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From the Editor's Desk

Over the summer, the JPI family parted ways with our graduate student who has worked with us since we became the managing editors of JPI. Brooke Mann has moved on to greener pastures in pursuit of her Ph.D. at Texas A&M—Commerce. We want to publically thank Brooke for all she has done as we could not have accomplished so much without her. In Brooke's place, we are welcoming a new graduate assistant, LaNaya Anderson. She has already begun working with us on this issue and we look forward to seeing her grow as we did with Brooke.

It has been a mild start to Fall for most of the country and we believe we are all thankful that any cold/winter like weather has been held at bay. With that being said, the start of the new academic year has been anything but mild for JPI. We are currently seeing a record number of submissions coming through the system. To say we are excited by the quantity and quality of research is an understatement.

We would like to remind all readers and submit- ters that the key to the publication process is per- sistence. Very rarely does a manuscript get accept- ed by JPI on the first go-around. Rather, most man- uscripts we receive require a certain amount of tweaking and revisions. We want to encourage all of you who do submit to not be disheartened as this is part of the publication process. Keep at it and your work will be rewarded!

As a reminder, all issues (including the current is- sue) can now be found at the JPI webpage: www.fhsu.edu/psych/jpi. The website also con- tains information about submitting to JPI, archived issues of JPI, and information about the editorial board. In addition, the website offers video tutori- als for authors, which contain step-by-step guides on types of manuscripts that can be submitted, how to create author accounts, and how to submit manuscripts. Lastly, the tutorials also contain guides for those faculty members who wish to be- come reviewers. Should you wish to receive a print version of the journal, we will still be offering this option for a small fee. Please feel free to contact us via the website to make arrangements if you are interested.

And as we do every edition, we are again asking for anyone who is willing to serve as a reviewer to contact either Jenn (jmbondsraacke@fhsu.edu), John (jdraacke@fhsu.edu) or LaNaya Anderson (lanayamarie92@gmail.com) at your earliest con- venience!

Best regards,

Jenn Bonds-Raacke and John Raacke
Managing Editors

Acknowledgement: Reviewers

The following individuals reviewed manuscripts for this volume of the *Journal of Psychological Inquiry*. We gratefully acknowledge their valuable contributions to the journal.

Mrs. Brooke Mann (Fort Hays State University)

Dr. Jeff Bartel (Seton Hill University)

Dr. Richard Harris (Kansas State University)

Ande Johnson (Park College)

Jerry Barnett (Northwest Missouri State University)

Frank Ferraro (Nebraska Wesleyan University)

Acknowledgement:

Institutions & Organizations

Avila University	Newman University
Benedictine College	Northwest Missouri State University
Caldwell College	Rockhurst University
Columbia University	Union College
Doane College	University of Central Missouri
Emporia State University	University of Nebraska, Kearney
Fort Hays State University	University of Nebraska, Lincoln
Kansas State University	University of San Diego
Missouri Western State University	Webster University—St. Louis
Morningside College	Washburn University
Nebraska Wesleyan University	
Association for Psychological and Educational Research in Kansas	Nebraska Psychological Society

Cover:

Logo: The creation of the graphic for the logo came about by thinking of how ideas are formed and what the process would look like if we could see into our brains. The sphere represents the brain, and the grey matter inside consists of all the thoughts in various stages of development. And finally, the white spotlight is one idea that formed into a reality to voice. The entire logo is an example of creation in the earliest stages.

Cathy Solarana, Graphic Designer

Cover Design: The overall design was influenced by many aspects of psychology. Much of the inspiration was developed through the use of the iconic symbol for psychology as well as the beauty of psychology in its own right.

Brittney Funk, Graphic Designer

Exploring the Production Effect: Further Studies on a Memory Enhancing Phenomenon

Pete Sundwall & Dr. David Yells *
Utah Valley University

Abstract—The production effect is a phenomenon in which pronouncing words improves explicit memory compared to words studied silently. Five experiments further explored the production effect in ways not previously tested. Experiments 1 and 4 explored the production effect in a between-participants design. In Experiment 2, a writing condition replaced the silent condition and was measured against the aloud condition. Experiments 3 and 5 explored the use of translation using bilingual participants and how the production effect compared to a translation effect. In conclusion, the production effect is seen in a between-participants design when using a recognition test but not a recall test. Using the writing condition, the production effect is not observed. Concerning recognition, the translation effect, combined with the production effect, is a powerful memory enhancer.

Keywords: memory, encoding, translation, bilingual

There are a number of well-known encoding techniques helping to enhance explicit memory. Rehearsal is one of the most intuitive ways to increase memory (Rundus, 1971). Mnemonic devices can also provide an effective memory enhancer (Ozubko & MacLeod, 2010). Memory continued to be explored when researchers started studying the role of one's own voice concerning memory retention (Dodson & Schacter, 2001; Hopkins & Edwards, 1972). Of the many memory techniques, little is understood about a simple encoding phenomenon known as the production effect.

The production effect states producing, or saying a word aloud, is a powerful memory enhancer compared to reading a word silently (Ozubko & MacLeod, 2010). Production of words provides distinctive information for the brain to encode and store. Ozubko and MacLeod stated distinctiveness is the reason why production enhances memory. When word recall or recognition is put to test, this distinctiveness factor, resulting from production, provides a strategy for the mind to retrieve the information (MacLeod, Gopie, Houhrihan, Neary, & Ozubko, 2001). The mind, in addi-

tion to making a record of the illustrated word, also makes a record of the produced action. When the memory record is replayed during the testing period, retrieval may take place due to the record of the illustrated word and the record of the produced action. When successful retrieval occurs, whether it is recall or recognition, this signifies the word had been studied in two different ways. This mechanism is not available for the silently studied words (Ozubko & MacLeod, 2010). Thus, production provides a heuristic method to retrieve studied items more readily.

The production effect was discovered on the foundation of other memory paradigms. Lockhart and Craik (1990) observed the probability of retrieving a memory item could be explained by the relationship it has with the individual; the stronger the relationship between the memory item and the individual, the deeper the item is processed within the mind and the more likely it is to be retrieved. This phenomenon is known as the levels of processing theory. The levels of processing theory also implies an experience resides in the same neural compartments where the experience was first pro-

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cessed (Roediger & McDermott, 2002). According to levels of processing, one's voice produces a stimulus in a specific neural compartment, which is ready to be retrieved (Crowder, 1970). Ozubko and MacLeod (2010) used this theory and discovered producing a word aloud increased retrieval.

Ozubko and MacLeod (2010) performed eight experiments helping to explain the production effect and the boundaries of the memory phenomenon. The researchers used a mixed-list design as opposed to a pure-list design. A mixed-list uses an equal amount of strong and weak words (or items), whereas a pure-list only uses strong or weak words. Strong items on a list are words repeated throughout the presentation and are therefore better learned. Weak items are presented once, which are not learned as well as the strong words on a list (Kahana, 2012).

There were worries a list-strength effect would take place in Ozubko and MacLeod's studies. The list-strength effect is when strong words decrease memory for other weaker items in a list (Yonelinas, Hockley, & Murdock, 1992). Ozubko and MacLeod speculated words read aloud might harm the memory of silently read words. These speculations were diminished when MacLeod et al. (2001) observed the silent items are not decreased in a mixed-list design but only in a pure-list design. The production effect only seemed to enhance the aloud words and not whether the words were considered weak or strong in a mixed-list design. Another reason why the production effect is not a result of the list-strength effect was the list-strength effect has not been seen when a recognition test is administered. The production effect is seen in recognition.

Throughout the eight experiments, Ozubko and MacLeod (2010) repeatedly found the production effect only improves explicit not implicit memory. Explicit memory is a cognizant recollection of items or events, whereas implicit memory is an unconscious type of memory. The production effect can only be seen using an explicit memory test because the paradigm is distinguished by locating words consciously studied or unstudied. Implicit testing does not differentiate between what has and what has not been studied.

Additional insights were found during Ozubko and MacLeod (2010) study that enhanced

the understanding and boundaries of the production effect. Producing non-words yielded the same benefit as a real word, thus showing the distinctiveness factor is in one's own producing actions and not necessarily in speaking a real word. A separate experiment showed distinctiveness was not only in the voice, but also simply by mouthing the studied word. The verbal factor is not necessarily the reason why the production effect takes place. One of the last experiments illustrated production did not cause lazy reading, or the skipping, of silently read words. Ozubko and MacLeod suggested the real world application of the production effect could be implemented when some information is studied aloud and other information is studied silently. The information studied aloud is more accessible for retrieval and should be the most important information. The less important information should not be studied aloud.

The eight experiments gave extraordinary insight to the role of the production effect and how it can be implemented in memorization. Yet, the boundaries of production effect research have not been reached. We performed five additional experiments built upon previous research by testing the production effect in ways that have either not produced the effect (between-participants design; Experiments 1 and 4) or in ways that have not previously been tested (Experiments 2, 3, and 5). In every experiment, we hypothesized the aloud condition would have increased recognition or recall compared to some of the other reading conditions, based on the previous production effect experiments.

Experiment 1

Methods

Previous research has only shown a significant effect in a within-participants design. Such experiments have involved participants studying a word displayed on a screen for 2 seconds with a 0.5 second interval between words, with 40 words studied in total. Memory was then assessed with a recognition test (Ozubko & MacLeod, 2010). For our first experiment, we predicted a between-participant production effect would be observed if the time studying the word was reduced from 2 seconds to 1 second. This experiment explores the strength of the production effect in ways not found

by Ozubko and MacLeod.

Participants

Participants were 40 students attending a state university in the Mountain West. Most of the participants were enrolled in an upper-division psychology course and received extra credit for participating. Some of the participants volunteered and did not receive any extra credit.

Procedure

One participant at a time met with the test administrator in a private room. The participant studied 40 words presented on Microsoft PowerPoint. The words were in a mixed-list and are listed in the Appendix A. A word appeared for 1 second and then disappeared. The participant had a 0.5 second interval before the next word appeared. The process repeated until 40 words were presented. The words were chosen from previous production effect experiments performed by Ozubko and MacLeod (2010). The words were either displayed in yellow or blue. Blue and yellow were chosen because the colors were labeled as neutral, which did not impact retrieval (Ozubko & MacLeod). There were 20 blue words and 20 yellow words. Blue represented words participants needed to produce aloud and yellow signified silently read words. Participants had the 1.5 seconds (from the time the word appeared for 1 second through the 0.5 second during the interval time) to say the word aloud. A recognition test was administered immediately following the presentation. The recognition test had all 40 words from the presentation, as well as 20 distractor words, and it was administered on a piece of paper in black ink. Each participant was randomly assigned to either circle all the words they remembered in blue or all the words remembered in yellow. The highest amount to possibly score on the test was 20. The participants had up to 3 minutes to finish the test. The participants performed the entire experiment within 15 minutes.

Results and Discussion

Participants tested for words said aloud remembered more words ($M = 11.95$, $SD = 2.87$) than participants tested for words read silently ($M = 6.05$, $SD = 3.17$), $t(38) = 6.17$, $p = .001$. In other

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words, the basic production effect was observed.

Experiment 2

Methods

In Experiment 2, our goal was to examine an effect when a participant studied by writing the word compared to producing the word aloud. Ozubko and MacLeod (2010) had only compared the production effect against a silent condition. In Experiment 2, a writing condition was used instead of the silent condition, which may test the strength of the production effect. Writing has been used to enhance memory and evaluating this condition to an aloud condition would further explore the production effect. The design was set up as a between-participants design, similar to Experiment 1. The same word presentation and testing conditions as Experiment 1 were used to perform the experiment.

Participants

Participants were 40 students at a state university in the Mountain West. Some of the participants were enrolled in an upper-division psychology course and received extra-credit for participating. The other participants volunteered and received no extra-credit. These participants did not participate in Experiment 1.

Procedure

The procedure was the same as in Experiment 1, except participants were instructed to pronounce the words appearing in blue and to write down the words appearing in yellow. Participants had the same 1.5 second interval to say the word aloud as in Experiment 1. Words presented in yellow were displayed for 3 seconds to allow the participants enough time to write the word. Participants were then given the same recognition test as in Experiment 1 under the same time constraints.

Results and Discussion

There was no observable difference between participants tested for words written down ($M = 10.05$, $SD = 1.54$) and participants tested for words read aloud ($M = 10.00$, $SD = 1.45$, $t(38) = 0.11$). The production effect was not observed in this experiment.

Experiment 3

Methods

Production has only been measured using words presented in English and simply saying the word aloud in English versus reading the word silently in English. Translating English words into another language was another manipulation, which attempted to further explore the nature of the production effect. Using translation, the aloud condition may not provide as much distinctness as translation, which can explain the limit by which the production effect increases explicit memory. In Experiment 3, the goal was to examine a production effect using bilingual participants.

The design included participants who were fluent in both English and Spanish. Examination of whether translating an English word into a foreign language and saying the translated word aloud would improve recognition memory more than just translating a word silently was assessed. The production effect was thus combined with a translation effect. The same list of words was used and the color designation did not change from the previous experiments.

Participants

Participants were 20 students at a state university in the Mountain West. Some of the participants were enrolled in an upper-division psychology course and received extra-credit for participating. The other participants volunteered and received no extra-credit. These participants did not participate in any of the previous experiments. The participants were fluent in a foreign language other than the English language and fluency was based on self-report.

Procedure

Words were presented as described for Experiment 1. Participants translated words appearing in blue into Spanish and pronounced them aloud. Participants translated words appearing in yellow into Spanish and studied them silently. Participants were given 5 seconds to translate the words for both the aloud and silent condition. The same recognition test and procedures from Experiment 1 were administered.

Results and Discussion

There were no differences between partici-

pants tested on words said aloud ($M = 17.0$, $SD = 1.08$) and participants tested on words read silently ($M = 17.3$, $SD = 1.42$), $t(18) = 0.75$). Concerning the recognition test, the production effect was not observed when a translation condition was present.

