Cognitive Psychology (16HS632)

Group Project

Group Members:

Patil Amit Gurusidhappa	19104004	B11
Sanjoli Goyal	19104007	B11
Muskan Jain	19104010	B11
Aniket Dubey	19104013	B11
Shashank Agarwal	19104018	B11

Submitted to:
Dr Monali Bhattacharya

Table Of Contents

1. Understanding of concepts, related theories and perspectives.

1.1 Imagery

Imagery is simply the formation of any mental picture. This simple process has great benefits when it comes to memory. By using imagery, we can enhance the processing of information in the memory system. For example, remembering a phone number by repeating it in your head is a common method, but what might enhance your processing of the information might be to use imagery - maybe visualize the numbers being written on a chalkboard. This allows you to create a mental picture of the numbers that may be processed more completely.

1.2 Trends

Recent research suggests that visual mental imagery functions as if it were a weak form of perception. Evidence suggests an overlap between visual imagery and visual working memory – those with strong imagery tend to utilize it for mnemonic performance.

Brain imaging work suggests that representations of perceived stimuli and mental images resemble one another as early as V1. Imagery plays a pivotal role in many mental disorders and clinicians can utilize imagery to treat such disorders.

1.3 Mental Maps and Images

Steven Kosslyn of Harvard is famous for their studies of mental imagery. Kosslyn found that the size of an imagined image influenced how quickly subjects could move around the image in memory. If subjects memorized a map, the time it took them to make a mental jump from one location to another depended upon the distance on the imagined map.

In one experiment, Kosslyn (1975) asked subjects to imagine animals standing next to one another, such as a rabbit next to an elephant or a rabbit next to a fly. Then subjects were asked questions such as, "Does the rabbit have two front paws?"

| Rabbit beside an elephant | Rabbit beside a fly |
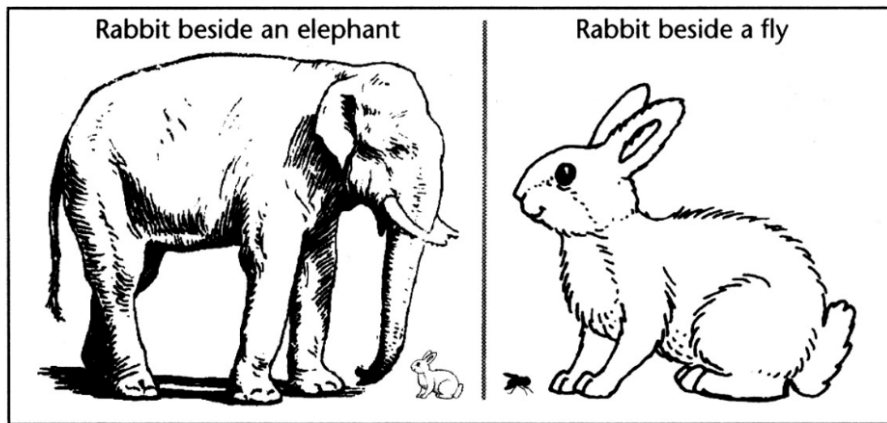
When asked to imagined a rabbit next to a fly, people were quick to answer questions about the rabbit's appearance. They were slower when first asked to imagine it next to an elephant.

People took longer to answer such questions when the rabbit was imagined next to an elephant. In that condition, the rabbit's image was small.

When the rabbit was imagined next to a fly, its imagined image was large. Then subjects were quick to answer questions about the image. Kosslyn concluded that visual imagination produces "little models, which we can manipulate much like we do actual objects."

1.4 Mental imagery in perception

The role of mental imagery in perception has been an important theme in the history of philosophy. We have seen the debate about the phenomenal similarities and differences between mental imagery and perception in Section 1.4. But there is an even more important question about the relationship between mental imagery and perception, namely, about whether and in what sense-perception depends on mental imagery. This has been a dominant theme in the history of philosophy and Immanuel Kant was probably the most explicit proponent of a fairly strong constitutive dependence claim. Kant famously claimed that imagination is "a necessary ingredient of perception itself" (*Critique of Pure Reason*, A120, fn. A) and this claim has become quite influential not just in philosophy (Strawson 1974, p. 54, Sellars 1978), but in the history of ideas in general. Eugène Delacroix, for example, wrote in his diary on September 1, 1859, that "Even when we look at nature, our imagination constructs the picture" (see also Briscoe 2018 and Van Leeuwen 2011 for examples of perception/mental imagery hybrid).

1.5 Mental Imagery and Weak Perception

Much of the work on imagery and perception in the 1990s and 2000s revealed that imagery shares processing mechanisms with like-modality perception. For example, researchers showed that imagined visual patterns interact with a concurrent perceptual stimulus to boost sensory performance in a detection task. Many studies converged in demonstrating that mental imagery

could function much like afferent sensory perception. Imagining oriented lines can induce an orientation aftereffect or imagining a moving stimulus can induce a motion aftereffect on a subsequent perceptual stimulus, much like normal perception.

