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Unlearning Myths One Question at a Time

An Honors Thesis submitted in partial fulfillment of the requirements for Honors in the
Department of Psychology.

By

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Under the mentorship of Karen Naufel

ABSTRACT

People may believe in myths such as “you only use 10% of your brain” that are related to psychology. Additionally, belief in these myths may prevail despite education, or in some cases, because of education. Indeed, some research suggests students acquired false memories by remembering the wrong answers instead of the correct information (Nitschke et al., 2019). However, research on how leading questions affects memory can provide insight to this problem. Specifically, research shows that subjects who are presented with leading questions or content are more likely to recall an event consistent with that question (Miller & Loftus, 1976). Such research may provide a mechanism for how to encourage students to remember correct information as opposed to myths. Specifically, the structure of test questions as leading questions for students to retain correct information could be formatted to maximize memory for the misconceptions in most popular psychology myths. Thus, the present study aims to test the extent that leading questions affects memory for myths and facts. Based on previous research, it is predicted that certain leading questions can improve memory and correct for myths. The results did not support this hypothesis; however, this could be due to a small sample size, question structure, or single administration of manipulation. Discrepancies between groups showed potential reasons across test questions on literacy misinterpretation. Regardless, these findings could help shape how instructors structure new test questions and present information to people for them to retain the correct information.

Keywords: myths, misinformation, leading, non-leading, retrieval tasks

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Introduction

People gain new information every day, and they are able to adapt to their preexisting knowledge by either updating or overriding it. However, many people will go about their lives and use what they believe is “common sense” to make daily decisions (Gardner et al. 2013). For instance, when people are taking a test and are unsure of the answer, they go with their “initial hunch” or gut instinct because they are told by teachers and others that test-takers should always go with their first answer. The misconception behind this is that if a test-taker changes their original answer to something else it will tend to lower their scores when in reality, test-takers who change their answers end up with higher scores. The reason behind this is due to test-takers not wanting to commit to changing their original answer out of fear that they will have a lower score where in reality if they know in their head what the right answer is they shouldn’t go with a simple feeling. Benjamin (1984) showed that 63% of professors told their students not to change their answers due to them having lower scores compared to the 5-6% of the professors that said the opposite (Ruscio et al., 2010, p. 87-89). This may be how a popular myth stems into what is coined “common knowledge.”

Indeed, people do seem to believe misinformation about psychological processes. For instance, one study directly tested the extent that people held false beliefs about psychology. Specifically, students read 55 statements about psychology, many of which were false (e.g., “Only deeply depressed people commit suicide” (Gardner et al. 2013, p. 213). Then, they rated the extent that these statements were true. The results from this study revealed that all students believed that all misconceptions are at least partly true.

Similarly, another study tested belief in neuroscience myths using an online survey that included 15 neuromyths and 17 general brain knowledge. Participants were grouped into the

general public, educators, and individuals with high neuroscience exposure and they had to indicate if the statements were either true or false (e.g., “Only 10% of the brain is used”). The results show that people with exposure to neuroscience performed better than those categorized as educators or part of the general public, however, educators and people with high exposure to neuroscience still accept about half or more of the neuromyths despite their previous training (McGrath et al., 2017).

In some cases, it seems that most report learning firsthand about it in school. For example, Landau and Bavari (2003) conducted a survey that had 38% of students reporting they had gained their false beliefs through their professors/teachers (as cited by Gardner et al., 2013). Similarly, though research supports that repeated testing is a teaching tool (Roediger et al., 2007), multiple choice tests may accidentally “implant” a false belief, particularly if the material has not been studied. As an example, Roediger and Marsh (2007) tested participants over a reading passage by having them complete a multiple-choice test with 2, 4, or 6 lures. Later, participants recalled information from the passage. Overall, the more lures they had on the multiple-choice test, the more likely they recalled false information. This false memory effect may have resulted from how leading questions created a *misinformation effect*. The *misinformation effect* is when people incorporate false information into their memory, and it can come from how leading questions are asked. There is also a vital key factor that plays a role in affecting the misinformation effect and that is asking leading questions. In Miller and Loftus’s (1976) experiment, they wanted to test unconscious transference which is when a person seen doing a certain activity is confused with something else. In the study, the participants had twenty slides with five models doing different poses. People were more likely to say a model did a specific action even when the model had not when presented with a leading question. The

