

Running Head: EFFECTS OF ORIGINALITY

Possible Effects of Originality and Number of
Valid Responses on Cryptomnesia

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Abstract

The purpose of this study is to investigate the effects of the originality and number of valid responses on the level of cryptomnesia (unintentional plagiarism). Participants will be asked to offer examples of real words from categories of varying size, and to create fictional words. To adjust the number of possible responses for the fictional word categories, the participants will be asked to arrange anagrams using a varying number of letters. Participants will be asked to generate words, remember their responses, and then generate new words.

Possible Effects of Originality and Number of Valid Responses on Cryptomnesia

Cryptomnesia (the act of inadvertent plagiarism) has been investigated through many different experimental procedures. Brown and Murphy (1989) created a procedure in which participants took turns listing words from specific categories (ex. four legged animals, sports). Cryptomnesia was measured across three phases, the initial generation phase, a phase where participants were asked to recall the words they had given, and a phase where participants took turns generating new words, by how many times participants claimed words as their own that had either been said by another or (for the generate new stage) had been said by themselves in a previous stage. Brown and Murphy (1989) not only found that cryptomnesia was common to most participants, but they also discovered several factors that affected the level of cryptomnesia, including oral versus written tasks (with written tasks producing more cryptomnesia) and orthographic versus semantic tasks (with orthographic tasks producing more cryptomnesia). This suggests that the nature of the task can influence the level of cryptomnesia, but there are other factors that can also have an effect.

Brown and Halliday (1991) (using a similar word generation task) found that participants were significantly more likely to unintentionally plagiarize the participants that gave words directly before them than the participants that gave words directly after them (interestingly, Linna and G,lg^z (1994) found that randomizing the sequence of the participants' responses did not affect the level of cryptomnesia). Brown and Halliday (1991) theorized that the effect they found was due to participants thinking of a word in anticipation of their next turn only to have the person before them say that word. They therefore had more difficulty in remembering who had generated the words because the words had already been in their minds before the other

participants said them. Because Brown and Halliday's (1991) theory revolved around source monitoring difficulties, many other experimenters hypothesized about (Johnson, Hashtroudi, & Lindsay, 1993) and investigated the possible connection between source monitoring and cryptomnesia, but their results did not support a source monitoring model for cryptomnesia (Macrae, Bodenhausen, & Calvini, 1999; Marsh and Landau, 1995).

But if source monitoring is not the key to cryptomnesia, what is? Roig (1999) found that when students were asked to paraphrase paragraphs, they plagiarized the more difficult and unfamiliar material more than the easier and more familiar material. Marsh and Bower (1993), using a puzzle task in which participants looked for words in an array of letters, found that strengthening the participant's memories (ie. giving them the recall own phase immediately instead of after a delay) decreased cryptomnesia. Furthermore, Marsh and Bower (1993) found that hard puzzles (32 or 43 valid responses) produced more cryptomnesia than easy puzzles (112 or 113 valid responses). Tenpenny, Keriazakos, Lew, and Phelan (1998) took Brown and Murphy's (1989) word generation task and added fictional word categories to investigate the effect of originality of responses on cryptomnesia. They found significantly less cryptomnesia for the fictional words, but considering Marsh and Bower's (1993) results for number of valid responses, there is a large confound in Tenpenny et al.'s (1998) study: the fictional word categories had an infinite number of valid responses while the real word categories were limited.

The purpose of the present study is to investigate Tenpenny et al.'s (1998) results more thoroughly by determining to what extent the amount of originality involved in a task and the number of possible answers affect the amount of cryptomnesia. Furthermore, this study seeks to discover whether there is any interaction effect between these two variables. As with other cryptomnesia research, this study has larger implications; for example, professors and

universities that wish to tailor their assignments avoid plagiarism could use this data to help them know what to change.

Method

Participants

Due to counterbalancing issues and group size (3) there must be a multiple of 18 participants. Thirty-six would be ideal, but 18 would be acceptable. All participants will be recruited from the Introductory Psychology classes at a small, liberal arts college.

