

Chapter 1 : Metacognition - Wikipedia

The research is published in Psychological Science, a journal of the Association for Psychological Science.. Psychology researcher Eugene M. Caruso (University of Chicago Booth School of Business.

Playing the piano in your mind – Harvard research study no. Two groups of people were studied; both groups were people of the same intellect all of whom had never played the piano. One group was given the task of playing piano scales every day for a certain period of time. The other group was given the task of merely thinking about playing the exact same piano scales as group one. They were never to actually play the scales, just to think about playing them. The results were really quite incredible. All participants had been scanned before the study to measure their brains prior to any activity. So, even the group who had only thought about playing the piano had also changed their brains as if they had physically been playing the scales.

Flexing your finger in your mind – Harvard research study no. Harvard conducted a second research study where two groups of participants were engaged, with one group tasked to flex their finger each day for a period of time for a number of weeks. As before, the second group were asked to only think about flexing their finger for the same period of time. Incredibly, again, BOTH groups of participants showed increased strength in their finger after the study. So the second group literally became stronger just as a result of thinking about doing the exercises. These are hugely important findings! Especially when it comes to understanding the science behind our thoughts. The most exciting thing for us all is this: We have the opportunity to change our lives just by changing our thoughts. If the Harvard research has shown that you can increase your strength just by thinking about it, what other areas of your life can you change for the better simply by thinking about what you want? I mentioned this in my last post, but if we want something to happen, the first thing we need to do is think about it happening. Then, only then, can we go about making it happen in real life. The problem most of us encounter is that we set goals, and forget to do the preparation work. We forget to spend some time imagining the goal coming to fruition. In my opinion, this is a priceless step. Notice how motivated you feel afterwards? Notice how much easier it feels to now go after that goal? Here are a few ideas: Getting fit – if you struggle getting to the gym, imagine yourself there before actually going! Spend some time picturing yourself doing the job and loving it! Finding true love – instead of thinking about all of your faults, think about how great you would be in a relationship. Imagine yourself with the partner of your dreams. Spend 5 minutes each morning over the next 2 weeks imagining yourself kicking your goal. You can set yourself a reminder on your phone if you need to discipline yourself. Imagine different scenarios each day where you are enjoying the feeling of having reached your goal. Notice how this powers you forward. You will only reach your goal once you believe you can do it. If you find yourself doubting any of this, remember the research from Harvard – it has been proven by revered scientists that our thoughts literally change the structure of our brains! If you found this article interesting, please share the love! More Simple Life Strategies:

Chapter 2 : Harvard Research - How Thoughts Affect Your Brain | Simple Life Strategies

Numerous studies have shown that being prompted to think about money can predispose people to engage in self-sufficient thinking and behavior—but some findings suggest that demographic characteristics may moderate this type of effect. In a new research article, scientists present results from.

Mass media has become a research issue during the 1950s and 1960s. This has imprinted it with an early concern with psychological effects that individuals cannot control or avoid. Early research has been heavily influenced by these concerns and this remains an important theme of cultural and sociological meditation. A Basic Overview 5 edition. Chapter 3 – A brief history of media effects research rent from Cengage site. Individual chapters cannot be purchased anymore. It is the most important reading of the week. Chapter 11 offers a view on the latest research and perspectives on new media effects. Students are provided a clear perspective of the relationship between science, methods, and practical questions about the effects of mass media. McMillan Press The Payne Study – Chapter 8, Emotional Possession Emotional possession refers to experiences wherein impulses which are ordinarily restrained are strongly stimulated. In this heightened emotional state the individual suffers some loss of ordinary control over his feelings, his thoughts, and his actions. Such a condition results usually from an intense preoccupation with a theme in this case, that of a picture. The individual identifies himself so thoroughly with the plot or loses himself so much in the picture that he is carried away from the usual trend of conduct. His mind becomes fixed on certain imagery, and impulses usually latent or kept under restraint gain expression or seriously threaten to gain such expression. This emotional condition may get such a strong grip on the individual that even his efforts to rid himself of it by reasoning with himself may prove of little avail. International Journal of Public Opinion Research. Apart from the creative impulse of this work, which led to the incorporation of audience selectivity and interpersonal relations into the design of effects research, the fact is that most of his work on the media extends far beyond short-run changes of opinion and attitude. Paul Lazarsfeld, Robert K. Mass media can impact the public not only via psychological mechanisms but also through indirect, macro-social and institutional-functional processes. Of the most important such processes, Lazarsfeld and Merton mention status conferral, enforcement of social norms, narcotizing dysfunction, social conformism, monopolization propaganda without countering, and canalization advertising – The Public Opinion Quarterly, Vol. Here it comes under the scrutiny of an old hand at critical surveys of mass communication research, himself a discerning researcher. The research orientation to which I refer is functional analysis. Lowering them again is part of the objective of this paper.