leading questions asked along the lines of “What color was the balloon blown up by the man?” Yet, it was not a man that blew up the balloon but a woman on a different slide. In the second experiment, a tape recorder of a story was given to students and a slideshow depicted characters in the story was shown to match the people mentioned in the story. The people had to identify the culprit in the story. Half of the people in the group were asked a leading question that made them think the person wearing the hat was the culprit which affected the results. The other half not asked a leading question were able to identify the culprit correctly (e.g “After the guy with the hat threw the paperweight at Fisher, did he run away?” and the other half were asked, "After the guy threw the paperweight at Fisher, did he run away?"). The results showed people were less likely to identify the culprit correctly if they had a leading question than if they did not.

This research has shown that leading questions can create false memories for information. The above study showed that when asked a leading question that contains misinformation is asked, unconscious transference occurs. This is when a person seen doing a certain activity is confused with something else (Miller & Loftus, 1976). In the study mentioned in the previous paragraph the culprit had to be identified and there were two characters mentioned in the story, one holding a paperweight and the other wearing a hat. The regular question asked was "After the guy threw the paperweight at Fisher, did he run away?" versus the leading question, “After the guy with the hat threw the paperweight at Fisher, did he run away?” (p. 10). The key in this is that the question combined two characteristics of both characters as one which leads people to think the guy wearing the hat was the culprit when the correct answer was the one not wearing the hat.

To compensate for leading questions, perhaps it is best to learn how to not fall prey to them. One study tested such a mechanism. The purposes of this experiment were to replicate

findings of asking misleading questions in order for subjects to not fall for more vague ones. The other is helping children overcoming misleading meanings of the question. Third and sixth graders took the test which had them identify which group the picture of the object belonged to. Some of these children were pulled from the classroom setting and were verbally tested. Half of the subjects received 12 test questions with 6 of the questions having a picture of say a couch and asked, “Why isn’t this a car?” Results showed that students successfully rejected the last half of the questions. This study could provide a framework for how basic elements within test questions are needed for college aged students to learn information correctly (Winer & Kwock, 1986).

In order to have people remember the correct information and not the popular myths that seem to be plaguing society, it is best to figure out how psychology educators can utilize leading questions and misinformation effects and common lures people fall prey to on multiple choice tests. It is known that people tend to believe common myths in psychology. It is also known that leading questions can impact how people remember information. However, it is unknown if multiple choice questions written in a leading way can counteract people’s beliefs in myths. The present study tested this hypothesis.

To do this, I created two manipulated groups and a control group in which all three groups received a multiple-choice test on popular myths. The manipulated groups received a retrieval task that helped prepare them for the post-test while the control group only took the post-test. The retrieval task is a multiple-choice test that has two different versions. The first version has leading questions that instead of leading people to the false information it will lead people to the correct information on the myth unlike in Miller and Loftus’s experiment (1976). To compare the results a non-leading question test was created for the other one. All groups then

took a survey which acted as a distractor task whose purpose was to account for memory decay (Gutchess & Carmichael, 2016). A post-test was then issued using only regular question multiple choice format. The prediction of this experiment was that participants with the leading question test would score higher on the posttest compared to the other two groups.

Method

Participants

In this study, we aimed to recruit 225 participants to have sufficient power. However, because of the thesis deadlines and time constraints, we had a priori stop date of February 28, 2021. We would analyze participants who completed the survey by this date. Thus, the final sample size of participants was 40. The demographic makeup was as follows: 8 were male, and 32 were female, age range between 18 and 33, and with 29 White, 6 Black/African American, 2 Asian/Asian American, and 3 were Mexican American/Latino/a.

Design and Materials

The study was a three-group design between-subjects design employing random assignment: myth correcting condition, traditional testing condition, and the control group. All the materials needed were just a device with internet connection (e.g. laptop or cellular device) and a link sent from SONA, the experiment sign up program, to complete the survey.

