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EXPERIMENT NO.5

DATE: 27-3-22

PSYCHOLOGY LAB RECORD BOOK FORMAT

TITLE OF THE EXPERIMENT

Creativity and Problem-Solving

• AIM:

Test problem solving and creativity skills at individual and group level.

• MATERIALS REQUIRED:

Links:-

https://psychologytoday.tests.psychtests.com/bin/transfer https://www.kellogg.northwestern.edu/faculty/uzzi/ftp/page176.html

• DESCRIPTION OF TEST:

Creativity is linked to fundamental qualities of thinking, such as flexibility and tolerance of ambiguity. This Creative Problem-solving Test was developed to evaluate whether your attitude towards problem-solving and the manner in which you approach a problem are conducive to creative thinking.

The Psychology Today test is made up of two types of questions: scenarios and self-assessment. For each scenario, answer according to how you would most likely behave in a similar situation. For the self-assessment questions, indicate the degree to which the given statements apply to you. In order to receive the most accurate results, please answer each question as honestly as possible.

The Kellog test helps you determine if you have the personality traits, attitudes, values, motivations, and interests that characterize creativity. It is based on several years' study of attributes possessed by men and women in a variety of fields and occupations who think and act creatively.

PROCEDURE

Fill in the options given ahead of the questions and compute scores in order to describe your problem solving and creativity level.

TABLE 1: INDIVIDUAL DISCUSSION

Problem solving occurs when you try to remove an obstacle that is blocking a path you want to take or when you try to close the gap between what exists and what you want to exist. Decision making takes place after you encounter a problem. It refers to selecting one alternative from the various courses of action that can be pursued.

Many traits and characteristics influence the type of problem solver you are now or are capable of becoming. Among them are (1) cognitive intelligence, education, and experience; (2) emotional intelligence; (3) flexibility versus rigidity; (4) intuition; (5) concentration; (6) decisiveness and perfectionism; (7) risk taking and thrill seeking; and (8) values.

The Myers-Briggs Type Indicator is a widely used method of classifying problem-solving styles. Four dimensions of psychological functioning underlie the method: introverted versus extroverted; thinking versus feeling; sensing versus intuiting; and judging versus perceiving. Combining the four types with each other results in 16 personality types, such as a person being a conceptualizer, traditionalist, visionary, or organizer. For example, the organizer (ESTJ) scores high on extroversion, sensing, thinking, and judging. Recognizing your problem-solving style can help you identify work that you are likely to perform well, such as those mentioned in Exhibit 3-1.

The decision-making process outlined in this chapter uses both the scientific method and intuition for making decisions in response to problems. Decision making follows an orderly flow of events:

- 1. You are aware of a problem or create one of your own.
- 2. You identify causes of the problem.
- 3. You find creative alternatives.
- 4. You weigh the alternatives.
- 5. You make the choice.
- 6. You implement the choice.
- 7. You evaluate whether you have made a sound choice. If your choice was unsound, you are faced with a new problem, and the cycle repeats itself.

Creativity is the ability to look for good ideas that can be put into action. Adaptive creativity involves improving an existing system, whereas innovative creativity involves creating something new. Creative workers tend to have different intellectual and personality characteristics than their less creative counterparts. In general, creative people are more mentally flexible than others, which allows them to overcome the traditional way of looking at problems.

Creative thinking requires a broad background of information, including facts and observations.

Creative workers tend to be bright rather than brilliant. The key to creative intelligence is insight.

Creativity can stem from both fluid (raw) intelligence and crystallized (accumulated) intelligence. The

emotional and other nonintellectual aspects of a person heavily influence creative problem solving. For example, creative people are frequently nonconformists and thrill seekers.

Creativity takes place when three components come together: expertise, creative thinking skills, and the right type of motivation. Creative thinking refers to being flexible and imaginative. The right type of motivation refers to passion for the task and intrinsic motivation. Four factors outside the person play a key role in fostering creativity. An environmental need, enough conflict and tension to put people on edge, encouragement from management, and the presence of humor. Unless a person is working on a highly focused task, time pressures are likely to diminish creativity.

Methods of improving your creativity include (1) concentrating intensely on the task at hand; (2) overcoming traditional mental sets; (3) disciplining yourself to think laterally; (4) conducting brainstorming sessions; (5) borrowing creative ideas; (6) challenging your ruts; (7) establishing idea quotas; (8) playing the roles of explorer, artist, judge, and lawyer; and (9) taking a break.

Brainstorming has several variations, including electronic brainstorming in which people enter ideas into a computer. Brainwriting is essentially solo brainstorming. The forced-association technique requires problem solving by making associations between the properties of two objects.

