

Tsukuba
International Conference
on Memory

Memory and Emotion

March, 13 - 15, 2005

Epochal Tsukuba
International Congress Center
Tsukuba, Japan

Organizers: Nobuo Ohta (University of Tsukuba)
Bob Uttl (University of Tsukuba)

6th
Tsukuba International Conference
on Memory
Memory and Emotion

March 13, Sunday

- Daniel Reisberg, Reed College, USA
- Linda Levine, University of California Irvine, USA
- Paper session
- Asher Koriat, University of Haifa, Israel
- Sven-Ake Christianson, Stockholm University, Sweden
- Reception

March 14, Monday

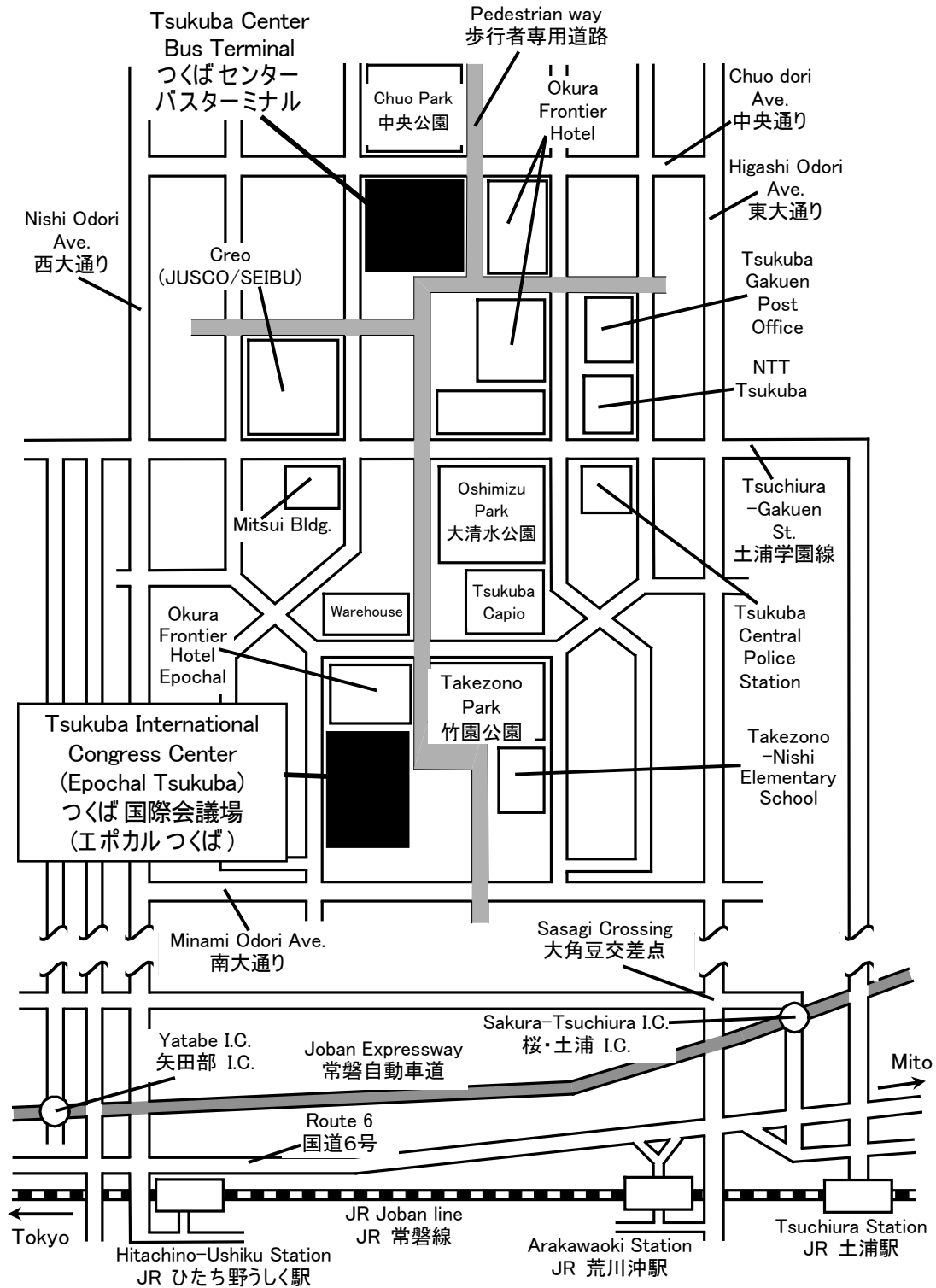
- Roberto Cabeza, Duke University, USA
- Hans Markowitsch, University Bielefeld, Germany
- Paper session
- Andrew Mathews, MRC Cognition and Brain Sciences Units, UK
- Gail Goodman, University of California, Davis, USA
- Poster session

March 15, Tuesday

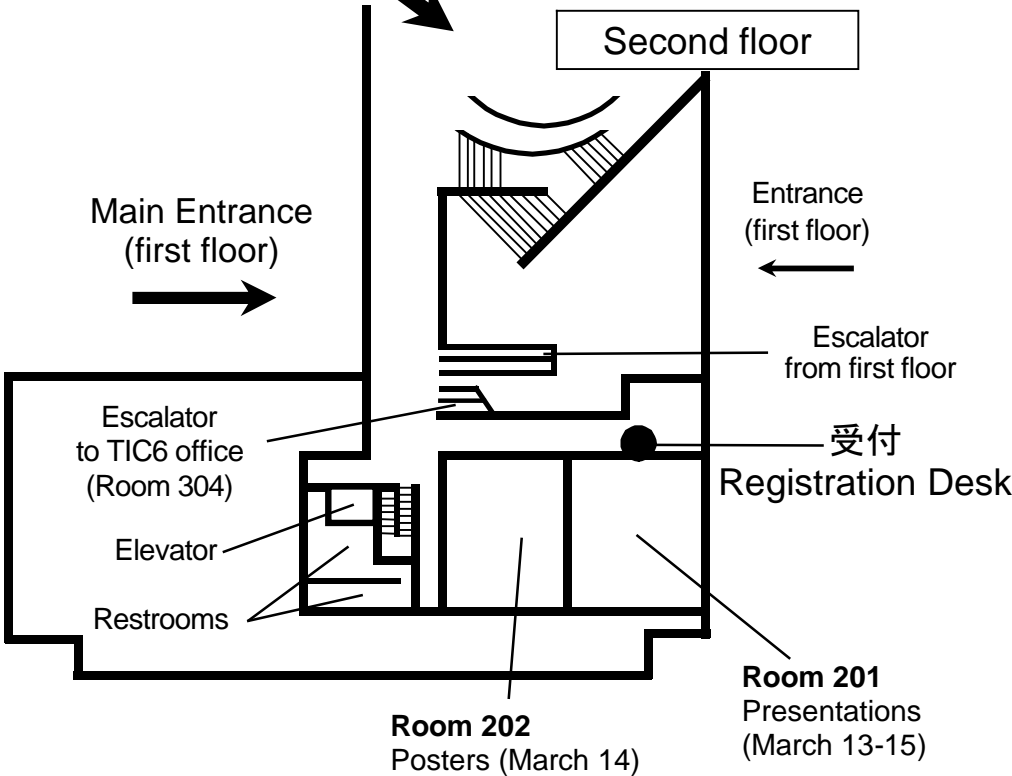
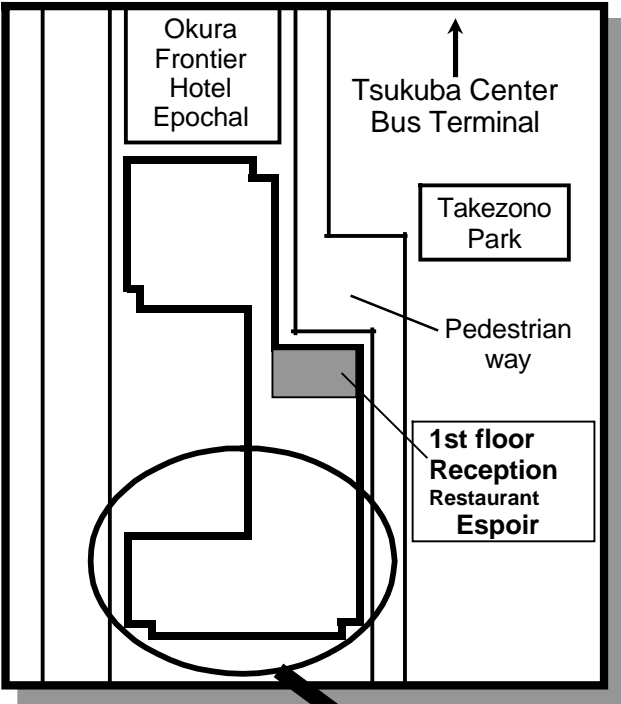
- John Kihlstrom, University of California, Berkeley, USA
- Jefferson Singer, Connecticut College, USA
- Mara Mather, University of California, Santa Cruz, USA
- Bob Uttil, University of Tsukuba, Japan

Location

It is about a 10-minute walk to the Epochal Congress Center from the Tsukuba Center bus terminal



Conference Venue



6th Tsukuba International Conference on Memory

Sunday March 13

Chairpersons:

Etsuko Harada (Hosei University, Japan)

Bob Uttl (University of Tsukuba, Japan)

Nobuo Ohta (University of Tsukuba, Japan)

9:00 - 9:30	Registration	
9:30 - 9:45	Opening	Nobuo Ohta , University of Tsukuba
9:50 - 10:50	Speaker 1	Daniel Reisberg , Reed College, USA Memory for emotional episodes: The strengths and limits of arousal-based accounts
11:00 - 12:00	Speaker 2	Linda Levine , University of California, Irvine, USA Beyond general arousal: Emotional valence, discrete emotions, and memory
12:00 - 13:30	Lunch	
13:30 - 13:45	Paper Presentation 1	Michiko Sakaki , The University of Tokyo, Japan The impact of mood on recall of autobiographical memory: The effects of structures of self-knowledge
13:50 - 14:05	Paper Presentation 2	Natsuko Onuma , Kyushu University, Japan Postevent information effect and the emotionality of the witnessed event –Free recall immediately after the witnessed event prevents the source misattribution-
14:10 - 14:25	Paper Presentation 3	Steve Janssen , University of Amsterdam, the Netherlands The reminiscence bump in autobiographical memory: Effects of age and culture
14:40 - 15:40	Speaker 3	Asher Koriat , University of Haifa, Israel Are we frightened because we run away? Some evidence from metacognitive feelings
15:50 - 16:50	Speaker 4	Sven-Ake Christianson , Stockholm University, Sweden Violent events and the effects of trauma on memory
17:10 -19:00	Reception	Restaurant Esprit (1st floor)

6th Tsukuba International Conference on Memory

Monday March 14

Chairpersons:

Masanobu Takahashi (University of the Sacred Heart, Japan)

Bob Uttl (University of Tsukuba, Japan)

Nobuo Ohta (University of Tsukuba, Japan)