First, in the *myth correcting condition*, participants had questions that lead participants to the correct answer (e.g., *Why do we use more than 10% of our brain?*). This is a leading question because it is directing the reader to answer the question a certain way. In the *traditional testing condition*, participants will receive the same myths, but in a traditional multiple choice format (e.g. *Which of the following answers is correct about how much brain power people use*). This group had no leading questions so they would not be influenced with how they answer the

question. In the control condition, participants did not have a test. These questions were based on previous research using myths (Gardner et al., 2013). Appendix B and C have both the leading and non leading questions.

Measure

Distractor Task. The Skillful Psychology Survey is a Qualtrics survey that assesses the necessary skills deemed to help psychology students be successful in the workforce (Naufel et al., 2018). They are a list of skills that have been turned into questions that students answered based on how much of the skill they perceived to possess (e.g. Manage time and stress by completing assigned tasks with little or no supervision and then will rate this on a scale from none at all- a great deal). This survey serves as a distractor task, as in previous research (e.g., Gutches & Carmichael, 2016). A distractor task is necessary because it allows the participants to not focus on the last thing they remember from the first test (Gutches & Carmichael, 2016).

After the distractor task had been taken by all three groups a final test was issued in which it is formatted similar to the traditional takings test condition which included non-leading questions. It was scored by the number of questions answered correctly in regards to the truths behind the common myths in psychology. In order to ensure that participants are actively engaging throughout the study there was an attention check question that asked the participants to choose a specific answer. At the end of the test, they were debriefed and informed what are the correct answers on the test. The demographics collected from this asked participants to classify their race, gender, ethnicity, and number of hours completed in college. Appendix B and C have the full questions.

Procedure

Appendix A details the flow of the study. The study was remote in that students were able to take the test at any time or place as long as it was on a device that had a screen on it, such as a phone or laptop. Those who signed up received a link that randomly put them into one of the two manipulated groups or the control group. Afterwards, participants read an informed consent form which stated what the study was about and that they were free to withdraw at any moment. Students were also encouraged to perform their best since these tests project how well they would do in their psychology courses. All three groups were under no time restraints and could move at their own pace without having to wait for other participants to finish their testing.

People assigned to the myth correcting condition had to answer the first test that had questions structured to lead them to the correct answer about myths. The traditional testing group had questions that were not structured to help participants gauge the correct answer but were presented with the same 10 multiple choice questions as the ones in the leading question group. In the control group there was no first test, so they immediately proceeded to the filler/distractor task which was irrelevant to the present study but had multiple choice questions pertaining to the Skillful Psychology Student (Naufel et al., 2018). After the leading and non-leading groups finished their tests, they then proceeded to the filler task and then all three groups took the final test which had the same format for the multiple-choice questions. Once participants completed the test, they were then given the option of whether or not their data could be used for research purposes, followed by a debriefing on the study, as well as, what the correct answers were to the survey.

Results

Data Cleaning

I made decisions about data cleaning prior to beginning the study. There were 4 people excluded for not finishing the survey, and 1 person was excluded who missed the attention check. This left a total of 40 participants, in which 11 were in the control group, 16 in the non-leading questions group, and 13 in the leading questions group.

Descriptive Statistics

For exploratory analyses, I calculated the number of correct responses for each answer on the post test. Table 1 illustrates the 40 participants in the study and how many correctly answered each of the questions. Here we have a side by side comparison of the two experimental groups (leading and non-leading) and the control group to better gauge which group had the most correct answers for each question.

Table 1. Number of participants selecting the correct answer according to condition.

<i>Question</i>	<i>Number correct on Post Test</i>			
	<i>Leading (out of 13)</i>	<i>Non leading (out of 16)</i>	<i>Control (out of 11)</i>	<i>Overall (out of 40)</i>
Which of the following is true for how much brain power people use?	4 (33.3%)	5 (41.7%)	3 (25%)	12 (30%)
Which of the following is true about what primarily causes ulcers?	5 (35.7%)	5 (35.7%)	4 (28.6%)	14 (35%)
Which of the	12	15	7	34

