

Tips and Tricks to CREATE Successful Scientific Posters

Carole Lynn Rüttimann Viktoria Egele Marthe Tulpin collaborative research and training in the ehps

Poster Perfect: Tips and Tricks to CREATE Successful Scientific Posters



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- How do I avoid common pitfalls?
- Get in sights and ask questions in a Q&A!

When: 26.06.2025 12-13:00 CEST

CREATE is a subdivision of the European Health Psychology Society, promoting education and collaboration for early career researchers in the field. collaborative research and training in the etps

Learnings



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- 1. Skills to create **compelling and visually appealing** scientific posters
- 2. Effective strategies for **communicating complex research findings** through visuals and concise text
- 3. Practical tips for **organizing information** and maintaining engagement on a poster



3

Webinar Structure

- 1. Content and how to structure it
- 2. Key visual principles
- 3. Handy tools
- 4. What does a poster presentation look like?



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Content and how to structure it



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Be sure about your message!

3 Important Questions

What is it you would like to communicate?

- Study protocol
- Pilot study
- Results
 presentation
- Systematic review

• ...

Who is your audience?

- Research or
 - practice?
- Discipline(s)
- •

Knowledge and language



6

EHPS 2024



Bern Data Science Days 2025

93

Smart Scale

· Rody weight

· Body fat

Distal behavioural outcomes

7

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Body Mass Index (BMI)

Be sure about your message!

3 Important Questions

What is it you would like to communicate?

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• ...

Who is your audience?

- Research or practice?
- Discipline(s)
- •

Knowledge and language

What should they remember?

- Main finding
- New concept
- Open research question

8

• ...



Key Components

Content Checklist

Title





Authors and affiliations, institution logo



Background on the general topic



Project aims



Methods



Results



Conclusion or take-home message



References



Funder (if applicable)



9

Content Structuring

Original ways to structure your poster



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- Problem Solution Benefit
- What? Why? How? So what?
- Background, aim, methods based on the 'AND - BUT - THEREFORE' structure



Content Structuring

Cancer is defined by uncontrolled cell growth **AND** affects millions of people worldwide.



BUT traditional therapies are not always effective and can cause severe side effects.

Therefore

And

THEREFORE, there is a need to develop personalised therapies with fewer side effects.



Key visual principals



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Rules of the game

4 Tips



HIERARCHY – BALANCE – READABILITY





HIERARCHY



Use size variation to emphasize important elements



You will go back to read this body copy if you want to know more. It takes the most effort to read because it has a lot of text in a small font in a light weight with tight line spacing. Many people will skip paragraphs like this unless if they aren't engaged right away. This is why it's important to draw attention to your message using visual hierarchy.

You´ll probably read this before the paragraph.





Make use of panels



Panels create hierarchy and visual grouping

Panels help organize related content and establish a clear structure within your design. They create visual boundaries that help viewers understand which elements are important and which elements belong together.



2

3

Make use of headers

Primary headers

Main titles that identify major sections

Secondary headers

Subheadhings that organize content within sections

Tertiary headers

Minor headings for detailed organization

Good Headings	Bad Headings
Introduction	Introduction
	Methods
Methods	







Make use of typography

Bold text

Creates emphasis and draws immediate attention to important information. Use for headlines and **key points** that need to stand out.

Italic text

Provides subtle distinction and can indicate secondary information or *special terminology*. Use sparingly for emphasis within body text.

ALL CAPS

Creates strong visual impact and can be used for short, important headlines. Avoid using for long text as it reduces readability.



Hierarchy in action: An example

- Varying sizes to direct attention
- Panel elements to group related content ٠
- **Typography** choices that distinguish • information types
- Clear **headers** that organize content • sections



Explaining Physical Activity Behavior Using a Network Analytical Approach to Social Cognitive Theory

Viktoria S. Egele, Eric Klopp, Robin Stark

Results

Saarland University

Theoretical Background

- · Although Bandura's Social Cognitive Theory (SCT) is well researched, the theoretical assumptions are increasingly being questioned: it is unclear whether unilateral relations between self-efficacy, outcome expectations, sociostructural factors, and goals, are valid or whether the constructs are related via reciprocal relations (Beauchamp et al., 2019)
- · Network analysis permits to analyze a complex pattern of relationships without causality assumptions
- · A network consists of knots (variables), that are connected via edges, where an edge represents a pairwise interaction between the knots that can be expressed statistically by a partial correlation
- · Network analysis aims at determining substantial edges, these can be determined using regularization (Epskamp et al., 2017)
- · Communities are groups of knots that share a higher level of communalities among each other than with other knots in the network (Briganti et al., 2018; Golino & Epskamp, 2017)

Research Question

· In absence of consideration of causal paths, how are the elements of SCT related to each other and which communities can be discovered?