9:00-9:30	Registration	
9:30 - 10:30	Speaker 5	Roberto Cabeza , Duke University, USA The enhancing effect of emotion on memory encoding and retrieval: Functional neuroimaging evidence
10:40 - 11:40	Speaker 6	Hans Markowitsch , University of Bielefeld, Germany Emotions, memory and the brain: The influence of stress and brain disease on autobiographical memory retrieval
11:40- 13:00	Lunch & Poster Preparation	
13:00 - 13:15	Paper Presentation 4	Michael Zorawski , National University of Singapore, Singapore Sex, stress and fear: Individual differences in conditioned learning
13:20 - 13:35	Paper Presentation 5	Masanobu Takahashi , University of the Sacred Heart, Japan The effects of test sequence on antero- and retro-grade amnesia of negative emotional memory
13:40 - 13:55	Paper Presentation 6	Camilla Croucher , MRC Cognition and Brain Sciences Units, UK Memory for emotional pictures using a remember/know recognition paradigm
14:10 - 15:10	Speaker 7	Andrew Mathews , MRC Cognition and Brain Sciences Units, UK Anxiety and the encoding of emotional information
15:20 - 16:20	Speaker 8	Gail Goodman , University of California, Davis, USA Memories of trauma
16:20 -16:30	Refreshments and Poster session preparation	
16:30 - 17:30	Poster Session (odd numbers)	
17:30 - 18:30	Poster Session (even numbers)	

6th Tsukuba International Conference on Memory

Tuesday March 15

Chairpersons:

Amy Siegenthaler (University of Tsukuba, Japan)

Bob Uttil (University of Tsukuba, Japan)

Nobuo Ohta (University of Tsukuba, Japan)

09:00 - 9:20	Registration	
9:20 - 10:20	Speaker 9	John Kihlstrom , University of California, Berkeley, USA The trauma-memory argument revisited
10:30 - 11:30	Speaker 10	Jefferson Singer , Connecticut College, USA Memory and emotion in personality and psychotherapy
12:10 - 13:00	Lunch	
13:00 - 14:00	Speaker 11	Mara Mather , University of California, Santa Cruz, USA Aging and emotional memory
14:10 - 15:10	Speaker 12	Bob Uttil , University of Tsukuba, Japan Age-related changes in encoding and retrieval of emotional vs. non-emotional information
15:10 - 15:25	Closing Remark	Bob Uttil

Speaker 1: Daniel Reisberg

March 13, Sunday morning

Memory for emotional episodes: The strengths and limits of arousal-based accounts

Daniel Reisberg (Reed College, Portland, USA)

Both psychological and neuroscience data confirm the claim that emotional arousal improves memory, so that emotional events are, overall, better remembered than emotionally neutral (but otherwise comparable) events. In addition, the biological mechanisms underlying this effect are reasonably well understood in both the neurocircuitry and in psychopharmacology. For these reasons, we must take seriously an arousal-based account of how emotional events are remembered. However, an arousal-based account is also limited in crucial ways. Some of these limits concern the notion of arousal itself; other limits are tied to complexities in how different levels of arousal influence memory. Still other limits involve other factors beyond arousal that also influence memory completeness and accuracy. These factors include the ways in which people pay attention to the various aspects of an emotional event, and also distinctions among different types of emotional events, distinctions that have important implications for how these events are remembered.

Speaker 2:Linda Levine

March 13, Sunday morning

Beyond general arousal: Emotional valence, discrete emotions, and memory

Linda Levine (University of California, Irvine, USA)

A great deal of research on emotion and memory has focused on the question of whether emotion enhances memory. Based on this research, investigators have variously claimed that emotional memories are indelible (that is, permanent); that emotion has no special effects on memory at all; and that emotion leads to enhanced memory for central information at the expense of peripheral details. This presentation will begin with a review of the current status of these conflicting claims. Recent research shows that neither memory for emotional events, nor memory for emotional feelings, is indelible. Like more mundane memories, emotional memories change over time and are influenced by post-event experience and appraisals. Emotion does have special effects on memory, however. Converging evidence from autobiographical memory studies, animal and human laboratory studies, and brain imaging studies shows that emotional events are remembered better than non-emotional events. Researchers have begun to spell out the physiological mechanisms underlying the greater vividness and durability of emotional memories.

Although considerable progress has been made toward understanding whether and how emotion enhances memory, much of this research has been limited by its treatment of emotion as merely “arousal.” It will be argued that a more complete understanding of the effects of emotion on memory will depend on taking into account the differing motivations and problem-solving strategies associated with discrete emotions. The effects of positive versus negative emotion will be addressed first. Research on social cognition shows that people experiencing positive and negative emotion process information differently. When happy people evaluate arguments or make social judgments they tend to rely more on general knowledge, stereotypes, or heuristics than do people in a neutral or negative mood. In contrast, when people are experiencing negative emotions, they tend to evaluate information in a careful, systematic manner and rely less on general knowledge and heuristics. Evidence will be presented that the differing information processing strategies associated with positive and negative emotion also affect memory. Research on discrete emotions will be presented next. Overall, the finding that emotion enhances memory for central information has been well-supported. The types of information that are of central importance may vary in different emotional states, however. Evidence will be presented that people remember different types of information depending on whether they are feeling happy, fearful, angry, or sad.

Speaker 3: Asher Koriat

March 13, Sunday afternoon

Are we frightened because we run away? Some evidence from metacognitive feelings

Asher Koriat (Department of Psychology, University of Haifa, Israel)

William James raised the question whether we run away from a bear because we are frightened or we are frightened because we are running away. This issue was addressed with regard to the relationship between metacognitive monitoring and metacognitive control. The logic underlying the work to be presented is that if indeed it is the subjective feeling of fear that causes one to run away from the danger, then the faster one runs away, the less fear one should experience after running away. In contrast, if it is the behavior of running away that gives rise to the subjective feeling of fear, then the faster one runs away the more fear one should experience.

Applying this logic to metacognitive feelings, we investigated the relationship between the amount of time invested in studying an item (control) under self-paced conditions, and judgments of learning (JOLs) made following study (monitoring). Consistent with the "control-affects-monitoring" hypothesis, we found JOLs to decrease with the amount of study time invested in an item, suggesting that monitoring is based on the feedback from control. This is like the idea that the faster one runs away the less safe one feels. The negative correlation between JOLs and study time is assumed to occur when study time is data driven, controlled by the items in a bottom-up fashion. In contrast, when study time is goal-driven, JOLs are expected to increase with study time in the same way that fear is assumed to drive running away, and to lead to increased sense of security after running away. Indeed, consistent with the "monitoring-affects-control" hypothesis, when the incentive associated with recalling an item was manipulated, increased incentive was found to increase the amount of time invested and in parallel to increase JOLs. Both types of relations between study time and JOLs – a negative relation when study time is data driven and a positive relation when study time is goal driven – were observed within the same situation, suggesting that an attribution process must be postulated that determines whether increased effort results in a greater or a lesser sense of confidence. The results were assumed to generalize to other types of metacognitive feelings, and are seen to apply to the relation between subjective experience and behavior in general.

Speaker 4: Sven-Ake Christianson

March 13, Sunday afternoon

Violent events and the effects of trauma on memory

Sven Å Christianson (Stockholm University, Sweden)

Elisabeth Engelberg (Stockholm School of Economics, Sweden)

Understanding of effects of emotion and trauma on memory is crucial when eliciting and evaluating the recall of victims, witnesses, and offenders of violent crime. Current psychological research shows that there is no single effect of trauma on memory for a traumatic event. Rather, there appear to be a variety of patterns that vary in both amount (from total memory loss, through recall a few details, to a very detailed account) and accuracy (from false account, through accuracy on the important 'gist'/central details, to an almost entirely accurate account) (Yuille, 2000). Which of these recall patterns is exhibited appears to be a function of type of emotional/traumatic event, the person's involvement, and the memory measurements used. A common research finding is a superior memory for emotional events compared to neutral, everyday events. This occurs in laboratory studies (e.g., emotional pictures), flashbulb-memory studies (e.g., public negative events), and real-life studies (e.g., bank robberies). However, in studying children who have sustained sexual abuse or suspects of violent and sexual crimes, the emotional/traumatic events are often retained or reported poorly. Furthermore, most research has examined whether emotions influence the content of what is recalled, rather whether emotional feelings per se can be recalled. Research indicates that persons are often unable to reliably remember the intensity and duration of previous emotions, which in turn may affect their recall for details of specific events. In forensic psychology, the vast majority of existing research on eyewitness memory has focused on bystander witnesses and victims of crime. This talk will address the effects of trauma on the recall of offenders, and more specifically, crime-related amnesia. It is not uncommon that defendants of violent crimes claim memory loss (i.e., amnesia) for the crime of which they are accused. This finding brings several questions, for example: Which type of violence is more likely to lead to a claim of amnesia? How can we understand whether such amnesia is genuine or feigned?. Among lay people, a large majority believes that it is perfectly possible for an homicide offender to develop a complete amnesia for the crime. Mental health professionals who appear as expert witnesses in such cases often assume that this type of memory loss is the joint effect of strong emotions and excessive drug or alcohol use. This talk will present research and arguments for why these beliefs are dubious.

Speaker 5: Roberto Cabeza

March 14, Monday morning

The enhancing effect of emotion on memory encoding and retrieval: Functional neuroimaging evidence

Florin Dolcos (Duke University, USA)

Kevin LaBar (Duke University, USA)

Roberto Cabeza (Duke University, USA)

Emotional events are usually remembered better than neutral events. The anatomical and functional correlates of this phenomenon have been investigated with different approaches ranging from behavioral and pharmacological to electrophysiological and functional neuroimaging. The chapter will review this evidence focusing in particular on functional neuroimaging studies. These studies have examined the effects of emotion on memory-related activity during both encoding and retrieval, and have clarified the role of the amygdala, the medial temporal lobes, the prefrontal cortex, and other brain regions. Functional neuroimaging studies are also exploring emotional memory mechanisms in populations with emotional (e.g., post-traumatic stress disorder, depression) and memory (e.g., aging and dementia) disorders. The chapter will end with a discussion of open issues and future directions.

Speaker 6: Hans Markowitsch

March 14, Monday morning

Emotions, memory and the brain: The influence of stress and brain disease on autobiographical memory retrieval

Hans J. Markowitsch (Physiological Psychology, University Bielefeld, Germany)

Tulving defined episodic-autobiographical memory as the conjunction of subjective time, auto-noetic consciousness and the experiencing self. The components of this definition also refer to an emotional evaluation of past memories when re-experiencing them during retrieval. While this process of re-instating a complex past episode during retrieval works satisfactorily in most situations, subjects with memory impairments due to organic brain damage, psychogenic or psychosomatic stress and trauma situations, or subjects under constraining environmental conditions may manifest severe impairments in retrieving their personal past. For the organic condition, patients will be described who after amygdala damage due to Urbach-Wiethe disease show impairments in properly evaluating emotional information. For the psychogenic condition, data from patients with several forms of dissociative amnesias will be presented and it will be concluded that psychic stress and trauma conditions can lead to a so-called mnestic block syndrome, which results in a failure to retrieve episodes from the personal past. Functional imaging correlates of this environmentally induced selective amnesic condition underline its severity. Finally, examples of experimentally induced false memories will be used to stress the idea that autobiographical memories are particularly vulnerable due to their affect-related embedding, requiring a synchronous activation of both cognitive and emotional components for their retrieval.

Speaker 7: Andrew Mathews

March 14, Monday afternoon

Anxiety and the encoding of emotional information

Andrew Mathews (MRC Cognition and Brain Sciences Units, Cambridge, UK)

Memory for emotional events tends to be better than for neutral events. Despite this, individual differences in anxiety are not reliably associated with better recall of congruent (threatening) information. Better memory for threatening information sometimes occurs in anxious individuals but depends on the selective use of emotional encoding processes, rather than retrieval differences. Anxiety is associated with an attentional focus on threatening picture content, which is then remembered as if seen from a closer perspective. Neuro-imaging data suggests that such selective encoding strategies can be modified by instructions, but this control is more difficult for highly anxious individuals. Other evidence shows that better control over the encoding of emotional meaning can be achieved by training in the interpretation of emotional events. As well as demonstrating control of emotional encoding this evidence shows that selective encoding is a cause, rather than just a consequence of emotion.