Experiment 4

Methods

This experiment was similar to Experiment 1, except the recognition test from Experiment 1 was replaced by a recall test. The production effect has not been consistently explored in recall testing but only in recognition.

Participants

Participants were 20 students at a state university in the Mountain West. Some of the participants were enrolled in an upper-division psychology course and received extra-credit for participating. The other participants volunteered and received no extra-credit. These participants did not participate in any of the previous experiments.

Procedure

The procedure was identical to Experiment 1. However, instead of a recognition test participants were tested with free recall. The recall test was administered immediately following the word presentation. Each participant was given a blank piece of paper and was randomly assigned to write down the exact words they remembered in blue or in yellow. Participants had a total of three minutes to finish the test.

Results and Discussion

There was no difference in the number of words recalled between participants tested over words read silently ($M=3.30$, $SD=0.97$) and participants tested over words said aloud ($M=4.11$, $SD=1.14$), $t(18)= 1.02$. The production effect was not observed when a recall test was administered.

Experiment 5

Methods

In Experiment 5, the goal was to examine a production effect using bilingual participants, but unlike Experiment 3 we used a recall test as a method of examination. The design included par-

ticipants who speak English and Spanish languages fluently. The same list of words was used and the color designation did not change from the last experiments.

Participants

Participants were 12 students at a state university in the Mountain West. Some of the participants were enrolled in an upper-division psychology course and received extra-credit for participating. The other participants volunteered and received no extra-credit. None of the participants had participated in previous experiments. The participants were fluent in English and Spanish and fluency was based on self-report.

Procedure

The procedure was the same as for Experiment 3. However, instead of a recognition test participants were tested using free recall, as seen in Experiment 4, with the same testing conditions.

Results and Discussion

Participants tested for words read aloud recalled more words ($M = 6.00$, $SD = 1.67$) than participants tested for words read silently ($M = 1.33$, $SD = 0.44$), $t(10) = 2.85$, $p = .004$. The production effect was observed when using a translation condition and a recall test.

General Discussion

In the between-participants design, as seen in Experiment 1, the production effect is observed when using a recognition test. Previous studies only found a production effect in a within-participants design (Ozubko & MacLeod, 2010). Concerning Experiment 4, there was not an observable production effect using a recall test in a between-participants design. This is a possible limitation to the production effect. This finding is consistent with the results discovered in past research (Ozubko & MacLeod). The production effect may only be observed in recognition tests when using aloud and silent conditions. The writing condition may have eliminated the production effect by taking away the distinctiveness of the words. Both sets of words were remembered equally. The results of this experiment confirmed findings from Ozubko and MacLeod's studies that the production

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effect can only be observed using the silent, control condition.

Analysis of Experiment 3 explained a ceiling effect may have taken place. Because participants in both the silent and aloud conditions demonstrated high levels of recognition, the translation and production effect can be considered powerful memory enhancers. Experiment 5 showed an observable production effect using the bilingual conditions when administering a recall test. No ceiling effect was observed due to the use of the recall test. The participants that translated the presented word from English to Spanish and then produced the word aloud had increased explicit memory. The production effect combined with a translation effect contributed to an overall retrieval increase concerning working, explicit memory.

These experiments do not provide all the ways the production effect can be explored. Conditions can be changed, list study time could be increased, or testing procedures may be manipulated. Identifying why study time manipulation created a production effect in a between-participants design must be further explored. Testing the production effect against a non-silent condition, such as a writing condition from Experiment 2 or testing the production effect against other memory paradigms, will need to be tested in different designs. Because Experiment 2 was in a between-participants design, a within-participants design may be used to further discover the limitations of the production effect. Lastly, the aloud and bilingual conditions can be manipulated by using a within-participants design. The experiments were not exhaustive and future experiments may be conducted.

Future research may focus on the long-term benefits of the production effect. If participants were tested the next day after completing the experiment to recall or recognize the items on the list, the results may change. Increasing the time between study and testing may give additional insight to the production effect. If participants remembered words produced aloud longer than silently read words, the production effect may provide a more powerful, memory retrieval mechanism.

The first limitation of the experiments is the inconsistency of the word presentation. Although

the study time of each word is 1 second, the time in between words (the blank screen time) is based on the human ability of the test administrator. Lack of funding hindered the use of advanced software programs. The test administrator also may slow down the blank screen time to allow testers to write down words as in Experiment 2. The timing inconsistency may have changed the outcomes of the experiments.

Another limitation is the information presented to the participants. Some participants may have heard previously about the experiments from those individuals who had already participated. Though participants signed a consent form agreeing to not disclose information concerning the experiment, information may still get out to future participants. This may change the results of the experiment.

As stated previously, the experiments can be manipulated in many ways, so how do these experiments relate to real world application? What are the threats to external validity? The production effect may only be applied during list study. Students who want to remember information on an exam may not have increased explicit memory if they study all the information aloud. The participants may also be unrepresentative of the population, due to all of them being college students. Future studies must expand upon the five experiments to reach additional conclusions about the general population. Though there are many limitations to the study, the experiments explored the production effect in ways that have not been tested and how the memory phenomenon compared to other conditions.

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Appendix

List of words used in Experiments 1 through 5

forest	package	knock	neighbor
record	ticket	branch	shoulder
theatre	amount	judge	answer
market	vacation	garden	avenue
engine	pocket	pebble	afternoon
capital	whisper	clothes	kettle
evening	basket	speech	valley
reward	travel	river	holiday
orchard	invention	wagon	kingdom
arrow	journey	kitchen	ladder

What's in a Face?: Perceptions of Women Wearing Cosmetics

Lynette Carrillo, Barbara Coleman, & Tay Hack *
Angelo State University

Abstract—Past research indicates women who wear make-up are perceived as more feminine, attractive, and confident compared to women who do not use cosmetics (e.g., Graham & Jouhar, 1981). Moreover, several studies suggest a gender difference concerning impressions, such that men, compared to women, are more likely to have positive impressions of women wearing cosmetics (e.g., Guéguen & Jacob, 2011). Little attention, however, has been given to the role of cosmetic use as a prescriptive female gender stereotype. Thus, we predicted observers would form more favorable impressions of faces wearing cosmetics compared to cosmetic-free faces and the effect would be greater for male observers. We also predicted individuals who highly endorse female stereotypes would report the most positive impressions of women wearing cosmetics. Results indicated people perceived female faces wearing cosmetics more positively than the cosmetic-free faces; however, it was the women (compared to men) who reported the most positive impressions. Our findings suggest perceptions of women are impacted by both cosmetic use and gender stereotypes, which could have social, occupational, and personal implications, especially in social settings where women are judged on their appearance.

Keywords: female gender stereotypes, impression formation, cosmetic use

Women have used cosmetic products for centuries with earliest evidence dating back to ancient times (Chaudhri & Jain, 2009; Labovitz, 2012). In modern society, the use of cosmetics remains prevalent, as evidenced by the sale of cosmetic products in the United States with reported industry earnings topping 36 billion dollars in 2010 (McDougall, 2011). The continued popularity of cosmetics, associated primarily with women, is based on the belief that makeup enhances facial appearance by simulating clear skin (Cash & Cash, 1982). Clear skin is an indicator of overall health and youth thereby increasing the perceived facial attractiveness of the user (Fink, Grammer, & Thornhill, 2001). Past studies have found women wearing facial makeup are perceived as more attractive than women who are not. For example, Mulhern and colleagues presented individuals with photographs of different women, varying the level of makeup on each woman ranging from eye makeup only, foundation only, lip makeup only, full facial makeup, and no makeup. Women wearing full facial makeup were rated significantly more

attractive than the women in the other photos, supporting the idea that cosmetics increase the attractiveness and perceived beauty of the user (Mulhern, Fieldman, Hussey, & Pineau, 2003).

Overall impressions can also be affected by attractiveness. For instance, research demonstrates individuals who are perceived as beautiful are considered to also possess numerous positive attributes (Dion, Berscheid, & Walster, 1972). This phenomenon was highlighted in the seminal work by Dion and colleagues. In their study, college participants were asked to examine three photographs and to rate the individual in each photo on a variety of personality traits. Some of the participants received photographs of a female individual and some received photographs of a male individual. Each image represented a different level of attractiveness; high attractiveness, average attractiveness, and unattractiveness. Dion and colleagues found the most attractive individuals in the photographs were rated higher on a variety of positive personality traits as compared to the lesser attractive individuals. The findings highlighted the halo

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effect: physical attractiveness served as a standout quality, which favorably affected and colored the observer's overall impression of the individual. Graham and Jouhar (1981) illustrated the halo effect in relation to cosmetic use. In their study, they found women wearing cosmetics were rated as more attractive, as well as more sociable and interesting, than women not wearing cosmetics. Moreover, similar studies found women are perceived to be more feminine, sexy, confident, and healthy when wearing cosmetics (Cox & Glick, 1986; Mulhern et al., 2003; Nash, Fieldman, Hussey, Leveque, & Pineau, 2006). These findings demonstrate facial makeup can not only enhance the perceived attractiveness of women, but it can also have a positive effect on overall impressions.

Although past research has investigated perceptions of women and cosmetics, relatively little attention has been given to a possible gender difference in impressions. Some research suggests men, compared to women, judge female faces wearing cosmetics as more attractive. For example, Cash and colleagues (1989) conducted a study in which women were photographed with and without makeup. Some individuals were shown pictures of the women wearing cosmetics and other individuals were shown pictures of the women not wearing cosmetics. Each person was asked to rate the physical attractiveness of the women. Men rated the faces wearing makeup as more attractive than the faces without makeup; however, women rated the female faces in both conditions equally (Cash, Dawson, Davis, Bowen, & Galumbeck, 1989). Thus, cosmetics apparently influenced impres-

sions, but only for male observers. Guéguen and Jacob (2011) later supported these findings in a behavioral study whereby they found male customers gave more tips to waitresses wearing cosmetics than to waitresses not wearing cosmetics. However, the tipping behavior of female customers was not influenced by the presence or absence of cosmetics on the waitresses.

This gender difference could be explained using an evolutionary perspective. Buss (1989) theorized men are more likely to prefer mates who are physically attractive and youthful because these physical aspects can signal signs of reproductive fertility. Buss further suggests, historically, the use of cosmetics was developed to highlight attributes of health and fertility for women, thereby increasing their perceived attractiveness to potential mates. The findings of Guéguen and Jacob (2011), in which only men's tipping behavior was affected by the cosmetic use of the waitress, supports this theory. Women, who are not expected to be influenced by a biological drive to seek out same sex partners as potential mates for procreation, showed no behavioral preference for waitresses wearing cosmetics. This suggests women do not focus on the attractiveness of other women to the same degree as men. A primary focus of the present study was to expand these previous findings and investigate possible gender differences in overall impressions of women with, and without, facial makeup.

Another possibility yet to be explored in the literature concerns the effect gender stereotypes have on impressions of women who wear cosmet-



Figure 1. Example of facial stimuli. Some participants viewed faces without makeup, and others viewed faces with cosmetics applied.

ics. As explained by Prentice and Carranza (2002), gender stereotypes are not only descriptive in that they describe how men and women are and behave, they are also prescriptive in that they dictate how men and women “should” be and behave. In American society, women are often evaluated on their physical attractiveness and are expected to focus on their appearance to a greater degree than men (Fredrickson & Roberts, 1997; Mathes & Kahn, 1975; Prentice & Carranza, 2002; Rosenkrantz, Bee, Vogel, Broverman, & Broverman, 1968). For example, Prentice and Carranza found college students ranked *attention to appearances* as a more socially desirable quality for women than for men, suggesting women do, and should, focus more on their physical appearance than men. Consequently, this stereotype has the power to direct societal views of how women should behave and present themselves. Related research by Forbes and colleagues also suggests women in our society face a socially constructed imperative to appear beautiful, and beauty practices, such as wearing cosmetics, are associated with stereotypic views of women. Moreover, people tend to endorse the stereotypic belief that women need to appear beautiful (Forbes, Collinsworth, Jobe, Braun, & Wise, 2007). As such, individuals who more strongly endorse traditional female gender stereotypes would be expected to have more positive perceptions of women who conform to the stereotyped gender ideal of enhancing their appearance by wearing cosmetics. We explore this possibility in the current study.

Based on existing literature, we had two predictions. First, we predicted women wearing cosmetics would be perceived more favorably than women not wearing cosmetics and this positive impression would be strongest for male observers. Second, we predicted individuals who highly endorse female gender stereotypes would report more positive impressions of women wearing cosmetics compared to individuals who do not strongly endorse female gender stereotypes.

Method

Participants

Participants (111 women and 42 men) from a small university in the Southwestern U. S. voluntarily participated in exchange for course credit.

Participants ranged in age from 18 to 29 years ($M = 19.93$, $SD = 2.33$). The self-reported racial/ethnic composition of the sample included: Caucasian (52%), Hispanic (26%), African-American (15%), and other (7%).

Materials and Procedure

All photographs were obtained from an online face database that categorized images according to gender and age (Ebner, Riediger, & Lindenberger, 2008). Photo stimuli were chosen to reflect young female faces from 19 to 30 years. All photographs were in color and depicted young, smiling, European American female faces against a neutral background. To create the faces with cosmetics, we used the online photo-editing program, PicMonkey (Huff, Terry, & Whiton, 2012). This allowed us to apply foundation, blush, mascara, and lipstick to the natural faces (see Figure 1). We employed a within-subjects design; participants viewed some faces with cosmetics and some faces without cosmetics. Participants received one of two counterbalanced versions of the photographs. For example in one version, participants viewed a female face wearing make-up and in the counterbalanced version, other participants viewed the same female face in a cosmetic-free state. Thus, although all participants viewed some faces with cosmetics and some faces without cosmetics, they did not view the same individual face with and without make-up.