Perceptual learning typically involves the repeated performance of a perceptual detection or discrimination task that leads to increases in performance. However, imagining the crucial components of such a task, instead of performing them on a perceptual stimulus, can also enhance performance on the perceptual task. For example, when participants repeatedly imagine a vertical line between two perceptual lines they subsequently perform better in discriminating the distances between three perceptual lines. Similarly, classical conditioning can occur with voluntarily formed visual imagery in place of perceptual stimuli. In both of these examples, imagery-based learning is later tested with perceptual stimuli, which demonstrates generalization from the imagined to the perceptual content.

2 Describe the relevance of the chosen concept for personal growth

Imagery can be used in a lot of different ways to guide future performance, from:

1. Remembering experiences and learning from them. For example, remembering your greatest presentation using your insights to replicate this feeling and prime future performance.
2. Remember your best performances and then practice recreating feelings and similar movements. For example, recall your best marathon race and practise recreating the feeling of effortlessness and lightness.
3. Imagining feelings and acting in ways you would like, even if you haven't done so in the past. For example, imagine going into a room full of confidence and being able to make a positive first impression. Repeat and have this image ready as you make your entrance for real.

2.1 Get Back to Imagery Skills

Because imagery for many of us is a forgotten skill, the first step is to become more conscious of your perceptions and actively practice putting these perceptions into vivid images. By making imagery a conscious activity, the process itself becomes more automatic and easy to 'perceive-do'. This allows us to create strong images of feeling, movement and form we want (and important for the event/situation) and then use those images to execute effortlessly.

2.2 Personal health

Mental imagery has also been linked to better performance in music, sports and aiding patients who are in pain due to injury, or even with diseases like Parkinson's and depression.

2.3 Benefits Of Imagery

1. Builds confidence: Visualize success in your training or racing and you can subconsciously improve your belief in your abilities.

2. Controls emotions: If anxiety begins to creep in, imagine yourself being calm and confident. If you're feeling fatigued, see yourself as powerful and courageous to pump yourself up.

3. Improves skill: Practice form and sports skills without physical impact and your brain will trigger the same muscle patterns as if you were performing the skill.

4. Helps cope with injury: Studies show imagining the healing of an injured area can speed recovery. Also using imagery to practice workouts can help prevent skills from deteriorating during injury.

5. Resolves plateaus: When your performance is lagging or you have hit a plateau, imagery can help you compare a current failure to a more successful past performance to find out what went awry.

3. Discuss the application of the chosen topic to your professional life

3.1 Portrait of colleagues

Employee photos and profiles are essential for your career site and beyond – do not just rely on your LinkedIn 'People' tab to show off your workforce. Unveil your employees to the world with pride (plus their permission) using a delightful portrait that can accompany a story on their employee journey and insights.

Company employees are not the ghost drivers of a corporate machine, they are vital advocates of a business and essential in their contribution to company culture. For many, colleagues are a make or break factor in their employee experience, therefore making employee profiles visible can help ease this workplace anxiety for candidates. Profiles allow candidates to see if they will be working with like-minded people and can help them feel as if they are already amongst familiar faces when they join.

I Am more likely to work where most of the employees are genZ. As imagery will portray company culture as more welcoming and chill.

3.2 Succeed in New Situations

Success almost always requires putting myself into new situations. To further my career, I must take new jobs, join new organizations, transfer to new office locations, and meet and build relationships with new customers, suppliers, and industry peers.

Even while interviewing I need to mock the process in my head in order to prepare for it. Sometimes it might require me to *put myself in the other person's shoes* and think about what the interviewer might ask, what things could leave a better first impression. This leads us to

3.2.1 PETTLEP Imagery

PETTLEP is a specific imagery technique that is considered most effective and is currently most prominent. The acronym indicates that physical, environment, task, timing, learning, emotional, and perspective relevant aspects of the imagery all need to be aligned with the aspects of the

actual activity. This means the physical state (e.g., clothes and attributes), the environment (e.g., the Interview room), the specific movements involved in the actual activity, and the discussion in the actual activity all need to be the same as in the actual movement. Further, the candidate should adapt the imagery to his or her current skill level, to experience the emotions he or she would experience in an interview situation, and finally to view the situation from his or her own perspective, as it would be seen if he or she was to carry out the activity him- or herself. Recent research again supports the utility of the method by showing that the PETTLEP method makes it easier for people to create a more vivid image in their mind when using PETTLEP imagery, compared to using more traditional methods

3.3 Visualizing Success / Goals

Mental imagery is one of the most powerful tools you could possibly use to make my dreams come true. While this isn't entirely passive experience and simply visualizing will not materialize your mental images, it is a powerful tool to motivate myself to take action and stay positive all the way through.

There have been hundreds of studies on mental imagery and athlete's performance and, while there is some contradicting information out there, generally it is accepted that visualization helps athletes to perform better. According to this research, the higher the competitive level, the more often athletes used imagery in practice.

If it works for ambitious goals set by world class athletes, it could as well work for your objectives, both big or small, like losing weight, running a marathon, or building a successful business. Now let's look a little closer into types of imagery and examine how you could actually use them to make your life better.