following is true with visual perception and how we use our eyes to focus on things?	(35.3%)	(44.1%)	(20.6%)	(85%)
Which of the following is true about how people's brains operate?	8 (33.3%)	10 (41.7%)	6 (25%)	24 (60%)
Which of the following is true about how our memories do not store everything we've experienced?	5 (38.5%)	4 (30.8%)	4 (30.8%)	13 (32.5%)
Which of the following is true about people and their memories?	7 (25.9%)	13 (48.1%)	7 (25.9%)	27 (67.5%)
Which of the following is true about rates of childhood autism?	6 (46.2%)	5 (38.5%)	2 (15.4%)	13 (32.5%)
Which of the following is true about what all clinically depressed people suffer from?	7 (31.8%)	11 (50%)	4 (18.2%)	22 (55%)
Which of the following is more common?	8 (38.1%)	6 (28.6%)	7 (33.3%)	21 (52.5%)
Which of the following therapies is rarely administered today?	8 (40%)	7 (35%)	5 (25%)	20 (50%)

Primary Analyses

For this experiment, a one-way ANOVA was conducted and found that there was not a significant effect, $F(2, 37) = .95, p < .40$, effect size. Those that answered the non leading questions ($M= 5.06, SE = .512$) scored not significantly different than those who had the leading questions ($M= 5.39, SE= 1.601$) or control questions ($M= 4.46, SE= .282$).

Figure 1.

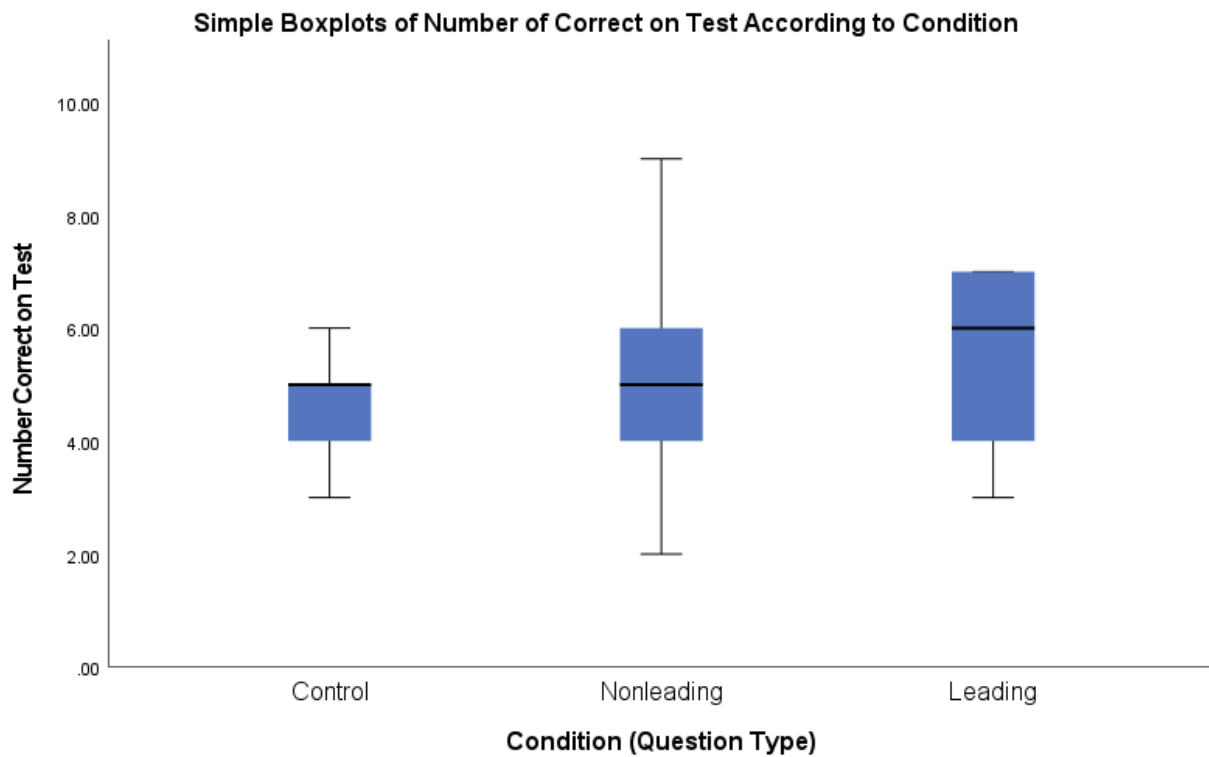


Figure 1 shows the box and whisker plots of the number correct according to condition. there is no floor or ceiling effect but instead the majority of the numbers answered correctly on the test fall right in the middle between 4 and 7 questions answered correctly between all groups.