After participants provided written consent, participants were informed they would be evaluating the personality traits of several faces in a series of online photographs. Participants completed the tasks on individual computers where they rated the faces presented via MediaLab, a computer experiment software that displays images and records responses (Jarvis, 2008). Participants viewed a total of 30 faces presented in a random order; 15 female faces wearing cosmetics (i.e., lip color, foundation, mascara, and blush) and 15 female faces cosmetic-free. During the impression task, participants were asked to indicate the extent to which each of 14 traits (confident, vain, kind, friendly, honest, unfaithful, capable, skillful, intelligent, submissive, healthy, feminine, attractive, and competent) described the woman in the photograph. Before analyses, responses to the negative traits were

reverse scored so higher numbers reflected greater favorability. The trait scale yielded excellent reliability with a Cronbach's alpha of .94.

Each trait rating scale, presented in a random order, appeared on the screen below the photographed face. Participants were asked to indicate their impression by clicking on a scale ranging from 1 (not at all) to 7 (extremely). Once participants rated a trait by clicking on the number best reflecting their beliefs, another trait would appear. Each face remained on the screen until participants responded to all 14 trait ratings. At which time, another face was presented and remained on the screen until the participant rated all of the traits for that face. This procedure was repeated until participants rated the personality traits for all 30 faces.

After participants completed the impression task, we asked them to complete a gender stereotype endorsement scale by indicating the extent to which they personally believed each of seven traits (sensitive, gentle, affectionate, compassionate, understanding, communal, and cooperative) was true of women. Several of the communal traits were adopted from Rudman and Glick's (2001) gender stereotype index. This scale included several prescriptive female gender stereotypes relevant to our investigation. Participants were asked to respond by clicking a number from 1 (not at all) to 9 (extremely) to best reflect their own personal beliefs regarding each of the female stereotypic traits. Higher scores indicated greater female stereotype endorsement. This scale demonstrated adequate reliability with a Cronbach's alpha of .59.

Results

Based on previous findings, we predicted women wearing make-up would be perceived more favorably than women not wearing make-up and men would have the most positive response to female faces wearing makeup. To test this hypothesis, a 2 (cosmetics: make-up vs. no make-up) X 2 (participant gender: male vs. female) analysis of variance (ANOVA) was conducted on the average of the 14 personality trait ratings, with the last factor serving as a between-participants factor. Consistent with previous studies, results indicated a significant main effect, with female faces wearing make-up perceived more positively ($M = 4.79$, SD

$= .52$) than female faces not wearing make-up ($M = 4.60$, $SD = .52$), $F(1, 144) = 29.60$, $p < .001$, $\eta^2 = .16$. The results also revealed a significant interaction between men and women's ratings of the female faces, $F(1, 153) = 4.91$, $p = .03$; $\eta^2 = .03$. However, contrary to our prediction, women reported more favorable impressions of women wearing cosmetics ($M = 4.87$, $SD = .51$) as compared to men ($M = 4.57$, $SD = .47$), $t(151) = 3.30$, $p = .001$, $d = .61$. There was no significant difference between men ($M = 4.48$, $SD = .47$) and women's ($M = 4.65$, $SD = .53$) impressions of cosmetic-free female faces, $t(151) = 1.87$, $p = .06$, which indicates it was the application of facial makeup influencing gender differences in perceptions. Because there was an unequal number of women and men in the study, we used the Box's Test of Equality of Covariance Matrices to check the assumption of equal variance across the two groups. Box's $M(.78)$ was not significant ($p = .86$), indicating the assumption of homogeneity was not violated.

We also predicted individuals who highly endorse female gender stereotypes (referred to as high endorsers) would perceive women wearing cosmetics more favorably than would individuals who scored low on the stereotypes (referred to as low endorsers). Level of endorsement was determined by averaging responses to the gender stereotype endorsement scale and then removing the middle third of the scale responses. The remaining top third of the scale responses was designated as high endorsers and the bottom third of the scale responses was designated as low endorsers. Because previous studies found men are more likely to endorse gender stereotypes, we conducted an initial analysis. Our results indicated 61% of women and 27% of men were high endorsers; 39% of women and 73% of men were low endorsers. This suggests the gender stereotype endorsement scale was not simply a substitution for participant gender. To test our prediction, we conducted a 2 (Cosmetic: make-up vs. no make-up) X 2 (Endorsement: high vs. low) ANOVA on the average of the personality trait responses, with the last factor serving as a between-participants factor. There was a main effect for endorsement, $F(1, 85) = 3.84$, $p = .05$; $\eta^2 = .04$, which was qualified by a predicted interaction between female stereotype endorsement and faces with and without cosmet-

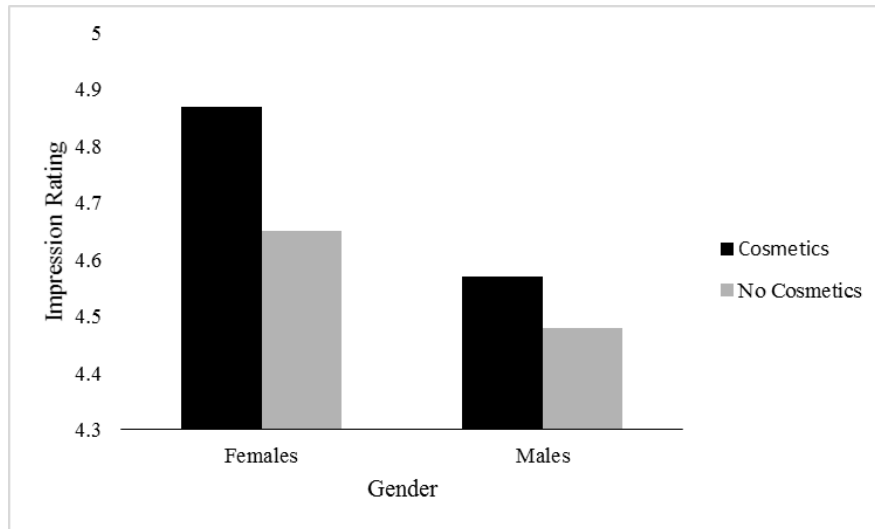


Figure 2. Differences in impressions between male and female participants in response to faces with and without cosmetics.

ics, $F(1, 85) = 8.06, p = .006; \eta^2 = .07$. High endorsers rated the female faces wearing cosmetics more favorably ($M = 4.93, SD = .46$) than did the low endorsers ($M = 4.63, SD = .56$), $t(85) = -2.74, p = .008, d = .59$. There was not a significant difference between the ratings of high endorsers ($M = 4.64, SD = .46$) and the ratings of low endorsers ($M = 4.54, SD = .55$), $t(151) = -.97, p = .33$, in response to the cosmetic-free faces, indicating a difference in impressions only of the female faces wearing cosmetics.

Discussion

This research contributes to our understanding of the role cosmetics play in influencing perceptions of women. Exploring this connection, we made two predictions. The first hypothesis was that women wearing facial makeup would be perceived more favorably than women not wearing cosmetics and that this effect would be greater for male observers. Our findings partially supported this prediction. Our results indicated women depicted wearing cosmetics were evaluated more positively on a variety of personality traits than women depicted without make-up. These results correspond with previous studies indicating women wearing cosmetics are judged as more confident, sexy, healthy, and attractive compared to women not wearing facial makeup (Cash et al., 1989; Mulhern et al., 2003; Nash et al., 2006). Our

findings provide additional support that cosmetic use does, indeed, enhance favorable impressions of women.

However, our prediction that men would report the most positive impressions of female faces wearing makeup was not supported. Instead, our results indicated the opposite pattern; women were the ones who rated female faces wearing cosmetics more positively. Several reasons can explain why the present research did not find the predicted gender difference suggested by Cash et al. (1989) and Guéguen and Jacob (2011). First, Cash and colleagues investigated the physical attractiveness of women with and without makeup; however, we expanded beyond simply rating physical attractiveness by measuring perceivers' impressions of female faces on a variety of personality traits. We also added a gender stereotype endorsement scale to measure perceivers' endorsement of prescriptive female gender stereotypes. By including these measures, we were better able to investigate possible gender differences in impressions of women who do and do not wear cosmetics. Second, although Guéguen and Jacob found men (compared to women) appeared to respond more favorably to a waitress wearing cosmetics, their findings were based on tipping behavior. Men gave larger tips to waitresses wearing cosmetics; however, the amount of tips left by female customers was not dependent on whether or not the waitress was

wearing cosmetics. In the present research, we did not focus on observing behavioral differences between men and women to infer favorable impressions, mainly because gender norms might have influenced the tipping behavior of men. That is, the men in Guéguen and Jacob's study might have believed leaving greater tips to waitresses wearing cosmetics was a more socially expected behavior. As such, the observed behavior might not have reflected the men's actual impressions of the women. In the present research, however, we focused on individuals' private ratings of women who were and were not wearing cosmetics to gain a more reliable indicator of perceivers' impressions.

Although our results did not provide evidence for the predicted gender difference, our findings can be explained by social identity theory and in-group favoritism (Tajfel & Turner, 1979). According to this theory, people use two mechanisms to maintain and enhance their self-esteem; personal identity (which includes individual achievements) and social identity (which includes identifying with a valued group). When people self-identify with a group, they often favor others who are members of the same group. Displaying in-group favoritism by expressing positive evaluations of group members can serve to boost self-esteem associated with social identity (De Cremer, 2001; Ellemers, Kortekaas, & Ouwerkerk, 1999; Gramzow

& Gaertner, 2005; Lindeman, 1997; Sassenberg, Brazy, Jonas, & Shah, 2013; Voci, 2006). It is possible the young women in our study self-identified with the young female faces wearing cosmetics and perceived the women in the photos as in-group members, subsequently evaluating them more positively than the men did. As such, in-group favoritism could explain why women, rather than men, reported more positive impressions of the faces wearing makeup, thereby enhancing their gender group affiliation and self-esteem. Future research might explore this possibility by investigating whether women who personally use makeup report more positive impressions of female faces wearing cosmetics compared to women do not use makeup. Additionally, it would be interesting to explore the role cosmetic use has in women's collective self-esteem. Research by Cowen and Ullman (2006) suggests women with lower self-esteem are likely to project their negative feelings to their gender in-group. In the present study, we did not measure women's self-esteem, nor did we ask people to evaluate negative stereotypes of women. A possible avenue for future research might investigate whether women with lower self-esteem are more likely to endorse negative stereotypes of women and to reject their gender in-group.

Our second hypothesis that individuals who highly endorse female gender stereotypes would

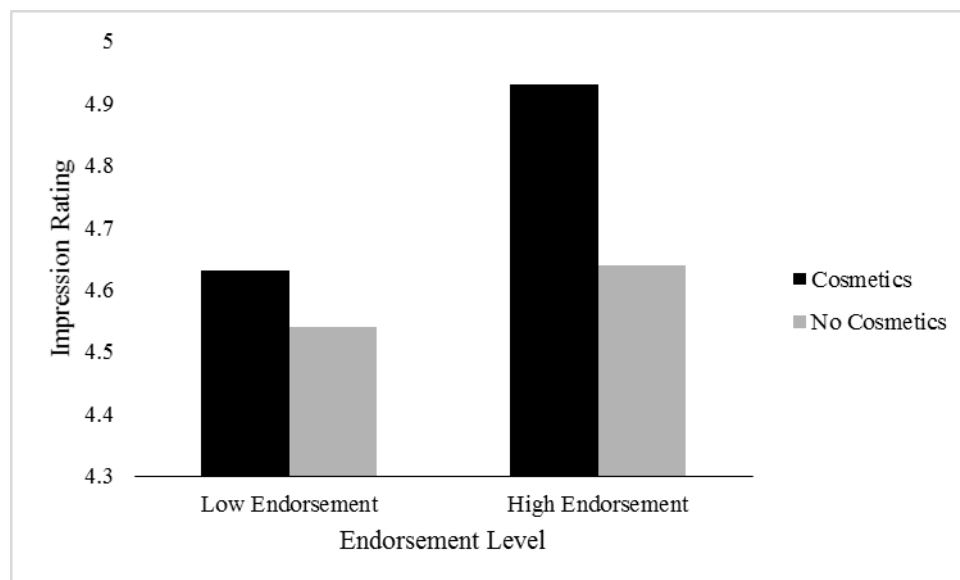


Figure 3. Differences in impressions between high and low female stereotype endorsers in response to faces with and without cosmetics.

report the most positive impressions of women wearing cosmetics was supported by the findings. This provides additional evidence that gender stereotypes are prescriptive and influence how women and men behave. Female gender stereotypes, in addition to promoting the idea that women are more passive and communal, are also prescriptive and indicate women are expected to consider and enhance their physical attractiveness more so than men (Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972; Glick & Fiske, 1996; Prentice & Carranza, 2002). This societal expectation can, in turn, influence how women present themselves, including the use of facial makeup. Our findings revealed individuals who highly endorse traditional female stereotypes were likely to view women who behave in accordance with this prescribed gender stereotype in a positive light in regards to a variety of personality characteristics. However, endorsing such prescriptive female stereotypes can also result in negative consequences for women. Research has demonstrated a societal backlash could develop for women who do not correspond to society's expected behaviors (Rudman & Phelan, 2008), which could lead women to use makeup when they personally would rather not. An unfortunate consequence of the societal expectation requiring women to beautify their facial appearance is that it can reinforce the objectification of women as decorative objects, by focusing on their physical attributes rather than on their abilities (Swami et al., 2010).

There were several limitations to our study. First, we only examined facial images of European American women ranging in age between 18-29 years, limiting our ability to generalize the results. It would be interesting to examine whether race and age of women who wear cosmetics has differential effects on impressions and whether age or racial in-group biases would occur when woman evaluate other women. Second, we used static images of women's faces. Using photographs, while easier to control, may not as accurately represent the way people form impressions of others. Undoubtedly, interacting with a person is quite different from perceiving a person in a photograph. It would be interesting to examine actual interactions to see whether perceivers respond with similar overall impressions of women who do and do not

wear makeup. Although photographs allowed for stricter control in our experimental situation, ultimately we are interested in identifying real life perceptions applicable to social experiences. Future research might seek to establish whether the effects we found in this study extend to what people do in everyday life. Certainly, measuring people's impressions of women depicted in photographs can be perceived as a limitation; however, it is also important to remember the use of static photographs is not without merit. For example, picture representations are utilized in many social media platforms such as Facebook or Twitter where people post pictures of themselves as part of their online profiles. In addition, many online dating websites provide clients with personal photographs of potential dating partners. Thus, the power of a photograph should not be ignored. Third, although we did find a gender difference in perceptions of the female faces wearing cosmetics, our sample was composed mostly of women, which limits our ability to generalize the findings. Further investigations of men's impressions would be useful to validate the findings of the present study.

