Paper Presentations in Psychology:
How to give a good talk in Psychology or other Sciences
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I wrote the following advice primarily to help psychology graduate students improve their talks at a conference, pro-sem, or brown-bag. By speaking to lots of graduate students (and recently being one myself), I felt the most important areas to cover are developing self-confidence and knowing how to target a particular audience. Most of this advice is applicable to other speakers (e.g., undergraduates), other fields (e.g., business, physical sciences), and other medium (e.g., poster presentations).

How long is your presentation?
From the total time, subtract for distractions such as administrative distractions that might happen at the beginning of a brown-bag. Allot 75% of the remaining time for your talk. The last 25% is for questions. In an hour long pro-sem or brownbag, where administrative issues often take some time, plan to speak for 40 minutes.

Preparation - Practice
Nothing matters more to giving a good talk than practicing. Practice by yourself for timing. Practice with friends or your lab for comfort and feedback. Even practicing a talk just once can dramatically improve how smoothly you speak.

Preparation - Room
Go to the room for your talk early. You can test that all of your equipment works. You can also change things about the room before others arrive. Is there clutter on the blackboard? Erase it. Is a teacher's desk directly in front of the projection screen? Push the desk to the side. Do you need some of the lights out for your projected slides to be clear? Find out.

Preparation – Have Something to Say
Talks are milestones. Push yourself to your limit in the days before your talk. If you can get an analysis done by pulling an all-nighter, do what you need to do. In contrast, if there is coding that would take months, you can not possibly do it in a few days. Consider some rough, fast, coding so you can give preliminary results.

Your Presence - Your Body
Talk to your audience. Do not read to your audience. Do not talk to your computer or the projected slides. Be happy to be able to tell your audience about something so interesting. Smile. Move around. Use gestures to convey meaning and highlight slides.

Your Presence - Your Words
Vary your voice to convey enthusiasm and key points. Enunciate clearly. Speak at a normal conversational speed. Try to avoid filler sounds like "um" between your thoughts.

Your Confidence
Be confident. What if inside you are saying, "How can I possibly be confident presenting in front of all of these professors, who are so critical, and who look for every possible flaw? There

are flaws and mistakes everywhere in my study. It didn't work out how I planned. I wish I could start over."

Your Confidence – Everybody Knows more than Me
Your audience might know a lot. Your advisor might know more about the subject matter than you. However, you know more about your study than anybody else. For example, your advisor can not respond to questions with anecdotal descriptions of participants spontaneous responses.

Your Confidence – But my Study Didn't Work
Isaac Asimov said, "The most exciting phrase to hear in science - the one that heralds new discoveries - is not "Eureka!" but "That's funny…" There is something interesting about your study, even if it did not work out. You were surprised. That's interesting! Sometimes this means reframing your study as about something different than you planned. Give the talk your data fits, not the one you would have given before you began.

Your Confidence – So Many Mistakes
You made mistakes and did not account for everything. Do not be apologetic or bogged down in describing mistakes. Acknowledge problems matter-of-factly. You might say, "Due to an equipment error data from 3 participants on the last trial was lost." Stop there. Do not tell us whose fault it was or any other details. That makes mistakes seem like they are larger than they are. Present your study positively. Short-comings are just opportunities for future research.

PowerPoint Slides – Simplicity
Just because PowerPoint can do something doesn't mean it should. Start out by making your slides plainly, with only content. Then only add elements (e.g., colors, font size, effects, comics) that add something to your presentation (e.g., sense of continuity, clarity of main points versus details).

PowerPoint Slides – Words
Use a large font. I use 44pt for titles, 32pt for main points, and 24pt for supporting information. Write as few words as possible. People naturally read whatever you put on a slide. When you put bullet points on your slides, you give your audience a structure to follow the substance you convey with your voice. If you write out long sentences in small font, your audience will pay more attention to your slides than to you.

Sophistication of Presentation – Simplicity is a Virtue
If you can be simple, do not be complex. Avoid using jargon or acronyms whenever possible. Aim for simplicity in every aspect of your talk, not just language. Can you organize data more clearly. Can you make more simple graphs. Can you remove unnecessary nuance from your literature review?

Sophistication of Presentation – One Step Down
Know your audience and drop down the sophistication one step. For example, when presenting to Developmental Psychology professors and graduate students, speak for professors and graduate students in any area of psychology. Why drop a step? Your most sophisticated audience is listening to your talk as a scientific argument for your hypothesis. They would like

you to take them through your argument step by step and, ideally (from your perspective) they should nod at each premise and step you take. Just because people know something does not mean it is at the front of their mind when it is relevant to you.

Sophistication of Presentation – Too Many Steps Down
Do not drop too many steps. For example, to an audience of Developmental Psychology professors and graduate students, it's too many steps to speak for Psychology undergraduates or professors and graduate students from non-psychological fields. Do not define terms like "longitudinal study", "within-subject", or "ANOVA." Define specialized methods (e.g., microgenetic) or statistical analyses (e.g., logistic regression).

