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University
of Bremen

Rethinking Research Data Management

Inclusive Practices for Every Mind

CONTACT

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Who am I?



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Sarah Büker (she/her)

- 2019 Biosciences (B. Sc.), University of Osnabrück
- 2023 Marine Environmental Sciences (M. Sc.), University of Oldenburg
- Since May 2024 Data Scientist for Marine & Environmental Sciences @ Data Science Center, University of Bremen



Today's topics



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We are going to talk about data management!

Part I: Neurodiversity

- ❖ Definitions & Differences
- ❖ Examples

Part II: Neurodiversity & Research Data Management

- ❖ How does neurodiversity effect RDM?

Part III: What can we do to lower barriers?

- ❖ Ideas for strategies

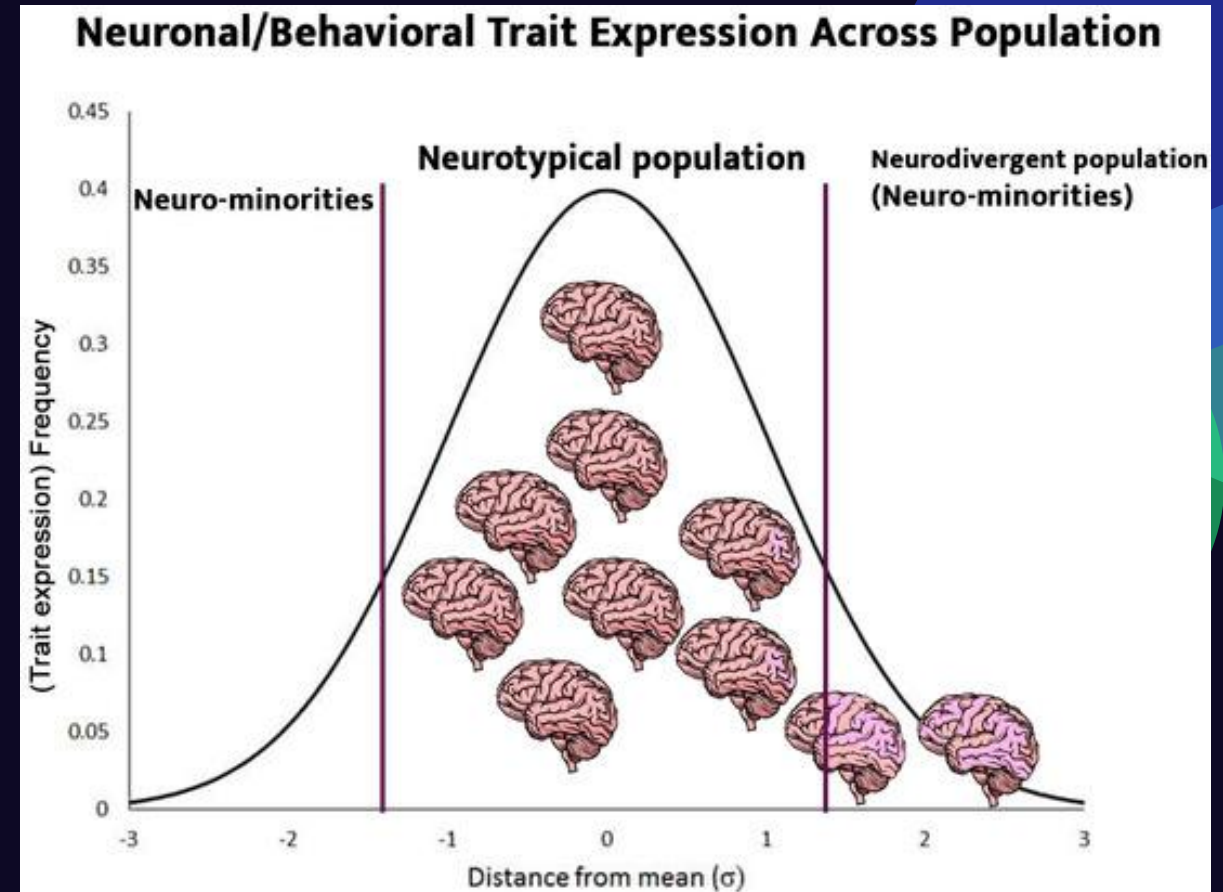


Neurodiversity

Neurodiversity vs. Neurodivergent



- All brains are different
- **Neurodiversity**: the diversity of all brains
- **Neurominority** or **neurodivergent**: peripheral areas of the normal distribution



Unraveling Neurodiversity: Insights from Neuroscientific Perspectives (H. Goldberg, 2023, Encyclopedia of Social Sciences)

Different neurominorities



- Using the term **neurodivergent** can mean multiple different conditions, depending on the source
- Often seen as a more neutral or positive wording
- Nevertheless: we have to talk about **disabilities...**



<https://www.peacheycounselling.ca/blog/2024/neurodivergence-adult-adhd-and-mental-health>

