Reworking the Workshop

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README

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Evidence-based design

- We (at RDS) try to follow evidence-based design for all our work

- Evidence isn't just metrics isn't just quantitative evaluation

- But a commitment to experimentation and unflinching evaluation

- We document our experiments for each semester and report on their success or failure

- But when it comes to workshops, what do we ask? How do we structure experimentation?

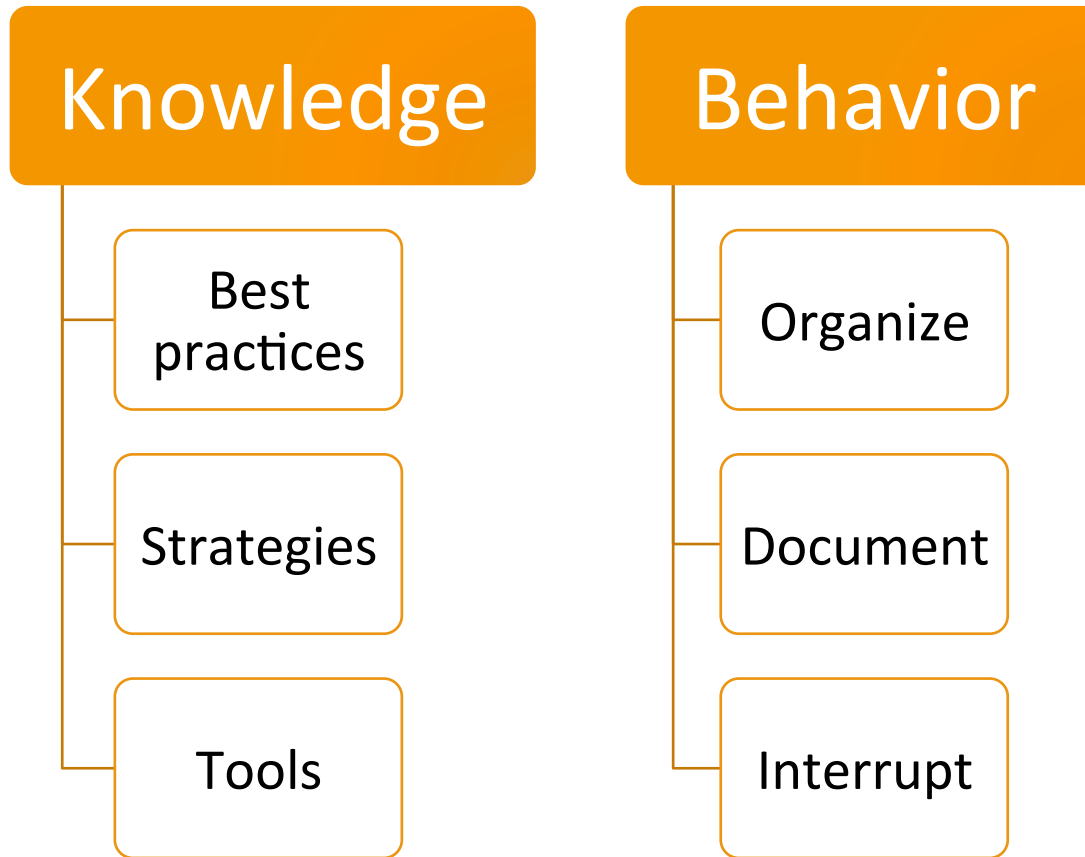- We needed a framework, but data management is different

Library workshops at Illinois

- Hold 100+ workshops each semester through Savvy Researcher

- Our more traditional library workshops focus on essential and specialized research skills
  - "How to use/search/ask/make…"
  - "What is [research method/data source/the library]…"

- Mostly very (and necessarily!) tool based

- But data management skills and tools often involve changing years of established habits of highly successful people