Discussion

The purpose of this study was to obtain people to retain what is true as opposed to what their perception of the truth is. The prediction of this experiment was that people who have

leading questions will be more likely to remember the information. The results of this study do not support this hypothesis, yet there are several reasons on why this may have caused the hypothesis to not be supported. These could be due to the following: sample size, the online nature of the study, a single administration of the manipulation, and structure of the questions.

Having a small sample size doesn't give an accurate representation of how the rest of the population would respond to the experiment. In addition, the way the questions were structured were so that the people in the leading group questions had the advantage of finding the correct answer and then being able to distinguish what the answer was on the post test. Perhaps, if the answer choices didn't consist of the lures containing the myths people are taught it would have been easier to distinguish the right answer from the false answers. On the other hand, there was only a single administration of manipulation so perhaps more would be needed to effectively evaluate the theory of question structure aiding those to choose the correct answer.

The sample size consisted of 40 participants with an uneven amount in conditions. Originally, I had planned to have 225 students to have sufficient power to avoid a Type II error rate. Thus, this study is severely underpowered and would need future research in order to have a better understanding of the results.

Because of the pandemic, this study was moved from in-person to an online format. There is a question about the extent that participants take online studies as seriously as in-person studies. For instance, there were 4 out of the 10 participants that were excluded that did not complete the survey. By taking it in person they might have been pressured to perhaps engage in the survey with a more serious tone by fully completing the test. In addition, perhaps the design of the survey was not sufficient enough in getting people to obtain the correct information on common myths and more retrieval tasks would need to be implemented. However, only one had

incorrectly answered the attention check. Thus, it is unclear if careless responding is to blame for the insignificant differences among groups.

In addition, it could be that a single session, brief online multiple-choice test was not enough to help student memory. According to Roediger and Karpicke (2006) study on test-taking to improve long-term memory retention, their results showed that multiple recall tests and immediate testing following the material subjects were tested was to be more effective in retaining information for a longer period of time. With the span of the experiments testing timeline this period showed that after repeated testing, experiments that were done in over one week, more information was retained from the material. In the current study, I had applied this method but had only used one retrieval test for the leading and non leading question groups in order to increase the number of questions answered correctly on the final test. Unfortunately, with the results gained this did not prove to be a significant strategy. For future research, I could test multiple reiterations of leading vs. non leading questions to see if that enhances memory retention for the correct answers. If leading questions do help people dispel myths, then I would expect that those who had multiple reiterations of leading questions would score higher on the final test than those who had multiple reiterations of the non-leading questions.

Additionally, the structure of the questions during the manipulation phase may not be strong enough to enhance memory. When inspecting responses on individual questions, for instance, only 35% of participants chose the correct answer related to ulcers. Additionally, 65% of the participants chose the lure answers of what primarily causes ulcers. Although the incorrect answer is actually supported by research, it is not answering the question asked. However, participants may have trouble discerning between the response options, especially if one seems true.

Similarly, students tended to get the question about how much of the brain people use and only 30% of the participants across the three test groups answered correctly. While most students recognized that humans use more than 10% of the brain; students may also know that humans do not use 100% of their brain all of the time, and the participants may therefore have interpreted these responses in this way. If this study were to be replicated, it would be helpful to have a pilot study that asked participants *why* participants were selecting these options. Such a pilot study could provide insight for how to reword question responses for clarity.

This study is limited in sample size, how it was administered, and the number of repetitions used. On the other hand, this experiment also has its merits in that it provides a baseline for how many myths Introductory Psychology students know. According to this study, students tended to know about half of the myth. However, they also tended to incorrectly identify about half of the myths. When looking at Table 1, for instance, psychology educators can also glean which myths students believe or refute the most. For instance, the question regarding vision resulted in over 80% of students answering it correctly. Students may be coming into college with higher knowledge about this subject area. Likewise, perception tends to be covered early on in Introductory Psychology, so students knew this was a myth. Regardless, this study provides evidence that this myth is not one that many students in this study believe.

