, proletrated research, and sexual shame in teen sexting images. *Continuum: Journal of Media & Cultural Studies, 29*(2), 205-217.
- Ringrose, J., Harvey, L., Gill, R., & Livingstone, S. (2013). Teen girls, sexual double standards and sexting: gendered values in digital image exchange. *Feminist Theory, 14*(3), 305-323.

Theme 1: Heterosexual Intimate Partner Revenge

- * Sexting occurred within heterosexual pairings
- * (Most often) the male partner shared or forwarded
- * Sexual images of the female partner as a form of revenge
- * Loss of control

"long distance couple broke up so the boyfriend decided to post the ex-girlfriend's nudes on various image hosting websites"

Atypical example:

"a girl sent a nude to another girl's boyfriend and so the girlfriend posted the picture on Facebook"

"got back at her by taping her nudes on her house"

"done by ... an ex-boyfriend as a form of revenge"

Theme 2: Use of Images in Sexual Harassment

- * Images were produced and/or shared without consent to intentionally target an individual outside of an intimate pairing
- * Online and offline harassment
- * Often involved rumors of sexual images being passed around (not the images themselves)

"spreading like wildfire"

"someone made a Facebook profile including all the naked photos of a girl"

campus "blast sites, where people post pictures of people ... and write stuff about them anonymously"

Theme 3: Increasing Male Social Capital

- * Sexual images of females were used to gain social status among groups of males
- * Described as being for social or entertainment purposes
- * Small number of accounts involved physically sharing the image (instead of digitally)

"didn't send the picture but went around school and showed it to people"

"froze the pic and showed other people"

"some girls were taking pictures of other girls changing ... and then sending them to other people"

"receive photos of numerous people and share stories"

"pictures shared among a sports team"

viewed "a nude pic sent to a friend of mine, who showed me jokingly"

When asked about positive uses of social media in response to these situations, 2 sub-themes emerged:

- * **Women as Victims:** women were presented as naïve and in need of protection/lacking agency but were also blamed for any non-consensual uses of their images
- * **Provision of Support:** individuals taking/sharing images without consent were viewed negatively & use of technology to support the women victimized

Women as Victims:

"reestablish a more positive reputation"

"defend the person"

"social media tries to warn people about the negative effects of spreading sexual info"

"should not have sent it in the first place"

Provision of Support:

"a lot of support for the person whose explicit content was released"

"shamed the person who posted the pictures"