Chapter 3 : The origins of media research: the effects paradigm

Could the research you read be fundamentally flawed? Could crucial effects in methodology slip by you undetected? To become an informed, interactive consumer of research, you may need an attitude adjustment: from acceptance to inquiry, from reverence to skepticism.

In a new research article, scientists present results from three experiments that systematically explore these money-priming effects, finding inconsistent evidence for the effect of money primes on various measures of self-sufficient thinking and behavior. The research is published in *Psychological Science*, a journal of the Association for Psychological Science. Psychology researcher Eugene M. Caruso University of Chicago Booth School of Business and co-authors Oren Shapira Stony Brook University and Justin Landy also Chicago Booth were motivated to carry out this systematic exploration after conducting a set of studies in which they observed varied findings that were inconsistent with their predictions. In discussing these results, they discovered that colleagues had also observed unpredicted interaction effects in their research in this area. Importantly, the kinds of interaction effects observed seemed to vary across different studies that used different techniques for activating the concept of money. To do this, Caruso, Shapira, and Landy decided to systematically evaluate the effects of various money-priming manipulations on a predetermined set of outcomes while accounting for the potential influence of certain sociodemographic factors, within a single experiment that sampled a diverse group of participants. In their first experiment, the researchers recruited a total of 2, participants for an online study, randomly assigning participants to receive specific primes. The results showed that four of the five money primes did activate the concept of money. Participants exposed to these primes were more likely to complete word stems to create money-related words compared with participants who received a neutral prime or no prime - only those exposed to the background image of money showed no difference in the word completion task relative to their peers. Only participants who imagined an abundant life reported differences in self-sufficiency, and they actually reported lower self-sufficiency compared with those who received a neutral prime, an unexpected finding. Additionally, there was little evidence to suggest that the effects of the primes on various outcomes were moderated by any of the demographic characteristics measured, including gender, socioeconomic status, and political ideology. The researchers observed similar results in a second online experiment with 2, participants that omitted the money-activation measure. In a third experiment, Caruso, Shapira, and Landy conducted a lab-based study with members of the university community. To examine the effects of money primes on self-sufficient behavior, the researchers measured how long participants spent working on a puzzle that was actually unsolvable before they asked for help. The results echoed those of the previous online studies: The three money primes tested had weak and inconsistent effects across the different outcome measures. Only those participants who unscrambled phrases including money-related terms reported greater feelings of self-sufficiency relative to the comparison group. The researchers urged caution in interpreting the findings relative to specific published studies, given that the three experiments were not designed to be exact replications of any one study. Rather, this series of experiments can be seen as offering a rigorous and systematic examination of a particular effect. The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the John Templeton Foundation. All data and materials have been made publicly available via Open Science Framework. The complete Open Practices Disclosure for this article is available online. For more information about this study, please contact: Eugene Caruso at ecarus@chicagobooth.edu. The article abstract is available online at <http://www.psychologicalscience.org>.

It's unclear why people who engage in positive thinking experience these health benefits. One theory is that having a positive outlook enables you to cope better with stressful situations, which reduces the harmful health effects of stress on your body.