Data management is many things

Knowledge

- Best practices
- Strategies
- Tools

Behavior

- Organize
- Document
- Interrupt

When it comes to knowledge…

Knowledge

- Best practices
- Strategies
- Tools

Behavior

We're pretty solid
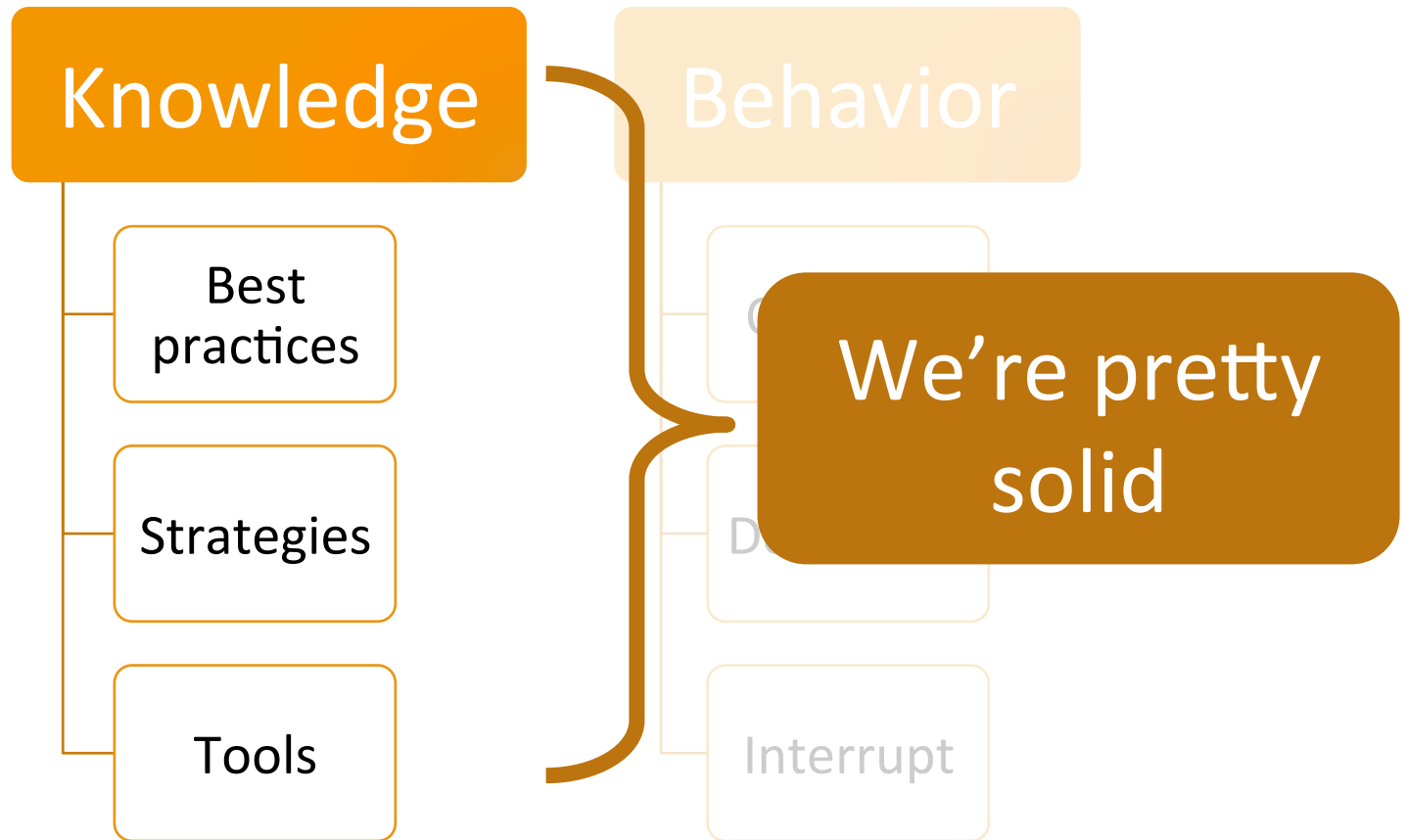
Interrupt

But when it comes to behavior...

