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Magic! Missed or Miracle?

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MAGIC! MISSED OR MIRACLE?

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ABSTRACT

Truth default theory holds that people do not expect or notice deception unless they are triggered to think outside their natural tendency to believe others (Levine, 2020). It follows that people may not notice something deceptive or seemingly impossible if they are not first primed to raise suspicion. This study tests truth-default theory and triggering in the context of magic tricks. It hypothesized that people could watch two magic tricks performed without realizing they just witnessed something impossible because they were not primed to be aware of the presence of the possibility of deception. The research design is a three-group quasi-experiment with two conditions and a control. All participants (N = 408) witnessed a presentation, about 90 seconds long, about a fictious journalism club. Participants in one condition witnessed magic during the presentation without being primed while participants the second condition witnessed magic after being primed. Participants in the control were not primed and no magic occurred during that presentation. It was expected that participants who were primed would be much more likely to report they witnessed magic than those who were not primed. The results were consistent with the predictions. The percent of participants who were not primed and claimed they noticed magic was 16.3%, while 47.8% claimed they noticed magic after being primed. To the extent that there is an inherent element of deception in magic, the results support truth default theory's assertion that a trigger event, like priming someone to the potential for magic, will change one's cognitive state from its default truth-bias natural condition to one of suspicion. In a suspicious state of mind, people are more

likely to detect deception or attempted deception including the deception involved in magic tricks.

Keywords: Deception, Priming, Truth-Default Theory, Magic, Triggers

DEDICATION

This is dedicated to all those who never give up and those who seek knowledge. There will never be enough time to learn or to share what has been learned.

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TABLE OF CONTENTS

Page

LIST OF TABLES

Table *Page*

LIST OF FIGURES

Figure *Page*

CHAPTER 1

MAGIC AND DECEPTION

What is deception? There are many definitions of deception, and they function within their own context or theoretical perspective (see Levine, 2020 for review and discussion of issues in defining deception). As applied to this study, deception is intentionally, knowingly, or functionally misleading another person to fulfill a need. The first half of the definition coincides with Levine's (2020) preferred definition. Levine's definition is expanded here to include "fulfilling a need." This addition adapts the definition of deception to the current context which is the deception involved in performing magic.

Magic is the art of creating illusions using deception. Magic, like all deception, relies on the vulnerabilities of people. Those vulnerabilities make people susceptible to lies, cheats, cons, and other forms of subterfuge. Effectively exploiting those vulnerabilities requires that the magician understand how people perceive magic and deception. Magicians can confuse an audience or fail to fool them if they do not present their illusions properly. Proper technique in magic comes from understanding its underlying principles (Ortiz, 1994).

Magicians spend a lifetime learning to direct attention, misdirect people, and use the way people process information against them to create an alternate, magical reality.

They present that reality as if it were real, as an overlay to actual reality and when done properly, observers cannot tell the realities apart.

If we can, as social scientists, study how deception is designed to fool people, as well as how it is that we as humans are deceived by other humans, then maybe we can learn how to protect ourselves against harmful deception. Magicians are master deceivers. Consequently, we can advance our knowledge of deception and how we are deceived by studying how and where the workings of magical deception intersect with our existing knowledge of deceptive communication. This study was design to gain new understanding of human deceptive communication by using magical deceptive principles to test truth default theory's concept of a trigger event.

The author has a background in magical arts and has performed for many years and across many contexts. He noticed that magic, when not performed properly can be confusing or even misunderstood by the audience. Upon gaining understanding of the basic principles of Truth Default Theory (TDT), in particularly the concept of triggers, he decided to use magic to see if deception as visual and overt as a magic trick could be completely missed by an audience if the members were not primed to expect deception.

Literature Review

Magic the Art

Magic is "the secret power of appearing to make impossible things happen by saying special words or doing special things" (Oxford University Press, n.d.). People have been performing magic and creating the illusion of miracles for many thousands of years (*Tarbell*, 1944). In modern times, it is commonly understood by most people that

magic is achieved through prestidigitation and conjuring arts (Tarbell, 1944). At their best, magicians manipulate the perception using a myriad of tools, both physical and psychological, to deceive people into perceiving an event that has no explanation within our universe's physical laws. At a minimum, magicians should create an experience that should be puzzling or unlikely.

Magician's tricks contain secret deceptive practices to accomplish their intended results. The deceptive practices of the magician have been refined and advanced over thousands of years (Hillard, 1947). What is amazing about magic is how the art form has been taught and evolved over time while keeping things secret from non-magicians. Magicians typically hold tightly to their secrets and depend on them remaining within the community of magicians (Hillard, 1947). Often, a magician will develop a real fooler of a trick and not divulge the secret to anyone, not even their close friends in the magical fraternity. "Fooler" is a word used by magicians for a magic trick that is so convincing that it fools magicians the first time they see it.

Over time, magicians have become increasingly sophisticated at developing methods to deceive or fool people. Magic, even though it is deceptive by nature, can be very entertaining and create a positive, lasting memory for audiences. The principles of deception can be learned and used for positive or negative purposes. Because entertainment is a desirable outcome and because the audience consents to be entertained, magic may be considered pro-social deception.

Magic Deception

The association between magic and deception is a fundamentally accepted association (Lamont & Wiseman, 2005). Dariel Fitzke wrote the *Trick Brain* in 1944. The

entire book was dedicated to understanding the relationship between magic, deception, and the role of the magician to entertain by using the best deception to create the best magic, and to use the best magic to be the best entertainer. In chapter two, about classifying deception and magic, Fitzke wrote: “Method of causing a deception has been the principal stress in much of the literature of magic for many decades. This is probably due to the emphasis upon concealing the secret operation. Even today, to a great many magicians the most important consideration is concealing this so-termed secret” (1944, p. 33). The specific nature of the association between magic and deception, however, may be open to nuanced debate. The author has a background in magic and in the study of communicative deception. The approach towards understanding deception through magic is often far different than the approach towards understanding deception through social science. The examination of various associations from academic social science and magic has led the author to do this study.