Materials

As in Tenpenny et al.'s (1998) study, half of the six categories will be fictional and half of them will be real. Furthermore, the real category of four-legged animals will also be from the Tenpenny et al. (1998) study. The other two real categories will be dog breeds (chosen because it is much smaller than the four-legged animals category) and living organisms (chosen because it is a much larger category than four-legged animals). For the fictional categories, the participants will be presented with a set of letters from which to construct anagrams. For the fictional dog breeds category, the participants will be presented with three consonants (N, R, and L, the second, fourth, and sixth most commonly used consonants in the English language respectively) and two vowels (O and I, the second and fourth most common vowels respectfully) (Solso & King, 1976). This will be intended to limit the possible number of valid responses. For the fictional four-legged animals category, the participants will be presented with four consonants (T, S, H, and D, the first, third, fifth, and seventh most common consonants respectfully) and three vowels (E, A, and U, the first, third, and fifth most common vowels respectfully) (Solso & King, 1976) to increase the number of valid responses. For the fictional living organisms category, the participants will be presented with the entire alphabet so that there will be a

practically infinite number of valid responses. This will also be intended to replicate the conditions of Tenpenny et al.'s (1998) study, in which, for the fictional categories, the participants had the entire alphabet at their disposal.

Procedure

As in Brown and Halliday's (1991) study, the participants will be randomly assigned into groups of three. Each group will be randomly assigned to a counterbalancing order of the six categories. Each group will also be assigned to a counterbalancing order of seating order (ex. participants A, B, and C in seats 3, 1, and 2 respectively for category 1) so that each participant will be in each seat twice. Upon entering the testing room, the participants will be given informed consent forms to sign, explaining the purpose of the study and warning participants to avoid plagiarizing themselves or others. They will then be presented with general instructions. For each category, the participants will take turns generating either real words or anagrams, with the participant in seat A beginning, followed by the participant in seat B then the participant in seat C. This pattern will be repeated four times, so that, as in the Tenpenny et al. (1998) study, each participant will have provided four words for each category. Then, as in previous studies (Brown & Halliday's, 1991; Tenpenny et al., 1998) each participant will be asked to recall their own previously generated responses. As in Tenpenny et al.'s (1998) study, the participants will be allowed to not give all four responses if they cannot remember all of them. Finally, participants will then be asked to generate four new responses, as in the Tenpenny et al.'s (1998) study. After the procedure for each category is finished, the participants will be directed to their new seating arrangement. After the first three categories, the participants will be given a ten-minute break.

As in Tenpenny et al.'s (1998) study, for the fictional categories, participants will be provided with additional instructions to pretend that they are creating words for use in a science fiction novel in which the characters speak a different language. They will also be asked to produce words that are not real, pronounceable, not from any book or movie (as in the Tenpenny et al.'s (1998) study) and at least three letters long. This rule is based on the instructions in Marsh & Bower's (1993) study involving Boggle puzzles. For the initial generation phase and final generation phase of the fictional categories, the letters from which the anagrams will be formed will be presented on a computer printout (the letters will not be visible for the recall-own phase).

Predictions

The independent variables in this study are the number of valid responses and the originality of the responses. The dependent variables in this study are number of times each participant claims words as his/her own that had previously been said by others for the initial generation, recall-own, and generate new stages for each of the six categories. Therefore, three 2 (originality) * 3 (number of possible answers) repeated measures ANOVA's will be calculated.

Based on Marsh and Bower's (1993) study, the initial generation phase is predicted to display a main effect for number of possible answers, with the more limited categories producing more cryptomnesia. Tenpenny et al. (1998) found significantly less plagiarism for the fictional words, which may have been due to either originality or number of answers; therefore, it is impossible to predict the results for originality. If there is no effect for originality at all in the present study, then Tenpenny et al.'s (1998) results were likely due to the fact that there was an infinite number of possible answers for the fictitious category. If there is a main effect for originality, but no interaction, then Tenpenny et al.'s (1998) results were likely an effect of the

high level of originality involved. If there is an interaction, which is also very possible, then their results were most likely the result of both factors working together.