Knowledge

Behavior

Hard for everyone

Organize

Document

Interrupt

Tools
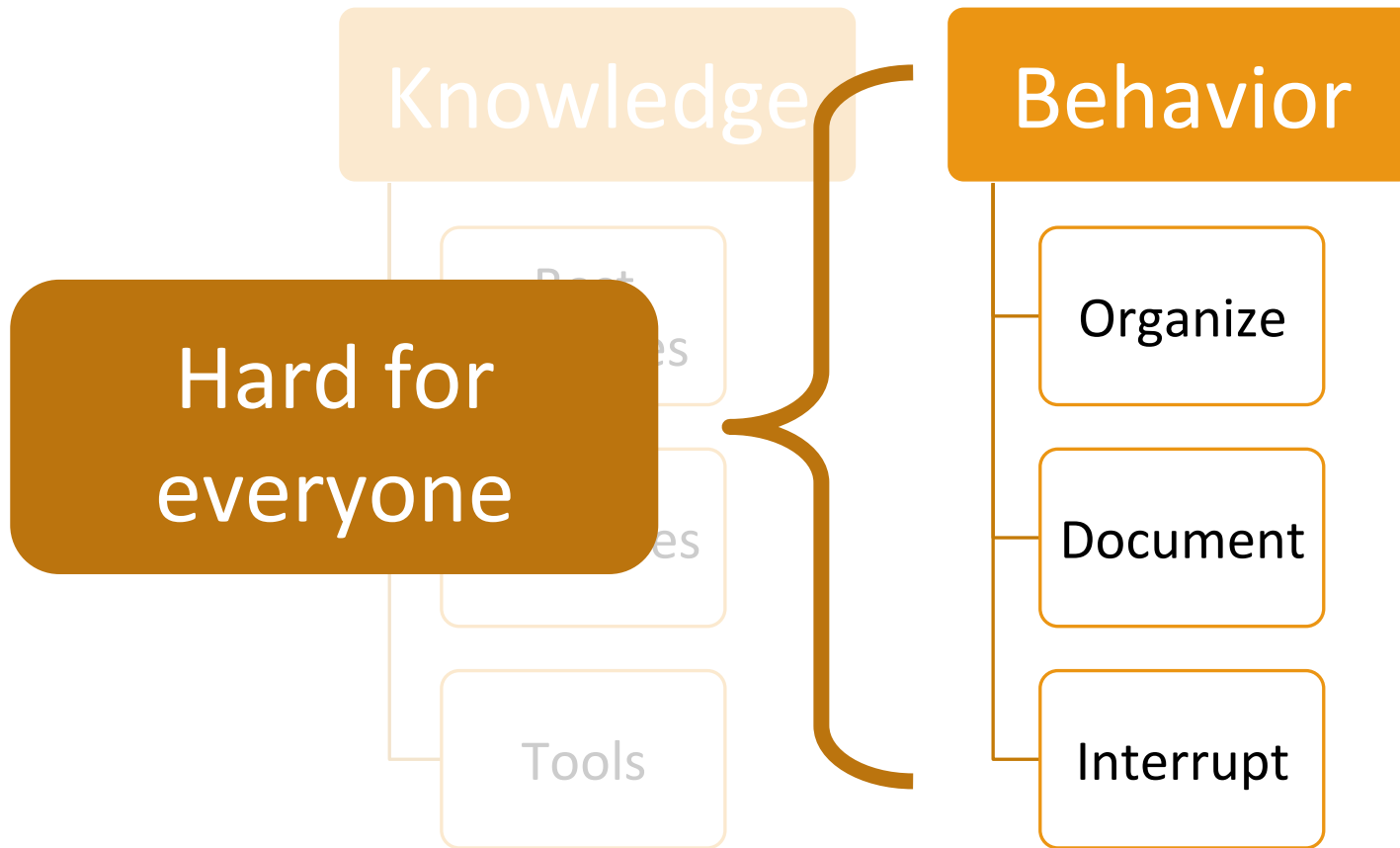
Behavior change

- This is the true challenge…

- A battle of wills between
  - the immediate focus on research in the moment and
  - the long term needs after the research is done

- No one wants to interrupt their work, and certainly not for something that isn't immediately valuable to getting that research out the door

- Researchers make very rational choices in the moment, because the new/different behaviors aren't always internalized or easy to shift into

- And remember, grad students and faculty are successful people

Behavioral Change Research

- Inspiring this sort of change in people is a well researched aspect of psychology. So we began our investigation.

- Behavioral change has been studied for decades within psychology, and mostly applied to health behaviors

- But other domains, such as environment and transportation, have also begun exploring their applications

The grand caveat

- We are not seeking to create a new model or theory

- We are seeking to have an evidence-informed framework to evaluate and design our workshops and outreach strategies around

- This talk is not about the details of stage theory, but how we applied them to designing and evaluating workshops

Stage theory (*very* roughly)

- behavior change involve a set of stages that people traverse through

- different models define what happens in those stages and how someone moves through them

- but breaking it down into stages allows you to have more targeted interventions and impact evaluation

Predecision	**Preaction**	**Action**	**Postaction**

Stage theory (*very* roughly)

- behavior change involve a set of stages that people traverse through

- different models define what happens in those stages and how someone moves through them

- but breaking it down into stages allows you to have more targeted interventions and impact evaluation