Our study adds important contributions to the literature investigating how women are perceived in society. Our results have significant implications for women in social situations where they are evaluated and indicate cosmetics impact people's impressions of women in ways beyond facial attractiveness. Evaluations of a person's competence, likeability, attractiveness, and trustworthiness are determined very quickly, even within a fraction of a second (Etcoff, Stock, Haley, Vickery, & House, 2011; Hack, Goodwin, & Fiske, 2013; Willis & Todorov, 2006). Making the best first impressions is important in several social situations, such as posting one's image on job sites or meeting with future employers who often expect potential employees to present themselves in a professional manner. Our findings suggest women who choose not to wear makeup might be at a distinct disadvantage during job interviews, which could then negatively influence their outcomes. Although impressions of women wearing cosmetics were statistically different from impressions of women not wearing cosmetics, this difference was relatively small and should be interpreted with caution.

Cosmetics can influence impressions of

women. Women who wear makeup are perceived more favorably on a variety of personality traits, which can subsequently impact aspects of their everyday life. Understanding the influence cosmetics have on perceptions of women adds to the conversation of impression formation and considers the power of prescriptive gender stereotypes as they affect the lives of many women in our society.

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FootNote

In addition to the tertiary split, a regression analy-

sis was conducted with the continuous gender stereotype endorsement ratings as a predictor, and the personality trait responses functioned as the dependent variable. Two regressions were performed; one for the dependent variable of impression ratings of the faces with cosmetics and one for the ratings of faces with no cosmetics. Results indicate that gender stereotype endorsement ratings significantly predicted impressions of faces wearing cosmetics, $R^2 = .07$, $\beta = .16$, $F(1, 152) = 10.65$, $p = .001$. However, stereotype endorsement ratings did not predict impression ratings of the cosmetic-free faces, $R^2 = .02$, $\beta = .08$, $F(1, 152) = 2.95$, $p < .09$. The results of these regression analyses are consistent with the results we found using the categorical variable of high and low gender stereotype endorsement.

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The Elusive Ad Man: An Analysis of Donald Draper's Movement Through the Phallic Stage and Its Impact on His Adult Life

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Abstract—We offer a personality assessment of Don Draper, the main character in the television series *Mad Men*. Specifically, the theoretical focus of our analysis is from Freudian psychoanalytic theory, with special attention to the phallic stage of development.

Keywords: Television, personality, psychoanalysis, phallic stage, *Mad Men*

AMC's award-winning series *Mad Men* (Weiner & Abraham, 2007) allows audiences to enter into the lavish, yet complicated lifestyle of the 1960s advertising agency located on famous Madison Avenue in New York City. The story primarily follows Donald Draper, a well-known creative director in the advertising industry. Everybody on the show seems to know his name, but knows very little about who Donald Draper truly is. Draper leads an elusive life among many of his peers, and even his wife is unsure of his identity. Many of the problems that arise within the show come from Draper's past and his inability to resolve those issues. Only a few people are allowed to know Draper's secret past, which can be observed through flashbacks and retellings of his past to other people throughout key episodes. This paper will analyze one key episode, providing a look back into Draper's past and using the phallic stage of psychosexual development to explain how Draper's personality has developed within *Mad Men*.

Draper was born in 1926 as Dick Whitman

to Archie Whitman and a prostitute whose name is unknown. Draper's real mother died during childbirth, but was able to give him his name before passing. Draper's father and his father's wife, Abigail Whitman, took him in after his birth. Archie Whitman died when Draper was around ten years old due to being kicked in the face by a horse. Later, Abigail Whitman remarried and gave birth to a son named Adam (Weiner & Abraham, 2007).

Draper was constantly reminded by Abigail Whitman that he was a "whore-child" and that she was not his real mother. Draper seemed to accept the fact that Abigail was not his mother by stating, "She's not my momma" when the subject was mentioned by strangers (Hamm, 2007). Because Draper was unable to have a normal upbringing with his biological mother or a caring father, his personality may have been altered and underdeveloped during what psychoanalyst Sigmund Freud coined as the psychosexual stages of development (Hamm, 2007).

According to Freud's psychosexual stages of development, each child must successfully go

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through five stages of development in order to have a healthy personality. The stages of development focus on what are known as erogenous zones, or a certain location on the body that brings pleasure. When a child is unable to successfully move through all five of the stages, they become fixated. It is because of these fixations that personality problems arise (Freud, 1886; as cited in Burger, 2011).

The third stage of development is of particular interest in the case of Donald Draper's personality. It is in the third stage that boys go through the Oedipal complex, which has a focus on the phallus (Freud, 1886; as cited in Burger, 2011). During this stage, both boys and girls receive pleasure from his or her own sexual organs. The Oedipal complex is used to explain the boy's experience during this stage. The Oedipal complex happens when the boy is attracted to the opposite-sexed parent and despises the same-sexed parent. The boy knows that he cannot win against his father to gain his mother's affection because of the father's superiority. This leads the boy to go through what Freud called castration anxiety. The boy wishes to avoid being castrated by his father and therefore ultimately identifies with his father in order to: a) avoid castration, b) learn how to acquire women that are similar in nature to his mother, and c) learn how to act like his gender. Once he completes this stage, he will be able to move forward and enter the next stage of development. The boy will not become fixated in this stage because he has identified with a male father figure. Fixation in this stage, according to Freud, could lead to homosexuality.

In the case of Draper, his family situation is different from what is considered typical. He does not have a mother to desire or a father who is respected enough with whom to identify. Instead, Draper seems to identify and attach himself to a different male to use as a role model. Evidence for this conclusion comes from the first season of *Mad Men* in episode eight, "The Hobo Code" (Hamm, 2007).

In this episode, Draper's family allows a hobo to stay the night. Draper appears to be interested in the hobo because he asks him questions about what it is like to not have a home. The hobo gives a positive response and the outcomes following the conversation may have invoked the reason

why Draper ultimately disliked his father as a child. The hobo responds to Draper's question by stating, "I am a gentleman of the rails. Every day is brand new. Every day is a brand new place, people, what-not" (Hamm, 2007). The hobo also tells Draper that he feels free being on his own and proceeds to give Draper a piece of chalk and calls him an "honorary" member of the hobo community. The hobo shows Draper how to mark houses and communicate with other hobos about whether or not the people there will help wandering travelers. The next day after Draper's father insults the hobo, Draper finds the hobo's mark he has left to describe his family. The mark the hobo chose to make tells other hobos that a dishonest man lives at this house and to pass on by. Because someone he admires calls his father a dishonest man, Draper may have felt that his father was not a good model to identify with to progress through the third stage of psychosexual development (Hamm, 2007).

The evidence from this episode shows that Draper may have not been able to move past the phallic stage and could be fixated because of his unconscious unwillingness to identify with his father. However, Draper has never shown evidence of being homosexual. Instead, Draper could have substituted the hobo for his father's role due to the hobo's ability to become a temporary mentor for Draper by sharing his outlook on life as well as inducting him into the hobo community. Thus if Draper never formed a strong relationship with a father figure, his super ego would be underdeveloped. This weakness of the superego (the moralistic component of the personality) can be seen through the adultery he commits later in his life.

Abigail Whitman is not desired or accepted as the mother by Draper. This evidence is shown through flashbacks of Draper running away later in his life from his family. Because he was unable to identify with Abigail Whitman as his mother, Draper may still be on the search for someone who fits his biological mother's description of being promiscuous. This would explain why Draper prefers to be in the company of "fast" women. Draper desires a woman who has similar traits to what he knows about his mother. The only fact about his biological mother in the show comes from when Abigail Whitman calls Draper a whore child, leaving Draper to unconsciously desire easy women.

When Draper is around 40 years of age, working as a creative director at the advertisement agency Sterling Cooper, and eventually becomes a partner at Sterling Cooper Draper Pryce in New York City, Draper develops behaviors of promiscuity. He sleeps with secretaries, female strangers, and women from lower social classes, even though he has a wife and family. He desires these women, and the possible cause could be because he was never able to desire his real mother due to her quick passing after his birth. However, due to her quick passing, he was never able to gain much insight into what his mother was truly like as a person. This leads him on a never-ending quest for the perfect, desired “whore” that never satiates his desire for a mother figure. Although other aspects of Draper’s past may have influenced his ability to form relationships with others, there is other evidence provided by the flashbacks in this TV series. The flashbacks show that the confusion brought on by improper placement of parental roles has caused an unsuccessful transition through the stages of psychosexual development, inevitably influencing his behaviors and life choices as an adult in a negative manner.

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Special Features

Conducting Psychological Analysis: Dramatic

Ups and Downs: A Character Analysis of Mr. Jones

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Abstract—The purpose of this paper is to present a case analysis of the fictional title character in the movie *Mr. Jones* (Greisman, Greenfield, & Figgis, 1993). Very early in the film, Mr. Jones presents as a gentleman who has character eccentricities warranting evaluation and are cause for some concern for Mr. Jones' welfare. The film provides details and insights regarding the life of this man and gives us the opportunity to explore his psychopathology. It becomes clear very quickly Mr. Jones suffers from bipolar disorder, and we are given the opportunity to see his struggles and the complexities of this illness: from symptoms and treatments, to the impact this disorder has on his interpersonal relationships.

Keywords: Film, movie depictions, bipolar disorder, mental illness, *Mr. Jones*

The movie, *Mr. Jones* (Greisman, Greenfield, & Figgis, 1993), is a romantic drama featuring Richard Gere as title character, Mr. Jones. The movie also features Lena Olin as Dr. Libbie Bowen, the therapist who becomes important in Mr. Jones' life as both his doctor and his friend. Mr. Jones is portrayed as a charismatic, charming man who soon demonstrates behaviors clearly indicating he suffers from Bipolar I Disorder.

The American Psychiatric Association's (APA) guidelines suggest in the Diagnostic and Statistical Manual of Mental Disorders-5th Edition (DSM-5) certain criteria for Bipolar I Disorder. Specially, a person must demonstrate symptoms meeting criteria for at least one manic episode, and the manic episode may have been preceded by, or followed by, a hypomanic or major depressive episode (APA, 2013). Although the DSM-5 also indicates major depressive episodes are common in Bipolar I Disorder, they are not required for the diagnosis.

The defining characteristics of mania include: a distinct period of abnormally and persistently elevated, expansive, or irritable mood; inflated self-esteem; grandiosity; decreased need for sleep; increased talkativeness; flight of ideas; distractibility; psychomotor agitation; increase in goal-directed activity; or excessive involvement in activities having high potential for painful consequences (such as excessive spending, sexual indiscretions, poor business decisions). There may also be significant distress; impairment in social, occupational, or personal relationships; hospitalization to prevent harm to self or others; and possibly the presence of psychotic features, such as hallucinations or delusions (APA, 2013). Bipolar I Disorder frequently presents with the highs of mania coupled with the lows of major depression, typically in a cyclical, alternating fashion. According to Mitchell (2010), the minority of people with bipolar disorder has a predictable pattern of episodes; for most individuals with this disorder, the cycles

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are primarily unpredictable and chaotic.

Mr. Jones initially presents demonstrating classic symptoms of mania. Our first glimpse of him in the opening scene shows Mr. Jones laughing loudly with his head thrown back at dawn, in an obvious state of euphoria. He then travels to a construction site with the intent of securing a job as a construction worker. Mr. Jones approaches the construction foreman with a sense of charismatic grandiosity, stating he is a "precision machine." He claims he can do the work of two men and the foreman would forever regret not hiring him. Mr. Jones makes this initial speech using loud, rapid, and pressured speech patterns. He then offers to work free for one day, be paid double for the second day, and claims by the third day he will have taken over the construction foreman's job. His mood at this point is decidedly euphoric and he makes expansive gestures with the hammer he removed from the tool belt he brought with him to the job site. He continues to be incredibly talkative, and begins demonstrating a flight of ideas while talking to the foreman, in which he talks rapidly about various locations in New York, and calculating large numbers in his head.

Mr. Jones is successful in convincing the construction foreman he should be given the opportunity to work and goes to the roof of the project where he meets Howard, a coworker whom he befriends immediately. Mr. Jones continues to demonstrate grandiose ideas and delusions, claiming he is clairvoyant and has psychic powers of intuition. Mr. Jones is able to pick up on cues from Howard concerning how many children he has and where he is from based on Howard's particular upstate New York accent. In regards to this, it has been noted that individuals who are in the midst of a manic episode tend to have finely honed observational and deduction skills (Yatham, 2010). Mr. Jones demonstrates keen observational skills again a short time later in the film when he makes note of uneven tan lines on the ring finger of his recently divorced therapist.

On the job site, Mr. Jones behaves in a risk-taking manner by ignoring work safety guidelines (e.g., refusing to wear a harness while on the roof) and he is easily distracted by a variety of stimuli (e.g., other persons' hammering, conversations,

music). At one point in the movie, Mr. Jones gives Howard a one hundred dollar bill, instructing him to take his family out for supper. However while talking to Howard, he becomes distracted by the sight and sound of an airplane approaching. Mr. Jones makes a speech to Howard about his ability to fly. He then walks the pitch of the roof to the very end, calculates for a crosswind, and predicts the flight pattern he will take after he jumps (demonstrating continued delusional behavior, and now a potential danger to self). This particular episode results in an ambulance transport to the hospital where Mr. Jones is described by one of the clinicians as "agitated, delusional, psychotic, expansive, intrusive, inappropriate, and euphoric." (Greisman et al.,1993) He is then given the inappropriate diagnosis of paranoid schizophrenia and held overnight in the hospital.