Speaker 8: Gail Goodman

March 14, Monday afternoon

Memories of trauma

Gail Goodman (University of California, Davis, USA)

Pedro Paz Alonso (University of California, Davis, USA)

There is much scientific interest in memory for trauma. The theoretical issues at stake are fundamental to an understanding of the human mind. In addition, legal cases have sparked debates about how trauma affects memory. For example, does the trauma of an event lead to more durable memories? Or, is it possible to repress memories of adult or child trauma, only to have the memories unlocked later? How malleable is human memory for trauma material? For distressing information, are there important individual differences, such as in personality or psychopathology, that affect memory accuracy and susceptibility to false memory? What memory mechanisms underlie memory for trauma? Our research addresses these questions.

In this talk, recent research on memory for traumatic events will be described. For example, Dr. Goodman will report on her longitudinal study of memory in child sexual abuse victims. The children were interviewed in the 1980s about their emotional reactions to legal involvement. Detailed documentation of the maltreatment allegations was obtained at that time. Over a decade later, the victims were interviewed about their memories of abuse. For this longitudinal study, the first research question concerned most memory lack of disclosure of the target child sexual abuse case. Would the victims (now older adolescents and adults) remember that they had been sexually abused in childhood? Or would they repress • their memories of this traumatic incident? The results indicate that most of the victims maintained memory for the abuse, although some of them either did not remember or (for other reasons) failed to disclose. Predictors of lost memory/lack of disclosure will be discussed; some of the predictors have important theoretical implications. The second research question concerned the effects of Post-Traumatic Stress Disorder (PTSD) on memory for abuse. Would PTSD be associated with better or worse memory for the target maltreatment case? In fact, traumatic impact was found to predict better memory for child sexual abuse. A third research question concerned the phenomenological memory experiences of the victims, specifically, subjective versus objective forgetting: Do the victims who report past experiences of lost memory of abuse, but who have recovered the memory, now have poor memory for the target abuse cases? These findings and others will be discussed. The results provide valuable information for a science of trauma and memory.

Speaker 9: John Kihlstrom

March 15, Tuesday morning

The trauma-memory argument revisited

John F. Kihlstrom (University of California, Berkeley, USA)

Since the 19th century, clinical folklore has embraced the notion that psychological trauma can cause amnesia. After a review of early concepts of repression (Freud) and dissociation (Janet), modern expressions of the trauma-memory argument, which provide the basis for recovered-memory therapy, are critically examined. In some cases, the theory is found wanting in terms of internal coherence. But, crucially, in all cases, the theories lack external empirical support. Retrospective studies which claim to provide evidence of traumatic amnesia are methodologically flawed, and prospective studies have yielded no convincing cases of amnesia that cannot be accounted for by age, retention interval, or organic factors. In view of the lack of evidence for trauma-induced psychogenic or functional amnesia, the trauma-memory argument appears to be a theory in search of a phenomenon.

Speaker 10: Jefferson Singer

March 15, Tuesday morning

Memory and emotion in personality and psychotherapy

Jefferson A. Singer (Connecticut College, USA)

In the last two decades, personality psychologists and clinical psychologists have displayed a renewed interest in autobiographical memory. Drawing on burgeoning research in cognitive psychology on autobiographical memory as well as advances in emotion research, personality psychologists have identified certain key emotional memories as integrative units of the self that combine both episodic and semantic information. These self-defining memories are linked to important life goals and also play a critical role in mood regulation. In addition, they provide significant opportunities for lesson-learning and meaning-making that contribute to an individual's sense of purpose and identity. More recently, clinical psychologists have begun to draw on self-defining memories as a focus of intervention in both individual and couples psychotherapy. This talk reviews laboratory studies of self-defining memories and then provides case examples of their application in psychotherapy.

Speaker 11: Mara Mather

March 15, Tuesday afternoon

Aging and emotional memory

Mara Mather (University of California, Santa Cruz, USA)

Recent findings reveal that older adults remember in more emotionally gratifying ways than younger adults, possibly because of the increased focus on regulating current emotion with age. Older adults avoid negative information in their initial attention and show less activation in brain regions associated with emotional attention when seeing negative pictures than positive pictures. On memory tests, they show positivity biases, forgetting negative information more than positive information and distorting autobiographical information in a positive direction. Reminding younger adults of emotional goals by asking them to reflect on their current feelings leads them to show the same memory biases as older adults. In addition, older adults who do well on tests of executive function are those most likely to show positivity biases in memory. Thus, these age-related changes seem to be due to changes in goals rather than to cognitive decline.

Speaker 12: Bob Uttl

March 15, Tuesday afternoon

Age-related changes in encoding and retrieval of emotional VS. non-emotional information

Bob Uttl (University of Tsukuba, Japan)

Peter Graf (University of British Columbia, Canada)

A large body of research has demonstrated substantial age-related declines in explicit episodic memory that are most pronounced in adults over 60 years of age. However, like the detective in the popular police drama *Dragnet*, the vast majority of research has asked for “just the facts, ma’am,” focusing on memory for words, objects, and their attributes but ignoring memory for other aspects of episodes such as emotional information. The aims of our research were (1) to investigate whether older adults’ explicit episodic memory for emotional information declines in the same way as memory for non-emotional information and (2) to find out whether age-related differences in memory for both emotional and non-emotional information can be explained by age-related differences in encoding. Our findings indicate that in contrast to memory for “just the facts”, memory for emotional information does not decline across the adult life span.

Paper session

March 13, Sunday afternoon

(1) 13:30 - 13:45

The impact of mood on recall of autobiographical memory: The effects of structures of self-knowledge

Michiko Sakaki (The University of Tokyo, Japan Society for the Promotion of Science, Japan)

This study investigated how the nature of self-aspect, from which experiences are recalled, affects the impact of moods on recall of autobiographical memories. Seventy-one participants were induced either neutral or negative mood and asked to recall their experiences from either self-aspect relevant to the elicitor of moods (related self-aspect) or self-aspect irrelevant to the elicitor of moods (unrelated self-aspect). The results indicated that when participants recalled memories from related self-aspect, they recalled more negative memories in negative moods than in neutral moods (i.e., mood-congruent recall), while when they recalled memories from unrelated self-aspect, they recalled more positive memories in negative moods than in neutral moods (i.e., mood-incongruent recall).

(2) 13:50 - 14:05

Postevent information effect and the emotionality of the witnessed event

-Free recall immediately after the witnessed event prevents the source misattribution-

Natsuko Onuma (Kyushu University, Japan)

Yuji Hakoda (Kyushu University, Japan)

Wataru Oue (Forensic Science Laboratory, Saga Prefectural Police Hq, Japan)

This experiment investigated whether or not free recall immediately after the witnessed event prevents the source misattribution in the paradigm of typical postevent information effect studies. The results showed that free recall reduced the source misattribution, and that the reduction of source misattribution appeared more saliently in the emotional condition than in the neutral condition, particularly on the details related to the gist of the witnessed event. These results suggest that free recall immediately after the witnessed event makes the memories of witnessed event robust especially on the details related to impressive aspect of the witnessed event.

(3) 14:10 - 14:25

The reminiscence bump in autobiographical memory: Effects of age and culture

Steve M. J. Janssen, (University of Amsterdam, the Netherlands)

Chessa, (University of Amsterdam, the Netherlands)

Antonio G. Chessa (University of Amsterdam, the Netherlands)

Jaap M. J. Murre (University of Amsterdam, the Netherlands)

We investigated the age distribution of autobiographical memories with the Galton-Crovitz cueing method through the Internet. Participants from different countries were presented with ten cue words. They were asked to recall personal memories and to date these. We were able to remove the recency effect from the empirical age distributions with a method that allows separate estimation of memory encoding and forgetting. We found strong evidence for a "reminiscence bump" in all participant groups at all ages. However, American participants had more childhood memories than other participants.

Paper session

March 14, Monday afternoon

(4) 13:00 - 13:15

Sex, stress and fear: Individual differences in conditioned learning

Michael Zorawski (Duke University, USA & National University of Singapore, Singapore)

Cynthia M. Kuhn (Duke University, USA)

Craig A. Cook (Duke University, USA)

Kevin S. LaBar (Duke University, USA)

It has long been recognized that humans vary in their conditionability, but factors contributing to individual variation in emotional learning have not been delineated. The current study investigated the relationship among gender, stress hormones, and fear conditioning in humans. Cortisol samples were taken at baseline, post-fear acquisition and delayed-retention. Results showed that acquisition of conditioning significantly correlated with post-acquisition cortisol in males but not females, despite similar overall levels of conditioning, unconditioned responding, and cortisol. There was no effect of post-acquisition cortisol on memory consolidation. These findings have implications for understanding individual differences in fear acquisition and risk-factors for psychopathology.

(5) 13:20 - 13:35

The effects of test sequence on antero- and retro-grade amnesia of negative emotional memory

Masanobu Takahashi (University of the Sacred Heart, Japan)

Yukio Itsukushima (Nihon University, Japan)

Yasunari Okabe (Nihon University, Japan)

We examined the recognition test sequences of scenes for emotional versus neutral events. Participants were presented with a thematic series of scenes in which the content of two critical scenes in the middle of the series varied, and then they received two-alternative forced-choice recognition test. When the critical scenes were emotional, compared to neutral, anterograde and retrograde amnesic effects were observed in the different test sequence of scene pairs that mismatched the presentation order (Experiment 1). In contrast, for the same test sequence that matched the order seen during presentation (Experiment 2), both anterograde and retrograde amnesic effects were disappeared.

(6) 13:40 - 13:55

Memory for emotional pictures using a remember/know recognition paradigm

Camilla J. Croucher (MRC Cognition and Brain Sciences Unit, Cambridge, UK)

Andy J. Calder (MRC Cognition and Brain Sciences Unit, Cambridge, UK)

Phil Barnard (MRC Cognition and Brain Sciences Unit, Cambridge, UK)

Three experiments using a remember/know recognition paradigm demonstrate that arousal is not the best predictor of memory for emotional images from the IAPS (Lang et al., 1999). An initial experiment compared arousal with other cognitive and emotional dimensions. Results showed that the best predictor of emotional memory was not arousal, but differences in "impact" of stimuli. Experiments 2 and 3 examined this further, showing a significant effect when images differed on impact but not arousal. However, when impact was equated but arousal differed, no effect of emotion was found. Arousal-based accounts of emotional memory may therefore need to be reconsidered.

Presentation time for odd numbers, 16:30 - 17:30

Presentation time for even numbers, 17:30 - 18:30

(1)

The multidimensional property of the self: An event related potential study

Takashi Horiuchi (Okayama University, Japan)

The purpose of present study is to investigate the multidimensional property of the self by an event related potential experiment. A two-factor within subjects design was used. The first factor was types of orienting task condition: judgment for real-self, ideal-self and social-self. The second factor was types of EEG recording site: Fz, Cz and Pz. Subjects were asked to rate trait words in one of the three ways of orienting task, and event related potentials were recorded. A two-way ANOVA revealed that LPC (500ms-700ms) for ideal-self was less than that for others.

(2)

**Effects of encoding on reduced recollection of negative items in anxiety:
an event-related potential study**

Midori Inaba (Nagoya University, Japan)

Hideki Ohira (Nagoya University, Japan)

This study examined if less encoding leads to the reported lower recollection of negative items in anxious individuals. We required high or low trait-anxious participants to perform the exclusion recognition task in full- and divided attentional conditions. We also observed the event-related potentials. In result, we confirmed the lower estimates of conscious recollection and the smaller magnitude of the left-parietal late positivity for negative words in anxious group. Moreover, they showed the smaller advantage effect of cognitive resources available for full-learning. Roles of encoding and recollection for negative information in the control of our anxious feelings should be discussed.