Predecision

"I don't manage my data."
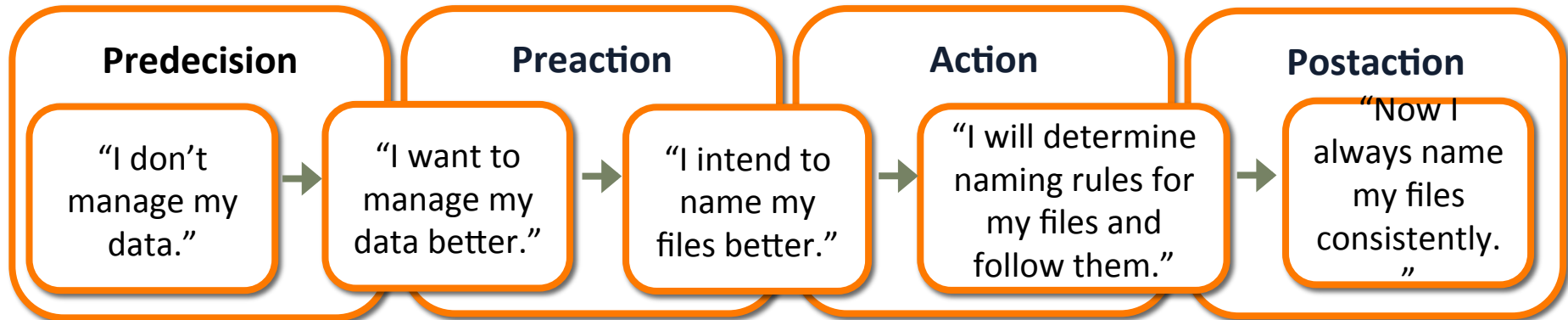
→

Preaction

"I want to manage my data better."

→

"I intend to name my files better."

→

Action

"I will determine naming rules for my files and follow them."

→

Postaction

"Now I always name my files consistently."

Bamberg's (2013) stage model

- Found evidence that health behavior change models can be applied in outside domains (in this case, reduction in car usage)

- Found that interventions targeting the specific stage a person is in increases the effectiveness of that intervention

- Had an inventory to place people in their current stage about motor car use and public transit. We adapted this to a data management theme.

"At the moment, I **use the motor car for most of my trips**. I am happy with my current level of **motor-car use** and see no reason why I should **reduce** it."

→

"At the moment, I **don't actively manage my data**. I'm happy with my current level of **data organization** and see no reason why I should **increase** it."
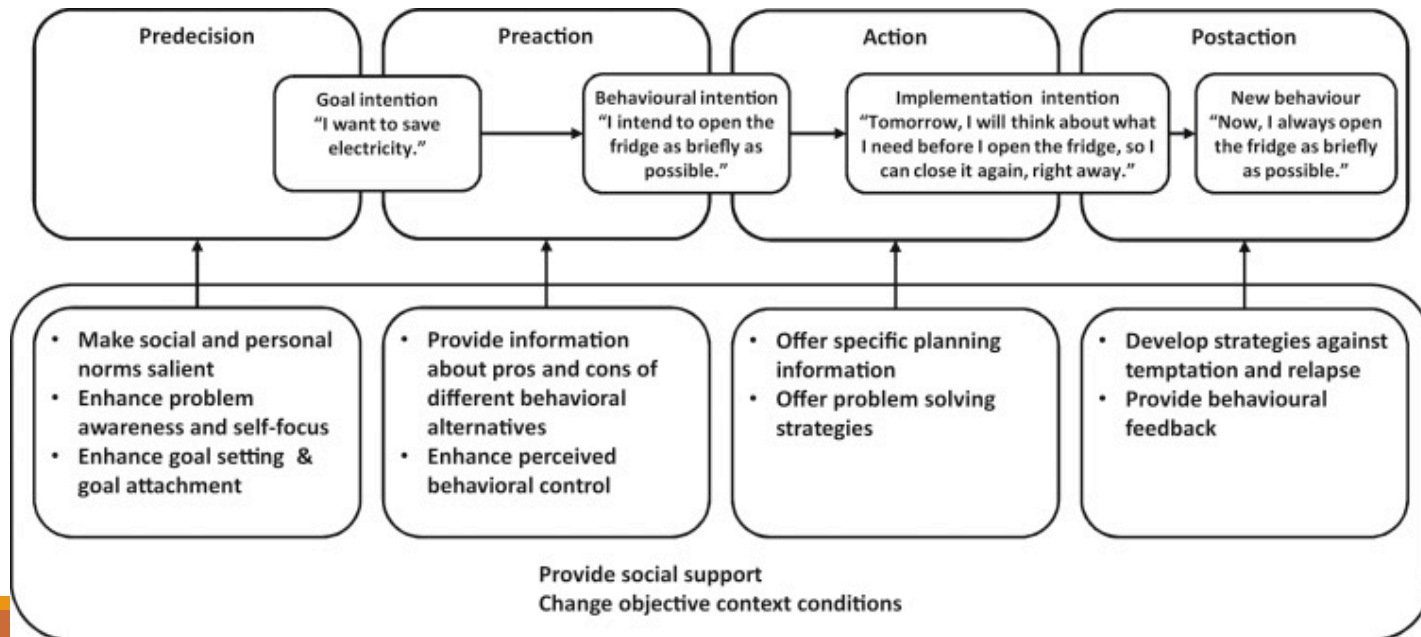
Bamberg's (2013) stage model