Magic, by nature, uses deception to create an event that is perceived as impossible within the realm of the known natural laws of our universe. Without deception, there is no magic. Botched magic tricks fail to fool the audience, creating no illusion. Magic tricks when performed properly, create the illusion that the magician accomplished something impossible with no known explanation.

Magic can be understood as involving a contract with the audience. The contract is a mutual understanding that the magician will attempt to deceive the audience to create an illusion. Both the audience and magician understand that deception is used to create a false reality where the impossible is possible.[1]

There are some especially nuanced aspects about magic and deception to discuss for a more complete understanding of this study, the quasi-experiment, and the potential implications of the results. First, from the author's perspective, it should be noted that magic is not deception. Magic is the creation of an illusion. The hidden or undetected methods used by magicians are the deceptions. The mechanisms, techniques, and ploys of the magician are the deception. The magic tricks, themselves, are not. Magic is a fictional presentation of an alternate reality, and audiences understand that it is fictional. It is created using devices and ploys that are deceptive. For example, when a magician pulls a large rabbit out of a small, empty top hat that is not deception, that is an illusion. The use of specific hidden devices and misdirection to accomplish that illusion is the deception.

Social Scientific Deception Research

Deception detection research, in general, has placed its main focus on how deception is received and detected from the target of the deception's perspective. Traditional models of deception detection are structured where someone is either deceitful or truthful and receivers make a veracity judgement (Greene, et al., 1985; Toris & DePaulo, 1985). While there is much to be learned from that model, there are limitations as to what can be tested under that structure. There has been a scattering of studies who have used different structures (Park, et al., 2006; Markowitz & Griffin, 2020). This study has a different structure with the purpose of learning about the role of context and priming as it relates to deception detection in the context of magic.

The major theories in the field of deception detection spend much of their effort working on matters pertaining to deception detection accuracy and not on the

understanding of how deceptive messages could be missed altogether. One cannot make a veracity judgment about a deception that they were never aware existed.

In their classic 1969 article "Nonverbal Leakage and Clues to Deception," Ekman and Friesen (1969) distinguished between the idea that some nonverbal behaviors provide clues that a person is lying and the idea that some nonverbal information can leak specifically what the person is hiding when lying. That is, deception clues are distinguished from deception leakage. Deception clues signal that a communication might be dishonest; deception leakage indicates what is hidden. A smile that slips out for a person feigning sadness is leakage. A twitching foot indicative of arousal stemming from lying is a clue.

The distinction between clues and leakage are useful in context of magic. The audience requires clues that deception has taken place, but the effective magician cannot leak how the deception was accomplished. This is different from most other contexts where an effective deceiver would need to avoid both clues and leakage. For example, a suspect in a criminal case would not want to signal that they were lying about their alibi (clues), nor would they want an investigator to know details they were hiding (leakage). The magician, in contrast, is open about their intent to deceive and that deception had occurred (clues) but hides the nature of the deception (leakage).

In an early meta-analysis, Zuckerman et al. (1981) found that that people where better than chance at distinguishing truths from lies and that several nonverbal behaviors provided clues that could be used to detect deception. They theorized that cues to deception stemmed from felt emotions, physiological arousal, cognitive effort, and efforts to come off as believable that differentiated honest and deceptive communication.

Zuckerman et al.'s (1981) findings have been qualified by subsequent and more extensive meta-analyses. Regarding detection accuracy, Bond and DePaulo (2006) reported that accuracy is only slightly better than chance, hovering around 54%. DePaulo et al. (2002) found that most cues to deception were weak and inconsistent. The current consensus is that humans are typically poor lie detectors and that cues of deception lack diagnostic value (Levine, 2020; Luke, 2019). It is noteworthy that the meta-analyses did not cover research on prompting suspicion or the effect of priming on the ability to detect the presence of deception.

Interpersonal deception theory (IDT) explores interactive deception detection through an ambitious and complex framework (Buller & Burgoon, 1996). The theory focuses on the way the roles of both sender and receiver of a potentially deceptive message change as their interaction continues. Among other concepts, the theory addresses how, once suspicion is aroused, both sender and receiver adjust their communication, both verbally and nonverbally, during face-to-face communication where deception is present. The theory describes a cat and mouse dynamic conversation where the deceiver keeps adapting to not get caught and the receiver adapts to aid in detecting the deception. Buller and Burgoon pointed out that research related to suspicion and deception has been scarce, noting that "very little research has examined the effects of receiver suspicion on deception detection and that which has been conducted has yielded inconclusive findings" (Burgoon et al., 1994, p. 305). The second hypothesis of a study testing IDT stated that suspicious receivers are less accurate in detecting deception and truth telling than nonsuspicious receivers (Burgoon et al., 1994). Their results did not

support their hypothesis related to suspicion, "F (3,52) = 0.42. p > .10" (Burgoon et al., 1994, p. 314).

"Cue theories", as coined by Timothy Levine, has provided the lens by which deception detection has historically been viewed by a large portion of researchers in the field. Much of the academic history of deception detection work is based on versions of cue theory. For example, cue theories focus on how cognitive or emotional loads differ when creating true verses false messages, and how human behaviors change considering that differences. Many researchers are looking for the key to deception detection based on those cue theory concepts. An example of a more recent extension of cue-based theory logic involves researching how an interviewer can prompt cues by instilling additional cognitive load (Vrij and Granhag, 2012).

Perhaps the most well-known finding in deception detection research is that people are, on average, 54% accurate at distinguishing truth from deception (Bond & DePaulo, 2006). This could not be the case in magic. If anything more than a small portion of the audience accurately detected how the illusions were done, the magician who performed them would be out of business in a very short time. Although magic's main goal is to entertain rather than to deceive, magic cannot be entertaining unless it deceives. Good magic does so by deceiving everyone in the audience.