Genes associated to brain disorders



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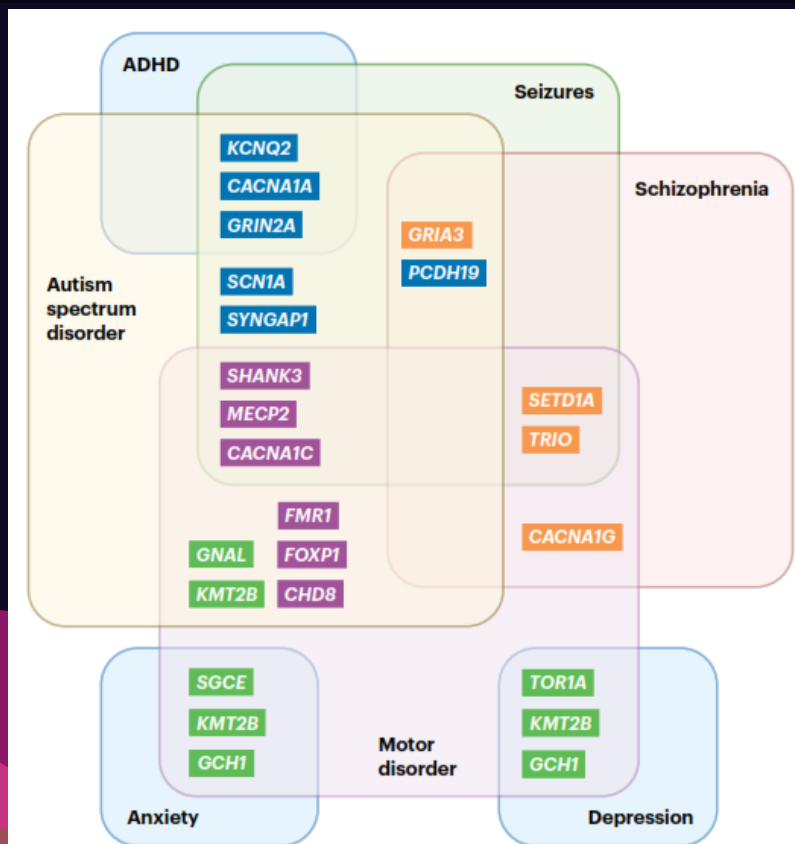
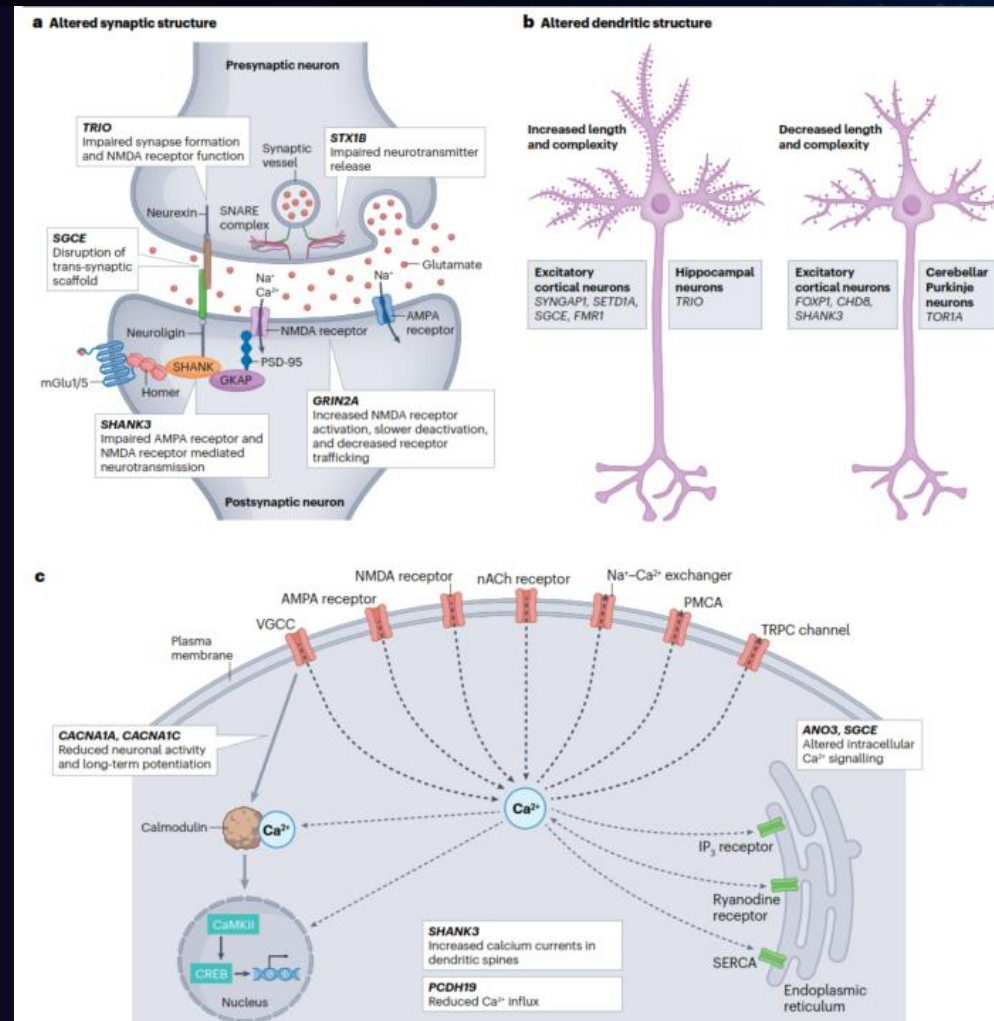