		Completely true	Mostly true	Somewhat true or false		Completely false
1.	The fear of making a mistake effects many of the decisions I make.	0	0	0	②	0
2.	When faced with a problem, I try to look at it from different angles in order to come up with the best solution.	②	0	0	0	0
3.	I have complete faith in my capabilities/skills.	②	0	0	0	0
4.	If I could, I'd prefer to let other people make difficult decisions for me.	0	0	0	0	②
5.	Change in general makes me uneasy.	0	0	②	0	0
6.	Making snap or "on the spot" decisions makes me uncomfortable.	0	0	0	②	0
7.	When others get stuck, I am able to think of new solutions to problems.	②	0	0	0	0

ROGRI	ESS STATUS:					
	23%					
		Strongly agree	Agree	Somewhat agree or disagree		Strongly disagree
8.	I don't think it's necessary to come up with new solutions to a problem if the one I've used in the past was successful.	②	0	0	0	0
9.	I believe that no matter what life throws at me, I'll be able to handle it.	②	0	0	0	0
10.	Asking for other people's ideas about how to solve a problem is a sign of a lack of skill on my part.	0	②	0	0	0
11.	Once I've found a solution that I believe will work, I see no point in coming up with more.	②	0	0	0	0
			GO T	O NEXT	QUEST	IONS
2000	ESS STATUS:	_				

46%

			A lot like me	Somewhat like me	A little like me	Not at all like me
12.	I like learning new things.	②	0	0	0	0
13.	I get really nervous when I have to make an important decision.	0	0	0	②	0
14.	I'm the type of person who thinks "outside the box".	②	0	0	0	0
15.	When faced with a difficult problem I tend to get discouraged easily.	0	0	0	0	②
16.	I'm not sure if I've done a good job unless someone else points it out.	0	0	0	0	②
17.	After I've made a decision, I find myself wishing I had chosen differently.	②	0	0	0	0
18.	I enjoy trying new things.	②	0	0	0	0

PROGRESS STATUS:

70%

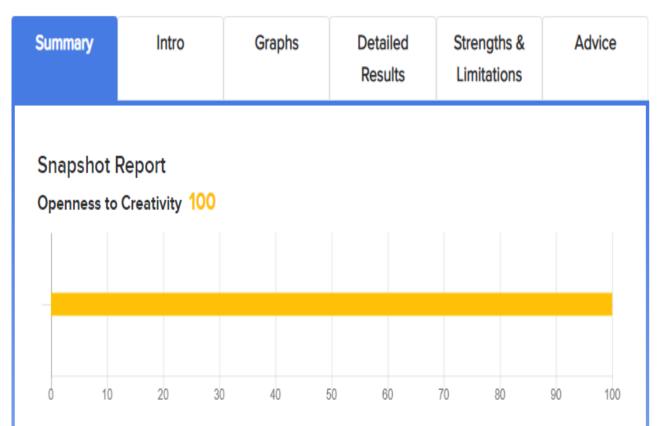
Your company needs to come up with a new ad campaign to sell your latest product and your superior chooses you as project manager. During a brainstorming meeting, your youngest team member (who just got hired and is fresh out of school) comes up with an idea that, although really wacky, could end up being really successful. Unfortunately, the veterans on your team who've had years of experience in marketing don't seem to be too enthusiastic about it. You yourself don't seem to be completely sold on it either, and actually had something completely different in mind. However, this new ad campaign is geared towards a younger audience - just about the same age as the newest rookie - and he/she really seems to be on top of what's hot these days. What do you do?

- I thank him/her for his/her idea, but turn it down. I'd rather go with a plan that has proven successful in the past.
- I give him/her a chance to explain his/her idea just to be fair, but I'd probably turn it down.
- I run it through the rest of the team and try to determine the pros and the cons of going with it. Unless the majority of the team supports it however, I won't use it.
- I decide to give his/her idea a try, even if the rest of the team is a little unsure. I'm always open to trying something new.

Your work team has recently encountered a problem similar to one you confronted in the past with another company. The solution you came up with at your previous job ended up working out really well. However, while brainstorming together with your current team, they end up coming up with a completely different solution, one that you've never thought of before - and aren't sure will work. How

- 20. well. However, while brainstorming together with your current team, they end up coming up with a completely different solution, one that you've never thought of before and aren't sure will work. How do you react?
 - I insist that they use my old solution instead, since it was successful before.
 - I ask my team members to seriously consider solving the problem the way my team did in the past.
 - I'm concerned about the possibility of failure of their new solution, but I accept that there may be more than one way to solve the problem.
 - I feel good about this new idea and look forward to seeing how it will turn out.