As for the recall own stage, the results for number of possible answers is hard to predict. Marsh and Bower (1993) witnessed increased cryptomnesia for the harder (fewer possible answers) puzzles, but it was not statistically significant. Furthermore, Marsh and Bower's (1993) procedure required that the participants give four responses, even if the participants could not recall all four of their old words accurately. The procedure in the present study does not require all four answers, so the results could be quite different. It is also impossible to predict whether or not there will be any effects for originality. Tenpenny et al. (1998) witnessed significantly less cryptomnesia for the fictional words, but again, it is unclear what caused it. However, based on Tenpenny et al.'s (1998) study, a significant effect of some kind is expected.

For the generate new stage, the categories with fewer possible answers are predicted to elicit more unintentional plagiarism, based on Marsh and Bower's (1993) study, where the more difficult puzzles produced significantly more cryptomnesia. But as is the case for the other two stages, the results for originality are impossible to predict, as Tenpenny et al.'s (1998) results (again, they found significantly less plagiarism for the fictional words) could have been due to either or both factors.

Of course, participants don't exist in a vacuum; there is always a possibility of other factors affecting their responses. For example, if there are dogs or squirrels running around in front of the building in which they are being tested, the participants may see them on the way in, and that may affect what responses come readily to mind. Furthermore, the creation of anagrams requires very specific language abilities, and some participants may be better at the task than others. Despite that, the confound worries in this study are small.

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Informed Consent Form

Title of Study: Possible Effects of Originality and Number of Valid Responses on Cryptomnesia
Principle Investigator: XXXX
Department: Psychology, Skidmore College

The purpose of this study is to determine whether cryptomnesia (the act of unintentional plagiarism) can be reduced or increased by varying the originality and number of valid responses for a given task. Tenpenny, Keriazakos, Lew, and Phelan (1998) found significantly less cryptomnesia when participants were asked to make up fictional words, after being exposed to words, then when they were asked to think of real words from a specific category. They claimed that this was due to the fact that the fictional responses were more original than the real word responses. However, it is unclear whether their results were due to the originality of the fictional responses or the fact that there was an infinite number of valid fictional responses while the number of valid real word responses was limited. Marsh and Bower (1993) found that the number of valid responses does affect the amount of cryptomnesia. Therefore, this study is investigating both originality and the number of valid responses.

You will be asked to generate words for six different categories, three of which will ask for real words and three of which will ask for fictional words. You will sometimes be asked to create the fictional words by arranging anagrams using a limited letter pool. For each category, you and the two other people in your group will take turns generating words. You will then be asked to remember your own responses, and generate four new words. The experimenter will be writing down your responses, but your name will not be included with them. Please try not to repeat yourself or others on any stage of the experiment (except when you are asked to). Before you begin each category, you will be directed where to sit. There will be a ten-minute break between the third and fourth categories. This experiment counts as one credit towards your Intro. Psych. requirement. You are free to withdraw at any time without penalty. If you have any questions, feel free to ask the experimenter. If you have any concerns about the experiment after the fact, or if you wish to obtain a copy of the results of this experiment, feel free to e-mail the experimenter at XXXX@skidmore.edu. Please refrain from discussing the procedure of this study to anyone who is taking Intro. Psych. this semester, so that if they participate in this study, their responses will not be affected.

"The procedure of this study has been explained to me and my questions have been addressed. The information that I provide is confidential and will be used for research purposes only. I understand that my participation is voluntary and that I may withdraw at any time without penalty. If I have any concerns about my experience in this study (e.g that I was treated unfairly or felt unnecessarily threatened), I may contact the Chair in the Psychology department to inform him/her of my concerns."

Signature _____
Experimenter _____

Date: _____