All the major theories and meta-analyses discussed so far focus on how to spot deception and how to improve the accuracy of evaluating deception, but none of them directly addressed how suspicion needs to be triggered to even start the process. There can be no deception detection if there is no suspicion that deception is possible. For example, if you see a friend from high school in the store and he introduces his child you

likely would not consider that he might be lying to you about his son's name unless there was some history between you and your friend to suggest otherwise. We process too much information every day to get bogged down by being suspicious of everything. Typical humans do not live their lives in a natural state of suspicion. If suspicion is a precursor to detecting deception, how does one become suspicious? Truth-default theory was the first social scientific theory to address this issue.

Truth-Default Theory

Truth-default theory was the inspiration for this study. The core idea of TDT is that honesty is the default state of mind. People communicate honestly and perceive communication as honest unless there is motivation not to. Communication is passively accepted as honest unless there is a trigger to shift their cognitive state from the truth-default state to one of suspicion, skepticism, and conscious awareness of the possibility of deceit (Levine, 2020).

The truth-default describes the state of mind that is a natural cognitive state for people until they experience something that causes them to become suspicious. In a truth-default state, people do not even consider deception. People must experience some stimuli to become suspicious or even consider deception may be present (Levine, 2020). Even when there is a trigger, truth-default theory holds that people are still truth-biased. "Truth-bias is the tendency to believe that another person's communication is honest, independent of honesty" (Levine, 2020, p. 177).

When applied to magic, the idea of triggers in truth-default theory is similar to the idea of priming in psychology. A trigger event primes a communicator to consider the

possibility of deception. People would not consider that communication was deceptive unless primed to magic or deception. In this way, a trigger functions as a type of prime.

Priming

Priming refers to the incidental activation of knowledge structures, such as trait concepts and stereotypes, by the current situational context (Bargh et al., 1996). Much like the priming of an old water pump, research shows that a cognitive stimulus that precedes an event can affect the response or interaction a person might have with that event. Priming takes on many forms. The person who is primed is not, at least initially, consciously aware of the priming. Priming could be a smell that awakens feelings or memories from one's past, it could be as simple as an association made with rhyming words, it could be an intentional path of associations made in advertising, or any one of a multitude of other cognitive associations.

Research Predictions

TDT was the first theory to define the concept of triggering the cognitive state to switch from its default state to a state of suspicion. This study set out to test that mechanism and to test it using magic. If TDT is accurate, if it applies to magic, and if there is a deceptive component to creating magic, then it follows that those who witness a magic trick, outside of a magical context, would be less likely to perceive the impossibility of the magical experience. When people know that they are going to witness magic or become aware they are having an interaction with a magician, they are primed to deception. They are watching for the trick and trying to spot the deception. The magical experience is an illusion created through the skillful use of manipulative

techniques and hidden gimmicks. Those techniques and gimmicks are the deceptive portion of the magical creation. When those deceptive practices are used without priming, people are be less likely to suspect or consider the use of deception to create the magic tricks. If someone does not perceive deception, then they would not notice any magic performed. In short, without being primed, people are not triggered to shift from a truth default state of mind to one of suspicion. Without suspicion, people are unlikely to notice magic because they are not in a cognitive state where their mind would perceive deception, and without deception there is no way to create magic.

The Hypothesis

H1: Audience members, without being primed to expect deception will be less likely to realize that they witnessed a magic trick than those who are not primed.

CHAPTER 2

METHOD

Participants

Sample Selection

The sample was comprised of students, 18 years of age or older, at a large southeastern university, who were enrolled in classes in the college of communication. The sample did not exclude anyone based on gender, race, ethnicity, religion, or personal traits. The only restriction was the minimum age of 18. Demographics such as gender, age, race, etc. were not collected from participants to keep the survey as brief as possible and reduce fatigue from participants. The demographic characteristics of the audience were not anticipated to meaningfully moderate the anticipated effects or results. Magic tricks generally work for audiences of all ages, backgrounds, and social identities. Whether or not tricks work effectively is more the product of the skill of the magician and less about the demographic characteristics of the audience.

The nature of the independent variable required that intact groups form the three conditions. The intact groups were, in the case of the present study, college classes. The use of intact groups made the design quasi-experimental in nature. The primary threat to internal validity in quasi-experiments is selection effects (Campbell & Stanley, 2010). However, given that magic tricks generally work for audiences of all ages, backgrounds, and social identities, selection effects were especially detrimental. Nevertheless, the selection of classes was important for other reasons.

Certain classes were chosen purposely from a wide selection of classes. The goal was to present three different conditions to participants in the smallest window of time, while keeping the number of participants for each condition balanced. The University and its staff provided a plethora of potential classes as candidates for this study. The class size from their list varied from around thirty students to over four hundred students. The accessible classes met at various time from Monday at 8 a.m. to Thursday at 6 p.m.

By nature, when dealing with priming as a major component of a study, consideration must be given to the amount of time between the first presentation and the last presentation. Our first objective was to keep the time frame used to present all three conditions as short as possible, while still meeting our other criteria. The longer the time over which the experiment was to take place, the longer and more likely there could be issues with students learning of the experiment and experience priming outside of the priming assigned as part of the independent variable.

The classes selected were Com 101, Principles of Communication, at 10 a.m. Wednesday morning, followed by Com 123, Public Speaking at 11 a.m. The other selections met the next day. Thursday's classes were Com 250, Nonverbal Communication and Com 320, Truth, Ethics, and Deception. Com 250 met at 9:30 a.m., while Com 320 met at 5 p.m. These classes were the closest grouped set of classes which allowed for an ample sample size, to ensure not being under-powered, while allowing us to accomplish our other two objectives in selection.

The second criteria used to determine which classes were best suited for the experiment was to keep the sample size approximately equal across conditions. The initial enrollment for COM 101 was 224 students, COM 123 was 224 students, COM 250

was 195 students, and COM 320 was 120 students. The expectations were to perform the three conditions to the first three classes and use Com 320, the last class in our window, as an option to use should there be an issue with one of our conditions. Upon presenting to the Thursday morning class and evaluating the participation from that class, it was determined that it would be necessary to use the evening class as part of the same condition. The Thursday morning class had fewer students attend and fill out the survey than the prior two conditions, by a hefty margin. Therefore, the Thursday evening class was utilized as part of the same condition as the Thursday morning class. Ultimately, the balance among the three conditions was reasonable.