Fig. 1 | Genes associated with rare disorders with overlapping clinical phenotypes. Blue indicates genes associated with epilepsy, green indicates genes associated with dystonia, purple indicates genes associated with autism spectrum disorder, and orange indicates genes associated with schizophrenia. ADHD, attention deficit hyperactivity disorder.



Peall et. al 2024: Rare genetic brain disorders with overlapping neurological and psychiatric phenotypes. Nature Reviews Neurology, <https://doi.org/10.1038/s41582-023-00896-x>

Disability!




- Societies creates the disabilities
- Multiple conditions under the term neurodivergent can be/are severe disabilities (Germany: Schwerbehinderung)
- It is every persons job to lower barriers and to be inclusive (Germany: § Behindertengleichstellungsgesetz)

Why is it important for RDM?

Around 15-20% of the world's population are considered neurodivergent!



A dark blue background with a bokeh effect of out-of-focus, colorful lights in shades of blue, red, green, and yellow, creating a festive or celebratory atmosphere.

RDM and changing behaviour



- Applying RDM strategies is **challenging for everyone**
- But even more difficult for neurodivergent researcher

Without inclusive RDM strategies:

- **Problem 1:** leads to **excluding** & frustrating experiences for those individuals
- **Problem 2:** less advanced RDM leads to less (data) publications and therefore less fundings in the long run → **Structural Disadvantages**
- **Problem 3:** slows the digitalisation process down



„Why are you complaining and not just doing it? It's easy! You know all the strategies!




Teaching RDM as a (Data Steward) can be frustrating, especially when you see that no one is applying the awesome **Data Managment Plans** you helped them to write

Example: Do you tell a person having an asthma attack to just breath, because breathing is so easy?

Interference with personal structures



- RDM strategies **interfere** with your own, over years developed **organization, working routines** and **preferences**.
- Changing is a significant problem for many neurodivergent people
- Comparison by Antje Manske: the Kübler Ross „Change Curve“ about reactions to a significant loss.

 Reading tip: Antje Manske (2025) Be an Agent of Change – How to support culture change in research data management (DOI: [10.5281/zenodo.15190294](https://doi.org/10.5281/zenodo.15190294).)

Different thinking patterns



- Associations differ between individuals
- Example: Folder structures
 - Naming of folders to not mean the same for different people
 - > repeating situations of not finding specific files lead to frustration and therefore rejections of those structures

Executive Dysfunction



- The process from „no RDM“ to „perfect RDM“ includes a various amount of different strategies, tools, etc.
- Can be quite overwhelming

→ **Strategies will not be applied!**



What can we do?

A Starting Point



The following ideas are solely based on a ADHDler's brain and not complete. They do not aim to work for every neurodivergent person!



A Starting Point



1. Flexible Structures

- To enhance strategies in the long run and to include needs of (new) employees

2. Teaching RDM in small steps, instead of everything all at once

- E.g. To-Do-Lists with 5 tasks, none should take longer than 1-5 minutes

3. Emphasize mistakes and imperfections

There is no need to
be perfect!



Last, but not least:



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FUN!

- Gamification and having fun can lead to better experiences
- Customizable tools
- Try to include special interests, hobbies and strengths of individuals





Questions?

Thank you for your attendance!

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Data Insights in 30 Minutes!



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we will start in a few minutes.



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Interdisziplinäres
Datenkompetenzzentrum
für die Region Bremen

23.10.



**Interactive Visualization in R with Shiny:
Building Your Research Data Skills**

Dr. Maryam Movahedifar | Uni Bremen

30.10.



**Teach Data, Teach Better: Enhancing
University Teaching with Research Data**

Dr. Susanne de Vogel & Franziska Richter | Uni Bremen

06.11.



**National High-Performance Computing
(NHR) Roadshow on Digital Humanities**

Anja Gerbes | Uni Göttingen

13.11.



**Rethinking Research Data Management:
Inclusive Practices for Every Mind**

Sarah Büker | Uni Bremen

20.11.



Basics of Software Publication

Carina Haupt | DLR

04.12.



**Beyond ChatGPT: AI Systems for
Qualitative Research**

Nele Fuchs | Uni Bremen