Mr. Jones demonstrates additional manic behavior following his release from the hospital the next morning. Prior to leaving the hospital grounds, he approaches his doctor, intruding on her personal space, and speaks very quickly in a pressured tone. He immediately goes to his bank where he withdraws all of his money from an account he opened just the week before and leaves the bank with over 12,000 dollars (after figuring in his head the amount of interest applied for the 5 days he held the account). The bank teller, whom he has managed to convince to accompany him on a romantic adventure, joins him. Over the next two days, Mr. Jones demonstrates impulsive behavior. He spends all of the money he withdrew from his bank account, making purchases such as a baby grand piano, and paying a street vendor \$100 for two hotdogs. He also displays inappropriate sexual acting out behaviors, taking the bank teller to a hotel immediately after meeting her. Later, during this same episode, Mr. Jones disrupts a classical symphony concert by jumping onstage and taking control from the conductor. This behavior results in an arrest and further hospitalization. Based on these presenting symptoms alone, with no additional medical history taken into account, Mr. Jones qualifies for a Bipolar I Disorder diagnosis due to his presentation of a manic episode.

As noted by Comer, "Regardless of their particular pattern, individuals with bipolar disorder

tend to experience depression more than mania over the years" (2010, p. 267). In addition, a longitudinal study of patients diagnosed with bipolar disorder suggests recovery takes longer for individuals admitted with bipolar depression than individuals admitted with mania, a comparison of 44% to 61% (Angst & Sellaro, 2000). These ideas seem to correlate closely with Mr. Jones' cycles of mania and depression: several days after his initial presentation to, and release from, the psychiatric hospital, Mr. Jones begins to demonstrate the beginnings of a major depressive episode. Previously able to calculate large complex numbers in his head (as evidenced by calculating cross winds while on the construction site roof, and figuring bank account interest mentally), his concentration decreases and he is unable to do simple math equations. He appears to be listless and sullen and begins to suffer self-neglect by not bathing or shaving. Mr. Jones is found wandering the streets, unable to enjoy the things he usually finds appealing to him in his home and his life. His movements are very slow, his affect is sad, and he ultimately wanders into traffic, either not noticing or not caring that his life is in danger. It is difficult to state with absolute certainty, but based on his physical appearance at this point, it would be fair to say he has suffered significant weight loss, and his patterns of sleep cycle have been disrupted. All of these characteristics are consistent with a DSM-5 diagnosis of a Major Depressive Episode (APA, 2013). His friend, Howard, observes some of these behaviors and Mr. Jones is successfully hospitalized during this episode of depression. While hospitalized, Mr. Jones demonstrates willingness to participate in therapeutic activities, but his energy for even those interactions is visibly lacking. This hospitalization for depression is noted to be much longer than his initial hospitalization for mania, consistent with findings by Angst and Sellaro (2000).

Further evidence of the appropriateness of the diagnosis of Bipolar I Disorder for Mr. Jones is found in additional medical history provided later, during Mr. Jones' second hospitalization in the film. In providing a background of his life for his doctor, Mr. Jones reports, "by three, I was playing Mozart. By twelve, I had read everything. At 18, I was the center of the universe. And then one day I woke up and I was in a mental institution." In addition to the

characteristics of a manic episode implied in this statement (although it is confirmed during the film Mr. Jones truly is a musical genius and had studied at Julliard), Mr. Jones also discusses an overdose of aspirin and Tylenol during college. He describes this overdose as a serious suicide attempt, further emphasizing the major depressive episodes he suffers. Mr. Jones reports he was diagnosed with bipolar disorder ("manic-depressive" disorder) late in his adolescence. This is consistent with recent research data confirming bipolar disorder often presents for the first time during adolescence, with the mean age of onset between 17.4 to 22.9 years of age (Mitchell, 2010). Mr. Jones also reports a history of symptoms requiring hospitalization several times over the 20 years since his diagnosis.

Following a hospitalization for his major depression episode, Mr. Jones again cycles into apparent mania, with escalating mood, rapid and pressured speech, and regaining his sense of humor. The difference between this manic episode and the one at initial presentation is instead of expansiveness and elation, Mr. Jones is now demonstrating extreme irritability and bursts of anger and agitation. He also demonstrates extremely inappropriate social behaviors, including approaching strangers on the street in a sexually provocative manner and initiating physical altercations.

Mr. Jones demonstrates three cycles during the course of the film. Thus, it is reasonable to assume he most likely suffers from Bipolar I Disorder, with a Rapid Cycling specifier. To confirm the rapid cycling specifier, Mr. Jones must demonstrate four cycles in a 12-month period of time (APA, 2013). However, without additional information, it is impossible to use this specifier with certainty.

As introduced by Comer (2010), there are certain features scientific professionals agree upon to define behavioral patterns as psychologically abnormal. These features, also referred to as the four-Ds of abnormality, are applied to behaviors considered deviant, distressing, dysfunctional, and potentially dangerous. Mr. Jones has clearly demonstrated criteria in all four areas. Most concerning of these is apparent danger to self. The criterion of danger is met by Mr. Jones' reported history of a serious suicide attempt by overdose and his repeated risk-taking behaviors. Per the DSM-5, the lifetime attempted suicide rate in individuals

with Bipolar I Disorder is 36.3% (APA, 2013). During the course of the film, it is noted that Mr. Jones discontinues his medication regimen several times (“I’m a junkie. I need my highs.”) and his failure to comply with medication regimens that may help limit his mood swings increases his risk for self-harm.

Mr. Jones demonstrates significant impairment of occupational and social functioning as a result of his symptoms. For example, he is unable to hold a job and he left school where he was studying music as a young man. Additionally, his interpersonal relationships have been hampered by his symptoms. His former girlfriend, “the only person who ever loved me,” left him when he refused to get help for his symptoms. Furthermore, he repeatedly states throughout the film “she died” when her character is actually alive. Again, Mr. Jones’ failure to manage his symptoms makes it difficult to improve his personal situation, and his denial of his illness is a contributing factor; Mr. Jones is heard telling his doctor when confronted with his illness “I don’t have a disease, this is who I am,” and “I’ve never been normal.” These behaviors are consistent with dysfunction and deviance; however, studies have shown patients who have their symptoms well managed typically have fully good health, both symptomatically and functionally (Bowden, 2010). The distress in Mr. Jones’ case is demonstrated by his behaviors when experiencing depressive episodes: loss of interest in daily activities and events that would typically bring him pleasure, feelings of hopelessness and general apathy, and suicidal behaviors leading to hospitalization.

In regards to treatment planning for bipolar disorders, there are suggestions to be found in most theory models. Biologically, the answer lies in mood stabilizing agents used to help normalize the chemical imbalances found in individuals with bipolar symptoms. There are also brain structure abnormalities found in regions thought to be involved in the regulation of emotion and which may be linked to these classic imbalances (Miklowitz, 2010). Historically, depressed bipolar patients who are treated with antidepressant medications alone tend to demonstrate an increase in mood stability, and respond with far better symptom control when treated with a combination of antidepressants and

mood stabilizers (Bowden, 2010). The long-standing gold standard of care for mood-stabilizing treatment of bipolar disorder has, until recently, been Lithium. Mr. Jones was prescribed Lithium in the film, but was consistently noncompliant with his medication regimen. Since 2003, there has been the introduction of new medications designed specifically for bipolar disorder, with both mood-stabilizing features and effectiveness for breakthrough psychotic features (Miklowitz, 2010). These newest drugs have far fewer side effects than historical medications, and perhaps if they had been available to Mr. Jones in 1993, he would have been more inclined to maintain drug compliance.

To support his medication regimen, Mr. Jones actively participated in several therapy sessions with his doctor. Psychotherapy serves several functions in the treatment of individuals who are diagnosed with bipolar disorder. One important function is to help these individuals adhere to their medication treatment through education and support regarding the importance of their drug program. Psychotherapy also focuses on issues developed as a result of the illness: grief and loss from changes in relationships, jobs, homes, and finances; interpersonal disputes; and role transitions associated with the illness (Comer, 2010). Mr. Jones’ willingness to comply with psychotherapy sessions suggests this modality may be a very helpful tool in his treatment planning.

As a conclusion to this character analysis, it is important to address a significant ethical issue presented in this film. This is the unethical romantic relationship between Mr. Jones and his therapist, Dr. Bowen. Very early in the film, Dr. Bowen begins to develop an attraction towards Mr. Jones and while she recognized the attraction was unethical, she does not take steps to prevent the relationship from progressing. Mr. Jones, for obvious reasons related to his disorder, is not capable of making appropriate relationship decisions, and a romance escalates into a sexual relationship between them. The code of ethics for the APA specifically addresses the matter of relationships of a romantic or sexual nature developing between clients and practitioners. The code of ethics specifically forbids a sexual relationship with a present or former therapy client for at least two years after the end of

treatment; and even then a relationship of intimate nature is permitted only in "the most unusual circumstances" (Comer, 2010, p.642). Clients may suffer great emotional damage from sexual involvement with their therapists, including additional psychiatric diagnoses such as major depressive disorder and post-traumatic stress disorder.

Mr. Jones is a fictional character; his personality is glamorized, and his disease process is simplified for the sake of an audience. However, the presentation of Mr. Jones as an individual experiencing the struggles of bipolar disorder is largely accurate. The descriptions and portrayals of the complex symptoms, treatments, and interpersonal impacts of this disease are developed in a manner consistent with the cited current scientific research. Although this film is intended for entertainment purposes, and not use as an educational tool, the casual viewer can conceivably walk away with a true sense of what bipolar disorder can look like.

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Special Features

Conducting Psychological Analysis: Dramatic

Psychopathy, Cognitive Dissonance, and Altruism as Portrayed in the Television Show Dexter

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Abstract—Psychological concepts are appealing topics in the popular culture, but their portrayal is often inaccurate, leaving the audience with a misunderstanding of human nature. In this manuscript, we consider a recent episode in the popular television show *Dexter*, in which the title character is a forensic analyst who hunts and kills murderers in his spare time. At one point in the series, Dexter's sister, Debra, was a homicide detective who risked her career to prevent his arrest, and the consequences of this incident play a prominent role in the episode *What's Eating Dexter Morgan?* (Gussis & Dickerson, 2013). Debra's resulting anguish prompts sympathetic behavior in *Dexter*, uncharacteristic of psychopathy. These consequences afford us the opportunity to analyze how accurately Dexter portrays various psychological concepts. Generally, *Dexter* accurately portrays subtle psychological concepts but glorifies psychopathy. Well-informed viewers can enjoy the beneficial aspects of the show while resisting the tendency to be misled by a romanticized account of psychopathy.

Keywords: psychopathology, media portrayals, media depictions, mental illness

Psychological concepts are appealing topics in popular culture. In recent years, characters with psychotic disorders, for example, have appeared in such well-known movies as *Shutter Island*, *A Beautiful Mind*, and *Fight Club*. The demands of entertainment may lead moviemakers to misrepresent these concepts to increase the audience appeal. For example, in the movie version of *A Beautiful Mind* (Grazer et al., 6445), John Nash, the main character, experiences visual hallucinations, when in fact visual hallucinations are uncommon in schizophrenia (Chaudhury, 2010), and the real John Nash only experienced auditory hallucinations (Nasar, 1998). The portrayal of visual hallucinations in the movie was likely done for entertainment purposes, as auditory hallucinations alone would not have been as entertaining.

Does it matter when psychological disorders such as schizophrenia are misrepresented in the popular culture? After all, it seems reasonable to expect audience members to realize characters in movies and television programs are fictional and thus an inappropriate basis for understanding such disorders. Although this expectation may be reasonable, cultivation theory suggests it is nevertheless unrealistic. Cultivation theory describes viewers' beliefs that topics displayed in the media are accurate portrayals of the world (Arendt, 2010; Bryant & Zillman, 2008). In the case of movies involving psychological disorders, cultivation theory suggests viewers of these films internalize the depictions (whether accurate or not) and believe them to be true. In light of cultivation theory, inaccurate portrayals of psychological disorders

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do a disservice to the audience by misleading them, but more importantly do a disservice to those who suffer from the disorders.

With this in mind, we became interested in how accurately psychopathy is portrayed in the television show *Dexter*. Throughout the first several seasons, the title character Dexter was clearly a serial murderer, and while criminality is commonly equated with psychopathy in the popular mind, the two are by no means synonymous (Kiehl & Hoffman, 2011). As a result, audience members could not be certain Dexter was a psychopath until the eighth and final season in which he meets a psychiatrist named Dr. Vogel who explicitly confirms the diagnosis. By identifying Dexter's disorder, Dr. Vogel opened the door for us to consider whether Dexter's behavior is an accurate portrayal of psychopathy.

Although we were initially attracted to the series for its portrayal of psychopathy, as we sort through the show's episodes we began to realize that *Dexter* commonly explores psychological issues outside of psychopathy itself. We eventually selected the third episode in the eighth season entitled, *What's Eating Dexter Morgan?* (Gussis & Dickerson, 2013). We selected this episode not only because the writers had just acknowledged Dexter's disorder, but also because it does a great job of exploring other psychological themes. In a previous episode, Dexter's sister, Debra, was a cop that failed to apprehend him, and the consequences of this incident are a prominent feature in the episode. First, Debra's resulting self-destructive behavior prompts Dexter to act in a way uncharacteristic of psychopathy. Second, Debra experiences severe cognitive dissonance as a result of the incident and in this episode Debra suddenly recognizes her cognitive dissonance and how to resolve it. Finally, the incident forms the basis for much of the episode's dialogue between Dexter and Dr. Vogel, as they verbally process the role of psychopathy in human evolution. Next, we consider each of these consequences and the psychological themes they exemplify (psychopathy, cognitive dissonance, and the role of altruism in human evolution) in a broader scientific context.