(3)

Enactment effect in recognition memory: A magnetoencephalography (MEG) study.

Kouhei Masumoto (Osaka University, Japan Society for Promotion of Science, Japan)

Masahiko Yamaguchi (National Institute of Advanced Industrial Science and Technology, Japan)

Kouichi Sutani (National Institute of Advanced Industrial Science and Technology, Japan)

Satoru Tsuneto (Osaka University, Japan)

Ayako Fujita (Osaka University, Japan)

Mitsuo Tonoike (National Institute of Advanced Industrial Science and Technology, Japan)

The enactment effect is that when remembering action sentences, performing the action of sentences (enacted encoding) results in better memory performance than remembering only the sentences (verbal encoding). The purpose of this study is to identify the brain regions related to the enactment effect during the recognition test by using a magnetoencephalography (MEG), and to discuss the cognitive process of the enactment effect. Analysis concerning brain activities during the retrieval revealed that the right parietal cortex (BA7, BA40) and the occipito-temporal cortex (BA37) showed stronger activities in enacted encoding condition than verbal encoding condition. These results indicate that the enactment effect is related to internal visuospatial process such as movement and object imagery.

(4)

Changes in brain activation associated with use of a memory strategy: an fMRI study

Toshikatsu Fujii (Tohoku University, Japan)

Yumiko Kondo (Tohoku University, Japan)

Maki Suzuki (Cyclotron and Radioisotope Center, Tohoku University, Japan)

Shunji Mugikura (Tohoku University, Japan)

Nobuhito Abe (Tohoku University, Japan)

Shoki Takahashi (Tohoku University, Japan)

Toshio Iijima (Tohoku University, Japan)

We used fMRI to compare brain activations before and after instruction in the method of loci (MI) during both encoding and recall phases. The resulting behavioral data showed that the use of MI significantly increased scores for memory recall. The imaging data showed the changes in brain activation associated with the use of MI: left fusiform and lingual activity with both phases, bilateral prefrontal activity with encoding phase, and activity of the parahippocampal gyrus, retrosplenial cortex, and precuneus with recall phase. These findings suggest that brain networks mediating episodic encoding and retrieval vary with how individuals encode the same stimuli.

(5)

Category specific brain activation during semantic priming task: An event-related fMRI study

Hiroko Mochizuki-Kawai (National Institute of Advanced Industrial Science and Technology (AIST), Showa University School of Medicine, Japan)

Takashi Tsukiura (National Institute of Advanced Industrial Science and Technology (AIST), Japan)

Satoshi Mochizuki (University of Tsukuba, Japan)

Mitsuru Kawamura (Showa University School of Medicine, Japan)

In the present fMRI study, we examined the category specific activations in the posterior temporal lobe and parietal lobe during semantic priming task. In this task, first subjects were presented with primer words. Subsequently, subjects were presented with fragmented words semantically related to the primers and were required to complete the fragments. We found significant activations in the bilateral BA 39 specific to BODY category, the right supramarginal gyrus to CLOTHES category and the bilateral middle temporal gyrus to TOOL category. The categories semantically related to the body parts may be organized in the surrounding regions to the BA 39.

(6)

Parietal and frontal involvement in top-down processing based on the visual memory of 3D object: an fMRI study

Yurie Nishino (ATR Human Information Science Laboratories, Japan)

Hiroshi Ando (ATR Human Information Science Laboratories, Japan)

We investigated human brain regions involved in learning and recognition of 3D objects using fMRI. Our previous study showed that top-down processing based on the memory of paperclip-like 3D objects activated lateral occipital area (LO), intraparietal sulcus (IPS), the premotor area, as well as the fusiform area (Perception, 33(s), 72, 2004). The present study examined whether the activation of the parietal and frontal areas was caused by the difficulty of attention-demanding top-down tasks. The results showed that manipulation of task difficulty did not affect brain activities, suggesting that the parietal and frontal areas play an important role in top-down processing.

(7)

Constructive intelligence model – Mind/brain system of Prof. Tulving –

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Most of what we know about human learning and memory comes from the laboratory setting. Very little is known about how these functions work in the classroom, or in daily experience, generally. In particular, we do not know how rapid, one-shot learning is achieved, or how the flexibility of our intellect is formed and applied in the open world. We think these are general phenomena of Tulving Mind/brain system. The anterior portion of the cerebrum contributes to various cognitive functions that are important for the formation and development of human intelligence. However, the prefrontal cortex alone cannot explain the capacity for rapid learning in the classroom or social environment. The hippocampus is traditionally regarded as a site for memory. We hypothesized that the medial temporal lobe (including the hippocampus) is also essential to higher-level cognition, because the higher-level cognition must be formed by learning and, moreover, maintained by using it through his life. A series of neuroimaging studies indicated that the hippocampus is involved in the formation of semantic associations in semantic judgment tasks; and insight-related tasks. We propose the “constructive/compositional intelligence” model to account for these data. The model is a revision of the idea of structuralism proposed by the father of modern psychology, Wilhelm Wundt. In our model, the role of the hippocampus is to bind independent cognitive functions/elements that are important for the should-be-memorized cognitive behavior. This model can explain many excellent features of our human intelligence; its openness to the world, rapid learning/memory, flexibility and other capacities; almost all features of Mind/brain system of Prof. Tulving. We discuss the impact of our results on learning problems in the classroom, especially in regard to second-level emotional effects, such as teacher-student relations; the theory of one-shot memory as a general form of episodic memory; and the relationship between “constructive intelligence” research and the traditional analysis methods of psychology and brain science. We would like to explain why Prof. Tulving fails to give the theory of episodic memory and give us the idea of mind/brain memory system.

(8)

Memory function in cases with Heubner's recurring artery occlusion

Naoyasu Motomura (National Mental Support Center for School Crisis, Osaka University of Education, Japan)

Hideko Mizuta (Itami Municipal Hospital, Japan)

We reported 5 cases with the Heubner's recurring artery occlusion, to which we conducted detailed memory examinations in terms of explicit memory and implicit memory. We performed auditory verbal learning test (AVLT) as explicit memory tasks and motor and cognitive procedural memory tasks developed by Komori as implicit memory task. Compared with age and intelligence matched control subjects and patients with left Heubner's recurring artery occlusion demonstrated the lower scores both on declarative and on motor procedural memory tasks. These results suggest that left caudate nucleus may be related both with declarative memory and with procedural memory.

(9)

Fronto-parietal network involved in successful retrieval from episodic memory. Functional MRI and ERP study in human.

Tetsuya Iidaka (Nagoya University, National Institute for Physiological Sciences, Japan)

Atsushi Matsumoto (Nagoya University, National Institute for Physiological Sciences, Japan)

Junpei Nogawa (Nagoya University, National Institute for Physiological Sciences, Japan)

Norihiro Sadato (Nagoya University, National Institute for Physiological Sciences, Japan)

Neuroimaging and event-related potential (ERP) studies have found that the fronto-parietal regions are activated when subject successfully recognized target item as "old" item during retrieval. We conducted functional MRI and ERP studies in separate group of subjects (n=32) using recognition test of line-drawing pictures. Aim of the study was to investigate the spatial and temporal distribution of neural activity associated with retrieval success (RS). As predicted, the bilateral fronto-parietal areas were involved in RS, and these activities were modulated by levels-of-processing effect during encoding. Particularly, the parietal activation was reflected by enhanced positive potentials during 400-600ms post-stimulus interval.

(10)

Activation of the frontal cortex during words memory learning in healthy people: a near-infrared spectroscopy study.

Mie Matsui (Toyama Medical & Pharmaceutical University, Japan)

Kuniko Tanaka (Toyama Medical & Pharmaceutical University, Japan)

Masayoshi Kurachi (Toyama Medical & Pharmaceutical University, Japan)

We investigated alternations of the hemodynamic response of the frontal cortex during words memory learning task. The participants were 12 healthy adults (mean age=25.3 yr., S.D.=7.6). Hemodynamic response in the frontal cortex was measured using a near-infrared spectroscopy system. The words memory learning task was composed of 16 nouns. In this task, four exemplars from each of four categories were constructed so that related items never appeared consecutively. During the words memory learning task, oxygenated hemoglobin concentrations increased and deoxygenated hemoglobin concentrations decreased. This result suggests that activation of the frontal cortex is related to process of memory organization.

(11)

Tau phosphorylation in mouse brain during aversive conditioning

Junko Fujio (Mitsubishi Kagaku Institute of Life Sciences, Japan)

Hiroaki Hosono (Mitsubishi Kagaku Institute of Life Sciences, Japan)

Koichi Ishiguro (Mitsubishi Kagaku Institute of Life Sciences, Japan)

Shiro Ikegami (Mitsubishi Kagaku Institute of Life Sciences, Japan)

Shinobu C. Fujita (Mitsubishi Kagaku Institute of Life Sciences, Japan)

Hyperphosphorylated tau is the main component of neurofibrillary tangles, one pathological hallmark in Alzheimer's disease brain. We studied the relationship between tau phosphorylation and memory in adult mice during standard contextual fear-conditioning experiments. The hippocampus and a neighboring tissue (VP) were analyzed by quantitative immunoblot analysis using phosphorylation-specific anti-tau antibodies. Dual phosphorylation level at Thr231/Ser235 was increased after 10 footshocks. Increased Ser9 phosphorylation of TP53/ATM protein kinase was also significant. These changes were smaller when the shock current was reduced from 0.8mA to 0.5 or 0.2mA. Both changes were also observed in VP containing amygdala. These data can give a clue to the physiological significance of tau phosphorylation in memory processes.

(12)

The effect of similarity between protagonists and readers in narrative comprehension

Hidetsugu Komeda (Kyoto University, Japan)

Takashi Kusumi (Kyoto University, Japan)

We examined whether similarity between protagonists and readers influenced situation model construction. Personality was measured using the Big Five Scales. Participants read two narratives in which the protagonist's personality was similar and opposite to theirs with respect to the introversion versus extroversion component. We analyzed sentence-reading times and ratings of protagonists' emotional states (anger, disgust, anxiety, happiness, and sadness). Results suggest that greater similarity between protagonists and readers is associated with easier construction of situation models. Furthermore, introverted readers estimated higher anxiety in their protagonists, while extroverted readers assigned higher happiness ratings to theirs.

(13)

Reasoning on social contract and in-group membership: How people consider additional requirement

Hiroshi Yama (Kobe College, Japan)

Japanese participants were asked to rate how strongly they accept the consequence when they were given a conditional and a true/false antecedent with an additional requirement, such as "if you perform your duty, then you may take the benefit" and "you perform your duty, but made a big mistake". A social contract as shown above and an in-group membership situations (if you are belonged to the group, then you may take the benefit) were set. It is not normative to revise rating according to the requirement. But the participants did in both situations and this is rational in ordinary reasoning.

(14)

Does people solve the Monty Hall Dilemma based on the mind theory ?

Kazuhide Miyoshi (University of Tsukuba, Japan)

In the Monty Hall Dilemma (MHD), a host shows a guest three doors and the guest makes a guess as to which door has a prize. After the guest's guess, the host reveals another door as incorrect. The dilemma is whether stick with the initial decision or switch to the another alternative. The correct but counterintuitive answer is to switch. Recently, a study of the MHD that focused on the mind theory has suggested that people solve the task based not on a probability, but on the mind theory.