Definitions[edit] This higher-level cognition was given the label metacognition by American developmental psychologist John H. Flavell defined metacognition as knowledge about cognition and control of cognition. For example, a person is engaging in metacognition if he notices that he is having more trouble learning A than B, or if it strikes him that he should double-check C before accepting it as fact. This concept needs to be explicitly taught along with content instruction. Some types of metacognitive knowledge would include: It is notable that not all metacognition is accurate. Studies have shown that students often mistake lack of effort with understanding in evaluating themselves and their overall knowledge of a concept. Young children are not particularly good at this; it is not until students are in upper elementary school that they begin to develop an understanding of effective strategies. It can also lead to a reduction in response time for a given situation as a result of heightened awareness, and potentially reduce the time to complete problems or tasks. In the domain of experimental psychology, an influential distinction in metacognition proposed by T. Dunlosky, Serra, and Baker covered this distinction in a review of metamemory research that focused on how findings from this domain can be applied to other areas of applied research. Writers in the s involved with the grunge music scene often used the term to describe self-awareness of mortality. Metacognitive regulation is the regulation of cognition and learning experiences through a set of activities that help people control their learning. Metacognitive experiences are those experiences that have something to do with the current, on-going cognitive endeavor. Metacognition refers to a level of thinking that involves active control over the process of thinking that is used in learning situations. Planning the way to approach a learning task, monitoring comprehension, and evaluating the progress towards the completion of a task: Metacognition includes at least three different types of metacognitive awareness when considering metacognitive knowledge: This type of knowledge is displayed as heuristics and strategies. This is achieved through a large variety of strategies that can be accessed more efficiently. This in turn allows the strategies to become more effective. This can include re-evaluating strategies that were used. Similarly, maintaining motivation to see a task to completion is also a metacognitive skill. The ability to become aware of distracting stimuli " both internal and external " and sustain effort over time also involves metacognitive or executive functions. The theory that metacognition has a critical role to play in successful learning means it is important that it be demonstrated by both students and teachers. Students who demonstrate a wide range of metacognitive skills perform better on exams and complete work more efficiently[citation needed]. They are self-regulated learners who utilize the "right tool for the job" and modify learning strategies and skills based on their awareness of effectiveness. Individuals with a high level of metacognitive knowledge and skill identify blocks to learning as early as possible and change "tools" or strategies to ensure goal attainment. Students with a high-metacognition were reported to have used fewer strategies, but solved problems more effectively than low-metacognition students, regardless of IQ or prior knowledge. A broader repertoire of "tools" also assists in goal attainment. When "tools" are general, generic, and context independent, they are more likely to be useful in different types of learning situations. Another distinction in metacognition is executive management and strategic knowledge. Strategic knowledge involves knowing what factual or declarative knowledge , knowing when and why conditional or contextual knowledge and knowing how procedural or methodological knowledge. This means that metacognitive skills are domain-general in nature and there are no specific skills for certain subject areas. The metacognitive skills that are used to review an essay are the same as those that are used to verify an answer to a math question. This combination of social psychology and metacognition is referred to as social metacognition. Social metacognition can include ideas and perceptions that relate to social cognition. Additionally, social metacognition can include judging the cognition of others, such as judging the perceptions and emotional states of others. These secondary cognitions are subject to the influence of culture and

situational norms, and thus influence the strength of our self-convictions. An example of the interaction between social metacognition and self-concept can be found in examining implicit theories about the self. Implicit theories can cover a wide-range of constructs about how the self operates, but two are especially relevant here; entity theory and incrementalist theory. Entity theorists are susceptible to learned helplessness because they may feel that circumstances are outside their control. Incremental theorists react differently when faced with failure: They immediately began to consider various ways that they could approach the task differently, and they increase their efforts. Cultural beliefs can act on this as well. For example, a person who has accepted a cultural belief that memory loss is an unavoidable consequence of old age may avoid cognitively demanding tasks as they age, thus accelerating cognitive decline.

Attitudes as a Function of Social Metacognition[edit] The way that individuals think about attitude greatly affects the way that they behave. Metacognitions about attitudes influence how individuals act, and especially how they interact with others. Attitude importance is also more likely to influence behavior than certainty of the attitude. This means that they will likely vote, even if they are unsure who to vote for. Meanwhile, a person who is very certain of who they want to vote for, may not actually vote if it is of low importance to them. This also applies to interpersonal relationships. A person might hold a lot of favorable knowledge about their family, but they may not maintain close relations with their family if it is of low importance. Metacognitive characteristics of attitudes may be key to understanding how attitudes change. Research shows that the frequency of positive or negative thoughts is the biggest factor in attitude change. More research needs to be conducted on culture differences and importance of group ideology, which may alter these results.