Similarly, students did tend to believe myths about childhood autism and some beliefs about memory not being able to store everything we have experienced, at least, they answered these questions incorrectly to the point where these two questions and the brain power question were the 3 lowest scores on the number of participants that answered the questions correctly. Thus, psychology educators could focus efforts and energies on implementing these topics in class and to try and correct these misconceptions. For instance, to challenge existing beliefs

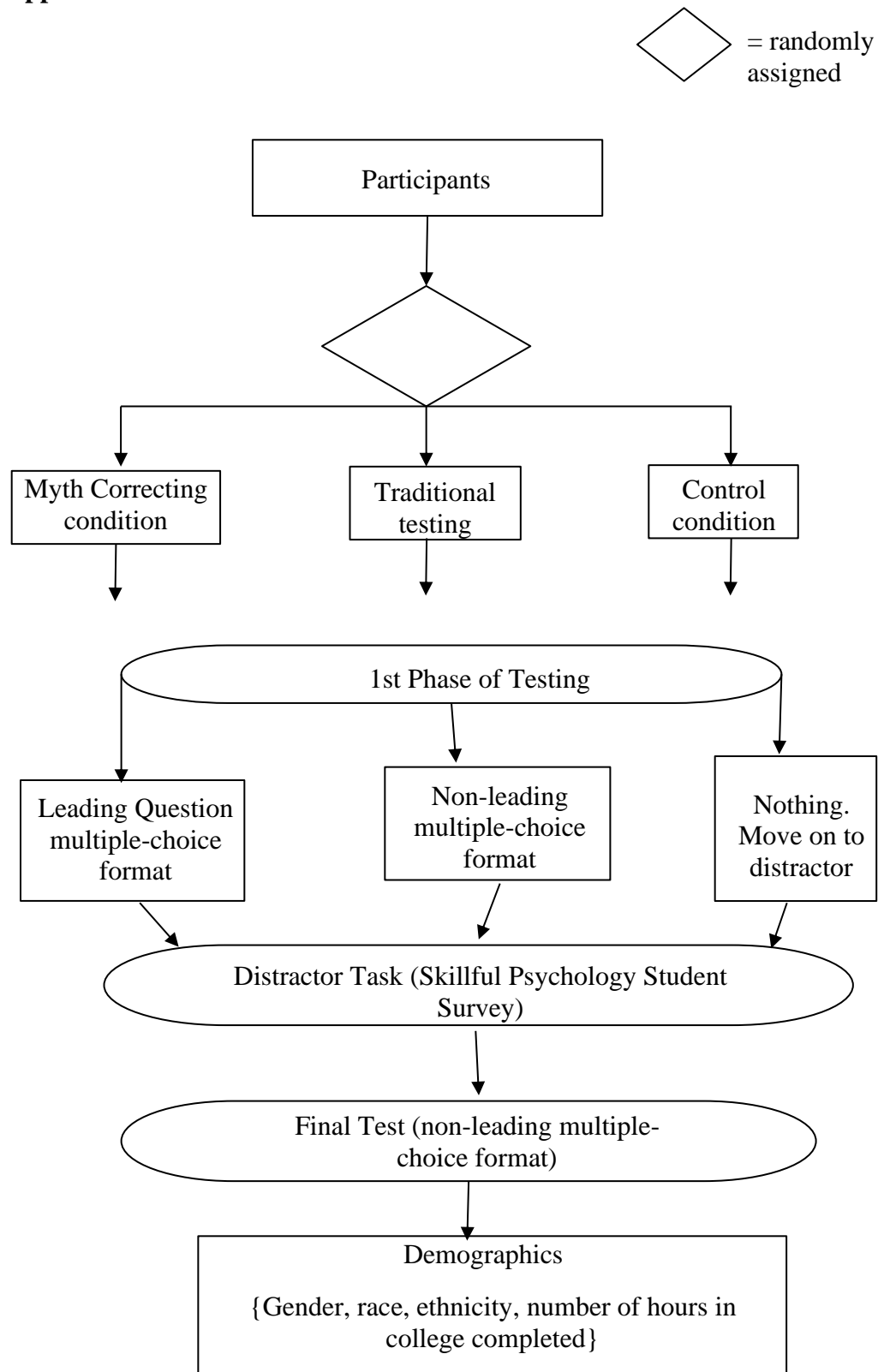
about memory, educators could use retrieval-based learning methods where students read an assigned text and then after writing as much information down from what they can remember. Then, they will repeat the step a second time and write more information from what they retained. This active recall process allows them to remember the information long-term and would be helpful in eradicating these common myths in psychology (Karpicke, 2016).