Creative Problem-Solving Test Your snapshot report



You seem to realize that, while rules and conventions have their place in the process, they can be restrictive when coming up with innovative solutions. Therefore, although you may not immediately reject solutions that have worked in the past, you'd rather not have them be your only option. People who score similarly to you are "out-of-the-box" thinkers who like to toy with different ideas, pushing beyond the boundaries of standard ways of thinking and doing things. They aren't opposed to taking risks or testing solutions that are "off-the-wall" or that don't have a proven track record. Although there's generally nothing wrong with taking a more practical approach to problems (and in some cases, it may be the best option), using it as the only method does impose some limitations. By taking that step outside your standard way of thinking and expanding your imagination, you'll not only be able to increase your options but may end up uncovering ideas that had never crossed your mind before!



Brian UZZİ

at Northwestern University

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How creative are you? The following test helps you determine if you have the personality traits, attitudes, values, motivations, and interests that characterize creativity. It is based on several years' study of attributes possessed by men and women in a variety of fields and occupations who think and act creatively.

Follow these instructions:

For each statement, select the appropriate response:

- A. Agree
- · B. Undecided or Don't Know
- · C. Disagree

When you are finished answering all the questions, press the SCORE button at the bottom of the exercise to tabulate your scrore.

Be as frank as possible. Try not to second guess how a creative person might respond. Consult the scoring key in the <u>How Creative Are You? Section</u> of the answers page to form a basis for comparing your scores with others.

Please choose the approriate alternative:

(Choose A., B. or C. for Questions 1-39 And check ten characteristics for question 40)

1. I always work with a great deal of certainty that I am following the correct procedure for solving a particular problem.
A. Agree
OB. Undecided or Don't Know
OC. Disagree
2. It would be a waste of time for me to ask questions if I had no hope of obtaining answers.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
3. I concentrate harder on whatever interests me than most people.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
4. I feel that a logical step-by-step method is best for solving problems.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
5. In groups I occasionally voice opinions that seem to turn people off.
A. Agree
OB. Undecided or Don't Know
OC. Disagree
6. I spend a great deal of time thinking about what others think of me.
OA. Agree
OB. Undecided or Don't Know
C. Disagree

7. It is more important for me to do what I believe to be right than to try to win the approval
of others.
OA. Agree
OB. Undecided or Don't Know
OC. Disagree
8. People who seem uncertain about things lose my respect.
A. Agree
OB. Undecided or Don't Know
○C. Disagree
9. More than other people, I need to have things interesting and exciting.
OA. Agree
OB. Undecided or Don't Know
⊙ C. Disagree
10. I know how to keep my inner impulses in check.
● A. Agree
OB. Undecided or Don't Know
○ C. Disagree
11. I am able to stick with difficult problems over extended periods of time.
● A. Agree
OB. Undecided or Don't Know
○ C. Disagree
12. On occasion I get overly enthusiastic.
O A. Agree
OB. Undecided or Don't Know
○ C. Disagree
13. I often get my best ideas when doing nothing in particular.
O A. Agree
OB. Undecided or Don't Know
○ C. Disagree

14. I rely on intuitive hunches and feelings of "rightness" or "wrongness" when moving toward the solution of a problem.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
15. When problem solving, I work faster when analyzing the problem and slower when synthesizing the information I have gathered.
A. Agree
OB. Undecided or Don't Know
OC. Disagree
16. I sometimes get a kick out of breaking the rules and doing things I am not supposed to.
OA. Agree
OB. Undecided or Don't Know
○ C. Disagree
17. I like hobbies that involve collecting things.
A. Agree
OB. Undecided or Don't Know
OC. Disagree
18. Daydreaming has provided the impetus for many of my more important projects.
O A. Agree
OB. Undecided or Don't Know
OC. Disagree
19. I like people who are objective and rational.
A. Agree
OB. Undecided or Don't Know
OC. Disagree
20. If I had to choose from two occupations other than the one I now have, I would rather be a physician than an explorer.
OA. Agree
OB. Undecided or Don't Know
© C. Disagree