Dexter the Psychopath

The TV series *Dexter* follows the title charac-

ter, Dexter Morgan as he methodically eliminates murderers one at a time. No mere vigilante, Dexter is a blood spatter analyst for the homicide section of the Miami police department, and also enjoys engaging in murders of his own. Through his work helping to catch criminals, Dexter has become an expert in the mistakes made by murderers leading to their apprehension. When indulging his own irresistible impulse to kill people, he uses his expertise to leave behind as little evidence as possible. Also, Dexter only kills people who are murderers, under the assumption police do not pursue suspects in the deaths of murderers as energetically as they would in the deaths of innocent victims. Although it may be difficult for the viewer to believe Dexter could dupe a police department into allowing a serial murderer into their midst, Dexter would not be the first person to do so. In her book about Ted Bundy, Ann Rule (1980) describes working with the police in Washington State on a series of unsolved murders during the 1970s. As a counselor on a crisis hotline, she met and befriended her coworker, Ted Bundy, and was shocked when he was later convicted for the murders.

Besides this similarity with the notorious serial killer Ted Bundy, Dexter displays many of the characteristics of the psychopath listed in Cleckley's (1941) classic work on the disorder and Hare's (1999) updated version. Psychopaths typically have no delusions or irrational thinking, which is perhaps the most surprising aspect of psychopathy to the layperson. This is surprising because in the popular mind psychological disorders are typically associated with disorganized thinking. Whereas Dexter's thinking is typically clear and non-delusional, it could be argued Dexter has delusions based on the many occasions in which he is seen conversing with his dead father. However, anyone who has lost a parent and imagined asking for advice in times of need, realizes the conversations between Dexter and his father are a dramatized version of non-delusional imagined conversations. Besides his lack of delusions, Dexter feels no remorse for his many victims and has long resorted to pathological lying to deflect the attention of law enforcement at times even exploiting his professional role to tamper with evidence. When Dexter was a teenager, his father recognized Dexter's violent behaviors such as killing the neighbor's dog as

an early sign of his psychopathy and appealed to a psychiatrist for help. Knowing that psychopaths are disproportionately represented among the institutionalized population (in the U.S. about 1% of noninstitutionalized adult males are psychopaths whereas about 16% of adult males in prison, on parole, or probation, are psychopaths; Kiehl & Hoffman, 2011), Dexter's father hoped to help Dexter avoid a lifetime in prison.

In flashbacks, the audience sees previous conversations between the psychiatrist, Dr. Vogel, and Dexter's father. Dr. Vogel knew over the long term Dexter would almost certainly fail to control the impulsivity characteristic of psychopathy. One of the most endearing aspects of *Dexter* to its many fans is the fact everyone can identify with Dexter's struggles with impulse control. Kahneman (2011) describes two separate human decision-making mechanisms and how the two interact on the occasions when people are able to control their impulses. System 1 operates quickly and with little conscious effort while System 2 requires conscious control and effort. For example, most everyone has been tempted by their System 1 to tell their bosses how they feel about them. But, System 2 realized doing so would lead to termination and overruled the impulse generated by System 1 (Kahneman, 2011). Although it is difficult enough for non-psychopaths to control their impulses, Dr. Vogel knew Dexter's impulses would prove to be irresistible so she convinced his father to coach Dexter to channel his murderous impulses into murdering only people that are themselves murderers.

Even though Dexter has many of the classic symptoms of psychopathy as described by Cleckley (1941) and Hare (1999), at times his behavior diverges from what could be expected from a psychopath. Specifically, psychopaths are often charming but only superficially, and are generally unreliable in work and family relationships. On the contrary, in *What's Eating Dexter Morgan?* (Gussis & Dickerson, 2013), Dexter shows genuine warmth and concern for his son and for his sister. As the episode begins, Dexter's young son, Harrison, calls out in pain for his dad in the middle of the night, having just consumed an entire box of popsicles. In response, Dexter wakes from a deep sleep, cleans the goopy mess off of Harrison, and offers him some medicine for his upset tummy, all while

maintaining a calm and reassuring (and only slightly exasperated) demeanor. As for Dexter's sister, Debra, Dexter becomes concerned about her excessive drinking and attempts to cheer her up by inviting her to dinner. While in the restaurant, Dexter draws Debra's attention to a nearby table. Seated there with his family is a man who would have died in the course of an armed robbery had Debra not foiled the robber, in which case the man's wife would be widowed and his daughter left without a father. Unfortunately, Dexter's attempt to cheer Debra backfires because it reminds her of how her police work made the world a better place, inadvertently aggravating the cognitive dissonance she was already experiencing.

Cognitive Dissonance Reduction

Leon Festinger (1957) defined cognitive dissonance as the clash between two inconsistent ideas. Aronson (1968, 2007) modified Festinger's work by arguing dissonance most reliably arises when a thought or behavior is inconsistent with one's self-concept. The offending thought or behavior represents a personal threat, thereby leading to discomfort. There are numerous ways to resolve the dissonance between one's self-concept and the intruding thought, but the two simplest methods are to: change the self-concept or change the thought. Because individual thoughts are typically easier to change than self-concepts, self-deception is often necessary to eliminate cognitive dissonance. For example, a woman smoking cigarettes may believe she generally makes healthy choices, but must also realize each cigarette she smokes is the result of an unhealthy choice. This woman might justify her nicotine dependence by convincing herself cigarettes are not as dangerous as she has been led to believe (Festinger, 1957).

For most people, cognitive dissonance is a fairly abstract concept and not easy to grasp, even though it's a common occurrence in everyday life. This was true of Dexter's sister, Debra, who was suffering mental anguish from cognitive dissonance. However, Debra did not realize it until she was exposed to a clear demonstration of dissonance reduction in *What's Eating Dexter Morgan?* (Gussis & Dickerson, 2013). As a private investigator, Debra was hired by a woman to gather evidence of her husband's suspected marital infidelity.

Debra promptly finds her client's husband having sex with another woman and takes numerous pictures from a distance with a telephoto lens. When Debra presents the photographs to her client, the client suggests the pictures are blurry and the face of the man in the photos doesn't appear to be her husband, whereas Debra can easily discern the face of her client's husband in the photos. Debra realizes her client wants to think of herself as a woman that is loved and respected by her husband, and Debra's photographic evidence represents a threat to this self-concept so she convinces herself the photos are bogus. Her client's behavior helps Debra understand the source of her own mental anguish and how to get some relief.

Although Debra works as a private investigator in *What's Eating Dexter Morgan?* (Gussis & Dickerson, 2013), she had been a homicide detective throughout the previous seven seasons of the show. As a cop, Debra zealously and energetically carried out her duties and took great pride in her work bringing murderers to justice. During most of the early seasons of the show, Debra was unaware her brother was a serial murderer, but near the end of the sixth season Debra discovered her brother's secret life. Shortly afterward, Debra had the opportunity to bring Dexter to justice, but her love for her brother prevented her from doing so. When Debra saw her client refuse to believe the man in the photos was her husband, Debra suddenly recognized the dissonance between her self-concept as a devoted proponent of justice on the one hand, and her failure to apprehend someone she knew to be a murderer on the other. Debra realizes her recent heavy and constant drinking was an attempt to relieve the anguish arising from the dissonance. She decides to bring her brother to justice to atone for her previous failure to do so. How might the show's audience know her abnormally heavy drinking was intended to reduce her anguish due to cognitive dissonance and not due to some other cause? Just after making her decision, Debra abruptly ceases her constant and heavy drinking, indicating after resolving her cognitive dissonance she no longer needs to abuse alcohol.

The Role of Altruism in Human Evolution

Dr. Vogel describes Debra's risking her career to protect her brother from detection and pos-

sible incarceration as selfless; Dexter enjoyed a benefit and Debra incurred a cost. In contrast, Dr. Vogel argues Debra's role in Dexter's life is predicated on what she can provide for him: companionship, a babysitter for his son, and a confidant. That is, Dr. Vogel claims any time Dexter *appears* to act in a way benefiting Debra, his *actual* motivation is to maintain her contributions to his life. Dr. Vogel goes on to insist she is not intending to sound critical of Dexter because the presence of psychopaths in human populations has been essential to human evolution and as such they have enabled the human species to survive to the present day. To support her claim, she asks rhetorically what proportion of high achievers such as corporate CEOs are psychopaths.

By describing selflessness and selfishness in the context of evolution, Dr. Vogel touches on a deeply mysterious aspect of human behavior: if nature selects the best adapted individuals to their environment to survive and reproduce, then how could behavior that benefits another while incurring a cost to the individual possibly be adaptive? And if selfless acts are maladaptive, their occurrence should disappear over the course of evolutionary timescales. Yet, humans often make seemingly selfless choices. This is the so-called problem of altruism (Cronin, 1991). In light of modern ideas about evolution, we believe Dr. Vogel is mistaken in arguing Debra's behavior is selfless while Dexter's is selfish; behavior appearing to be selfless for the individual may actually be selfish at the genetic level.

In the early 1960s, the evolutionary biologist William Hamilton wondered why people are generally (but admittedly not always) nice to their kids. The best available answer at the time was more of a punchline than a satisfactory scientific explanation: people are nice to their kids in the hope that they choose a pleasant nursing home for their parents in old age (Ridley, 2003). Seeking to develop a better explanation, Hamilton noticed animals tend to help others in direct proportion to their degree of relatedness with the beneficiary. For example, an animal might engage in personally dangerous behavior that benefits two siblings, but would avoid the dangerous behavior unless it benefited *eight* first cousins. Intriguingly, most animals reproduce sexually share approximately half of their

genes with siblings and one eighth of their genes with first cousins. Hamilton (1964) argued genes create individuals willing to act in ways benefiting the genetic material, not the individual. Dawkins (1976) later explored and developed Hamilton's ideas, going so far as to call genes "selfish" because they instill in each individual the tendency to select behaviors benefiting the genome. Because individuals' close relatives share some of their genetic material, individuals acting to sacrifice themselves while saving, for example, the lives of eight or more cousins will in essence promote the survival of one copy of their genome (i.e., eight first cousins' one eighth of a genome per cousin), even as the individual perishes.

By no means did Hamilton (1964) mean to suggest individuals explicitly calculate the degree of genetic relatedness between themselves and the beneficiaries of their altruism before engaging in personally costly behavior. Instead, in Kahneman's (2011) framework, System 1 roughly and intuitively calculates the product of the degree of relatedness and magnitude of benefit. When this product exceeds the cost to the self (i.e., the benefit to the individual's shared genetic material exceeds the cost), System 1 generates an impulse to engage in the behavior. In Debra's case, her System 1 intuitive decided that the benefit of keeping her brother out of prison exceeded the cost to her career.

At this point, the reader familiar with *Dexter* may object to our use of Hamilton's (1964) ideas about kin selection to explain Debra's apparent selflessness toward Dexter, insofar as Debra and Dexter are not actually blood relations; Dexter is Debra's foster brother. Nevertheless, kin selection is relevant because even though Debra's conscious System 2 realizes Dexter is her foster brother, kin recognition relies on more rudimentary information to calculate degree of relatedness, such as Debra having spent most of her childhood with Dexter (Breed, 2014). For this reason, Debra was willing to act in a way to benefit the man that her System 1 presumes (mistakenly) to be her brother. By this analysis, Debra's genome is selfish insofar as it endowed her with impulses likely to promote the survival of itself. The difference between Debra and Dexter is not so much in terms of selfless versus selfish; instead, Debra's actions benefiting Dexter are driven by intuitive processing in System 1;

whereas, Dexter's actions benefiting Debra are driven by executive processing in System 2.

Conclusion

Because audience members tend to base their understanding of the world at least in part on the movies and television shows they watch (Arendt, 2010; Bryant & Zillman, 2008), it is important for movie and television producers to correctly depict psychological disorders. At the same time, not just psychological disorders but many other psychological themes are commonly misrepresented in the popular mind (Lilienfeld, Lynn, Ruscio, & Beyerstein, 2010). To analyze the portrayal of a psychological disorder and other psychological themes in a television show, we identified an episode of the show *Dexter* that explored psychopathy, cognitive dissonance, and the role of altruism in human evolution. How well did this episode do in light of cultivation theory in particular and psychological science generally?

In What's Eating Dexter Morgan? (Gussis & Dickerson, 2013) as in other episodes of the series, Dexter's rational and non-delusional thinking, lack of remorse for his victims, pathological lying, behavior problems as a juvenile, and impulsivity create an accurate portrait of a psychopath as described by Cleckley (1941) and Hare (1999). Perhaps the biggest problem with *Dexter* is not its portrayal of psychopathy grossly diverges from psychological science, but rather it diverges in a way likely to elicit the audience's sympathy for Dexter. Depicting Dexter as handsome and able to maintain deeply meaningful long-term relationships with his sister and son lead to the impression (via cultivation theory) that most psychopaths are the same way. When in reality, the vast majority of psychopaths are just unpleasant people that do socially unacceptable things (Miller, 2000). As with the movie version of *A Beautiful Mind* (Grazer et al., 2001), depicting Dexter as such is almost certainly for purposes of entertainment insofar as the audience would be unlikely to identify with a loner unable to maintain meaningful relationships. In terms of cognitive dissonance, the episode *What's Eating Dexter Morgan?* does a nice job of showing how cognitive dissonance is a common occurrence in our everyday lives, even though we don't typically notice it. Finally, as a psychiatrist Dr. Vogel could be

expected to have a better understanding of evolutionary psychology than she evinced in *What's Eating Dexter Morgan?* Perhaps Dr. Vogel can be excused for misrepresenting the motivational differences between Debra and Dexter because the selfless/selfish framework she used is more familiar to the average television viewer than kin selection and kin recognition.

We find *Dexter* is generally well-written, often accurately portrays subtle concepts in psychology (e.g., cognitive dissonance), and is wildly thought-provoking. The most egregious charge that can be directed at the show is that Dexter falsely glorifies psychopathy. After reading this analysis of the television show *Dexter*, the viewer should be equipped to appreciate the benefits of the show while resisting the glorification of psychopathy.