In conclusion, while the results do not support my hypothesis the data does provide information on the percentages across three test groups for correct responses. This data provides insight for which myths students believe. Future research with a larger sample size and multiple retrieval tasks put in place would be important and necessary to determine methods to dispel myths.

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Appendix A: Flow Chart of Methods

Appendix B: Leading Questions (A is the correct answer)

- 1.) Why do people use **more than 10%** of their brain?
 - a.) People need to have a higher level function in order to have thoughts, memories, emotions, and perceptions. Otherwise the parts not used would wither away and die.
 - b.) Only people who have disabilities or mental disorders utilize 10% of their brain.
 - c.) Only people with higher IQs are able to use more than 10% of their brain.
- 2.) Why is the idea that stress causes ulcers wrong?
 - a.) Anti-inflammatory medication irritates the stomach lining which causes ulcers to develop. People who have ulcers already may be stressed and stress could indirectly cause symptoms to worsen.
 - b.) Stress can worsen your symptoms but isn't the underlying cause.
 - c.) There is a high correlation between stress and ulcers which has heightened this theory.
- 3.) Why is it incorrect to think that visual perceptions are caused by tiny emissions in the eyes?
 - a.) When you look at objects your visual perception doesn't emit anything to focus on what you are looking at, rather your brain focuses and processes what it is seeing.
 - b.) When we are using our visual perception we cannot emit any light or beam due to our eyes having night vision that makes our eyes glow like other animals.
 - c.) If we had tiny emissions we would be able to penetrate objects or have people be more aware of us staring at them.
- 4.) Why is it incorrect that some people have a left-brained or right-brained personality?
 - a.) People use both sides of our brain to function, however, each side differs for what tasks we engage but still need to make the connection between the hemispheres in order to execute tasks.
 - b.) People who only have left or right brained personalities have undergone a "split brain operation"
 - c.) People believe they have a certain brain dominance based on their dominant hand.
- 5.) Why is it wrong that memories of everything we've experienced are stored permanently in our brains, even if we can't access it all?
 - a.) Our brains lack to store everything we have experienced which is why we have the "gist" of what we experience with poor technical accuracy (details).
 - b.) Our memories can be stored with what we have experienced yet it isn't permanent due to our brains losing its capacity to retain information as we get older.
 - c.) Our minds are limited in that memories in long-term storage can be rewritten when we stop retrieval tasks of those memories which can lead us to lose permanent access to those memories.
- 6.) Why do people not have true photographic memories?

- a.) Our memories are reconstructive in that we have a gist of what happened but can't reproduce all the correct details due to our emotions and beliefs mixing in.
 - b.) Our memories can only remember flashbulb memories
 - c.) People cannot retain clarity of memories overtime due to having memory amnesia.
- 7.) Why do people believe there has been a recent massive epidemic of childhood autism?
- a.) Numbers have increased within the past 15 years of autism when in reality schools have started to require data of all the students who have autism be accounted for. In addition, the criteria to meet to be diagnosed for autism has decreased.
 - b.) Numbers have increased and so have the number of vaccinations which is where they believe is the underlying cause for this outbreak.
 - c.) There is more media coverage on this and a celebrity has recently spoken about how her son has autism due to vaccines.
- 8.) Why are all clinically depressed people not suffering from sadness?
- a.) A third of depressed people don't experience sadness, rather they suffer from anhedonia (inability to experience pleasure).
 - b.) Sadness is only what occurs as a byproduct depression and isn't the underlying cause.
 - c.) Sadness is what occurs after a person feels hopeless and has isolated themselves from everyone when depressed.
- 9.) Why is suicide more common than homicide?
- a.) The increase presence of firearms have increased the rates of suicide, whereas homicide is more televised by the media which fuels our belief it is more common.
 - b.) Gun access has become easier to obtain over the years which has led to the rising rates of suicide, whereas homicide rates seem more common due to more media coverage.
 - c.) Suicide is more common due to increased rates in depression, yet media doesn't like to cover it due to it being not as interesting as homicide incidences.
- 10.) Why is electroconvulsive therapy still administered today?
- a.) Electroconvulsive therapy is used to help treat severe depression which is the only type of therapy that works compared to other treatments
 - b.) Electroconvulsive therapy is needed to treat people who have severe disobedient behaviors such as criminals and juveniles.
 - c.) Electroconvulsive therapy is used because it is supposed to rewire a person's brain which is safer than a lobotomy.