The last criterion was to consider the audience and their interaction with the conditions of the experiment. Having 100, 200, and 300 level courses reduced the likelihood of having a large chunk of students attending classes in multiple conditions.

The Selection of Magic Tricks for the Current Study

The author of the study has an extensive background in performing magic. He started his training at seven years old and was an apprentice to a full-time travelling magician by the age of eleven. He attended magic school as well as seminars and conventions throughout his life. He performed professionally for most of his adult life. The author designed the study to utilize his ability to present magic to test the idea that priming an audience could directly affect their ability to detect the presence of deception.

The purpose of the use of magic in the current presentation was not to fool the audience but rather used to determine if the audience would perceive the use of deception across conditions. This was likely the most delicate aspect of the design. One of the goals

of magic is to create an illusion by deceiving the audience in such a way that they cannot reach a reasonable explanation of how it was accomplished. At the professional level, that is often done by a multitude of deceptive devices, misdirection, and persuasive communicative strategies.

For this study, the author considered many tricks and possibilities to create the presentation that would be used for the three conditions. The tricks used were picked specifically to not be so strong that they could not be missed. At the same time, the tricks needed to not be so subtle that they could go undetected by an attentive observer.

If for example, the presenter produced a large Rottweiler during the presentation, likely all observers would be aware that they were in close proximity of a such a dog. From an evolutionary standpoint, our fight or flight response would likely not allow us to ignore a situation where we were enclosed in a space with an animal of such size. On the other end of the spectrum if the presenter presented his hands in a manner that displayed them as empty but ended the presentation with a penny in one of his hands it is likely that most people would miss the point of magic dues to the small size of the penny and the subtle nature of how it might appear in the magician's hand. It was important to use magic that was neither too strong nor too weak.

The dilemma for the magician was one of what magicians call exposure. In the estimation of the author, presenting the tricks in the fashion required to control for the independent variable of verbal priming as a trigger, would open the door for audience members to come to a logical conclusion more easily as to the method used to accomplish each illusion. It is generally against the magician's code of ethics to expose a magic trick. This experiment, presented to a sample size of almost 500 people, would

surely lead to several people reverse engineering the magic and discovering their methods.

In the end, the author, determined that no direct exposure would take place, and the potential for academic understanding of deception would outweigh the risk of exposure to magic's deceptive secrets. The acknowledgement that some people would figure out the secrets will always have a negative, lingering effect on the author due to his deeply engrained commitment to keeping the magician's code of protecting secrets.

Research Design

The Presentation

To test TDT triggers using magic and priming, a brief presentation about a fictitious journalism club was developed and presented to college classes. Each class had approximately 200 students enrolled. Each would see the presentation about the fictitious journalism club. The presentation was approximately one minute long. The presenter shared their name, a brief appeal to join the journalism club and an explanation of how all work, in the club, would be digital.

Research Design and Procedures

This study was a three independent group quasi-experiment. The independent variable was the magic tricks and priming combination. The control condition had no magic and no priming present in the presentation. The magic, no priming condition did not prime the audience but did have magic performed during the presentation. The presentation in the magic and priming condition included priming the audience and

having magic performed during the presentation. The primary dependent variable was whether participants spotted magic during the presentation. This was assessed with a single forced-choice survey question.

The fictious journalism club presentation was delivered to each class. The presentation was delivered as similarly as possible for each condition apart from the independent variables. The script and actions of the presenter were the same, outside of the independent variable. The presentation was delivered at the beginning of each class with the only introduction being, “We have a guest today who is going to share a brief announcement.” The presenter wore the exact same clothing and used the exact same props for every presentation. The presentation was made at the same pace, delivery, and emphasis for each of the presentations. All presentations were made in the same classroom, with the same lighting and presentation space. Additionally, a member of the master committee was present in each of the three conditions to observe and verify that the results were not artificially enhanced by presenting each condition in a manner to influence the audience towards the expected results.

After the oral presentation of the journalism club announcement, the presenter asked students to take a Qualtrics survey. A link was provided by their instructor. The same survey was given to all conditions. An attempt was made to keep the survey open for the same length of time for each condition. No information, besides the instructions to complete the survey were given to any participants. In the Com 101 class, the magic present but no priming condition, a single student asked the presenter 2 questions relating to the survey. His response was, “Unfortunately, I cannot answer any questions at this

time. Please complete the survey. Thank you for your participation." No other class had any interaction during the presentation or the completion of the survey.

As mentioned previously, the independent variable was the combination of the performance of magic and presence of a prime. Priming was accomplished by mentioning that the presenter was a magician. The magic involved two tricks. The participants in Com 101 experienced the presentation without any mention of the presenter being a magician or the potential use of magic in the presentation, but two tricks were used. The two tricks involved a poster card and a cell phone. The poster card was held up to be read by the participants. On the card, it read, "National Digital Journalism Club." When turned over. The back read, "Join Today, Make a Difference!" It was then turned back over to the front, but instead of reading "National Digital Journalism Club" it read "Thank You." The cell phone was held up and displayed as the presenter spoke about using a cell phone for all digital interactions in today's world. During the part of the presentation, while the audience was looking at the phone, he made it vanish. Both tricks are part of routines he has used in the past and have caused a desired reaction within the context of their routines. This was labelled, "The Magic without Priming Condition." Participants in COM 123 experienced the presentation without mention of the presenter being a magician or the potential use of magic in the presentation, and no magic was used. This was labelled, "The Control Condition." The participants in Com 250 experienced the presentation with the presenter mentioning he was a magician who still performs some but no mention that he would perform magic in the presentation. Two tricks were used. This was labelled, "The Magic with Priming Condition." Due to a smaller than expected

sample of completed surveys in COM 250, Com 320 was also utilized as part of "The Magic with Priming Condition." The script is provided in the appendix.