(15)

The self-choice effect is not found when two study words of a pair are semantically related

Tetsuji Hirano (Kwansei Gakuin University, Japan)

The self-choice effect is a phenomenon in which study words that are selected from each pair by participant are recalled more likely than those that are assigned by experimenter. In the present study, two words of a pair were semantically related, and the participants were instructed to choose and learn a word from each of them. The effect was found when instructed to recall all words (chosen and non chosen words), but not found when instructed to recall only the chosen words. The results were explained by a failure of inhibition of non-chosen words.

(16)

The self-choice effect with third graders

Tomoyuki Watanabe (Sendai Shirayuri Women's College, Japan)

A previous study reported that the self-choice effect was not obtained with third-graders when the effect was tested in free recall (Takahashi, 1991). Two experiments in the present study demonstrated that the effect was obtained with third-graders when cued recall was utilized as retention test. The lack of the effect with third-graders was interpreted in terms of retrieval failure and use of retrieval cues, rather than encoding factors such as deficient organization or metamemory judgment for easy-to-learn items.

(17)

Dissociative experience and mood-dependent memory

Noriaki Kanayama (University of Nagoya, Japan)

Atsushi Sato (University of Tokyo, Japan)

Hideki Ohira (University of Nagoya, Japan)

Patients with dissociative identity disorder show amnesia between their alter personalities. The present study investigated whether amnesia in participants with a dissociative tendency depends on mood-dependent memory. Undergraduates scoring high (n=32) or low (n=32) on the Dissociative Experiences Scale Version- II (DES- II) participated in this study and mood induction and a remember/know task designed to detect the effect of mood-dependent memory were used. In the condition of inconsistent mood state, participants in the high DES group achieved decreased memory performance than low DES group. So we concluded that the normal people with highly frequent dissociative experiences show strong state-dependent memory.

(18)

Haptic false recognition and modality congruency effect

Tomohiro Nabeta (University of Hiroshima, Japan)

Jun-ichiro Kawahara (University of Hiroshima, Japan)

Studying a list of items related to an item (the lure, which is not presented) creates a false recognition of the lure. False recognition is reduced when the study and test modality was congruent as compared to the case when they were different. The present study examined haptic congruency effect of false recognition with audition (Experiment 1), and with vision (Experiment 2). There were two main findings. First, a robust haptic false recognition was obtained. Second, haptic congruency reduced false recognition. These results indicate that haptic cues reduced false recognition.

(19)

The effects of directed forgetting on false recall and false recognition

Chie Hotta (Aichi University of Education, Japan)

Hidetsugu Tajika (Aichi University of Education, Japan)

Ewald Neumann (University of Canterbury, New Zealand)

This study examined the influence of directed forgetting on false memories. Participants studied one of two types of lists consisting of interrelated words with either high or low semantic associative strength in relation to a critical non-presented (CN) word. After studying each list, some participants were instructed to forget the 1st of 2 lists before studying the 2nd list (the forget group), whereas other participants were instructed to remember both lists (the remember group). This was followed by a recall test (Experiment 1) and a recognition test and Remember/Know judgments (Experiment 2). Typical directed forgetting effects were obtained for studied words. For CN words, the forget groups showed increased false recall only for high semantic associative strength lists, but increased false recognition for both types of lists, when compared to the remember groups. Our findings are discussed in terms of the activation-monitoring hypothesis and the fuzzy-trace theory of false memories.

(20)

Mood congruent effect in autobiographical task and modified autobiographical task

Rui Nouchi (Chuo University, Japan)

I investigated the pattern of mood-congruent effect in an autobiographical task and a modified autobiographical task. Negative mood and Positive mood condition were induced by music. Control condition was not listened music. Each condition was presented with words per 4s. Subjects judged they could recall any of their autobiographical memory related to the word (ex1) or they judged they could easily recall (ex2). After tasks, they recalled in 5 minutes. Results showed mood congruent effect occurred in autobiographical task but didn't occur in modified autobiographical task. This suggests an autobiographical retrieval is importance to mood- congruent effect in autobiographical task.

(21)

Does deliberate fabrication impair the memory for actual event?

Mio Tanaka (Nihon University, Japan)

Yukio Itukushima (Nihon University, Japan)

This study investigate whether deliberately fabrication impairs memory for actual events. Participants were assigned to Fabrication condition (FC) or True condition (TC). Participants read a description that a drunk man got a fight and injured some other people. After reading, participants answered some question about the description immediately, a week later and two weeks later. In Fabrication condition, participants were instructed to fabricate about the description when they answer the question. In True condition, participants were instructed to recall as accurate as they are possible. Results show that deliberately fabrication may not impair memory for actual event but participants in Fabrication condition tend to lose their confidence about their memory. This results suggest that deliberately fabrication may lead witnesses to get confused their memory.

(22)

Illusory recollection of perceptual characteristics: Do people remember falsely voices?

Jun Kawaguchi (Nagoya University, Japan)

This study was done to examine whether people remember perceptual characteristics of false memories. Participants were auditory given a series of words in one of four voices (male 1, male2, female1, female2). In the following recognition test, participants frequently recognized critical lures and attributed them to the corresponding study voice. But the correct proportion of perceptual attribution of male-female discrimination was better than of individual voice discrimination between male1 and male2 or female1 and female2. The results suggested that people falsely recognized critical lures in the corresponding study voice, but they didn't reconstruct the details of voice of critical lures.

(23)

The role of retrieval cues and response criteria on retrieval-induced forgetting:

Does item-specific cues release inhibition ?

Katsuya Tandoh (Hokkaido University, Japan)

We examined whether or not item-specific retrieval cues release retrieval-induced forgetting. In the final recall test, participants were given category-plus-stem cues and asked to recall all the studied items. When no additional instructions were given, retrieval-induced forgetting did not occur (Experiment 1). However, retrieval-induced forgetting occurred when they were asked to answer an item only if they were very confident that it had occurred in the study phase (Experiment 2) . These findings suggest that inhibitory effect may be difficult to detect on recall tasks which include rich retrieval cues not because inhibition has been released, but because participants may adopt lenient response criteria.

(24)

A simulation model of retrieval-induced forgetting

Takashi Tsukimoto (Nagoya University, Japan)

Jun Kawaguchi (Nagoya University, Japan)

A simulation model of retrieval-induced forgetting is presented. The model assumes that: (1) only episodic traces are stored in memory, (2) a retrieval cue activates each trace according to its similarity to the cue, (3) the inter-trace inhibition occurs according to the activation and the similarity between traces, (4) all traces respond in parallel, the retrieved information reflecting their summed output, and (5) traces vary their response ability according to the amount of immediate previous inhibition, which influences on subsequent retrieval. The model is essentially based on Hintzman's (1984) MINERVA 2, but includes the mechanism of inhibition.

(25)

Involuntary memories triggered by emotional words

Taisuke Morita (Kansai University, Japan)

To explore the differences in cognitive processes among various kinds of involuntary memories, this study examined the effect of emotional valence of cue words on three kinds of memories: prospective, retrospective, and semantic involuntary memories. Immediately after completing orienting tasks in which the cue words were presented, 52 participants were asked to report whether they had experienced the involuntary memories. The results showed that only prospective involuntary memories were elicited by the cue words with positive emotional valence more frequently than those with negative valence.

(26)

Automatic processes of recognition judgments in Alzheimer's disease

Madoka Yano (Keio University, Japan)

Satoshi Umeda (Keio University, Japan)

Masaru Mimura (Showa University, Japan)

In Alzheimer's disease (AD), conscious recollection processes are impaired, but it remains unclear whether automatic processes are preserved. This study examined whether automatic memory processes are preserved in AD by using font match effects, which are phenomena that performances of visually presented words recognition are enhanced automatically by the font match between the words presented in the study phase and those presented in the test phase despite the instruction to ignore the font. The font match effect was not found in AD patients, unlike normal subjects. The results suggest that automatic processes of recognition judgments are impaired in AD.

(27)

How did mother-child pairs report what they had witnessed together?

An experimental examination using the MORI technique

Kazuo Mori (Shinshu University, Japan)

Makiko Kitabayashi (Shinshu University, Japan)

Thirty-one elementary school children and their mothers participated as eyewitnesses to a simulated criminal event presented through VTR movies using the MORI technique (Mori, 2003). This allowed projection of two different versions to be seen separately on the same screen by pairs of viewers without them noticing the duality. Participants were to recall what they had observed in several ways: individually immediately after the presentation, collaboratively, and individually again one week later. The results revealed that although mothers showed better memory performance than their children, there was no decisive tendency as to who deferred to whom among mother-child pairs.

(28)

The difference between implicit and explicit associative processes at study to create false memory in the DRM paradigm

Yayoi Kawasaki (Kobe College, Japan)

The effects of implicit and explicit associative processes for false recognition were examined by manipulating exposure duration of studied items, 20ms or 2000ms. Participants studied lists of words that were high associates to a non-presented word (critical lure) in either condition. After learning each list, they took a recognition test and remember/know judgments immediately (Experiment 1) or one minute later (Experiment 2). In Experiment 1, know responses for critical lures were more in the 20ms than in the 2000ms conditions, while remember responses for them were more in the 2000ms condition. Implicit associative processes create familiarity of critical lures, and explicit associative processes create details of false memories. Comparing the results of Experiment 1 with those of Experiment 2, remember responses for critical lures were increased with the prolonged time only in the 20ms condition. Characteristic of false memory made by implicit associative processes could be changed by prolonged time.

(29)

Automatic encoding processes in memory for emotional stimuli: The difference between positive and negative information

Tomoko Suzuki (Ritsumeikan University, Japan)

Individuals are more likely to remember positive information than negative information. This study examined the effects of word emotionality on automatic encoding processes. In Experiment 1, a central-incident learning task was used. After the task, participants were given a free recall test. In Experiment 2, a memory-load paradigm was used. In the results of two experiments, it was suggested that intentional encoding processes were influenced by positive and negative information. However, automatic encoding processes were influenced by positive information but not by negative information.

(30)

Personal memory and emotion: amae in Japan and Canada

Emiko Koyama (University of Toronto, Canada)

The present study investigates the emotional paradigm and personal memory of amae (a Japanese emotion of “wanting to be loved”) in Japan and Canada. Our study results suggested that, unlike Japanese participants, Canadian participants lacked a superordinate concept that includes both positive and negative aspects of amae, although they recognized them separately. In addition, the clear understanding of the social concept allowed the recollection of amae as the first person event for vast majority of Japanese, but not for Canadians. The discussion deals with the social construction and interaction between emotion and personal memory.

(31)

An influence of 2 seconds word learning given 3 months earlier on recognition memory

Hiromitsu Kitagaki (Okayama University, Japan)

Atsushi Katsube (Okayama University, Japan)

Takafumi Terasawa (Okayama University, Japan)

Using INCORRECT RECOGNITION PROCEDURE (Terasawa&Ohta 1993), we examined how performance in a recognition experiment (Session2) was affected by incidental learning 3 months earlier (Session1). In Session 1, subjects judged at the rate of 2-s per word whether they had seen words until this examination. In Session2, subjects were asked to study and then to recognize a list of words. The test list consisted of those words that had been presented in Session1 and new words. An analysis of false alarm indicated significant effects of the number of study repetitions in Session1: false alarm for the words studied five times in Session1 was higher than those for 0~4 repeated words.