• Bamberg used a short inventory to place participants into each of these stages.

• We adapted this scale by replacing instances of "motor car use" and other mentions of driving to "manage my data better"

1. At the moment, I don't actively manage my data. I'm happy with my current level of data organization and see no reason why I should increase it.

2. **At the moment, I don't actively manage my data. I would like to increase my current level of data organization, but at the moment I feel it would be impossible for me to do so.**

3. **I am currently thinking about changing some or all of my data management strategies, but I'm not sure how to do so. My aim at the moment is to increase my current level of data organization.**

4. I already know which data management strategies to use, but I have not yet put them into practice.

5. Because I am aware of many problems associated with poor data organization, I already try to use appropriate data management strategies. I will maintain or even increase these habits over the next few months.

6. Because I do not work with or have control over data, increasing my level of data organization is not a current issue for me.

That worked...really well

• I recognized many of the statements I heard from workshop participants, so next up was mocking up a model.

• Bamberg's model is a little complicated to start with, but Nachreiner, Mack, Matthies, and Tampe-Mai (2015) had a model that included specific intervention statements.

Predecision | Preaction | Action | Postaction

- Goal intention "I want to save electricity."
- Behavioural intention "I intend to open the fridge as briefly as possible."
- Implementation intention "Tomorrow, I will think about what I need before I open the fridge, so I can close it again, right away."
- New behaviour "Now, I always open the fridge as briefly as possible."

- Make social and personal norms salient
- Enhance problem awareness and self-focus
- Enhance goal setting & goal attachment

- Provide information about pros and cons of different behavioral alternatives
- Enhance perceived behavioral control

- Offer specific planning information
- Offer problem solving strategies

- Develop strategies against temptation and relapse
- Provide behavioural feedback

Provide social support
Change objective context conditions

Data Management Stage Model

Predecision	Preaction	Action	Postaction

"I don't manage my data." → "I want to manage my data better." → "I intend to name my files better." → "I will determine naming rules for my files and follow them." → "Now I always name my files consistently."

- Create awareness and perception of feasibility of overt data management in research.
- **Inspire** intent to change.

- **Discuss** specific behaviors and approaches for managing data.
- Stress the ease of data management activities.

- Active learning tasks to **experience** new behaviors in domain contexts.
- Discuss and practice overcoming obstacles.

- Advertise consultation services and more topic-specific workshops.
- Discuss strategies to **recover** from setbacks.

Inspire

Knowledge and experience

Recover

Our applications

- Ontology of data management concerns
  - Have a clear set of actions and recommendations to give a consult

- Framework for empathy with each stage
  - Evaluate the usefulness of your workshop materials