Procedures and Measures

After the presentation, data were collected through a Qualtrics survey that was accessible to students by way of a QR code which could be scanned by cell phone or tablet. There was also a direct link provided for easy access for students who agreed to take the survey by laptop or found it more comfortable to use a direct link instead of the QR code.

The Qualtrics survey consisted of almost twenty questions. The included a couple of basic information questions about the presenter and the presentation and a couple of qualitative questions about the presenter and the presentation. Those were followed by a series of open-ended question about the presentation in general and then more specifically about the potential use of magic in the presentation. The structure of the survey went from general information gathering and funneled down to specific information. The key question, number fourteen in our survey, was specific and direct. It simply asked. "Did you notice any magic?" The data from other questions will be reported elsewhere.

At the end of the survey, participants were given the option to have their data removed from the study. All participants were informed ahead of time that participation in the study was voluntary, no reward or benefit would be given or received for participating; likewise, no punishment or repercussions would result from not participating. The survey is provided in the appendix.

Participants were instructed at the end of the survey to not discuss or share any information with anyone for 48 hours, as it would potentially compromise the work being done. They were also informed that, should they have another class where the presentation would be given, they should watch it again but to not take the survey. The survey contained a question asking participants if they saw the presentation before, heard anything about the presentation, or discussed the presentation with anyone. This was to identify participants who took the survey more than once.

There was a brief encounter with the presenter and someone who had seen the presentation and was about to enter a class where she would see it again. She was reminded by the presenter not to share any information with anyone and to not take the survey. She asked a question regarding the nature of the presentation's true research. She was told the question could not be answered until all presentations were given and information was gathered.[2]

Dependent Measure

The key question to be answered in our survey was, "Did you notice any magic?" This simple, direct question served as the question to gather the basic information about how priming participants affected the likelihood they would receive and interpret the deceptive actions during the presentation. This question served as a definitive, straightforward way to measure the dependent variable. Questions on the survey gathered additional information pertaining to the participants' perception of the magic performed i.e., did they have an inclination of magic, see a specific trick, seem confused by the actions of the presenter, etc. The results from the "Did you notice magic?" question was

sufficiently robust, and the definitive nature of didactic answer was straightforward enough to support the hypothesis without analyzing more complex versions of the information.

CHAPTER 3

RESULTS

The information from the survey was loaded into SPSS. All participants who indicated they wanted their data removed from the study were removed. Any survey with no responses to questions about the presentation was removed. The data from 471 participants of the 488 total were evaluated. The number of students who requested to have their data removed from the study was 17. Of the remaining participants, 63 students did not complete the study or chose not to answer the question, “Did you notice any magic?” Of those 63, 45 participants who did not answer the “Did you notice any magic?” question also did not answer any of the survey questions about the presentation. Of those 45, all but three of them left the entire survey blank. The data from one participant was missing due to a technological issue. The remaining 408 participants who did indicate whether they did or did not notice magic in the presentation they observed are included in the analyses. In total, 86.4% of participants were included.

In the Control Condition, 5 students reported that they did notice magic and 146 did not. That is, 3.3% of the participants reported noticing magic even though no magic was performed. For the Magic, No-Priming condition, 20 students reported that they noticed magic and 103 did not. Thus, only 16.3% reported noticing the magic absent priming to expect it. Finally, in the Magic with Priming condition, 64 students reported

that they did notice magic and 70 reported they did not notice magic. A total of 47.8% reported they noticed magic when primed to expect it.

A Chi-Square test was run which resulted in a value of χ^2 (2, N = 408) = 85.43, p < .001. The effect sizes were Phi = .458 and Cramer's V =.458. The results are summarized in Table 1.

Table 1

Percentage of Participants Seeing Magic

	Condition		
	No Magic, No Prime Control	Magic, No Prime	Magic + Prime
Percent	3.3%	16.3%	47.8%
N	151	123	134

Note. The proportion is significantly different across condition, χ^2 (2) = 85.43, p < .001, ϕ = .458.