(32)

Comparing the recognition performance of component colors and forms with that of the paired or combined stimuli of those components: Focusing on the congruency of impressions

Yuiko Sakuta (Tohoku University, Japan)

Jiro Gyoba (Tohoku University, Japan)

We have found that the paired or combined stimuli with congruent impressions on Activity or Potency factor are recognized well, while the paired or combined stimuli with incongruent impressions on Evaluation are more memorable. In this study, we compared the recognition performances among colors and forms, color-form pairs, and colored forms. As the results, the interactions could not be explained by simply averaging the recognition performances for colors and forms. The congruency or incongruency on each factor induced the interactions specific to each factor and played an important role in remembering the pairs or combined stimuli.

(33)

Prospective Memory recognized at mobile emotion

Yukihiro Itoigawa (Wisdom Inc., Japan)

In research1: Recognition in foreign country was important factor for prospective memory. Categories (total 37 descriptions) were classified as city and music like Vienna and opera, Paris and chanson, New Orleans and Jazz and Jamaica and reggae. Also classification was held by memorized music at relations between city and musician, also city and place memorized by music. "Sound of Music" made subject impressive in Salzburg. Decade was memorized about music of 60's, 70's and 80's.

In research2: 68 descriptive data (male=54, female=14, aged=25-75) about memory of emotion at traveling abroad had showed cases of familiar and shameful emotion memorized, for instance memory of father and scene of movie like Bruce Lee. Evaluation: Explicit memory about good days in family and culture experience (music, media and reading) is good indicator to introduce prospective memory to life path.

(34)

Output monitoring errors in a modified source-monitoring paradigm

Eriko Sugimori (Kyoto University, Japan)

We investigated factors associated with output monitoring errors in a modified source-monitoring paradigm. Unlike the two-phase (learning and monitoring) standard paradigm, the modified paradigm involves three phases: learning, enactment, and monitoring. Monitoring was measured seven days after learning and enactment took place. Two experiments revealed that: (1) not only items that were enacted but also items that were imagined in the enactment phase were associated with enactment-related monitoring errors during the learning phase, and (2) when items were imagined repeatedly during the learning phase, there was no increase in monitoring errors. Enacting repeatedly during learning is one of the factors associated with output monitoring.

(35)

Variability among Deese-Roediger-McDermott lists in eliciting false recall for people's names

Akira Mukai (University of Liege, Belgium)

A list structure of Mukai (2004) was used to investigate the variability of the DRM lists with critical lures (CLs) of people's names. The materials were composed of 6 pairs of lists, in which the CL and its contextually associated study item (critical presented item; CPI) were assumed to play an important role in eliciting false recall. Results showed that the variability of the list pair in eliciting false recall was positively correlated with list pair difference in free association rate from the CPI to the CL and negatively correlated with that in the length (distinctiveness) of the CL. The length of the CL was also negatively correlated with an index of unsuccessful source monitoring. The results are discussed in terms of the activation/monitoring theory.

(36)

The effect of emotion on 'snapshot' phenomenon

Tomoe Nobata (Kyushu University, Japan)

Yuji Hakoda (Kyushu University, Japan)

This study examined how emotion leads to 'snapshot' phenomenon of memory. 'Snapshot' phenomenon is that events describe their recollections of these episodes as fragmentary and like a photograph. In experiment, participants watched pleasant, unpleasant or non-emotional video clip for a few minutes. After 1 hour, participants were given an incidental recognition test and assessed how fragmentary their memories were. In result, participants which watched unpleasant video clip (unpleasant condition) reported higher snapshot score than non-emotional condition. And in recognition test, unpleasant condition was better performance than non-emotional condition, non-emotional condition than pleasant condition.

(37)

Effects of forget cue in a modified directed forgetting paradigm

Yohei Yamada (Kwansei Gakuin University, Japan)

Tetsuji Hirano (Kwansei Gakuin University, Japan)

Jun Ukita (Kwansei Gakuin University, Japan)

This experiment examined whether the effects of forget cue could be explained by retrieval inhibition in a modified directed forgetting paradigm, which the encoding context didn't change between the two lists. After studying two lists of words, half of the participants were told to forget the List 2 (the "forget" group), whereas the other half were told to remember all two lists (the "remember" group). The results showed that the difference between List 1 and List 2 recall was significant with the forget group, but not with the remember group.

(38)

The effects of enactment of sign languages on memory for words

Yuichi Kaji (Hokkaido University, Japan)

Makiko Naka (Hokkaido University, Japan)

It is well established that enacting action phrases facilitates their verbal memory (cf. SPTs). We studied whether this effect occurs for novel actions by using Japanese Sign Language (JSL) as materials. Participants were 30 undergraduates who had never learned JSL before. They were presented with a list of words followed by corresponding signs, for which they were asked either to watch or to imitate (enact). Verbal recall for the words was greater for watching condition than for enacting condition, especially for the words that had been rated to have weak association with actions. Results show that enacting actions does not necessarily improve memory for words.

(39)

Influence of the working memory load on vocabulary learning

Takashi Sasaki (Keio University, Japan)

The purpose of this study was to replicate the results of Sasaki (2004a, 2004b) when learning criterion was low. In the learning phase, subjects performed a paired association task similar to Papagno, Varentine, & Baddeley (1991) under conditions of articulatory suppression or simple tapping until they could recall completely. After the learning phase and the delay, they performed a cued recall task in the nonsuppressed condition. After it they had to relearn until they could recall all nonwords for three consecutive trials. The difference of scores weren't significant. But there were some abnormal values in the suppressed condition. This result suggested that a negative effect of working memory load occurred when learning criterion was low.

(40)

The relationship between imagery and visuo-spatial working memory

Satoru Suto (Chuo University, Japan)

Takenaka Ayako (Chuo University, Japan)

Muneyoshi Hyodo (Chuo University, Japan)

This study focused on the relationship between imagery and visuo-spatial working memory. Logie (1995) suggested that visuo-spatial working memory play role on the generation and manipulation of visuo-spatial images. However, this hypothesis was not examined. In this study, we examined whether the generation and manipulation of visuo-spatial images based on visuo-spatial working memory by using dual task method. In this experiment, we used two visuo-spatial memory tasks: Corsi block task and movement memory task. We measured interference effects of concurrent tasks (spatial tapping, concurrent movement, physical movement imagery) for two memory tasks. The concurrent imagery task impairs the storage of spatial and movement representation. This result indicated that imagery system based on visuo-spatial working memory.

(41)

The processing-storage relationship in working memory span: The domain-specific nature of the stimulus-order effect

Yukio Maehara (Kyoto University, Japan)

Satoru Saito (Kyoto University, Japan)

In working memory span tests, participants maintain memory items while performing processing tasks. The stimulus-order effect refers to the phenomenon in which the scores on these tests are greater when span lists start with a longer processing task and end with a shorter task than when these processing tasks are presented in the reverse order, indicating that memory items might be forgotten during the processing tasks. To explore the forgetting mechanisms in working memory span, we manipulated the types of memory materials in two experiments. In Experiment 1, in which the processing component was a sentence-verification task, we obtained the stimulus-order effect with verbal memory materials, but not with spatial memory materials. In Experiment 2, in which the processing component was a spatial rotation task, we obtained the stimulus-order effect with spatial memory materials, but not with verbal memory materials. The data demonstrated the domain-specific nature of the stimulus-order effects, supporting a representation-based interference account of the effects.

(42)

A proposal of haptic and visual components in working memory

Taku Morimoto (Hokkaido University, Japan)

Shinsuke Hishitani (Hokkaido University, Japan)

Two experiments investigated the relationship between haptic and visual components of working memory with the dual task paradigm (Experiment1: visual main task and haptic secondary task, Experiment2: vice versa). In the main task, the subjects made shape and material decisions about the relation between the prime and the target stimuli. In the retention phase the subjects performed either a secondary shape matching task, a secondary material matching task, or no task. Most important result was that shape decisions regarding the main tasks were interfered strongly by shape subsidiary tasks presented in different modalities. This implies that visual and haptic shape representations overlap each other in working memory.

(43)

The interaction between the effects of concurrent tapping and irrelevant speech on verbal STM

Maiko Takahashi (The University of Tokyo, Japan)

Akihiro Tanaka (Tohoku University, Japan)

It has been argued that irrelevant speech and tapping impaired immediate serial recall. However, because the effects of irrelevant speech and tapping have been examined separately, the interaction between these effects has not been investigated. We examined the effects of tapping on the amount of irrelevant speech effect. Sixteen participants were tested for immediate serial recall of the visual letter sequences in four conditions: no-tapping/no-speech, no-tapping/speech, tapping/no-speech, and tapping/speech. Performance was worse in the no-tapping/speech and the tapping/no-speech conditions than in the no-tapping/no-speech condition. However, performance in the tapping/speech condition was not significantly different from that in the tapping/no-speech condition. These results were discussed in terms of the working memory framework.

(44)

Influence of affective valence on enumerating words in working memory

Fumiko Gotoh (University of Tsukuba, Japan)

Tadashi Kikuchi (University of Tsukuba, Japan)

Nobuo Ohta (University of Tsukuba, Japan)

We examined whether word valence influences enumeration in working memory. Many studies have shown that affectively valenced objects capture attention. Accordingly, affective valence should influence speed and accuracy of enumerating words. On each trial, one to ten negative, neutral, or positive words were briefly displayed on a computer screen followed by a mask. Participants were required to count the words as fast and as accurately as possible. We discuss implications of our findings on theories of working memory.

(45)

The characteristics of individual verbal and non-verbal processing in working memory between ENL and EFL

Yasuyuki Sakuma (Fukushima University, Japan)

When Japanese people process phonetic information in their native language, they unconsciously perform on-line processing at amazing speeds. However, for most of them, EFL processing is conscious, and linguistic information efficiency is lower. The cause of this is considered to be individual differences in foreign language ability and cognitive abilities such as WM capacities. This study investigates how working memory varies in different individuals, focusing on verbal processing (listening span task) and non-verbal processing (computational span task) comparing EFL Japanese and English native speakers.

(46)

On the nature of the verbal distraction effect in speaking

Hisao Ishii (Kinki Welfare University, Japan)

Satoru Saito (Kyoto University, Japan)

To investigate the relationship between short-term memory and speech production, Saito and Baddeley (2004) developed a speech error induction technique that requires participants to utter a target word repeatedly and then unexpectedly exposes them to an auditory distractor word immediately before uttering the target word. They found that distractor words that were similar to the target word phonologically led to a greater number of errors in speaking the target than did dissimilar distractor words. The purpose of this study was to establish this error induction technique further. In Experiments 1 and 2, we manipulated the positions of phonemes that could potentially slip within a target word. In Experiment 3, the participants were required to make a single utterance, rather than repeated utterances, for each target word. In the three experiments, we observed a reliable number of speech errors. The patterns of the errors in speaking were examined in relation to those observed in verbal immediate serial recall.

(47)

The role of prosody and long-term knowledge in children's nonword repetition performance

Miki Yuzawa (Kyoto University, Japan)

Satoru Saito (Kyoto University, Japan)

This study investigated the effects of association values and the influences of prosodic information on young children's repetition of nonwords with varying association values and with or without pitch accent. Concerning the nonword repetition scores, an effect of association value was found only in older children for consonants of non-words only, whereas the effect of accent pattern was observed only in young children for both consonants and vowels of nonwords. The occurrences of both effects were connected to differences in the ages of the children and the types of phoneme in nonwords. We interpret these results in the context of the framework of phonological working memory.

(48)

Existence of different modules on effects of congruity and compatibility in two-digit number comparison

Hideaki Shimada (University of Tsukuba, Japan)

Participants were required to select the larger number out of a pair of two-digit numbers. The following two experimental blocks are provided; the "simultaneous block" in which size congruity and unit-decade compatibility were manipulated simultaneously and the "only compatibility block" in which only compatibility was manipulated. As a result of an analysis of reaction time, congruity effect was found in the simultaneous block, and equivalent effects of compatibility were observed in both blocks. With the limitation of compatibility effect derived by Shimada (2003) taken account of, the result reveals that different modules are involved in effects of congruity and compatibility.

