INTRO PSYCH SCIENTIFIC REASONING MODULES

- A total of 8 scientific thinking modules are available, keyed to major topics covered in Intro Psych
- Each activity takes ~30-45 minutes of class time
- Each activity is stand-alone; instructors can select which activities to use.
- Instructional resources for each activity include an instructor guide (4-8 page description of activity) and, depending upon the activity a student handout for photocopy and/or accompanying powerpoint slides.
- Feel free to modify or expand materials in any way – they are designed to be flexible, and both .docx and .pdf versions of all text files are enclosed.

	Content Unit *suggested sub-topics*	**Seed Article** (citation provided for reference only; instructional resources are sufficient)
1	Clinical Psychology / Psychopathology *depression, treatments*	Noorbala, A., Azhondzadeh, S., Tahmacebi-Pour, N., & Jamshidi, A. (2005). Hydro-alcoholic extrac of Crocus sativus L. versus fluoxetine in the treatment of mild to moderate depression: A double-blind, randomized pilot trial. *Journal of Ethnopharmacology, 97*, 281-284.
2	Developmental *adolescence, social development*	Gardner, M., & Steinberg, L. (2005). Peer influence on risk taking, risk preferences, and risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology, 41*, 625-635.
3	Biological Bases *circadian rhythms, sleep*	Boergers, J., Gable, C., & Owens, J. (2014). Later school start time is associated with improved sleep and daytime functioning in adolescents. *Journal of Developmental & Behavioral Pediatrics, 35*, 11-17.
4	Sensation & Perception *attention, capacity limitations, dual-task studies*	Drews, F., Pasupathi, M, & Strayer, D. (2008). Passenger and cell phone conversations in simulated driving. *Journal of Experimental Psychology: Applied, 14*, 392-400.
5	Learning *study strategies, memory retrieval*	Karpicke, J., & Blunt, J. (2011). Retrieval practice produces more learning than elaborative studying with concept mapping. *Science, 331*, 772-775.
6	Memory *memory retrieval, errors in memory*	Loftus, E. (1975). Leading questions and the eyewitness report. *Cognitive Psychology, 7*, 560-572.
7	Emotion and Personality *emotion regulation, emotional intelligence*	Lopes, P., Salovey, P., Côté, S., & Beers, M. (2005). Emotion regulation abilities and the quality of social interaction. *Emotion, 1*, 113-118.
8	Social Psychology *relationships, social networks*	Cohen, S., Doyle, W., Skoner, D., Rabin, B., & Gwaltney, J. (1997). Social ties and susceptibility to the common cold. *Journal of the American Medical Association, 277*, 1940-1944.

Suggested citation:

Stevens, C., Witkow, M.R., & Smelt, B. (2017). Intro Psych Scientific Reasoning Modules (for small classes). Available from the Society for Teaching of Psychology at http://teachpsych.org/page-1603066# or by direct download from http://tinyurl.com/ybl4atfd

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Evaluation Data on this Resource

A peer-reviewed article has been published presenting student learning outcome evaluation data from students at both a four-year, baccalaureate liberal arts college (N=195 students) and two-year community college (N=94 students) (Stevens, Witkow, & Smelt, 2016). In the evaluation, participating instructors, who were uninvolved in the development of materials, chose how many and which modules to implement during the term. Gains on a scientific reasoning assessment were compared from the beginning to end of the term in students in treatment sections versus comparison sections taught as usual. In both the liberal arts and community college settings, students in treatment sections showed significantly greater gains in scientific reasoning relative to students in comparison sections (Cohen's d = +.66 at the liberal arts college, and d = +1.06 at the community college).

Best-Practice Recommendations Utilized in this Resource

The scientific reasoning modules address two best-practice recommendations for psychology teaching:

1) *Introduce psychology as scientific inquiry, providing exposure to research methods at the introductory level.*
   The American Psychological Association recommends that the scientific method serve as the foundation of the Intro Psych course (American Psychological Association, 2016). Best practice recommendations for the introductory course further encourage that "students in Intro Psych learn about and begin to develop scientific reasoning and problem solving skills, including effective research methods skills" (Gurung et al., 2016, p.117). The set of scientific reasoning modules here provide a set of targeted activities focused on training scientific reasoning skills, which can be revisited repeatedly during the course. Students interpret basic psychological research, interpret data in tables and figures, and consider critiques and extensions of research studies.

2) *Demonstrate multiple real-world applications of psychology research, providing a cross-cutting theme for the introductory course.*
   To provide greater coherence for the introductory course, best practice recommendations for Intro Psych suggest weaving a cross-cutting theme across different content units (Gurung et al., 2016). One suggested cross-cutting theme is the application of psychological research, which is also a learning objective for the introductory course (American Psychological Association, 2016). The set of resources provided here all involve the application of psychological research to a different real-world context relevant to students' lives (e.g., teenage driving, study strategies, treatments for depression). Although each module is centered on a specific research article, it is the applied topic – not the specific article – that is designed to remain timely and allow students to apply psychology research to topics of personal relevance. As modules align with different traditional content areas of Intro Psych (e.g., biological, clinical, developmental), the use of multiple modules will support instructors in incorporate the application of psychological research as a cross-cutting theme throughout the course. Instructors can further augment modules by searching for current events related to the module topic, or engaging students in searching for a more recent study related to the topic which students can then compare/contrast to the one used in the modules or to see the progression of research in a particular area.

References

American Psychological Association. (2016). Guidelines for the undergraduate psychology major: Version 2.0. *American Psychologist, 71*, 102-111.

Gurung, R. A. R., Hackathorn, J., Enns, C., Frantz, S., Cacioppo, J. T., Loop, T., & Freeman, J. E. (2016). Strengthening Introductory Psychology: A new model for teaching the introductory course. *American Psychologist, 71*, 112-124.

Stevens, C., Witkow, M. R., & Smelt, B. (2016). Strengthening scientific reasoning skills in introductory psychology: Evidence from community college and liberal arts classrooms. *Scholarship of Teaching and Learning in Psychology, 2*, 245-260.