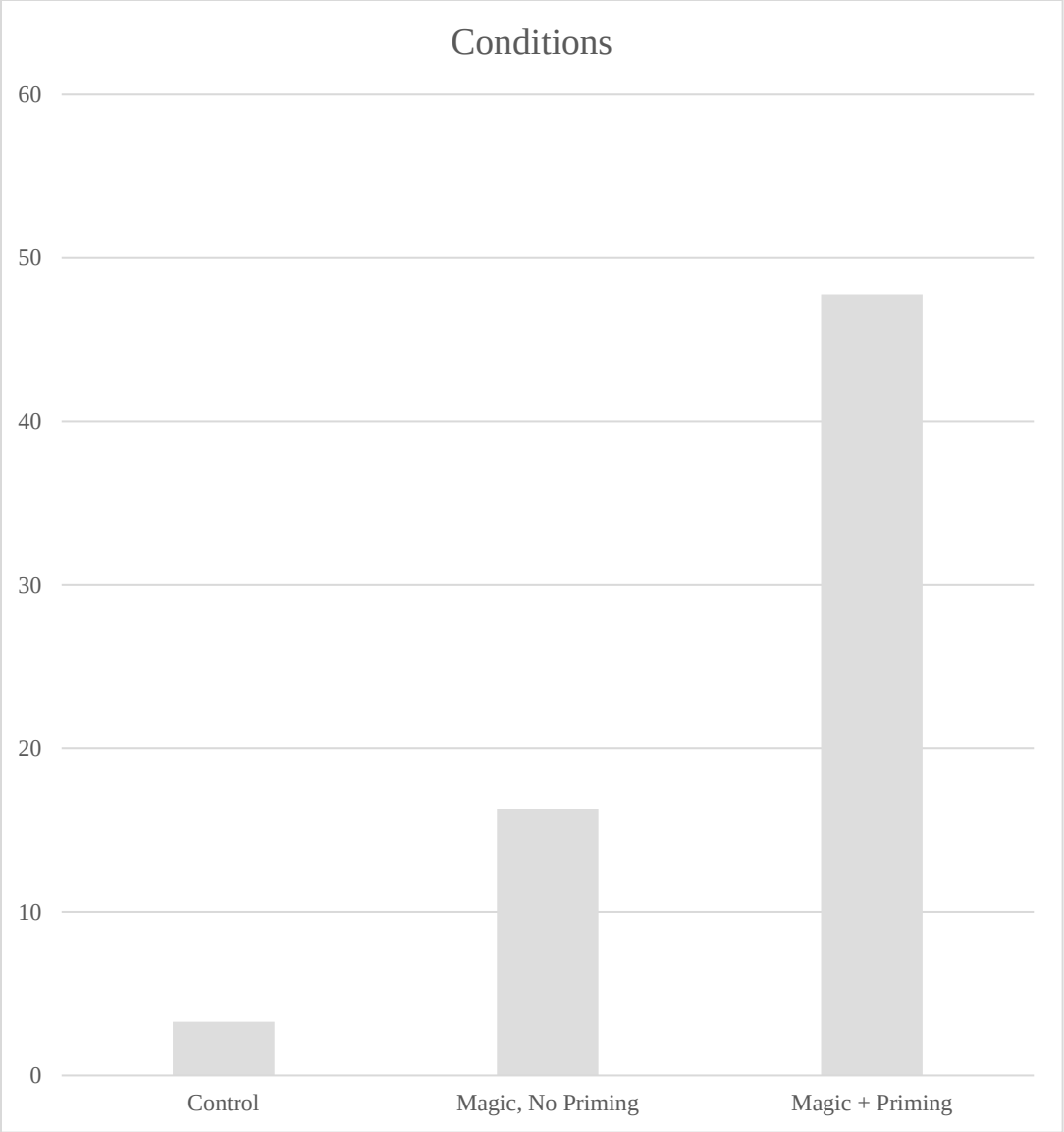

Figure 1. Conditions

CHAPTER 4

DISCUSSION

Summary of Goals

The goal of the research was to investigate if audience members, without being primed to expect magic, would realize that they witnessed magic tricks and to apply the results to deception theory. If people do not even suspect deception without some stimuli to arouse suspicion, then people might be oblivious to deception, even when it occurs right before their eyes.

Mentioning that the presenter was a magician at the beginning of a presentation was expected to elevate the anticipation that magic might occur during the presentation. That act was the priming event during this study. Once so primed, theoretically, people would be more likely to be suspicious of deception since magic and deception are understood to be inseparable when magic occurs. If people are in a heightened state of suspicion, they would be more likely to detect deception and therefore more likely to recognize when magic occurred in their presence. A control group with neither magic nor priming was included for an additional point of quasi-experimental comparison.

Relying on just the mention of the presenter having been a magician was purposely done, in hopes of finding a sweet spot. Also mentioning magic was considered, but it was judged to be too direct, and a bit forced. The purpose was not to direct attention to the point that participants would expect magic. Some triggers are stronger than others. It was determined that a more minimal priming event would allow for participants to

potentially be triggered or not. For example, if before the presentation, the presenter threw a fireball across the room (which he has done in his shows before), the audience would be primed for magic, but the fireball would be a powerful enough trigger to ensure everyone who witnessed it would be aware and suspicious of magic during the presentation. Fire, in close proximity, causes a flight or fight response that raises adrenaline, awareness, and suspicion.

The results were straight forward and consisted with the hypothesis. This control group was considered first. In the control condition, a small number (3.3%) of people claimed to see magic when none was present or primed. This percent can be considered as a margin of sampling or measurement error. This "margin of error" presumably includes participants who were not paying attention and answered affirmative to the question "Did you see magic?" because they assumed magic was performed or the question would not have been asked. The error could also include participants who misunderstood, or mis-clicked during the survey. The 3.3% provided a useful comparison to the magic no prime condition.

In comparison to the 3.3% in the control, 16.3% of participants reported that they witnessed magic without any priming event. Compared to both controls, 47.8% of participants reported that they witnessed magic when they were primed to the idea that the presenter was a magician. The differences among the conditions were statistically significant with a conventionally large effect size. Participants were nearly three times as likely to report seeing a trick when they were primed compared not being primed. Without priming, only 1 in 6 participants reported seeing the trick. This increased to

almost 1 in 2 with priming. Thus, the data strongly and unambiguously support the main hypothesis.

Clearly, the portion of the participants who noticed magic in the condition where there was no mention that the presenter had been a magician, versus the condition where it was mentioned, is strong evidence that most people need to experience a trigger event to move from the truth default state-of-mind into a state of suspicion. Suspicion must be aroused for their cognitive awareness to be open to deceptive stimuli, provided that the stimuli alone is not strong enough to trigger suspicion about the presence of deception.

Implications for Practicing Magic

Magicians typically understand that the use of manipulating spectator's attention is important to certain forms of misdirection and is a powerful tool to be used in creating illusions. It is intuitive for magicians to think in terms of keeping their audience members from perceiving deceptive practices, devices, or methods as part of creating practicing their illusionary art. It is not intuitive to think in terms of raising the awareness of the audience to recognize a magic trick as an illusion to create the impossible. While a majority of magic is sufficient to trigger people to suspicion, context and set up are important. Some magic could be missed completely by some audience members and other illusions lose much of their power if the audience is not provided the proper context prior to the magic being performed.

Magicians should consider what they say and do, before, during, and after they perform their illusions. They should guide their audience members to be aware that magic

is going to be performed, but also guide the audience's perception as to not detect the deceptive practices used to create illusions.

The Limitations

The study used a convenient sample of college students. Specific demographic information was not gathered for two reasons. The experiment had a time restriction placed by a professor who expressed that he could only give up ten minutes of his class time for our presentation and survey. The second reason the information was not gathered was to reduce fatigue in students over the length of the survey. This was particularly important due to the nature of our survey funneling from broad answers and open-ended questions to specific questions for more precise information. The use of college students and the lack of demographic information limits the generality of the findings. Nevertheless, there is good reason to believe that the general pattern of results would hold with non-student sample. Magic has been presented to audience of all ages and demographics with positive results. Priming is a psychological mechanism that is not unique to college students (Bargh, 2006).

