



finding suggests that the DOP can be a technique to facilitate short-term memory performance in humans.

Human fMRI evidence for the neural correlates of the differential outcomes effect

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In conditional discrimination choice tasks, one learns to make a choice conditionally based on the presenting discriminative/cue stimulus. Prior research has shown that when each type of correct choice is followed by a cue-unique trial outcome (differential outcomes procedure), learning is faster and more accurate than when a single, common outcome is delivered for all types of correct choice. This learning effect has been termed the differential outcomes effect (DOE). Results are discussed here for brain regions that are active in mediating the DOE, while healthy young adults performed delayed conditional discrimination under event-related functional magnetic resonance imaging (fMRI).

IS-041: Object perception: New views

Marlene Behrmann, Mary A. Peterson (chair)
The theme of this symposium concerns the processes whereby visual input becomes organized and coherent. The visual world consciously perceived is very different from the raw retinal mosaic of intensities and colors. Hence, some internal processes of organization must be responsible for producing a coherent percept. Exactly what these processes are remains poorly understood despite the roughly 100 years since the Gestalt psychologists first articulated the principles of perceptual organization. Here, we highlight new and converging research emanating from behavioral, developmental, neurophysiological and neuropsychological approaches in an effort to enhance our understanding of the processes mediating perceptual organization.

Perceptual organization: Acquisition and breakdown

Behrmann, Marlene Dept. of Psychology, Carnegie Mellon University, Pittsburgh, USA
Efficient face recognition is thought to depend on the ability to derive global structure from visual input. Here, we explore the relationship between perceptual organization and face recognition in three different populations: (a) in typical individuals across the course of development; (b) in individuals who fail to apprehend a multi-element stimulus as a whole following acquired brain damage (integrative visual agnosia); and (c) in individuals with autism in whom perceptual organization and face processing is atypical. In all cases, there was a clear and robust association between the failure to derive a global whole and the ability to process faces.

Reconceptualizing figure-ground perception

Peterson, Mary A. Dept. of Psychology, University of Arizona, Tucson, USA
The processes producing shape perception are not yet understood. A fundamental assumption has been that figure-ground segregation is early stage in the process, but this assumption is mistaken. I will review behavioral and neurophysiological evidence indicating that figure-ground perception results from competition between two candidate shapes that might be seen and that suppression is an integral part of this process. This evidence suggests that figure-ground perception lies on a continuum of processes explained by the biased competition model of attention.

Processing local signals into global patterns

Sasaki, Yuka Athinoula A Martinos Center, Harvard Medical School, Charlestown, MA, USA
Perceptual organization or grouping is one of the central issues in vision research. Recent reports in the neuroimaging literature suggest that perceptual organization is mediated by distributed visual areas that range from the primary visual cortex to higher visual areas, depending on the availability of grouping cues. Further studies that include deliberate controls for confounding factors such as attentional artifacts and radial orientation bias, are needed to clarify how spatiotemporal information in visual areas is integrated to give rise to perceptual organization.

What goes with what? Development of perceptual organization in infancy

Quinn, Paul C. Dept. of Psychology, University of Delaware, Newark, DE, USA
A program of research will be reviewed that has been investigating the origins and development of perceptual organization during infancy. The data suggest that infant perception of visual pattern information is guided by adherence to organizational principles (including continuity, common region, proximity, similarity, and connectedness) that become functional over different time courses of development, are governed by different developmental determinants, and that not all principles are readily deployed in the manner proposed by Gestalt psychologists. In addition, there is evidence that the principles are soft-wired and subject to interference, and that they yield perceptual units of an abstract nature.

Perceptual organization and visual attention

Kimchi, Rutie Dept. of Psychology, University of Haifa, Haifa, USA
Can perceptual organization affect the automatic deployment of attention? Participants were presented with an element display. On some trials a subset of the elements grouped into an object. The object was task irrelevant and unpredictable of the target. No abrupt onset or any other unique transient was associated with the object. Target identification or discrimination was better when the target appeared in the object than in a different location than the object. Similar results emerged even when the target appeared after the display offset. These findings demonstrate that a perceptual object can capture attention by its mere objecthood.