21. I can get along more easily with people if they belong to about the same social and business class as myself.	
● A. Agree	
OB. Undecided or Don't Know	
○ C. Disagree	
22. I have a high degree of aesthetic sensitivity.	
● A. Agree	
OB. Undecided or Don't Know	
○ C. Disagree	
23. I am driven to achieve high status and power in life.	
● A. Agree	
OB. Undecided or Don't Know	
○ C. Disagree	
24. I like people who are sure of their conclusions.	
● A. Agree	
OB. Undecided or Don't Know	
OC. Disagree	
25. Inspiration has nothing to do with the successful solution of problems.	
OA. Agree	
OB. Undecided or Don't Know	
○ C. Disagree	
26. When I am in an argument, my greatest pleasure would be for the person who disagrees with me to become a friend, even at the price of sacrificing my point of view.	
OA. Agree	
OB. Undecided or Don't Know	
○ C. Disagree	
27. I am much more interested in coming up with new ideas than in trying to sell them to others.	
● A. Agree	
OB. Undecided or Don't Know	
○C. Disagree	

28. I would enjoy spending an entire day alone, just "chewing the mental cud."
OA. Agree
OB. Undecided or Don't Know
● C. Disagree
29. I tend to avoid situations in which I might feel inferior.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
30. In evaluating information, the source is more important to me than the content.
O A. Agree
OB. Undecided or Don't Know
OC. Disagree
31. I resent things being uncertain and unpredictable.
OA. Agree
OB. Undecided or Don't Know
● C. Disagree
32. I like people who follow the rule, "business before pleasure."
O A. Agree
OB. Undecided or Don't Know
OC. Disagree
33. Self-respect is much more important than the respect of others.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
34. I feel that people who strive for perfection are unwise.
OA. Agree
OB. Undecided or Don't Know
● C. Disagree

35. I prefer to work with others in a team effort rather than solo.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
36. I like work in which I must influence others.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
37. Many problems that I encounter in life cannot be resolved in terms of right or wron solutions.
OA. Agree
OB. Undecided or Don't Know
○ C. Disagree
38. It is important for me to have a place for everything and everything in its place.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree
39. Writers who use strange and unusual words merely want to show off.
● A. Agree
OB. Undecided or Don't Know
OC. Disagree

40. Below is a list o	f terms that describe people. Choose ten words that best characterize you.		
✓ energetic	□alert		
persuasive	curious		
✓ observant	organized		
☐ fashionable	unemotional		
✓ self-confident	☐ clear-thinking		
\Box persevering	understanding		
✓ original	dynamic		
cautious	self-demanding		
habit-bound	polished		
resourceful	✓ courageous		
egotistical	efficient		
☐independent	helpful		
stern	perceptive		
predictable	quick		
☐ formal	☐ good-natured		
✓ informal	thorough		
dedicated	□impulsive		
\square forward-looking	determined		
☐ factual	✓ realistic		
open-minded	□modest		
□ tactful	□involved		
☐inhibited	absent-minded		
enthusiastic	☐ flexible		
✓ innovative	sociable		
poised	□ well-liked		
□ acquisitive	✓ restless		
practical	retiring		
After you have answered ALL 40 questions, please press the SCORE button to tabulate your cores.			
Creativity Score			

TABLE 2: GROUP DISCUSSION

Based on the findings of this study, we argue that the study of a team's creative problem solving ability goes much deeper than personality, cognitive ability, and the number of ideas a team can generate. Our evaluation of divergent thinking abilities suggests that creative ability is not just a function of cognitive ability. Individuals develop creative abilities and teams use these abilities to develop ideas that can be evaluated by the group. Added to this is the idea that there are creative personality attributes that may cause some individuals to either be more creative, or at least feel like they are more creative. This may increase the individual's motivation to participate and share their ideas with the team. However, we realize that this study has limitations based on the sample and the simplicity of the creative task assigned. Future studies should try to evaluate the creative process in actual business environments. We believe this study helps identify the individual attributes that should be evaluated for these studies. It is almost a certainty that organizations will continue to use groups to solve their most important problems in the future and this research begins to uncover the attributes that leaders should consider when they choose the individuals that will perform on these teams.

When a group of employees is engaged with each other, the potential of the group skyrockets. Your employees will be able to accomplish more, come up with better ideas, and even walk away with higher morale. However, getting the group to work together in a productive way isn't always easy.

For example, if you need your team to come up with a creative idea or a creative way to solve an existing problem, an unproductive session could unfold in a number of potential ways:

- Employees may not participate, resulting in more awkward silences than discussion.
- Employees may over-participate, resulting in a shouting match with no direction.
- Employees may discuss the problem, but without a vision toward actionable steps.
- The meeting may take too long, wasting everyone's time and costing more money than it should.
- Employees may never land on a final solution.

So how can you foster an environment that inspires productive collaboration??