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Psychologically Speaking

The Evolution of a Psychologist: An Interview with David Buss

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Background—David Buss was born in 1953 in Indianapolis, Indiana. He is the son of Arnold Buss and Edith Nolte and has one older brother and one younger sister. Buss dropped out of high school but after working a twelve-hour graveyard shift at a truck stop, he decided to return to school and earned his high school diploma by taking night classes. Gaining entry into the University of Texas by way of a lucky lottery number, Buss excelled at academics, earning his BA degree. After which he did graduate study, earning his Ph.D. at the University of California, Berkeley. Buss then spent four years as Assistant Professor at Harvard University. In 1985, he migrated to the University of Michigan, where he taught for eleven years, Buss was elected to be a fellow at the Center of Advanced Studies in the Behavioral Sciences in 1986, and in 1996 he joined the faculty at the University of Texas.

Dr. Buss is best known for his works on human mating strategies and their relationships, conflicts between the sexes, prestige, social reputation, status, emotional jealousy, homicide and most recently the issues related to stalking. David Buss along with K. H. Craik has also analyzed and investigated on how certain traits specifically make up a personality.

Throughout his career, Buss has received many awards and honors. He won the Hoopes Prize for Supervising Award-Winning Summa Cum Laude Honors Thesis at Harvard University in 1984. In 1988, he won the A. P. A. Distinguished Scientific award for early career contribution to psychology. In 1989, Buss won the distinguished faculty recognition award from the University of Michigan and the G. Stanley Hall Award by the American Psychological Association in 1990.

David Buss is a prolific author. One of his distinguished books, *The Murderer Next Door* presents an evolutionary perspective of modern theory of homicide. His many other books include *The Dangerous Passion* and *The Evolution of Desire*. *Evolutionary Psychology: The new science of Mind* has been published in its fourth edition in 2011.

Miller:

There will be five students conducting this interview. Wayne State College is represented by the President of their Psi Chi Chapter, Cali Kruger, who is studying both psychology and criminal justice. She is a senior and hopes to find work in Omaha after graduation. Victoria Linnerson is a senior, double

majoring in psychology and sociology, who plans to pursue graduate study in social psychology. Kylie Funk is a junior with a major in psychology and minor in biology who plans on a career in clinical psychology. The University of Nebraska at Kearney is represented by Erin Gotschall, who is majoring in psychology and minoring in health sciences.

*Faculty Sponsor.



After graduation, she will be studying occupational therapy at Creighton University. Serena Hogg is a junior psychology major and family studies minor who is interested in the effects of environment on behavior. So without further ado, I will leave you in the capable hands of these students, who have prepared a series of questions.

Kruger:

Why did you decide to drop out of high school and what led you to go back? Did that spark your desire to want to go to college?

Buss:

Well, that's a complicated first question. What led me to drop out was [that I] was bored out of my mind. I think legitimately. I cut class a lot. At that time there was also an arrest record or two that kind of forced the situation, for very minor and innocuous offenses. But, I dropped out and I went to work at a truck stop pumping gas and pumping tires for twelve hours a day and I decided I didn't want to do that for the rest of my life. So, that kind of led me back into civilization.

Hogg:

Who influenced you to become a psychologist, and were there significant teachers who played a role in your decision?

Buss:

Well, yeah I guess I have to credit my father who was a psychologist. But, I guess what really interested me in psychology was the study of human nature. I wanted to understand what made people tick, what motivated people, what caused people to get out of bed in the morning and do something rather than nothing. So, human nature was always

something that interested me, the underlying psychology of what drove people to do what they do. That's what I got into and that's what I've been fortunate enough to devote my life to studying.

Linnerton:

How did your parents influence your studies? Did you follow in your dad's footsteps or did you naturally do so?

Buss:

Well, let's see, that's a hard question to know because there's a confound of environment and genetics. My father didn't push me into psychology or any particular thing. I have two siblings, one of whom went into operations research, but I guess I would say career wise, the path of being a professor appealed to me. I liked the look of the lifestyle. For many people it's not the right thing, but for a small percentage of people it is. I'm very fortunate that it was a lifestyle that suited me. Here's one thing that my father said to me, he said, "David, to be merely competent in this world is to be outstanding." So yeah, I learned some lessons from my father and I'm appreciative to him for that.

Gotschall:

Is it true that you were able to attend the University of Texas for your undergraduate degree by drawing a lucky number? Did this have any impact on you and your academic success?

Buss:

Well, the first part of your statement is absolutely true. They had a rule at the time related to admissions to UT that if you were in the top ten percent of your graduating class, in terms of grades and things like that, you got in, and if you weren't you were put into a lottery. It was a one or two year lottery system they had at the University of Texas, and I wasn't in the top 10%. I was a terrible high school student. I cut classes all the time, I never did my homework, and so my grades were poor. I actually always did pretty well on the exams because you didn't need to study for those, but I never turned in any homework, so I'd always get bad marks on that. So yes, it was true I got put into a lot-

tery system. It is also true that two thirds of the people who were put into the lottery system got into the University of Texas. It was a lot easier back then to get in, so if you were a resident of Texas, which I was at the time, it was pretty easy; now it is extremely competitive. Did this have any influence on me? Well yeah, it changed the whole course of my life. I got intellectually engaged for the first time, from my freshman year on, and I thrived. I became intellectually turned on for the first time ever, which I wasn't in high school, and I think legitimately so. Maybe people who go to high school nowadays have fantastic teachers that dazzle them intellectually, but I didn't. So, I was very fortunate to get in on this lottery system, since it totally changed my life. I could have ended up pumping gas for the rest of my life.

Funk:

Why did you choose Berkeley for graduate school?

Buss:

Well, that's a good question. I got into most of the graduate programs that I applied to, but most of the professors I had were pushing me to go to the University of Minnesota. But, I got into Berkeley and I thought about the dark, cold winters in Minnesota, and Berkeley, California seemed like the land of opportunity. It seemed exciting, and so it was more of a lifestyle decision. Intellectually, who knows what would have happened if I had gone to Minnesota. I'm sure I would have done fine at Minnesota as well, but as it turned out, Berkeley just seemed like the land of opportunity and I wanted to launch myself into life, so that's what I did.

Kruger:

What topic was your first research project conducted on? Why did you choose that topic?

Buss:

The first research I did was related to what I'm doing now. It was on dominance and status hierarchies and access to women. I was an undergraduate at the time, and I proposed this hypothesis, just to upset my professor, that the only reason that men wanted

to get ahead in the status hierarchy was to gain access to women. I actually didn't even believe it myself, I just thought it would upset the professor, and I was in one of these adolescent, rebellion phases. So, I wrote this paper and I was smart enough to marshal evidence for it. He thought it was interesting and wanted me to present it to the class. So, I presented it to the class, and the class thought it was all interesting. The women in the class thought it was interesting, so it got me interested in that whole issue. To this day I have remained interested in status hierarchies and mating. So, that early research project as an undergraduate somehow had an indelible impact on me.

Hogg:

You said you felt that it was right for you to become a professor, when did you feel like you made that decision? When did you know?

Buss:

I think when I was a junior in college I knew that's what I wanted to be. I didn't know whether I had the talent or ability to succeed at that time. Let me back up a second. What I really was interested in was exploring what makes people tick. I was interested in the fundamentals of human nature. That's what I wanted to find out about. At that time as a junior in college, I did not believe that psychology offered the path to that understanding. So what I thought that I would do was I would go through the motions, get my Ph.D., and actually that wasn't even a goal, my goal was to get tenure and once I got tenure then I could devote my time to exploring human nature. Because I thought that career path offered me the opportunity to do that. What I weirdly discovered was that in the course of this enterprise through psychology and discovering evolution that I could actually do that through my work. I didn't have to do it as a side venture. So that's basically what happened and I ended up devoting my career to what I really wanted to do to begin with.

Linnerson:

What led you to evolutionary psychology

besides mating habits and your professorship? Were there other factors?

Buss:

What led me to evolution was this: If you look at the field of psychology, what you have are a large number of what you could call mini theories--cognitive dissonance theory, attribution theory, all these different mini theories that are designed to explain bits and pieces of the human mind. They may all be perfectly finite and good but what they lacked was a fundamental set of underlying principles, like getting back to basics. Why should we have cognitive dissonance? Why should we find discrepant thoughts uncomfortable? Asking that why question. If you keep asking that why question, you get into deeper and deeper levels of explanation. When you get to those deeper levels that really brings you to evolutionary theory. What causal processes created whatever psychological mechanisms we have with us today. So it was really the intellectual pursuit of human nature that led me to evolution and I believe to this day that it remains the only coherent metatheory we have for psychology, for the whole field of psychology. Now, I may be judged as a lunatic in the future, but we'll see.

Gotshall:

How, if at all, have you involved undergraduate students in your research?

Buss:

Undergraduates have been hugely important. I have a lab so it is somewhat hierarchical, as humans are, we form status hierarchy. So there's me, then I have a team of graduate students, then we have a team of undergraduate students. At the moment I typically have between 4 and 6 graduate students and between let's say a dozen and 25 undergraduates in the lab at any given point in time. Undergraduates have been hugely important; and this makes me feel really old but undergraduates who have worked with me are now professors around the country. I have one undergraduate who worked with me who is now a chair of a psychology department at Bradley University.

Undergraduates take my courses, they get turned on, they want to do research, we involve them in the research, and the smart ones (there's some selection there) go on, they go to graduate school. They go other places. I don't accept graduate students from my own undergraduate pool, typically. I made one exception one time. They gain valuable research experience and go on, and some of them do great things. I am hugely proud of them.

Funk:

What motivated you to write and publish *The Evolution of Desire: Strategies of Human Mating*?

Buss:

That's an interesting question. That was my first book, *The Evolution of Desire*. I always knew I wanted to write books. I actually wanted to become a novelist before I wanted to become a psychologist. I wanted to do enough research in a topic to feel that I had the justification, or warrant, or credibility to actually write a book and know what I was talking about. So that's what I did. *The Evolution of Desire* was published in 1994 and at that point I had been doing research on human mating for about ten years. So it had basically launched the field of human mating strategies, the scientific exploration of human mating strategies. This book was meant to pull it all together and put it in all one place, in one publication. I would add one more thing in an answer to your question. And that is I believe at a moral level, since I work at a public university (at the moment the University of Texas). My work is supported by the taxpayers, by people. I believe we have a moral obligation to the public to disseminate scientific knowledge that the public is supporting us to create. To just have my work be read by the 75 people who subscribe to some obscure scientific journal doesn't make any sense to me. So that's partly what motivated me to write *The Evolution of Desire*.

Kruger:

How do you deal with negative feedback about your interpretations of human mating

strategies?

Buss:

That's easy, they're wrong, and I'm right. I have gotten a lot of flack, the work I have done has become less controversial over time but it always has been controversial. When I was an undergraduate, in your position and your age, there were what I view as false beliefs about human nature that men and women were psychologically identical. We know that that's not true, but that's what I was taught. One of my mentors, a woman named Jean Block had the view that men and women were identical except by virtue of giving girls Barbie dolls and boys guns and trucks. I didn't believe it; it never made sense to me that we were blank slates on which our parents and culture wrote the script. We're not, and so, I may be deluded on this, but my view is that, I like to keep my eye on the truth. That's what our goal is, that's what I am hired to do, is to seek the truth of human nature. And so, do the things that I discover upset people? Yes, they do. Does the theoretical perspective upset people? Yes, it does. But at a minimum, it is an equal opportunity upsetter. So, politically it upsets people on the right, it upsets people on the left, for different reasons. It upsets psychologists, it upsets everybody. But, my goal is not to avoid upsetting people and I don't set out to upset people. I may have a little of that rebellious spirit that I had when I was younger, but that's not my goal. In some weird way, I'm fairly conservative, scientifically, in that I don't publish things unless I replicate them extensively. So, I don't publish things unless I know that they are right. And so one of the things that I am proud of in my work, and this is not true of all [psychologists], is that even people who hate my work and hate my interpretation, when they try to replicate it, they replicate it. And so, I know my findings are solid, because even people who hate me replicated the work. So, they may have a different interpretation, which is fine. That's the nature of science: we have competing explanations. But because I know that the work is going to

be somewhat controversial, I want to make sure that it is solid before I publish it. And so, that's been my goal. You have to have high scientific standards and then let the chips fall where they may. If it upsets people, that's the way it is. My goal is not to tap dance around human nature. We have dark sides of human nature and if they exist, than it's our job to reveal them.

Hogg:

What are the challenges you have encountered with your cross-cultural research?

Buss:

Oh, that's a great question. There are a million challenges and one is language. Say you take a word, even like attractive, and in some cultures you have to have two words for it, depending on if you are referring to a man or a women. Or there's not an exact translation of the concepts. Every language has different nuances, so there's that issue. In mating, one of the first cross-cultural studies that I did was this cross-cultural study on what men and women want in a long-term mate. When I went to a polygamous culture, Zambia, and also Nigeria, my collaborator there said, 'Do you mean, what do we want in our first wife or our second wife? Because they are different.' So I had never thought about that some cultures are polygamous. In some cultures, like the Zulu tribe in South Africa, the women were very reluctant to reveal what their mate preferences were, because they thought that men might use that information against them. Which is kind of interesting, that people sometimes try and keep their mating strategies subterranean. So those were a few of the things that I encountered, but it was really an eye opening experience. I encourage everybody to do more cross cultural research. Being in psychology, I am sure you all know, a lot of it is based on college sophomores, American college sophomores, and so most people don't go to different cultures and study other people, but it's highly recommended.

Linnerson:

What findings of your research did you find

most interesting or surprising?