Simply visualizing my success will definitely open up new strategies to work upon. *Career Guided Imagery* counseling could be taken to test options and choose accordingly

3.4 Organizing Professional tasks

Mental images are often used in the processes of indirect thinking, such as in fantasies. It has been suggested that this mental activity performs a function of anticipation and planning, to help us not to forget the activities not yet completed and to maintain concentration when we are engaged in tedious tasks. Moreover, mental visualization plays specific roles in the processes of thought such as direct memory, problem solving, decision-making tasks, and motor control. Function of anticipation and planning will help me remember things which are yet to be done.

4 Elaborate on the relevance of the topic at the group level and societal level.

4.1 Public Emotional Stability for societal peace

In a series of experiments participants listened to emotional scenarios and were instructed either to visualize them or to focus on the verbal meaning. Imagery increased the emotional impact of the scenarios, increasing negative feelings in response to negative scenarios and increasing positive feelings in response to positive scenarios. In war-like situations, imagery could be used to demonstrate the world is a much better place to live in peace. This will help to reduce impulsive emotional reactions of the public and could be used to maintain national peace.

4.2 Ensuring Public health

Using Mental imagery as a "motivational amplifier" to promote activities. Motivating people to engage in specific behaviors (e.g. exercising, healthy eating) presents a significant challenge to different areas of science concerned with human behavior, including public health, psychology and mental health science. For many activities it is not that they are difficult to do, but they are "put off". Behavior change interventions have often focussed on providing people with information about the risks and benefits of various alternatives. The hope that rational 'cognitive' analysis of such information will significantly influence subsequent choices.

4.3 Achieving National Goals

Looking at nationwide goals like gender equality and empowering women, eradication of extreme poverty and hunger could be achieved by prominent thought process shifts. Leaders can invoke a better understanding by using imagery techniques to visualize better India so that every citizen can contribute towards it consciously or subconsciously.

4.4 Mental Imagery and Social Pain in Adolescents

Mental imagery (MI) may play a key role in the development of various mental disorders in adolescents. Adolescence is known to be a fragile life period, in which acceptance by one's favored peer group is extremely important, and social rejection is particularly painful. This is the first pilot study investigating MI and its relationship to social pain (SP). Method: A sample of 80 adolescents (14–20 years; 75.3% female) completed a web-based quasi-experimental design about the contents and characteristics of their spontaneous positive and negative MI and associated emotions, and were asked to complete the Social Pain Questionnaire, the Beck's Depression Inventory and the Social Phobia Inventory. Results: A higher score of SP was

significantly associated with increased fear, sadness, and feelings of guilt, and less control over negative MI. Characteristics of negative MI were more precisely predicted by SP scores than depression- and social anxiety scores. Adolescents with higher SP-scores more often reported negative images including social situations and were more likely to perceive negative images in a combination of field-and observer perspectives than adolescents with lower SP scores.

Conclusion: SP-sensitivity seems to be linked to unique characteristics of negative MI, which reveals the strong emotional impact of social exclusion in youths.

5. References

1. Pearson J, Naselaris T, Holmes EA, Kosslyn SM. Mental Imagery: Functional Mechanisms and Clinical Applications. Trends Cogn Sci. 2015;19(10):590-602. doi:10.1016/j.tics.2015.08.003
2. Nanay, Bence, "Mental Imagery", The Stanford Encyclopedia of Philosophy (Winter 2021 Edition), Edward N. Zalta (ed.)
3. P. D. Russell A. Dewey, "Mental imagery: In Chapter 07: Cognition," Mental Imagery | in Chapter 07: Cognition.
4. Abraham, A.; Duncan, R.P.; Earhart, G.M. The Role of Mental Imagery in Parkinson's Disease Rehabilitation. Brain Sci. 2021, 11, 185. https://doi.org/10.3390/ brainsci11020185
5. Blankert T, Hamstra MR. Imagining Success: Multiple Achievement Goals and the Effectiveness of Imagery. Basic Appl Soc Psych. 2017;39(1):60-67. doi:10.1080/01973533.2016.1255947
6. Colombo B. (2012) Mental Imagery and Learning. In: Seel N.M. (eds) Encyclopedia of the Sciences of Learning. Springer, Boston, MA. https://doi.org/10.1007/978-1-4419-1428-6_68
7. Rachael C. Marshall & Isabel C. Farrell (2019) Career Guided Imagery: A Narrative Approach for Emerging Adults, Journal of Creativity in Mental Health, 14:2, 193-204, DOI: 10.1080/15401383.2019.1586612
8. Fritz Renner, Fionnuala C. Murphy, Julie L. Ji, Tom Manly, Emily A. Holmes, Mental imagery as a "motivational amplifier" to promote activities, Behavior Research and Therapy, ISSN 0005-7967
9. Schwarz, S. M., Feike, M., & Stangier, U. (2021). Mental Imagery and Social Pain in Adolescents-Analysis of Imagery Characteristics and Perspective-A Pilot Study. Children (Basel, Switzerland), 8(12), 1160. https://doi.org/10.3390/children8121160