Why the Group Approach Is Best

After reading these potential problems, you may consider whether the group approach to creative problem solving is even worth it. But as Tim Sykes puts it, "no millionaire is an island." Nobody can come up with or execute a perfect plan by themselves; they rely on advisors, mentors, editors, and other helpers to shape those plans into something better. Everyone brings something unique to the table, and if you ignore the potential there, you could wind up with a far inferior final plan.

Strategies for Better Group Problem Solving

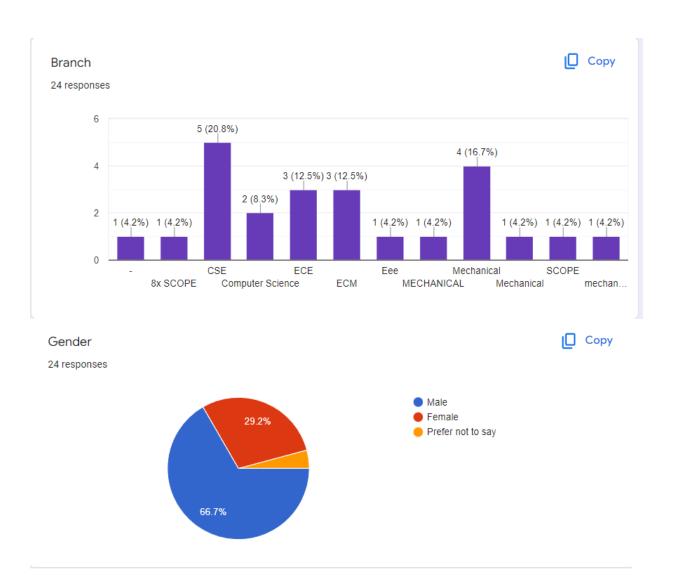
Try using these strategies to facilitate better creative problem solving as a group:

- 1. Make someone in charge. First, identify a "leader" for the meeting, which could be you or another employee. This person may be in charge of a number of responsibilities, such as picking the meeting attendees, setting the agenda, or leading the discussion, but the most important role is to be the final decision-maker. This will be the person responsible for selecting the final idea and bringing the meeting to a close—which will help stop the endless back-and-forth cycles that some meetings produce.
- 2. Select the right team. You'll also want to take steps to ensure that you pick the right team for the creative brainstorming session. Don't add people for the sake of adding them—choosing a meeting attendee unfamiliar with the problem will waste your time and theirs. Instead, opt for the most productive candidates for the task, and keep your roster small to encourage more focused discussion.
- 3. Mandate participation. Let your attendees know in advance that you expect them to participate. The purpose of a meeting is to share ideas with one another, and if some people aren't sharing, that purpose is lost.
- 4. Assign homework. You want every attending employee to be prepared and with something to offer, so be proactive by assigning homework before the meeting. For example, you could ask them to come up with one potential solution to the problem at hand or ask them to bring some kind of research to the table.
- 5. Give people individual time to brainstorm. You can't force people to come up with good ideas on the spot. Expecting a group of people to spontaneously come up with a good idea is a recipe for disappointment. Instead, give your meeting attendees time to brainstorm the problem on their own, so they come to the meeting with a handful of solutions already in mind. Some problems will be urgent, but if you can give your attendees a few days to consider the issue, do so.
- 6. Keep the meeting short. Longer meetings may seem like they offer more flexibility to get things done, but in reality, shorter meetings tend to be more effective. Setting a pressing time limit—like 30 minutes or even 15 minutes, forces people to acknowledge the end goal and work toward it as efficiently as possible. If you need to schedule another meeting to explore the idea further, you can, but over the long term, you'll see faster results and waste less time this way.
- 7. Set an agenda. Before the meeting begins, have your team leader create an agenda for the meeting. This could be simple, such as outlining the order in which your attendees are going to speak, or more detailed, such as offering a breakdown of the problem at hand. Send this out in advance so your employees are more prepared for the meeting, and adhere to it so you make the most of your meeting time and stay on course.
- 8. Listen to all ideas. If you want your employees to voice more of their ideas, show that you care about all their ideas; listen carefully, patiently, and respectfully to every employee idea, and encourage your other employees to do the same. This creates a more comfortable environment, and one that rewards open discussion, so maintain this standard indefinitely. It may take time to kick in, but eventually, your employees will feel more comfortable sharing their true thoughts.

With these strategies, your employees will be able to work together more effectively, with fewer conflicts and with a better chance of landing on an ideal creative solution to the problem at hand.

Most of these strategies also become more effective with repetition; your employees will get used to your systems and criteria, and your meetings will flow even smoother in the future, so stay consistent with your approach.





CONCLUSION

Discussion on problem solving and creativity has been succesfully computed and executed on group and individual levels.