- Understand the intentions of your participants
  - As you ask "why are you here?" to a room of workshop attendees, you can quickly come up with a needs profile for the room and responsively filter & customize the workshop material for the breakdown of that crowd
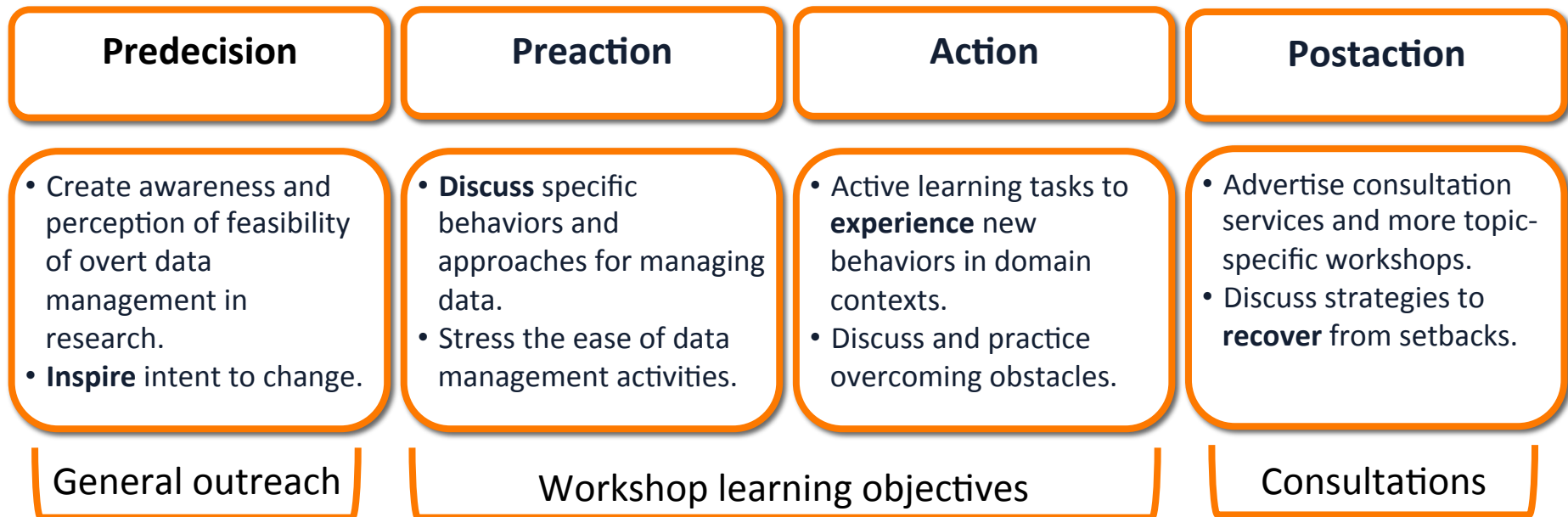
Our big takeaway

- Anecdotally, based on asking participants why they came, very few people were coming in that I would say were in the predecision phase

- This means that very few people attended without thinking that they don't need to better manage their data

- And this makes sense: these are optional workshops about improving data management skills. Why would someone who doesn't believe they need to change anything attend one?

- **The big problem: much of our existing workshop material was trying to inspire change**

Data Management Stage Model

- So we split up our materials:
  - move the inspirational material to general outreach or mandatory training
  - Focus workshops on preaction and action phases
  - Reserve postaction items for our 1-on-1 consultations

Predecision	Preaction	Action	Postaction
• Create awareness and perception of feasibility of overt data management in research. • **Inspire** intent to change.	• **Discuss** specific behaviors and approaches for managing data. • Stress the ease of data management activities.	• Active learning tasks to **experience** new behaviors in domain contexts. • Discuss and practice overcoming obstacles.	• Advertise consultation services and more topic-specific workshops. • Discuss strategies to **recover** from setbacks.

General outreach   Workshop learning objectives   Consultations

Benefits of having a framework

- Confidence in what you are presenting

- Clear questions for evaluation
  - "How does this help a learner understand best practices?"

- Instant to-do list for activities
  - "This activity helps you practice content organization conversations in small and large groups"

- Coherent agenda and purpose at events and when speaking
  - "I'm here to tell you about best practices…"
  - At every workshop you leave with something done for your project on that topic

- Easy to craft learning personas for each stage

- Having a named ontology gives instructors a shared vocabulary for planning discussions and training
  - E.g. the hard sell versus the WORKshop

Thanks! Questions?

• Bamberg, S. (2013). "Applying the stage model of self-regulated behavioral change in a car use reduction intervention." Journal of Environmental Psychology 33(March). doi: 10.1016/j.jenvp. 2012.10.001

• Nachreiner, M., Mack, B., Matthies, E., & Tampe-Mai, K. (2015). "An analysis of smart metering information systems: A psychological model of self-regulated behavioural change." Energy Research & Social Science 9. doi: 10.1016/j.erss. 2015.08.016

• Schwarzer, R. (2008). "Modeling health behavior change: How to predict and modify the adoption and maintenance of health behaviors." Applied Psychology 57(1). doi: 10.1111/j.1464-0597.2007.00325.x