Social Metacognition and Stereotypes[edit] People have secondary cognitions about the appropriateness, justifiability, and social judgability of their own stereotypic beliefs. Subtle social cues can influence these conscious efforts. For example, when given a false sense of confidence about their ability to judge others, people will return to relying on social stereotypes. For example, cultures without the stereotype that memory declines with old age display no age differences in memory performance. Holding an entity theory of traits increases the tendency for people to see similarity among group members and utilize stereotyped judgments. For example, compared to those holding incremental beliefs, people who hold entity beliefs of traits use more stereotypical trait judgments of ethnic and occupational groups as well as form more extreme trait judgments of new groups.

Relation to sapience[edit] Metacognologists believe that the ability to consciously think about thinking is unique to sapient species and indeed is one of the definitions of sapience. Being engaged in metacognition is a salient feature of good self-regulated learners. Individuals need to regulate their thoughts about the strategy they are using and adjust it based on the situation to which the strategy is being applied. At a professional level, this has led to emphasis on the development of reflective practice, particularly in the education and health-care professions. Recently, the notion has been applied to the study of second language learners in the field of TESOL and applied linguistics in general.

e. This new development has been much related to Flavell, where the notion of metacognition is elaborated within a tripartite theoretical framework. Learner metacognition is defined and investigated by examining their person knowledge, task knowledge and strategy knowledge. In addition to exploring the relationships between learner metacognition and performance, researchers are also interested in the effects of metacognitively-oriented strategic instruction on reading comprehension. The efforts are aimed at developing learner autonomy, interdependence and self-regulation. Metacognition helps people to perform many cognitive tasks more effectively. How have I solved problems like this before? Carr, , argues that the physical act of writing plays a large part in the development of metacognitive skills. The SEM works by identifying the declarative Column 1, procedural Column 2 and conditional Column 3 and 4 knowledge about specific strategies. The SEM can help individuals identify the strength and weaknesses about certain strategies as well as introduce them to new strategies that they can add to their repertoire. RCs help individuals to implement a sequence of thoughts that allow them to go over their own metacognition. Steering Cognition describes the capacity of the mind to exert conscious control over its reasoning and processing strategies in relation to the external learning task. Studies have shown that pupils with an ability to exert metacognitive regulation over their attentional and reasoning strategies used when engaged in maths, and then shift those strategies when engaged in science or then English literature learning,

associate with higher academic outcomes at secondary school. Metastrategic knowledge[edit] "Metastrategic knowledge" MSK is a sub-component of metacognition that is defined as general knowledge about higher order thinking strategies. MSK had been defined as "general knowledge about the cognitive procedures that are being manipulated". The knowledge involved in MSK consists of "making generalizations and drawing rules regarding a thinking strategy" and of "naming" the thinking strategy. MSK is an awareness of the type of thinking strategies being used in specific instances and it consists of the following abilities: It creates rules to describe and understand the physical world around the people who utilize these processes called higher-order thinking. This is the capability of the individual to take apart complex problems in order to understand the components in problem. These are the building blocks to understanding the "big picture" of the main problem through reflection and problem solving. The potential of metacognitive inferences and domain-general skills including psychological skills training are integral to the genesis of expert performance. Moreover, the contribution of both mental imagery e. Metacognition brings many unique insights into the normal daily functioning of a human being. This leads to less healthy functioning. In the autism spectrum, there is a profound deficit in Theory of Mind. Alcohol may be used as a coping strategy for controlling unwanted thoughts and emotions formed by negative perceptions. Object mode interprets perceived stimuli as truth, where metacognitive mode understands thoughts as cues that have to be weighted and evaluated. They are not as easily trusted. There are targeted interventions unique of each patient, that gives rise to the belief that assistance in increasing metacognition in people diagnosed with schizophrenia is possible through tailored psychotherapy. With a customized therapy in place clients then have the potential to develop greater ability to engage in complex self-reflection. In the obsessive-compulsive spectrum , cognitive formulations have greater attention to intrusive thoughts related to the disorder. Patients with OCD exemplify varying degrees of these "intrusive thoughts". Patients also suffering from generalized anxiety disorder also show negative thought process in their cognition. Metacognitive therapy attempts to correct this change in the CAS.