(49)

Autobiographical memory and dissociative proneness

Chui-De Chiu (National Taiwan University, Taiwan)

Yei-Yu Yeh (National Taiwan University, Taiwan)

Dissociation has been identified as an underlying mechanism of many psychological disorders. However, few studies addressed their autobiographical memory related to early childhood experiences. If dissociation allows a person to detach from fear when being threatened, it should influence the content of autobiographical memory. In this study, we used the cued-word paradigm by presenting six emotional words (happy, relaxed, excited, sad, anger, and fear) and asked the participants with dissociative tendencies to quickly jot down as many childhood memory episodes as possible. The participants then recall the most representative episode. The latency and the content were then analyzed.

(50)

Emotional experience of failure and success

Naoko Yamada (Konan Women's University, Japan)

The participants were 122 undergraduates and 151 older adults between the ages of 23 yrs and 81 yrs. They were asked to provide three events for each cue word, "failure" and "success." They completed an autobiographical memory form, which included a brief description and age of the events, emotional reaction to the events, and perceived causes. Results showed that there were more varieties of emotions related to failures than to successes, and female participants reported more varieties of emotions than their counterparts. These results will be further discussed in terms of nature of the event and time lapsed since the events occurred.

(51)

Encoding variability of self-generated elaboration and spacing effects on incidental memory

Hiroshi Toyota (Nara University of Education, Japan)

Yasuko Kikuchi (Nara University of Education, Japan)

Subjects generated different answers to a “why” question for the first and the second presentation of a target sentence in a self-generated elaboration condition. They then rated the appropriateness of the different answers for the first and second presentation provided by the experimenter in an experimenter-provided elaboration condition. This procedure was followed by free recall tests. A self-generated elaboration effect was apparent in a spaced presentation, but in a massed presentation the effect was small. The results indicated that the self-generated elaboration effect was facilitated in the spaced presentation because it provided a richer encoding variability.

(52)

Test format and memory: A mediational analysis

Kou Murayama (The University of Tokyo, Japan Society for the Promotion of Science, Japan)

There were lots of studies as to the effects of expectation of test format on memory, but results were not consistent. To clarify these effects, we used the learning strategy use as the mediation variable. 136 participants read the expository text, completed the questionnaire about their reading strategies, and took the memory test. Participants in the cloze test condition expected the cloze test whereas in the control condition, participants didn't know the test format with which they would take. Results showed that test expectation did not have direct effects, but had indirect effects on the memory-test performance. That is, reading strategies mediated the effects of the test expectation on the memory-test performance.

(53)

Study on educational practice for development of information basic skill and emotional evaluation

Kazuki Nishiura (Miyagigakuin Women's University, Japan)

This purpose is to consider toward mastering computer operation naturally, and coaching synthetically; curricular form, lesson plan, evaluation, and remained problem. The 104 subjects were exercised for computer literacy about 13 hours; using internet, making documents and spreadsheet programs, drawing pictures, taking and editing photos for a cellular phone; and then questionnaire to 40 items which are consisted of realization, satisfaction, and so on. The results of lesson image of high satisfaction showed that teacher gave students high realization, relationship of mutual trust, and preparation for coaching materials.

(54)

Examining long-lasting effect of learning and individual differences in English word acquisition

Tetsuya Yoshida (Tokoha Gakuen University, Japan)

Takafumi Terasawa (Okayama University, Japan)

Kyoko Maemoto (Okayama Higashi Commercial High school, Japan)

Atsushi Katsube (Okayama University, Japan)

Nobuo Ohta (University of Tsukuba, Japan)

Yoshida et al. (2003) examined individual differences of long-lasting effect of learning in second language (English) words acquisition of senior high school students, using a new experimental design which we call Micro-step method. We examined this effect again in a different situation and different participants. This study had conducted English words learning for 5 weeks on 39 Japanese senior high school students. The results showed that the main effect of learning had been accomplished certainly. On the other hand, the results showed that individual differences of this study effect were relatively large.

(55)

Individual differences emerged in the study effect of 5-weeks exercises in English words meaning

Takafumi Terasawa (Okayama University, Japan)

Tetsuya Yoshida (Tokoha Gakuen University, Japan)

Kyoko Maemoto (Okayama Higashi Commercial High school Japan)

Atsushi Katsube (Okayama University, Japan)

Nobuo Ohta (University of Tsukuba, Japan)

This study intended to describe an accumulation of an effect of English words learning with a new experimental design (Microstep Estimation Method) that controls intervals between studies and tests and timings of the studies. Forty high school students attended a learning experiment for 5 weeks. They evaluated achievement levels for 75 English words at the beginning of every English class. Each list of words consisted of those presented once and four times. The analysis of the achievement levels illustrated the accumulation of the effects of the exercises, and also large individual difference in effect of the learning.

(56)

Intention to learn in sequence learning: Integrated sequence learning vs. selective sequence learning

Kaori Miyawaki (Waseda University, Japan)

This study investigated the role of intention to learn in perceptual-motor sequence learning. Participants responded spatial stimuli and color stimuli which were presented alternately. Both stimulus sequences were correlated with each other. Schmidtke & Heuer (1997) reported an integrated sequence was learned when two sequences were correlated. A half of participants were instructed to learn the spatial sequence intentionally. The incidental-learning participants learned the sequences mainly in an integrated form, while the intentional-learning participants learned the spatial sequence independently from the color sequence, as well as the integrated sequence. The results suggest that intention to learn partially enable selective learning.

(57)

A source of an improvement in identifying disgusted facial expressions in the elderly

Atsunobu Suzuki (The University of Tokyo, Japan)

Takahiro Hoshino (The Institute of Statistical Mathematics, Japan)

Mitsuru Kawamura (Showa University, Japan)

Kazuo Shigemasu (The University of Tokyo, Japan)

An interesting finding with regard to aging of facial expression recognition is an improved level of disgust identification in the elderly (Calder et al., 2003). This study examined sources of this improvement by testing 34 young (aged 18-25 years) and 34 older (aged 62-81 years) adults on identification of standard photographs of facial expressions. We found that improved disgust identification in the older adults was statistically explained by error responses identifying disgusted faces as angry, reflecting the young adults' higher tendency to mistake disgust emotion for anger. The results will be discussed from neurological and sociocognitive perspectives.

(58)

Difference of accuracy between familiar and unfamiliar facial representation

Naoshi Hiraoka (Kyoto University, Japan)

This research examined the differences of facial feature information between familiar and unfamiliar faces in mental representations. The participants study the target faces from the movie clips. They then chose the best likeness faces among the alternative stimulus (photographs) whose distinctiveness of internal or external features is systematically varied in several degrees. When the target is familiar to the participants, they chose the face whose only internal features are close to veridical. While, the target is unfamiliar to them, they chose the one whose both internal and external features are inaccurate. This result showed that the memory representation between familiar and unfamiliar faces is different in the accuracy of the internal features.

(59)

Probability judgment of stochastic sequence and the effect of alternation

Kuninori Nakamura (Tokyo Institute of Technology, Japan)

Kimihiko Yamagishi (Tokyo Institute of Technology, Japan)

Previous studies indicated that number of alternation affect perception of randomness. However, they do not investigate whether the number of alternation affect probability judgment for event that constitute stochastic sequence itself. This study investigated whether and how number of alternation would affect probability judgment for focal event that constitute stochastic sequence. In this study, 29 participants were required to estimate probabilities of focal events that constituted stochastic sequences where the number of alternation was manipulated. Results indicated that the number of alternation affected probability judgment of the events even when it did not have relation to objective probabilities.

(60)

The reentrant processing of visual stimuli including emotional information: An object substitution masking study

Ken Kihara (Kyoto University, Japan)

Naoyuki Osaka (Kyoto University, Japan)

We investigated the reentrant processing model of object substitution masking (OSM). The model explain that reentrant processing match hypothetic object formed in higher-level processing with visual information brought from lower-level perception, and target can be reported only when the hypothesis is consistent with the input information. If higher-level processing include meaning information, emotional stimuli should interfere with OSM. The results of Experiment 1 showed that OSM was smaller when target was negative word. In Experiment 2, OSM was disappeared at shorter duration of mask in negative condition. These results indicated that OSM occur due to reentrant processing including meaning processing.

(61)

Influence of culture and language to self-perception

Nao Sagawa (Kobe College, Japan)

Ken Manktelow (University of Wolverhampton, England)

Hiroshi Yama (Kobe College, Japan)

Yayoi Kawasaki (Kobe College, Japan)

Yukako Takado (Kobe College, Japan)

We examined the influence of cultural meaning systems and language on the cognition of self between Japanese and British university students. TST(twenty statement test) was used to measure individual's self-construals. Participants were asked to answer in 20 ways to the question "Who am I?". Japanese students referred to social role and behavioral context, than did British's students who tended to qualify their self-description. With a socially contextualized condition, however, this tendency was reversed. Japanese bilingual participants who were asked to answer in English showed the similar tendency to Japanese in the control condition, however some aspects were similar to those of British in the contextualized condition.

(62)

Anxiety and behavior during wayfinding

Akio Honda (Tohoku University, Japan)

Yoshiaki Nihei (Tohoku University, Japan)

We investigated sex differences in actions and levels of anxiety during wayfinding using a well- or poorly-written route description. Participants were asked to navigate through an unfamiliar environment using well- or poorly-written directions. Results revealed that when given a poor direction, (1) females had more difficulty than males in following a route, (2) females displayed more hesitation and looked around more than males, and (3) higher levels of anxiety were reported by females. And the results showed that directional errors and the anxiety related to different actions during wayfinding.

(63)

Explicit hypermnesia using priming procedure under explicit instructions on basis of the ARP hypothesis: a follow-up experiment of Hayashi, Fujioka, Honda, Ito, & Kamata(2004)

Mitsuko Hayashi (University of Tsukuba, Japan)

Shinya Fujioka (University of Tsukuba, Japan)

Masahiro Honda (University of Tsukuba, Japan)

Rino Ito (University of Tsukuba, Japan)

Saeko Kamata (University of Tsukuba, Japan)

This experiment confirmed the result of the intention group in Hayashi, Fujioka, Honda, Ito, & Kamata(2004) was based on explicit memory, that of no-intention group on implicit memory according to the retrieval intentionality criterion(Schacter, Bowers, & Booker, 1989). Hayashi et al.(2004) showed that (1)hypermnesia occurred just on the intention group, not on the no-intention group, (2)reminiscence on the intention group was better when the between-test-interval was shorter, but that on the no-intention group was better when longer, (3)inter-test forgetting on the intention group was worse when the between-test-interval was longer, but that on the no-intention group was no change. We did the same experiment procedure of Hayashi et al.(2004) under explicit instructions. The results supported the results of Hayashi et al.(2004), and the ARP hypothesis was not supported again.

(64)

The mere exposure effect is independent of variation in baseline

Shinobu Ikoma (University of Tsukuba, Japan)

The mere exposure effect is the effect repeated exposure to some stimulus makes them more favorably than the others. In general, the size of the mere exposure effect is ratings for repeated target stimuli minus ratings for not repeated baseline stimuli. It means baseline ratings, as well as target ratings, affect observed size of the effect. Twelve graduate or undergraduate students participated in the experiment investigating the effect for melody. Experimental results indicated the baseline ratings were variable subject to the serial positions, but target ratings were also variable in the same manner. This finding suggests the mere exposure effect is independent of variation in baseline.