Sophistication of Presentation – Making Simplicity your Vice
Anything you say will be obvious to you because you have spent so long thinking about it. Sometimes you can feel simplistic for spelling out ideas, methods, and analyses. Do not waste words telling that to your audience. Do not say, "As all of you know" before "a microgenetic approach measures something repeatedly, far more often than it changes. It makes our measurements like frames in a movie so we can see development as it happens." If you are lucky, your audience will simply agree that it was too obvious to say. Then you not only took time to say it, you took more time to say you should not have said it. In the worst (and likely) case, there will be audience members who do not know what you are saying. Why make someone feel bad for not knowing something they "should" know. Nobody knows everything, even within a single field like Developmental Psychology.

Parts of Presentations – Conventions
Science has a conventional format for presenting a study (Introduction, Method, Results, Discussion). Unless you have a convincing reason not to, follow the convention. Since it's a convention, it's too many steps down to tell us the 4 parts as an outline of your talk.

Parts of Presentations – Time Allocation
Allocate about ¾ of your time to your work. For example, use 17% of the time for the introduction, 37% for the method, 37% for the results, and 9% for the discussion. In some branches of psychology, notably Developmental Psychology, your methods are among the most debated issues because different methods often yield different results (e.g., Piaget vs. Baillergeon on Object Permanence). In these cases, allocate more time to the method and less to the results. Conversely, several branches of psychology, notably Social and Clinical, rely heavily on measures whose psychometric properties are published in separate articles from the research using them. When you use these for your method, allocate less time to your method and more to the results.

Goal for Presentation
Everything you present should convey your big idea. What is your "take home message?" Your point is a big idea, not a fact. Remember that the tasks you use are only means to ends. The tasks and the findings are not ends in themselves. Start by writing your method and results. Think about why they matter and use your thoughts to guide your writing of the introduction and discussion.

Introduction – Topic
Introduce your topic with an over-arching description and research question. Define the key ideas. Why is your subject important, practically or theoretically? If you have a predictably diverse audience (e.g., job talk), say something to connect your area of research to theirs. For example, when I am speaking about problem solving development to an audience with many clinical psychologists, I point out how problem solving and emotion regulation are two was of looking at the same thing. Problem solving means frustration at having an obstacle to your goal. When things "go wrong" with problem solving, clinicians find central qualities of disorders from aggression to depression: misconstruing situations, repeating strategies without regard for their effectiveness, being overwhelmed by an obstacle, or an over-reliance on seeking help. Though my talks continues to be about problem solving development, the mere mention of a connection builds enthusiasm and helps a diverse audience appreciate your work. It can also lead to interesting questions and comments after your talk.

Introduction – Literature Review
When considering studies to review, remember that studies are related because of theoretical constructs, not just operational definitions. A study is relevant if somebody studied the same underlying idea even if they used different methods and measures. Do not include every relevant study. A "laundry list" of findings lacks structure and will not justify your study. Remember your big idea. Describe competing theoretical models and highlight previous results that well-justify those competing viewpoints. Culminate your literature review with a hint about how, under certain circumstances, the theories lead to conflicting predictions. Your next step is to choose a side and hypothesize. As scientists, we achieve our goal when we are able to shed light on competing plausible world-views.

Introduction – Hypotheses
Say hypotheses in everyday language and theoretical constructs. Do *not* use method or results language. For example, it would be bad to say, "We predicted 4-year-olds performance on the day-night stroop task will be positively correlated with performance on the false-belief task." Instead, say something like, "We predicted 4-year-olds who can inhibit well are more likely to understand another person's beliefs." Remember that, as scientists, we debate whether particular operational definitions are good measures of theoretical constructs. If you make your hypothesis about method and results, you unfairly limit scientific debate.

Method – Be Concrete
Describe the method from a participant's perspective. That makes the study feel real for your audience. Give sample questions from survey. Show stimuli; showing props is engaging. If your study was run by a computer program, run a simplified version during your talk. Give your conditions descriptive names. If some of your participants read a happy, neutral, or sad story, then name your conditions "happy", "neutral", and "sad." Naming conditions "1", "2", and "3" just adds things for your audience to remember. Be cautious that you name conditions descriptively, never theoretically. For example, I designed a task that teased apart infants' use of hill-climbing and means-ends analysis problem solving strategies. It would have been intellectually dishonest of me to name the conditions "hill-climbing" and "means-ends analysis." Why? Other scientists are entitled to debate if the tasks I designed really distinguish these

strategies. As scientists, we need to always be open to debate. I named my conditions "obtuse angle" and "acute angle" because the tasks were in the shape of those angles.