Chapter 5 : Research in Critical Thinking

Critical Thinking, Collaboration, and Communication, review research on interventions designed to increase student proficiency within each of the 4Cs, describe recent work on how to assess on the 4Cs, and conclude with major take-

Big ones include reducing the odds of developing heart disease, stroke, and diabetes. Maybe you want to lose weight, lower your blood pressure, prevent depression, or just look better. In a study done at the University of British Columbia, researchers found that regular aerobic exercise, the kind that gets your heart and your sweat glands pumping, appears to boost the size of the hippocampus, the brain area involved in verbal memory and learning. Resistance training, balance and muscle toning exercises did not have the same results. The finding comes at a critical time. Researchers say one new case of dementia is detected every four seconds globally. They estimate that by the year , more than million people will have dementia worldwide. Exercise and the brain Exercise helps memory and thinking through both direct and indirect means. The benefits of exercise come directly from its ability to reduce insulin resistance, reduce inflammation, and stimulate the release of growth factors—chemicals in the brain that affect the health of brain cells, the growth of new blood vessels in the brain, and even the abundance and survival of new brain cells. Indirectly, exercise improves mood and sleep, and reduces stress and anxiety. Problems in these areas frequently cause or contribute to cognitive impairment. Put it to the test So what should you do? Almost all of the research has looked at walking, including the latest study. How much exercise is required to improve memory? These study participants walked briskly for one hour, twice a week. Standard recommendations advise half an hour of moderate physical activity most days of the week, or minutes a week. If that seems daunting, start with a few minutes a day, and increase the amount you exercise by five or 10 minutes every week until you reach your goal. Try any or all of these ideas: Track your progress, which encourages you to reach a goal. Paying an expert is good motivation. Whatever exercise and motivators you choose, commit to establishing exercise as a habit, almost like taking a prescription medication.

Chapter 6 : List of cognitive biases - Wikipedia

UNCORRECTED PROOF Research Report Effects of Racial Diversity on Complex Thinking in College Students Anthony Lising Antonio,1 Mitchell J. Chang,2 Kenji Hakuta,1 David A. Kenny,3 Shana Levin,4.

The answer could make a difference in your heart health, say Johns Hopkins researchers. Check out their findings—plus simple ways to boost positivity in your life. Coping with the News Cycle Overwhelmed every time you read or watch the news? People with a family history of heart disease who also had a positive outlook were one-third less likely to have a heart attack or other cardiovascular event within five to 25 years than those with a more negative outlook. The finding held even in people with family history who had the most risk factors for coronary artery disease, and positive people from the general population were 13 percent less likely than their negative counterparts to have a heart attack or other coronary event. Another possibility is that hope and positivity help people make better health and life decisions and focus more on long-term goals. Studies also find that negative emotions can weaken immune response. Additional studies have found that a positive attitude improves outcomes and life satisfaction across a spectrum of conditions—including traumatic brain injury, stroke and brain tumors. A University of Kansas study found that smiling—even fake smiling—reduces heart rate and blood pressure during stressful situations. Instead of stressing about a traffic jam, for instance, appreciate the fact that you can afford a car and get to spend a few extra minutes listening to music or the news, accepting that there is absolutely nothing you can do about the traffic. Experts recommend these key ways to build yours: Maintain good relationships with family and friends. Accept that change is a part of life. Take action on problems rather than just hoping they disappear or waiting for them to resolve themselves. Definitions Cardiovascular car-dee-oh-vas-cue-ler disease: Problems of the heart or blood vessels, often caused by atherosclerosis—the build-up of fat deposits in artery walls—and by high blood pressure, which can weaken blood vessels, encourage atherosclerosis and make arteries stiff. Heart valve disorders, heart failure and off-beat heart rhythms called arrhythmias are also types of cardiovascular disease. How your immune system recognizes and defends itself against bacteria, viruses, toxins and other harmful substances. A response can include anything from coughing and sneezing to an increase in white blood cells, which attack foreign substances. You May Also Like.