Appendix C: Non-Leading Questions (A is the correct answer)

- 1.) Which of the following is true about how much brain power people use?
 - a.) People use all 100% of their brain.
 - b.) People use only 10% of their brain.
 - c.) People use only 50% of their brain.
- 2.) Which of the following is true about what primarily causes ulcers?
 - a.) Anti-inflammatory medication irritates the stomach lining which causes ulcers to develop.
 - b.) Spicy foods increase acid indigestion which irritate the stomach lining and cause ulcers to form.
 - c.) Stress can worsen your symptoms but isn't the underlying cause.
- 3.) Which of the following is true with visual perception and how we use our eyes to focus on things?
 - a.) Our brain processes what we are seeing and sends signals throughout the brain to interpret what it is focusing on
 - b.) The phosphenes in our eyes contribute to eye-producing tiny particles to detect objects.
 - c.) Tiny emissions are emitted when our vision is focused on an object of interest
- 4.) Which of the following is true about how people's brains operate?
 - a.) People do not have a dominant hemisphere due to both sides needed to interact with one another in order to execute certain tasks whether it's mental or physical
 - b.) People are left-brained if they are left-handed, while others are right-brained if they are right-handed
 - c.) Different areas of the brain perform certain functions but most people are dominant if they are more creative in that area.
- 5.) Which of the following is true about how our memories do not store everything we've experienced?
 - a.) Our brains lack the capacity to store all of the memories we have experienced, therefore, we have the gist of the experience instead of the fine details.
 - b.) Our memories are limited in capacity which makes it harder for us to store less significant memories over time, therefore all old memories are recoded with new information
 - c.) Our memories change over time in that the details become fuzzier due to us not being constantly recalling the information to have it clarified.
- 6.) Which of the following is true about people and their memories?
 - a.) People aren't able to remember everything in detail but our memories can capture important details especially when memories are tied with arousing emotions.

- b.) People can only remember significant memories such as when they had their first drink, or when they got their first car due to those being important milestones in life.
 - c.) People cannot retain clarity of memories overtime due to age and the limited capacity of memory storage.
- 7.) Which of the following is true about the rates of childhood autism?
- a.) Autism rates have increased due to the diagnostic criteria list having been decreased
 - b.) Autism rates have increased due to the belief that there is more new coverage on this disorder.
 - c.) Autism rates have increased due to the amount of vaccinations
- 8.) Which of the following is true about what all clinically depressed people suffer from?
- a.) A third of depressed people don't experience sadness, rather they suffer from anhedonia (inability to experience pleasure).
 - b.) All people who are depressed have some form of sadness yet there are other underlying factors that accompany it.
 - c.) Everyone diagnosed with depression is sad unless they have been diagnosed due to a genetic factor.
- 9.) Which of the following is more common?
- a.) Suicide is more common due to increase in presence of firearms.
 - b.) Homicide is more common due to more media coverage.
 - c.) Genocide is more common due to getting more news coverage
- 10.) Which of the following therapies is rarely administered today?
- a.) Lobotomy is rarely administered due to having life altering side effects.
 - b.) Exposure therapy is rarely administered because it is no longer helpful.
 - c.) Electroconvulsive therapy is rarely administered because it sends bad signals to the brain.