Method – Omissions

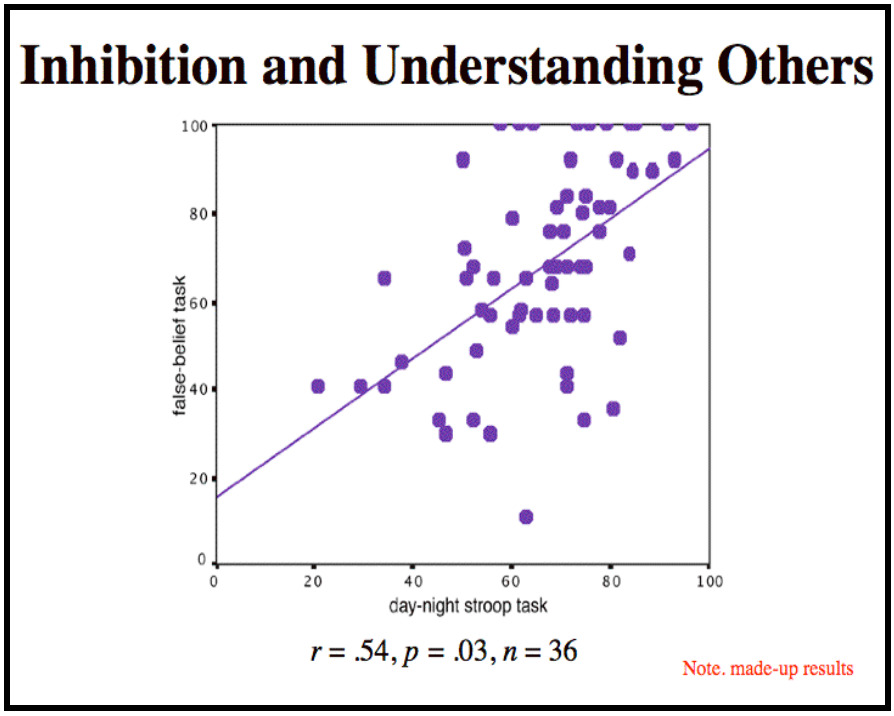
Psychologists and other scientists like to debate the nitty-gritty. Even if you don't say details, put them on slides (e.g., participant demographics). If you are not going to talk about every task that you administered, acknowledge you did them, but do not give more detail.

Results – Details

Psychologists like to debate the nitty-gritty. Give us the results (e.g., p-values, F-ratio, N). Even if you do not say details aloud, put them on slides. Graphs show the big picture; they are especially engaging. Tables can work too. Even if you said it before, remind your audience of details that put results into perspective. For example, knowing men scored 3.1 and women scored 3.5 does not say much. Was that on a 1-to-7 point Likert scale, a 1-to-5 point Likert scale, or something else. Say it, put the range in your table, or make your graph show the full range of possible values.

Results – Testing Hypotheses

First give any descriptive results (e.g., to establish context) or preliminary analyses (e.g., to rule out counterbalancing effects). Then present a result for each of your hypotheses in the order you proposed your hypotheses. Follow these steps for reporting each result: (1) remind audience of hypothesis, (2) describe analysis, and (3) state key idea behind result. Here is a sample power-point slide of the result from the made-up hypothesis I previously mentioned.



Say something like, "To test the hypothesis that 4-year-olds who can inhibit well are more likely to understand another person's beliefs, we correlated the day-night stroop task with the false-belief task. The positive correlation supports our hypothesis."

Discussion – Flow
Summarize your major results in everyday language or theoretical constructs. Describe limitation of your study. Frame limitations as possible future studies. Describe your long-term plans for this research. End with a grand concluding remark (e.g., hopes for future).

Questions - Anticipation
Anticipate Questions. Be able to justify your decisions. Why did you choose one method over another (e.g., between-subject vs. within-subject, interview vs. survey)? Why did you choose one analysis over another (e.g., ANOVA vs. regression)? How would someone who is skeptical of your "big idea" counter your findings? How would you respond? For example, most of my research is about development as a general process that cuts across all domains of life. There is growing body of research for a modular evolutionary psychology perspective that suggests development is specific to particular domains. I should anticipate questions about how to reconcile domain-general and domain-specific developmental findings.

Questions – Really Tough Questions
Questions can be tough, especially when you have not anticipated them. You can think about the question before you answer. Silence for ten seconds is nothing for your audience, even when it feels excruciating to you. Avoid filling time with "um's" or fidgeting. Stand in a relaxed posture that conveys how you are thinking. Even if questions feel like a competition, try to reframe them as collaborative efforts to find out the truth. Help your thoughts flow by acknowledging the question and reframing it as a plan for scientific progress. "That is an interesting question because if it is true that …, then I should have found that …. As I mentioned, I found … so the results can not tease apart these possibilities. In a future study we might … to answer your question." Remember that a great scientists do not necessarily *have* truth, scientist *pursue* truth.

Questions – Extra Slides
Some questions that you can anticipate will be easy to answer with a sentence of two. "Were there gender differences?" "No." Other questions are harder to answer. For those, and for general information, prepare extra slides after your talk that you can flip to when needed. Prepare histograms of each measure. Have complex analyses you did not present. Block quotations from famous papers can be helpful for theoretical points. For example, if you said Piaget claims something, have direct quotations prepared.

Keeping Your Perspective
If you are about to give your first talk, you will not be able to remember everything you just read, especially while you're giving your talk. Giving a talk is a skill; you learn through practice. You will have many more talks and everything will be fine in the long-run even your talk does go so well. No matter how well you do, you talk will be worse in your mind than it is to your audience. You compare your talk to the ideal in your mind. Your audience compares your talk to never attending it all. Just caring enough to try and give a better talk, something you demonstrated simply by reading this, is often enough to make for a great talk.