In the control condition, where no magic took place, there was no mention that the presenter was a magician, and no mention that magic might take place, five participants reported that they did notice magic. That result would seem to be an issue. It is believed that a portion of students in a college class do not pay attention. Those students may have taken the survey because others were taking it or because they thought it might be used in their course for recording attendance or extra credit. It is reasonable to believe a small portion of those students might have answered affirmatively about noticing magic. The

believed logic is that no one would ask them if they noticed magic if there was no magic present. They may have been trying to save face for not paying attention or trying to conform to their preconceived idea of what the expected answer should be. Asch (1961) The results in the control could indicate a similar, small percentage of students in the other conditions responded similarly.

This being a quasi-experiment, participants were not randomly assigned to condition. Each college course and each college class have their own personality and feel. Each group of students has a unique identity. Participants were assigned to groups based on the class they attended. The variance between classes and lack of random assignment could cause confounds based on the difference from one class to another, which could potentially affect the results. Nevertheless, it is unlikely that selection effects or other confounding would alter the general pattern of the results.

There was a certain amount of randomness inherent, based on how college classes are chosen. Students self-selected the courses. According to TDT, however, humans exist in a truth default cognitive state and must be triggered to move into a state of suspicion. The truth-default state and the idea of triggers are understood to be universal in humans. Even if individual or group demographic characteristics influenced the sensitivity of the trigger mechanism, it would be unlikely to change the results in this study in ways that would alter the bottom-line conclusions. The difference between the control response to "Did you notice magic?" at 3.3% and the 16.3% response for the "no prime, no magic" was over five times as large. The margin from the "no magic, no priming" condition to "magic present and priming" was also large, 16.3% compared to 47.8%. For a selection affect or confound to be large enough to change the nature of the results it would have to

change the result by a magnitude of 3 to 5 times. Nevertheless, active measures were taken to reduce potential confounding or selection issues. With such protocol followed, anticipated possible issues would likely be minimized to the point of being irrelevant considering the sample size used for each condition and the large effect sizes observed.

Not all students answered all questions. Asking student participants to take a survey always opens a study up to the risk of mortality issues. It is entirely within reason to believe that some participants experienced a fatigue while answering survey questions. Some participants may have not answered all questions with the same diligence. Some may have just clicked the most convenient answer once fatigue became an issue. There is no way to accurately determine if mortality from fatigue was an issue or how it affected results.

It was anticipated that some participants might attend more than one class scheduled to be part of the study. Measures were taken to deal with that possibility. Participants, in each class after the first presentation was given, were told that they should not take the survey if they had taken it in another class. There remains a possibility that some students may have taken a portion or all the survey a second time.

Although there were a variety of limitations to the present resent research, the strength of the results provide confidence in the results. The key quasi-experimental comparison differed by as factor of three. None of the limitations were likely potent enough to account for such a substantial difference between conditions.

In this study the presenter was aware of the condition for each of the three conditions before entering to present. The order of conditions was carefully selected to minimize any issue with priming by participants who might have shared the information

about the presentation and/or the survey with others who might also be participants in another class. The condition “magic without priming” was selected to be first so there was no chance of participants hearing about the presentation before experiencing it. The “control” condition was selected second because the class had the strictest time constraint, and the control condition should have produced the quickest survey response time. The survey had a few follow-up questions which would only be visible if you indicated you noticed magic.

The presenter, being a professional magician, could have subconsciously performed magic in a manner which would have made it more likely to be seen in one condition as opposed to the other, in order to get the desired results. The was discussed prior to the presentation. The presentation was practiced and rehearsed with the goal of replicating it as identical as possible across the conditions, with the only variance being the priming statement and the performance of magic. A committee member was present in all three conditions to witness and evaluate the presentation for variances or issues related to skewing the results. There were none noted.

Experimental effects are types of errors that occur during the data gathering process. Lack of masking of the presenter to the condition could cause a subtle difference that could cause such an error. Ideally, participants and active researchers involved in the data gathering portion of the study should be masked (Kuipers & Hysom, 2014).

Direction for Future Research

The intention was to get a richer understanding of how people perceived the magic and understood the deception in the presentation. The survey consists of a series of

questions that can be analyzed to provide a better understanding of what and how people perceive deception and how triggering affects that process. This study could be replicated with many variations on the theme to improve ecological understanding.

The future potential variations of the study are vast. The sample could be expanded beyond college students. Comparisons could be made between genders and cultures. Perhaps more interesting variations of the experiment would be to use different presenters to see if presentation style and magic skill affect the priming condition. An example might be to have a professional magician, an amateur magician, and a lay person all present the same announcement with the same conditions and all of them use the same magic tricks. Additionally, the presentations could be made using different magic tricks that are more of less obvious and would affect the likelihood of detection without priming. Likewise, the priming condition could be manipulated to be strong or weaker, which could affect the portion of participants who notice magic.

Conclusions

People differ in lived experiences, interests, awareness, and cognitive processing. Being that no two people are identical in those areas, it stands to reason that what causes one person to trigger suspicion may not cause another to trigger. While there are, most likely, some events that would trigger virtually everyone, most events affect people differently when it comes to triggering suspicion. The statement that the presenter was a magician caused a substantially larger portion of participants to move from a truth-default state of mind, be aware that magic might be performed in the presentation, and, therefore, spot the attempt to deceive using magical techniques.

The results across conditions strongly supported H1. In this study, when people were informed the presenter was a magician, they were much more likely to report that they noticed magic during the subsequent presentation. This suggests that TDT's concept of a trigger event holds true for the deception used to create magic. Priming acted as a trigger event and raised suspicion in participants. The priming presumably made them more likely to notice magic. Even though magic is generally perceived in a more positive light than most other forms of deception, priming and triggering appear to work the same way for magic as for other forms of deception.