Chapter 7 : Positive Thinking: Free Cause and Effect Essay Samples and Examples

The Center conducts advanced research and disseminates information on critical thinking. Each year it sponsors an annual International Conference on Critical Thinking and Educational Reform.

One theory is that having a positive outlook enables you to cope better with stressful situations, which reduces the harmful health effects of stress on your body. Identifying negative thinking Not sure if your self-talk is positive or negative? Some common forms of negative self-talk include: You magnify the negative aspects of a situation and filter out all of the positive ones. For example, you had a great day at work. You completed your tasks ahead of time and were complimented for doing a speedy and thorough job. That evening, you focus only on your plan to do even more tasks and forget about the compliments you received. When something bad occurs, you automatically blame yourself. For example, you hear that an evening out with friends is canceled, and you assume that the change in plans is because no one wanted to be around you. You automatically anticipate the worst. The drive-through coffee shop gets your order wrong and you automatically think that the rest of your day will be a disaster. You see things only as either good or bad. There is no middle ground. Focusing on positive thinking You can learn to turn negative thinking into positive thinking. Here are some ways to think and behave in a more positive and optimistic way: Identify areas to change. You can start small by focusing on one area to approach in a more positive way. If you find that your thoughts are mainly negative, try to find a way to put a positive spin on them. Be open to humor. Give yourself permission to smile or laugh, especially during difficult times. Seek humor in everyday happenings. When you can laugh at life, you feel less stressed. Follow a healthy lifestyle. Aim to exercise for about 30 minutes on most days of the week. You can also break it up into minute chunks of time during the day. Exercise can positively affect mood and reduce stress. Follow a healthy diet to fuel your mind and body. And learn techniques to manage stress. Surround yourself with positive people. Make sure those in your life are positive, supportive people you can depend on to give helpful advice and feedback. Negative people may increase your stress level and make you doubt your ability to manage stress in healthy ways. Start by following one simple rule: Be gentle and encouraging with yourself. If a negative thought enters your mind, evaluate it rationally and respond with affirmations of what is good about you. Here are some examples of negative self-talk and how you can apply a positive thinking twist to them: Necessity is the mother of invention. I can try to make it work. No one bothers to communicate with me. But with practice, eventually your self-talk will contain less self-criticism and more self-acceptance. You may also become less critical of the world around you. That ability may contribute to the widely observed health benefits of positive thinking.

Chapter 8 : Metacognition | Center for Teaching | Vanderbilt University

The importance of critical thinking skills in research is therefore huge, without which researchers may even lack the confidence to challenge their own assumptions. A Misunderstood Skill Critical thinking is widely recognized as a core competency and as a precursor to research.

People with depression or bipolar disorder often feel their thinking ability has gotten "fuzzy", or less sharp than before their symptoms began. Now, researchers have shown in a very large study that effect is indeed real - and rooted in brain activity differences that show up on advanced brain scans. That could transform the way doctors and patients think about, diagnose and treat them. In a new paper in the journal *Brain*, researchers from the University of Michigan Medical School and Depression Center and their colleagues report the results of tests they gave to women - more than two-thirds of whom had experienced either major depression or bipolar disorder. The researchers also present data from detailed brain scans of 52 of the women, who took tests while brain scans were conducted. The number of patients involved is large for this kind of mental health study - which makes the findings more meaningful. They focused on results from women to take gender differences out of the mix. Seen as groups, women with depression or bipolar disorder did equally badly on the test, which required sustained concentration. The test asked them to react rapidly when certain letters flashed briefly on a screen, amid a random sequence of other letters. Compared with the group with no mental health conditions, the groups with either diagnosis lagged noticeably on this standard test of cognitive control. And while many individual women with depression or bipolar scored as well on the test as healthy participants, nearly all the test-takers in the bottom 5 percent of performers had one of the two mood disorders. On the brain scans, the researchers found that the women with depression or bipolar disorder had different levels of activity than healthy women in a particular area of the brain called the right posterior parietal cortex. In those with depression, the activity in this area was higher than in healthy individuals, while in those with bipolar disorder it was lower. The area where the differences were seen helps control "executive function" activities such as working memory, problem solving and reasoning. This raises questions about traditional diagnoses. But they do not suggest that mental health clinicians should use the test or brain scans given to the study participants to spot risks for or diagnose a mood disorder. Under RDoC, NIMH is working with researchers to develop new ways of classifying mental health disorders, independent of the clinical diagnostic codes found in the guidebook that clinicians use, called the Diagnostic and Statistical Manual of Mental Disorders. Senior author Scott Langenecker, Ph.D. The RDoC initiative is a recognition that we need to rely more heavily on what these neurobiological results are telling us - mental diseases have more overlap in the basic brain and genetic signatures. For example, researchers could focus on studying people with and without classical mood disorders by first giving them the cognitive control test, and then using the expensive brain-scanning option only on those with poor performance. This could influence strategies future clinical screening, diagnosis and treatment. More about the study The research involved healthy women, women with major depression that was either active or inactive at the time of testing, and women with bipolar disorder who were not in a manic state when tested. Ryan notes that because of the expense of such scans and limits on finding participants, the fMRI group is still too small to make strong conclusions. She hopes others will be able to carry out further imaging studies of this issue.