Methods

- Sample: 335 participants (109 male, 225 female, Mane=30.27, SDane=12.78)
- · Physical activity was measured by means of the IPAQ (Craig et al., 2003)
- · Self-efficacy, outcome expectations, sociostructural factors, and goals were assessed by rating scales as suggested by Bandura (2006).
- Internal consistencies of the SCT scales: self efficacy α=.93. outcome expectations α =.79, goals α =.54, sociostructural factors α =.69
- Regularized estimation using the EBICglasso (λ=.5; Epskamp et al., 2017; Epskamp & Fried, 2018))
- · Estimation of edge's accuracy and network stability using a bootstrap (10000 bootstrap samples; Epskamp et al., 2018).
- · Spinglass algorithm to determine the communities (Yang et al., 2016) with 500 replications

References

whame M R Crawford K L & Jackson R (2019) Social

Viktoria.egele@uni-saarland.de

gap: there are strong relations within the SCT-components and weak relations with physical activity.

· Very little variance of physical activity can be explained by SCT $(R^2 = 9\%)$, it can thus be inferred that other variables (e.g. values, habits) are at least as pertinent for physical activity.

· The presence of two communities hints at an intention-behavior



UNIVERSITÄT DES SAARLANDES

- SCT scales and a singleton community consisting of physical activity, displayed in Figure 1.
- · Accuracy: only slight differences between the estimates and their bootstrap mean (absolute deviation ≈ 0.025), see Figure 2 Good stability (CS=.75)



Discussion

- · Self-efficacy has the strongest relations to the other SCT constructs.
- which aligns with the research on SCT that is primarily concerned with self-efficacy (Young et al., 2014). · Some relations that were assumed in the original theory seem to be
- absent in the network (e.g. a relation between outcome expecations
- Figure 1. Network MDS plot 01-M Figure 2. Bootstrap (accuracy)

and goals/physical activity).

2 Key visual principles

BALANCE



Examples











Creating visual harmony



<section-header><section-header><section-header><section-header><complex-block><section-header>

Symmetrical balance

• Unequal elements create equilibrium through careful placement, often resulting in more dynamic designs.

stable appearance.

Elements are evenly distributed on either

side of a central axis, creating a formal,

• Elements radiate from a central point, creating circular harmony and drawing focus to the center.

2 Key visual principles





Best Practices for Visual Elements

- Incorporate meaningful visuals
- Ensure visual content **directly relates** to your textual information
- Consider the **placement and size** of visuals
- When properly integrated, visuals become powerful communication tools that work in harmony with your hierarchical structure and balanced composition

Youth-centred participatory action research meets systems thinking: co-creating a protocol for systems mapping together with children

Laura Belmon^{1,2} Sharifa Adil¹, Renée Wink¹, Sophie Pleysier³, Fiona Budge⁴, Mai Chin A Paw^{1,2} Teatske Altenburg^{1,2}

 1. Amsterdam UMC, Vije Luberstell Amsterdam, Department of Palicis and Oroganisma Health, Ansterlam Palici, Health research Institute, Amsterdam, Bei Heinhands, 2. Amsterdam Palicia, Benzingman Health Behavios and Chromic Dissesses and Herbologiky, Amsterdam, Revehendrands, 3. Vije Lubershellt Biosses, Department of Physioliterapy, Haman Physiology and Austoryn, Faculty of Physical Education & Physioliterapy, Biosseis, Belgium. 4. Annan Institute, Vije Universited Amsterdam, Amsterdam, Benzhendrand.

Feasibility

The research process can be

carried out and accomplished

with the children under

existing means, resources, and

conditions

Accessibility

The research process can be

can access and understand

making the research process

accessible and appealing to

engage for children

The results underscore

explanations fun

engagement

into account

11137

· A safe and suitable environmen

 Explaining complex concepts in a simple way

Using age-appropriate language

· Using visual aids and practical

 Longer participatory sessions (+/-75-90 minutes)

examples for the explanations

· Taking the ethical principles of PHR

basis for the mapping activities

overview of the arrows (+ and -)

Including diverse activities

after a short explanation

· Next to games, include creativity as a

· Providing supportive tools such as an

· Learning by doing: doing the activity

Amsterdam UMC

· Using games (e.g. a quiz) for making

Using competition elements for active

the importance of

rovided in a way that children

Background

Youth-centered participatory action research (YPAR) is is a form of participatory research in which children and adolescents are actively involved in research in collaboration with academic researchers to investigate problems and develop solutions (1,2). YPAR has been combined with approaches such as system thinking to guide the research toward deeper understanding of public

However, current protocols for participatory systems mapping have been perceived as boring

and difficult by children aged 9-12 years old (4). Therefore to be able to include children

effectively, there is a need for developing a child friendly protocol. Therefore we aim to concreate a

health problems, e.g. childhood obesity, and directions for changing these problems (3).

protocol for participatory systems mapping together with children aged 9-12 years old.