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APPENDIX A

PRESENTATION SCRIPT AND INFORMATION

The following is the script used in each of the presentations:

“We are looking for college students to learn about journalism and use of today’s media. You do not have to be a journalism major to join the club. You could be any com studies major. You could simply be interested in learning how to use words to influence people. Journalism is about telling stories. Join us and learn to tell stories. We are not a newspaper club.” (Do Magic with Poster Card in proper conditions.) “We are the National Digital Journalism Club. We need you! We do nothing in physical print. (Pull out cell phone and display it in hands.) We publish on digital formats only People use their phones for everything, (Vanish phone in proper conditions.) but people could use tablets or computer or other devices. Everyone will learn how to publish digitally and how that influences how you write and tell your stories. Join us Today.

*The parathesis indicate the enclosed is an action to be performed.

The following is the print exactly as seen on the poster card. The first two are what everyone saw. The third one was the printing only seen by the conditions were magic was performed.

Side 1

National Digital

Journalism Club

Side 2

Join today

Make a difference!

Side 3

Thank

You!

APPENDIX B

THE PROCESS OF CHOOSING THE MAGIC TRICKS

The tricks chosen for the presentation were the vanish of a cell phone and a poster card that appeared to have more than two sides, which would be impossible for a standard two-dimensional, ignoring the thickness of card stock paper. The cell phone would vanish right after the attention of the audience was focused on the phone, but the vanish would take place on an off beat to keep it from creating an illusion that was too strong. The poster card, 8X12 was shown to have writing on one side, flipped over to reveal different writing, and then flipped back to the original side, but the original side now displayed a completely different message than it had originally. The "3rd side" of the card had substantially less writing than the first two sides. This was intentional to emphasize the illusion and keep it from being too subtle. This created the illusion of having a poster card with more sides than just front and back. A view of all perceived sides of the poster card is provided in the appendix.

The choice of tricks created a minor moral dilemma for the presenter. The two chosen tricks would normally be presented in a much more sophisticated way and be part of a complex routine to create a strong set of illusions which were more likely to fool the audience. To present them in such a manner would compromise the experiment. The tricks were, instead, performed in a vary straight forward manner that, if observed would initially create the impression of an impossible feat. However, people who witness magic tricks can typically be divided into two major groupings. Those groupings comprise the overwhelming portion of people. The groupings are those who watch magic and enjoy the willing suspension of their own belief to get the maximum entertainment value from the

illusions and those who try to deconstruct or reverse engineer the trick to figure out how it was accomplished.

APPENDIX C

THE QUALTRICS SURVEY

Q1 Below, briefly describe the presentation.

_____

Q2 What was the presentation about?

- Media Club (1)
- Journalism Club (2)
- Human Communication Club (3)
- Mass Communication Club (4)

Q3 What was the call to action?

- Join the club (1)
- Subscribe to their email list (2)
- Join and Subscribe (3)
- No call to action (4)

Q4 What was the presenter's name?

- Carter (1)
- Chris (2)
- Ken (3)
- Curt (4)

Q5 How would you describe your overall impression of the presentation?

- I liked it very much (1)
- I liked it (2)
- Neutral (3)
- I disliked it (4)
- I strongly disliked it (5)

Q6 What is your impression of the presenter?

- Very likable (1)
- Likeable (2)
- Neither likable or unlikable (3)
- Unlikable (4)
- Very unlikeable (5)

Q7 How would you describe the presenter's actions during the presentation?

- Were appropriate for his presentation (1)
- Were confusing (2)
- Were irrelevant to the presentation (3)
- Were out of place (4)
- Were very pleasing (5)

Q8 What visual aids did the presenter use in his presentation?

- Single page newspaper and a portfolio (1)
- Printed flyer and a tablet (2)
- Poster card and a cell phone (3)
- Newspaper and a portfolio (4)

Q13 Did the presenter do anything unusual?

- Yes (1)
- No (2)

Display This Question:

If Did the presenter do anything unusual? = Yes

Q9 Explain what you noticed that was unusual.

_____

Q14 Did the presenter do or illustrate anything with the cell phone?

- Yes (1)
- No (2)

Display This Question:

If Did the presenter do or illustrate anything with the cell phone? = Yes

Q10 Explain the cell phone illustration?

_____

Q15 Did the presenter do or illustrate anything with the printed card?

- Yes (1)
- No (2)

Display This Question:

If Did the presenter do or illustrate anything with the printed card? = Yes

Q11 Explain what the presenter did or illustrated with the printed card?

_____

Q16 Did you notice any magic?

- Yes (1)
- No (2)

Display This Question:

If Did you notice any magic? = Yes

Q12 Describe the magic you observed.

_____

Q19 Which of the following are accurate:

- [ ] This is my first time taking this survey (1)
- [ ] I took this survey in a different class (4)
- [ ] Someone discussed this study with me (2)

END NOTES

1 [There are some exceptions where people claim to use real magic or people believe that performance magic is supernatural. Theoretically, that does not minimize or nullify priming or TDT triggers. If anything, the implications of real magic, should logically increase the effect, due to the higher stakes of the situation.]

2 [A student, about to enter a class where a presentation for this study was to take place, explained she had seen the presentation in a prior class. The student was informed to not share any details or information about the presentation with any students. She was also informed that she should not take the survey a second time, but to just browse on her phone while others were taking the survey. She had a question she wanted to ask the presenter. He explained he could not answer any questions until he completed all his scheduled presentations and reiterated the importance of not giving anyone any information or discussing any details about the presentation or the survey until all presentations were complete. The student claimed to have figured out the nature of the study and was going to ask her question anyway. She proceeded, "You frost the tips of your hair so that people will hate you…Don't you?" The presenter expressed his appreciation for her inquisitiveness but reminded her he could not comment on anything until the presentations were complete and asked to enter her class quietly and to keep her insights a secret until the following day, because his presentations would be finished by then.]