Extremal edges and gradient cuts: New cues to depth and figure-ground perception

Palmer, Stephen E. Dept. of Psychology, University of California, Berkeley, USA
Ghose, Tandra Dept. of Cognitive Science, University of California, Merced, CA, USA
Extremal edges (EEs) and gradient cuts (GCs) are powerful cues to depth and figure-ground organization that arise from shading and texture gradients, where convex surfaces partly occlude themselves (EEs) or are partly occluded by other surfaces (GCs). Ecological constraints imply that EEs should be seen as closer/figural, and we show that they are: EEs readily dominate all figure-ground cues we have studied. GCs are generally seen as farther/background to a degree that depends on the relation between the shared edge and the gradient's equiluminance contours. Together EEs and GCs strongly determine the perception of relative depth and figure-ground assignment.

IS-042: Terrorism and peace

Noraini N. Noor (chair)
This symposium presents an overview of current psychological research in terrorism, considers the relationship between Islam and terrorism, and how basic memory process interact with certain media

reports. The second part of the symposium considers the contribution of psychology to diplomacy, peace and the mitigation of terrorism, by examining the case of Northern Ireland, and of humanitarian relief work in conflict areas.

An overview of the psychological literature on peace and terrorism

Blumberg, Herbert Dept. of Psychology, Goldsmiths University, London, United Kingdom
Psychological research on terrorism shows an upward trend starting prior to September 2001 and now reaching approximately 500 publications per year. Classification schemes and some main findings are summarized in the present paper.
Approximately 16% of the publications are general works and overviews, 51% deal with terrorism and terrorists themselves, 16% concern victims of terrorism. The remaining 10% are interdisciplinary or elucidate special topics. There is an ongoing need to integrate findings and to build a comprehensive, contextualized picture of the (diverse) aetiology of terrorism, of how it can be constructively minimized, and of how best to serve its actual and potential victims.

Islam and terrorism

Noor, Noraini N. Dept. of Psychology, Intern. Islamic University, Kuala Lumpur, Malaysia
The words "Islam" and "terrorists" are being used synonymously in contemporary public discourse. Why are Muslims perceived as terrorists, a menace to civilization and universal values of democracy? To respond, a) we introduce Islam and its principles regarding relations between Muslims and non-Muslims, b) we consider the historical and political contexts of the Muslim/non-Muslim relation to see why and how the connection between Islam/Muslims and terrorism is made, c) we provide social psychological explanations to understand this interpretation of Muslims as terrorists, and d) we offer some guidelines for peaceful co-existence between Muslims and non-Muslims.

Misinformation and the 'war on terror': When memory turns fiction into fact

Lewandowsky, Stephan School of Psychology, Univer. of Western Australia, Crawley, Australia
Stritzke, Werner Oberauer, Klaus Psychology, University of Bristol, Bristol, United Kingdom
Morales, Michael Psychology, SUNY Plattsburgh, Plattsburgh, NY, USA
We describe how basic human memory processes can interact with certain types of media reports to (a) create false memories for events related to the 'War on Terror' in a substantial proportion of people, and (b) create resistance to changing of beliefs that were initially formed on the basis of misinformation, even if that information was subsequently corrected or retracted. We review research that identifies suspicion and skepticism as crucial psychological variables that can enable people to respond to corrections or retractions. We present and validate a new scale to measure skepticism and show that it predicts people's beliefs about the reasons for the invasion of Iraq in 2003.

Contributions of psychologists to diplomacy, peace and the mitigation of terrorism

Christie, Daniel Dept. of Psychology, Ohio State University, Marion, USA
The worldwide contributions of psychologists to domestic policies that promote human well being and international policies that support war preparation and operations have been amply documented. The current presentation identifies and documents ways in which psychologists around the world have promoted peace and diplomacy, in some cases by directly influencing the thinking and actions of political elites. Roles for psychologists in civil society movements around the world that seek