

# A figure is worth a thousand words



**Figure support at *Nature Reviews Psychology* offers a unique opportunity to develop ‘dream figures’ for key concepts.**

A good figure aids comprehension of processes or phenomena that are discussed in the text. For instance, data graphs that enable readers to immediately grasp key findings are important communicative tools in research articles. Figures in review articles can be equally valuable, but what exactly those figures should entail is often less obvious. In psychology, the key components of figures are often abstract concepts (such as memories) that are difficult to represent visually, but this challenge arguably makes figures even more critical for reader understanding.

Not all figures are created equal. Bullet-point lists or a visual arrangement of keywords with definitions do not make good figures; rather, such text-based information is better suited to a table, where it can be logically organized in a way that makes it easy for readers to locate and extract the information they need. Instead, figures should depict an action or relation between concepts. For example, the different ways in which children respond to wrongdoing could be defined and described in a table. However, [illustrating these interventions](#) provides information about relations between the victim, transgressor and bystander.

One obvious candidate for a figure in a review article is one that shows how different experimental tasks are associated with different results. In such cases it is more helpful to plot typical patterns of results rather than a specific study’s findings; these graphs help readers to focus on the broad pattern (for example, performance in condition X is faster or more accurate than performance in condition Y) rather than the specific numbers, which are less important when synthesizing across studies. For example, [this figure](#) shows two paradigms for studying retrieval effects in memory and typical results, and [this figure](#) shows how extinction, generalization and avoidance are measured in fear conditioning paradigms and the general pattern of data observed in anxious and non-anxious individuals.

Figures in psychology review articles can also illustrate theories and models. Box-and-arrow diagrams are ubiquitous in psychology to this end. However, there might be opportunities to more fully take advantage of the visual medium to communicate complex ideas. Doing so requires abstract and creative thinking about how visual elements can be used to get the key ideas across. For example, in [this figure](#), differences in line thickness and variations in saturation enable a clear visual differentiation between three interrelated processes that underlie recollective biases. Figures that compare theories or models can also be illustrative, as in [this figure](#), which illustrates the difference between model-free

and model-based mechanisms underlying online behaviour, or [this illustration](#) of the three types of mass polarization.

Importantly, illustrations should not be purely decorative; they should aid comprehension and contribute to the overall aims of the figure. For example, the original conceptualization of [this figure](#) included illustrations of people in the scenarios described in the boxes on the left. However, the main message of the figure is that sociocultural context relevant to minoritized groups influences specific parts of the HiTOP (hierarchical taxonomy of psychopathology) model; this message is better captured by a figure design that focuses on ‘zooming in’ to different parts of the model than one that illustrates people from those groups.

Indeed, figures do not need to be complex to be effective; what matters is that the visuals support the message. For example, [this figure](#) comprises only circles and arrows, but the use of literal spatial overlap to convey conceptual overlap is a clever way to ‘explain’ different types of domain generality.

We encourage authors to consider the process of figure creation akin to brainstorming on the lab whiteboard. The level of detail used when sketching out hypothesized experimental results is the same level of detail needed for a review figure. Moreover, attempting to draw out existing theories requires precision about exactly what the elements are and what the theory posits about their interactions, and can consequently reveal limitations or lack of specificity. For example, conceptually [illustrating two different accounts of egocentric mentalizing](#) using the same visual language forced consideration of exactly what information is ‘active’ (so that aspect could be denoted visually) at different stages of the mentalizing process according to each theory.

At *Nature Reviews Psychology* we have the privilege of working with in-house art editors who re-draw figures once the article has been accepted in principle. Importantly, we use the term ‘redrawing’ loosely: the starting point can be as basic as a rough hand-drawn sketch or a PowerPoint slide with textbox placeholders describing what needs to be depicted. Our art editors are experts in how to use visual elements such as colour and spatial layout effectively and how to arrange panels so that information flows logically across the figure. Thus, authors do not need to come to us with a fully formed figure, but they do need to determine what part of the main text the figure will support, the main message it should convey, and its basic components. As editors, we liaise between authors and art editors to help translate the science from this starting point into detailed instructions for what should be drawn. We hope the examples in this editorial can serve as inspiration for what is possible when expert researchers team up with expert illustrators to create effective and eye-catching figures.

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