Chapter 9 : 'Fuzzy thinking' in depression and bipolar disorder: New research finds effect is real

To cognitive scientists, such research on effects of video games is fascinating in part because it demonstrates that the brain is far more moldable, throughout a person's life, than was previously.

Thinking Numerous studies have shown that being prompted to think about money can predispose people to engage in self-sufficient thinking and behavior—but some findings suggest that demographic characteristics may moderate this type of effect. In a new research article, scientists present results from three experiments that systematically explore these money-priming effects, finding inconsistent evidence for the effect of money primes on various measures of self-sufficient thinking and behavior. The research is published in *Psychological Science*, a journal of the Association for Psychological Science. Psychology researcher Eugene M. Caruso University of Chicago Booth School of Business and co-authors Oren Shapira Stony Brook University and Justin Landy also Chicago Booth were motivated to carry out this systematic exploration after conducting a set of studies in which they observed varied findings that were inconsistent with their predictions. In discussing these results, they discovered that colleagues had also observed unpredicted interaction effects in their research in this area. Importantly, the kinds of interaction effects observed seemed to vary across different studies that used different techniques for activating the concept of money. To do this, Caruso, Shapira, and Landy decided to systematically evaluate the effects of various money-priming manipulations on a predetermined set of outcomes while accounting for the potential influence of certain sociodemographic factors, within a single experiment that sampled a diverse group of participants. In their first experiment, the researchers recruited a total of 2, participants for an online study, randomly assigning participants to receive specific primes. The results showed that four of the five money primes did activate the concept of money. Participants exposed to these primes were more likely to complete word stems to create money-related words compared with participants who received a neutral prime or no prime — only those exposed to the background image of money showed no difference in the word completion task relative to their peers. Only participants who imagined an abundant life reported differences in self-sufficiency, and they actually reported lower self-sufficiency compared with those who received a neutral prime, an unexpected finding. Additionally, there was little evidence to suggest that the effects of the primes on various outcomes were moderated by any of the demographic characteristics measured, including gender, socioeconomic status, and political ideology. The researchers observed similar results in a second online experiment with 2, participants that omitted the money-activation measure. In a third experiment, Caruso, Shapira, and Landy conducted a lab-based study with members of the university community. To examine the effects of money primes on self-sufficient behavior, the researchers measured how long participants spent working on a puzzle that was actually unsolvable before they asked for help. The results echoed those of the previous online studies: The three money primes tested had weak and inconsistent effects across the different outcome measures. Only those participants who unscrambled phrases including money-related terms reported greater feelings of self-sufficiency relative to the comparison group. The researchers urged caution in interpreting the findings relative to specific published studies, given that the three experiments were not designed to be exact replications of any one study. Rather, this series of experiments can be seen as offering a rigorous and systematic examination of a particular effect. The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the John Templeton Foundation. All data and materials have been made publicly available via Open Science Framework. The complete Open Practices Disclosure for this article is available online.