Theorizing child-friendliness

Enjoyment The research process can

be carried out while

experiencing a feeling o

satisfaction that arises

from engaging in the

Methods

11 participatory sessions

of one hour with children

aged 7-11 years, and two

After-school day care in

Audio transcriptions

Beflection meetings

videos, drawing

Thematic content

· Deductive and open

analysis

MAXODA

coding

In conclusion, this study highlights the potential for creating accessible and engaging participator

systems mapping procedures for children. Involving young participants in co-creating map fosters inclusivity. Future research should refine these methods with a more diverse group to

improve validity, reliability, and effectiveness

· Visual data, e.g. posters,

Amsterdam, the Netherlands,

academic facilitators

in a disadvantaged

neighbourhood

Logbooks
 Peffection forme



as: think about how

these ideas connect to

each other.

1555 1555

HORE LESS

ATTEN LESS HORE

Laura Belmon

PLUS

Step 6: Map revision Checking together with the children if the map is missing any factors or connections by presenting the maps to the other children and receiving feedback



Let's

Benefits of white space

- Creates breathing room for design elements
- Improves comprehension and information processing
- Establishes **relationships** between elements
- Directs **attention** to what matters most

Let your design elements breathe!







Benefits of white space

Heading Sub-Headline

Nunc faucibus a pellentesque sit amet porttitor eget. Ligula ullamcorper malesuada proin libero nunc consequat. Feugiat nisl pretium fusce id velit ut tortor pretium viverra. Diam quis enim lobortis scelerisque fermentum dui. Diam donec adipiscing tristique risus nec feugiat Ornare genean euismod elementum nisi quis eleifend quam adipiscing. Quis commodo odio aenean sed.

Don't

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Heading

Sub-Headline

Nunc faucibus a pellentesque sit amet porttitor eaet. Ligula ullamcorper malesuada proin libero nunc consequat.

Feugiat nisl pretium fusce id velit ut tortor pretium viverra. Diam quis enim lobortis scelerisque fermentum dui.

Diam donec adipiscing tristique risus nec feugiat. Ornare aenean euismod elementum nisi quis eleifend quam adipiscing. Quis commodo odio aenean sed.

Do

Youth-centred participatory action research meets systems thinking: co-creating a protocol for systems mapping together with children

Laura Belmon^{1,2} Sharifa Adil¹, Renée Wink¹, Sophie Pleysier³, Fiona Budge⁴, Mai Chin A Paw^{1,2} Teatske Altenburg^{1,2}

1. Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Public and Occupational Health, Amsterdam Public Health research institute, Amsterdam, the Netherlands 2. Amsterdam Public Health, programs Health Behaviors and Chronic Diseases and Methodology, Amsterdam, the Netherlands 3. Vrie Universiteit Brussel. Department of Physiotherapy, Human Physiology and Anatomy, Faculty of Physical Education & Physiotherapy, Brussels, Belgiu 4. Athena Institute. Vrie Universiteit Amsterdam. Amsterdam. the Netherlands

Enjoyment

be carried out while

from engaging in the

activity or exp





Amsterdam UMC 11131 CAPR

Let's connect!

Laura Belmon



READABILITY



Readability

Text size

Ensure text is large enough to read from a distance. Headlines: 24-36pt, Body text: minimum 18pt

Font choice

Select legible fonts and limit to 2-3 typefaces per design. Sans-serif fonts often work best.

Contrast

Maintain high contrast between text and background. Dark text on light backgrounds or vice versa works best.

How to select and construct outcomes for a RCT? Discover construct and item mapping



mma Tack, PhD student

KU LEUVEN GHEN

w fwo

2 Key visual principles

Readability

Color scheme

Helpful tools Color combination guide: https://webflow.com/blog/best-color-combinations

- Color palette generator: <u>https://coolors.co/</u>
- Color accessibility:
 <u>https://www.color-blindness.com/coblis-color-blindness-simulator/</u>







2 Key visual principles

HIERARCHY – BALANCE – READABILITY







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Design spotlight 🗸 🛛 Business 🗸

?

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What will you design today?

...

With Canva you can design, generate, print, and work on anything.

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Presentations

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SlidesGo: slidesgo.com

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Offers both: <u>freepik.com</u>

What does a poster presentation look like?



4 Poster presentation

Poster presentation

Things to consider

- Printing your poster
- Presenting your poster
 - o Pitch/read
 - Answer questions
 - Focus on the main message!



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After the conference

Things to consider

• Share your poster (e.g.: the Open Science Framework)





Recap

- 1. Content and how to structure it
- 2. Key visual principles
- 3. Handy tools
- 4. What does a poster presentation look like?



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Take Home Message

- 1. Focus on the main content.
- 2. Check Hierarchy, Balance, and Readability to create a visually appealing poster.
- 3. Explore some new tools.
- 4. Have fun preparing and presenting your poster!



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