(65)

The role of attention in implicit learning

Daisuke Tanaka (The University of Tokyo, Japan)

Sachiko Kiyokawa (The University of Tokyo, Japan)

Ayumi Yamada (Gakushuin University, Japan)

We examined a role of attention in implicit learning, using “GLOCAL” letter-strings. The “GLOCAL” letter is a large letter composed of a set of small letters like Navon (1977)'s stimuli. “GLOCAL” letter-strings can, therefore, imply two different artificial grammars. Participants were asked to pay attention either to global letter-strings or to local one in learning phase. Then, they were required to make two-forced choice on pairs of letter-strings in terms of liking and grammaticality. The result showed that two grammars were learnt whichever aspects of the “GLOCAL” letter-strings the participants paid attention to in the learning phase.

(66)

Long-term interval influences the mere exposure effect for scene typicality

Ken Matsuda (Kyoto University, Japan)

Takashi Kusumi (Kyoto University, Japan)

We examined how prototypes of a concept affect the mere exposure effect for scenes with respect to affective judgments over a long-term interval. We used pictures of Buddhist temples, operating on the basis of the typicality of stimuli (high, medium, and low) and exposure frequency (0, 1, 3, and 6). Thirty-six participants were exposed to each stimulus; one week later, they were asked to rate the typicality, familiarity, nostalgia, liking, beauty, and recognition of these stimuli. The results show that, on the whole, judgment scores for highly typical stimuli increased with exposure frequency, while scores for stimuli that were less typical showed a decreasing tendency.

(67)

The influence of affective contexts on the mere exposure effect

Liu Guohui (Tohoku University, Japan)

This study examined the influence of affective contexts on the mere exposure effect from a marketing perspective. The possibilities of the influence were considered by three hypotheses which were based on mood congruency, disruption of attention, and implicit processing. A mere-repeated-exposure paradigm was employed and subjects were asked to view a DVD clip either with affective contexts (positive or negative) or no affective contexts (neutral). Their preference and purchase intention to the stimuli (cars) were examined. The results implicated that although there was no influence of affective contexts on the mere exposure effect, they did influence the purchase intention of the consumers.

(68)

Processing perceptual information of a Kanji character without focal attention

Bai Chen (Tohoku University, Japan)

A great deal of evidence supports that processing logographic orthographies such as Kanji characters or Chinese characters involves a mental process that is different from the one in processing alphabetic or syllabic words. The present study adopted the methodology commonly used in the visual study in which Kanji characters were presented as distractor stimuli in a rapid serial visual presentation (RSVP) task. By manipulating distractors in different visual forms, it has been found that the magnitude of attentional blink (AB) with Kanji distractors induced a weaker modulation of AB magnitude than did with other perceptually similar distractors. These findings suggest that even without focal attention, the processing of perceptual information of Kanji characters could be more efficient comparative to other perceptually similar features.

(69)

Effect of the emotion on the conflict monitoring process in the stroop task

Takashi Ideno (Waseda University, Japan)

Kenji Misaki (Waseda University, Japan)

The present study investigated the effect of the emotion on the conflict monitoring process in the Stroop task using affective facial priming paradigm. This paradigm induces short lived affects, through the visual exposure of affective facial primes (i.e. angry, happy and neutral faces). Our result revealed that: 1) trials preceded by angry faces were slower than those preceded by happy and neutral faces; 2) the trial to trial behavioral adjustment was observed in the angry face condition, not in the happy and neutral face conditions. We discuss the relation between affective faces and monitoring process.

(70)

The effect of semantic feedback on the recognition of Japanese homophones

Yukako Takado (Kobe College, Japan)

Yayoi Kawasaki (Kobe College, Japan)

Hiroshi Yama (Kobe College, Japan)

The effects of processing advantage and disadvantage of Japanese homophones were examined using a lexical decision task. In Experiment I, the number of association was defined as semantic set size, and network connectivity was defined as semantic neighborhood. These both variables were crossed and the RTs were measured both of homophones and of non-homophones. But the results didn't show any effects of ambiguous words. In Experiment II, the number of meanings and the similarity were crossed. High similarity words were responded faster within large set condition, whereas low similarity words showed processing advantage within small set condition. These results can be explained by the account of semantic feedback processes.

(71)

Effect of vocal expression on children's inferring the emotion of the character in the story

Mika Otomo (Graduate School of Tokyo Gakugei University, Japan)

Yuko Kobori (Matsunoki Elementary School, Japan)

Kunitake Suzuki (Graduate School of Tokyo Metropolitan University, Japan)

Toshimitsu Kamakura (Graduate School of Keio University, Japan)

Masaki Fujimoto (Shizuoka University of Welfare, Japan)

Megumi Kitani (Nishihara Elementary School, Japan)

Yeonkyeong Kim (The United Graduate School of Education of Tokyo Gakugei University, Japan)

Hisako Itoi (Tokyo Gakugei University, Japan)

This study examined the effect of vocal expression on children's inferring the emotion of the character in the story. Four to six year-old children (N=94) listened to the story with three types of vocal expression: appropriate, neutral, contradictory tones. Afterward, they were asked to infer the emotion of the character. The results of analysis of variance suggested that the participants in middle group of language ability had difficulty in understanding the emotion of the character; however, those who were in high and low groups of language ability were able to understand the emotion of the character appropriately.

(72)

The Difference in Unit and Duration of Activation by Different Anaphors

Ryuta Iseki (University of Tsukuba, Japan; Japan Society for the Promotion of Science, Japan)

This study investigated the activation of prior text information during anaphor resolution. Participants read two sentences including one protagonist referred by repeated name or pronoun. Each protagonist was related an entity by relative clause (e.g., "Tomomi cooking fishes find few salt"). After presenting sentences, recognition time for referents ("Tomomi") and related ("Fishes") words was recorded. When participants recognize probe words immediate after sentences (experiment 1), repeated names facilitate only response to referents, whereas pronouns facilitate response to both referents and related words. When there were 500 ms between reading and test (experiment 2), facilitation effect was found only repeated name-referents condition. These results suggest that pronouns activate larger region of prior text but short-lived; repeated names activate more specific region but long-lived.

(73)

Artificial cognition and disorder of cognition

Shigeru Nakamaru (Iond University, Japan, USA)

Artificial cognition (AC) is an averaged person by system of computer programs. AC is simple reaction by psychological laws. Artificial emotion, too. There are capacity and types of memory system(sensory memory, short term memory, long term memory, and working memory), knowledges(schema, script), and emotional consequence of contingencies .Psychological laws are Useful in this points, for examples, effect of priming, context, social support, expression fitted of self concept and so on. Just AI means IQ test reaction organism belong development level.

(74)

Unpleasant memories are harder to suppress than neutral memories

Yuh-shiow Lee (National Chung-Cheng University, Taiwan)

Sheng-hsiung Tsai (National Chung-Cheng University, Taiwan)

This study adopted the think/no-think paradigm developed by Anderson and Green (2001) to examine the effect of repeated suppression on unpleasant and neutral memories. Participants first studied paired associates consisting of neutral stimuli and either neutral or negative responses. In the following think/no think phase, participants had to either response with or avoid thinking about the response words. In the final cue-recall, participants were given the stimulus word as a cue and had to recall the response words. After repeated response/suppression, participants could suppress both types of words; however, the neutral words were easier to suppress than the unpleasant words.

(75)

Reading complex emotions from the eyes in the old age

Luca Surian (University of Trieste, Italy)

Marzia Serafin (University of Padua, Italy)

Michael Siegal (University of Sheffield, UK)

Remo Job (University of Trento, Italy)

Two experiments evaluated adults' (age range 18-93) mindreading abilities with the Eyes-Test, a task that elicits mental state attributions from facial expressions. In this task, the mentalizing process is done by accessing long-term stored knowledge of the meaning of facial expressions and mental terms, with little need of inferential skills. Elderly people performed worse than younger participants and their decline was associated with a general decline in cognitive efficiency. A reduction in the speed of activation of semantic memory would emerge more easily for difficult mentalistic concepts than for other early-acquired concepts, thus linking the Eyes-Test performance with intellectual decline.

(76)

Young children's false episodic reports before and around age four: developmental relationship between episodic memory and other cognitive abilities

Izumi Uehara (Seisen Jogakuin College, Japan)

I accumulated longitudinal data for individual children and cross-sectional data across tens of children in memory tasks. The results indicate that episodic reports by children aged before and around four often include false episodes they have never experienced but have simply heard, unrelated things, and unreal events. Together with known developmental changes around age four previously observed in other cognitive tasks, the present findings suggest that the acquisition of true episodic memory in children depend more heavily on the ability of recognition memory and the correct consciousness of their own past experiences, rather than on the verbal ability of reporting.

(77)

Is it Face overshadowing effect is really phenomenon?

Hiroko Kasahara (Nihon University, Japan)

Keita Ochi (Tokyo Kasei University, Japan)

Face overshadowing effect (FOE) refers to the phenomenon that memory for the voice of a stranger was remembered better if face was not present at time of exposure. The purpose of this study was to examine whether or not FOE really occurs and how does it influence memory for words. Participants were randomly allocated to one of each conditions, face present or absent (In this condition, participants were asked to close their eyes while the video was playing). After presentation of the video, they took a target identification task and recognition test for memory of words. The result showed that FOE may be due to involuntary attention to face, and retrieval of memory for words was enhanced if voice was presented with face.

(78)

The influence of voice presentation on facial expression analysis (1) : Evidence from a stroop-like interference task

Takeo Tsujii (Keio University, Japan)
Sayako Masuda (Keio University, Japan)
Sayaka Wada (Keio University, Japan)
Sigeru Watanabe (Keio University, Japan)
Shozo Kojima (Keio University, Japan)

We examined how voice presentation could affect the facial expression processing through a stroop-like interference task. Forty Japanese students participated in the study. We presented happy or fear faces one at a time and required the emotional judgment of these faces as fast as possible. We also presented happy or fear voices simultaneously which is instructed to be ignored. Participants judged the facial expression more quickly when they were emotionally congruent with voices relative to incongruent trials. These findings suggested that we automatically integrate emotion information from multiple modalities such as faces and voices.

(79)

The influence of voice presentation on facial expression analysis (2): Using morphed faces

Sayako Masuda (Keio University, Japan)
Takeo Tsujii (Keio University, Japan)
Sayaka Wada (Keio University, Japan)
Shozo Kojima (Keio University, Japan)
Sigeru Watanabe (Keio University, Japan)

We investigated an effect of voice presentation on a facial expression discrimination task to examine the multi-modal person perception processes. Eleven morphed grey-scale human face images were used. They were prepared by blending two original averaged fear and happy female face. These eleven faces were presented with happy or fear voices. Participants were required to judge the expression of the faces as fast as possible, ignoring the expression of the voices. The rates judged as fear face were influenced voice-expression kind at original fear and happy faces, but at the intermediate faces, voice influences were smaller.

(80)

Error repetitions in the Lab: The effect of visual saliency and divided attention

Etsuko T. Harada (Hosei University, Japan)
Satoru Suto (Chuo University, Japan)

Although error repetition by elder people are common in daily lives and also in the usability-testing lab, it has been difficult to demonstrate the phenomena with experimental tasks. This study, using a simple Kanji-selection task, introduced salient visual stimulus on half of candidates and random alignment, and showed a few error repetition even with young adults. In the second experiment, participants under divided attention showed more stable error repetitions. Interestingly they told the salient condition was easier to respond after tasks. Discrepancy of subjective difficulties from behavioral error repetitions will be discussed with relation to the dual processing model.

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