Buss:

Most interesting or surprising, okay, well we could be here all night talking about those. One is love, the importance of love and that's universal, cross cultural and universal. I think love evolved in humans in the context of long-term committed mating relationships. It doesn't occur with one-night stands, or short-term sexual encounters. The sheer complexity of women's mating strategies continues to surprise me. The nuances, the subtleties, the fact that men throughout the ages have asked, what do women want, and we can't figure it out is, I think, testimony to that complexity. As I was saying in my talk earlier, and I don't know if anyone in the audience will be hearing that talk, but that women's attraction to men varies as a function of whether they are going through short-term mating or long-term mating. Whether they are ovulating or not, whether the guy is holding a baby or not, how he is interacting with the baby, what clothes he is wearing, the social context, even whether there's a woman standing next to him. All of those influence how attracted women are to men. Men's mating strategies are not that complex. Now, I think that this is a truism and maybe it is an over simplification, because I think that men's mating strategies are more complex than we give them credit for. So we tend to stereotype men as being overly simplistic, but compared to women, they are. They just simply are. They are not as complicated. I look at men and I study men and I feel like I have x-ray vision into their minds. I know exactly what they are thinking, exactly what they are doing, but with women, I am still baffled. So after all these years of studying women's mating strategies, I am still trying to figure it out.

Gotshall:

What do you hope will be your greatest impact on the field of psychology?

Buss:

Well, that's a good question. You guys are good. My greatest impact on psychology-- I guess there are two ways to answer that.

One is a small way, in terms of the content in what I do. I study mating and murder, so those are two very important domains. I hope my work has some pivotal influence on the development of, or the understanding of mating and murder. More broadly, I hope that my work has helped and will continue to help to marshal in the necessity for an evolutionary understanding of human psychology. It is indispensable; it's not an optional exercise. To give an example, if you are a medical researcher and you specialized in studying the liver, you are a liver expert and someone asked you the question, what is the function of the liver, and you said, well, I don't know. We would view that as problematic. Because we have to understand the function of the liver, what it is designed to do. In the case of the liver, to filter toxins, and some other functions. But by analogy, if someone asked you what is the function of the human mind, what is the function of our psychological mechanisms, what are the functions? You say, well, I don't think that's an interesting question. We would see that, I would hope, as an inadequate answer. We have to understand the functions of our psychological mechanisms as much as our physiological and anatomical mechanisms. So I hope that my work has some influence in getting people to realize that understanding adaptation and natural selection, understanding the evolutionary basis of our psychological mechanism is not an optional exercise, it's a necessary exercise. All psychology is evolutionary psychology, to put it bluntly. There is no such thing as a non-evolutionary psychology.

Funk:

How did your early undergraduate experiences shape the way you deal with undergraduates now?

Buss:

I was very fortunate that I had wonderful undergraduate experiences. I got involved in a lot of research, and I had professors who believed in me who took the time to interact with me and to involve me in their research projects. So I try to do the same, I had a won-

derful undergraduate experience, and I hope that I have provided that to my undergraduates.

Kruger:

How has your teaching style evolved over the years?

Buss:

My undergraduate teaching style has become more professorial in my view of things, or more confident in saying things as I really think they exist. Another way of saying that is just more honest. But I think that is part of my own maturation as a scientist. I think that I do have a deeper understanding of human nature now than I did when I started out as an assistant professor. So with my undergraduates, with my teaching style, I basically just tell it as I see it. I'm honest, I don't try to lie or persuade or delude anyone. I say these are the arguments, this is the evidence. If you find flaws with the evidence let's talk about them. I'm not dictatorial in my teaching style, even in my large undergraduate classes. I teach an undergraduate evolutionary psychology class, there are 100 students, and it is very interactive with a lot of dialogue. There is a lot of exploration of these issues together; it is not just me lecturing at them. To me that is to boring, I like it to be interactive.

Hogg:

What is your favorite part of working with undergraduate students?

Buss:

Brainwashing them. Having access to bright young minds that are not fully formed, who have not made up their minds. I find undergraduates to be much more open-minded as a group, than let's say professors, to state it frankly. By the time you reach professorial status your ways of thinking have ossified and solidified in ways that often reflect the ways you were taught as a student. Undergraduates are more open. I find I have my greatest successes in teaching with undergraduates, more success than any other group of people. I think it is partly because they are more open-minded and less rigid. It is maybe an unfortunate process of ageing

that brains ossify with age. I hope it does not happen to me, maybe it already has. I try to cling to that ideal that you should be open minded and that if my ideas should be proven wrong that I would be open minded enough to accept that. There is definitely an age effect. The whole hope for the future of the field lies with the undergraduates.

Linnerson:

What are your hobbies that you like to do?

Buss:

I like athletics: tennis, squash, disk golf, I like hiking. My latest hobbies that I have recently picked up are snorkeling and scuba diving. I like physical things; I've spent so much of my life doing intellectual things. But I am a very physical person; I like to get out into the environment and the wilderness, the world, and the water and physically interact. So that is what I do with a lot of my spare time.

Gotschall:

How do you balance your work life and your personal life and is there anything you do to make sure both receive adequate attention?

Buss:

That is a good question; it's hard to balance the work and personal life. One of the things we know from evolutionary theory is that time, energy, resources, and effort are finite commodities. So, you allocate them to one thing and they can't be allocated to other things. I would say earlier in my life I was less imbalanced than I am now. I'm not even sure that is a fair statement because I have always been distributed. I have always given my relationships very high priority, but I have also always given my work high priority. I think earlier in my life my work was maybe disproportionately higher in priority than it should have been. I think I am more in balance now with respect to that. Freud said that the two things in life are love and work, I would add to that I think there are love, work, and play. I think that play is important, so I try to do all three things. I have a lot of interests, I'm a big movie buff, I do athletics, I go to movies and concerts, and read novels. I do a lot of different things, and try to keep open minded, given my increas-

ingly ossifying brain.

Funk:

What is your favorite part of being a professor at the University of Texas?

Buss:

My favorite part of being a professor at the University of Texas is that I get to do exactly what I want to do. One of the perks of this particular profession and where I am in this profession, is that I don't have a boss. There is a chair in my department but he doesn't really tell me what to do. I can study whatever I want to study. That is an amazing perk. So if you have a 9-5 job, you can't do that. You have a boss and they tell you what you have to do and you do that 9-5. I literally have no one who tells me what to teach. I can teach whatever I want to teach as long as students sign up, which they always do. So I can study what I want to study. I have the intellectual freedom to pursue studying human nature; in whatever the direction they take me: from mating to murder. I wasn't trained to study mating or murder, but I can do that. And I guess the other thing is just having the amazing selection of bright undergraduates and also a cadre of very bright graduate students who I can influence. That is an amazing thing. I wouldn't trade my job for anything. I can't imagine being happier doing anything else in the world. I don't think it is for everyone. I think one or two percent of people are cut out for this particular, weird profession. You think of the way in which we evolved hunter gather societies, what were your jobs? Well your jobs were you have to hunt, you have to gather, to build shelter, you have to protect your family, you have to ward off predators, you have to ward off hostile tribes: those are your jobs. Now we have these other jobs, most of which are very constraining. I think a lot of people work in order to live. And they work to get a paycheck to do the things they want to do, but a small number of us actually get paid to do what we enjoy doing.

Kruger:

If you could give one piece of advice for students to promote their success, what would

it be?

Buss:

There are the usual clichés, which are true, to follow your passions and all that. I do believe that those are true. You have to have accurate self-assessment of what you are good at. Do you have the abilities to succeed in what you want to do? So in the modern world there are a million things that you could potentially do with your life. We are blessed with that in ways that are unprecedented. And most of us are not exposed to all the things we could potentially do. So all of us could potentially do 1500 different things with our lives. And we have to pick one path, or a couple of paths. But my view is life is short and then you die, so don't waste it. Do something you really love doing. It's a cliché, I know, but it is, I think, one of those clichés that is true.

Hogg:

Finally, what are you currently working on, you kind of hit on that but if you want to expand on it more? What do you have planned for the future?

Buss:

I guess two things have obsessed me recently. One is the topic of conflict between the sexes. And this is an enduring topic, I published on it a bit over the years. But the ways in which men and women get into conflict with each other, which ways they do, and even things like disconnect between men's minds and women's minds. I'll give you one concrete example: attractiveness. So there are these studies where you show women different body sizes, ranging from really thin to really wide on a one to nine scale, where nine is the really plump ones and one is really thin. You ask women, what is your ideal body type? And women said-five is the midpoint of the scale- women say four. And then you ask women, what do you think men's ideal body shape is for women? And women say four; putting it on the exactly same spot. Then you ask men, what is your ideal body shape for a woman and they put it at five. So this is an instance, just one example, where there is a bias in cross-sex mind reading. In

this case, women erroneously believe that men want them to be thinner than they really want them to be. Now we don't know exactly why this has occurred. It's probably a phenomenon, a weird phenomenon of modern culture, having to do with media influences and things like that. But that really interests me, that there would be bias that women would not be more attuned to what men actually want. There is a systematic bias. And actually there are biases in the other direction. One of the ones that I have studied is what we call the sexual over perception bias. When a woman looks at a man and she smiles, and you stop the video and ask men why did the women smile, men say she was coming on to the guy, she was obviously sexually interested in him. Women say, well actually she was being friendly. Men over-infer sexual interest based on these minimal cues like a smile. This is what fascinates me. Both of these sexes have these biases, where they are incorrectly reading each other's minds and to me that is an amazing thing. It tells me: a) we have different minds, males and females have different mating minds, and b) there is this disconnect between them. So, I wonder if things like knowledge about these biases could be beneficial in just understanding each other. So, that is one topic that interests me a lot--these conflicts between the sexes in part generated by these biases of cross-sex mind reading. And the other thing that interests me and is a grossly understudied topic in psychology is status, prestige, and social reputation. So all groups have status hierarchies, where some people are up, some people are down and people are constantly shifting. You do something valuable to the group and your status goes up. If you humiliate yourself in public, your status goes down. So we have this intricate psychology on monitoring other people's status and prestige, and our own status and prestige. But we know about what processes, what psychological processes are going on with that. Do they differ between men and women? Why are people so sensitive—why is the loss of status so painful to

people. And it is, people kill themselves over it in extreme cases. So that whole issue of social status hierarchies is something I think is really important and

Psychologically Speaking

Challenging the Myths about Human Aggression: An Interview with Brad J. Bushman

Kylan Heiner¹, Steven McKinley², Austin Seeley³, & Richard L. Miller^{4*}

**¹Weber State University, ²Colorado Mesa University, ³University of Northern Colorado,
& ⁴Texas A&M University-Kingsville**

Background—Brad J. Bushman was born in 1960 in Salt Lake City, Utah. He earned his BS in psychology from Weber State College in 1984 and his Ph.D. from the University of Missouri in 1989. Dr. Bushman held faculty positions at Iowa State University and the University of Michigan and served as a Visiting Professor at the Warsaw School of Social Psychology in Poland. Currently, he is a Professor of Communication and Psychology at Ohio State University, where he holds the Margaret Hall and Robert Randal Rinehart Chair of Mass Communication. He is also a professor of Communication Science at the VU University Amsterdam in the Netherlands. Dr. Bushman conducts research on the causes, consequences, and solutions to the problem of human aggression and violence. He has also conducted research on the impact of media on pro-social behavior. In challenging several myths about aggression, he has found that violent people do not suffer from low self-esteem, violent media have more than a trivial effect on aggression, venting anger does not reduce aggression, violence and sex on TV do not sell products, and warning labels of media content do not reduce audience size. Dr. Bushman has over 160 publications in peer-reviewed journals, including the top scientific journals (e.g., *Science*, *Nature*). His research has been featured on television (e.g., ABC News 20/20, CBS Evening News, PBS NewsHour), radio (e.g., BBC, NPR), in magazines (e.g., *Newsweek*, *Time*, *Health*, *Sports Illustrated*, *Scientific American*), and in newspapers (e.g., *New York Times*, *Wall Street Journal*, *USA Today*). He has also received numerous awards and accolades throughout his career, including the 2013 Ig Nobel Prize in Psychology for research that makes people laugh and then think, and the Distinguished Lifetime Contribution to Media Psychology and Technology Award in 2014. Dr. Bushman lives in Lewis Center, Ohio, with his wife Tam Stafford and their three children Becca, Nathan, and Branden. In his spare time, he likes to ride his bicycle, listen to jazz, and practice Tang Soo Do (Dan 2), a form of Korean martial arts.

Miller:

The following interview was conducted at the annual meeting of the Rocky Mountain Psychological Association held in Salt Lake City, Utah in April, 2014. There were three students who conducted this interview. Austin Seeley graduated last Spring from the University of Northern Colorado where he majored in psychology and minored in art. He was in the Honors program and served as chapter president of Psi Chi. He is cur-



*Faculty Sponsor.

rently enrolled in the MSW program at Boston College. Kylan Heiner graduated from the University of Northern Colorado with a BS in Psychology. He is currently applying to doctoral programs in industrial/organizational psychology and is planning to pursue a career as an international organizational consultant. Steven McKinley is a junior at Colorado Mesa University (CMU), where he is majoring in counseling psychology and minoring in addictions counseling. He is president of the CMU Psi Chi chapter and serves as a cabinet representative on the campus board of National Alliance on Mental Illness (NAMI). Upon graduation, he plans to pursue a doctorate in counseling psychology and to work as a therapist.

(To the audience)

The transcript of this interview will be published in the *Journal of Psychological Inquiry*, which publishes undergraduate student research. In addition, there is a Special Features section that serves a variety of purposes. It is a forum for student essays on topical issues and also features, from time to time, interviews with distinguished psychologists, like Dr. Brad Bushman.

The three student interviewers will be asking a series of questions on specific topics. After each topic, those of you in the audience will be given an opportunity to ask questions on that topic as well. If you have a question, please start by announcing your name and university affiliation. The topical areas addressed in this interview will be Dr. Bushman's background, research, teaching, and personal life. The first question will be asked by Austin.

Seeley:

Who influenced you to become a psychologist? Were there significant teachers who played a role in your decision?

Bushman:

That's really a good question. I actually worked for a company named Bourns. They make potentiometers, which are controls for the space shuttle IBM, Macintosh Computers, or Whirlpool, anything that has a knob you

turn. I was studying to be an engineer and they were paying for my education at Weber State. I was in the honors program taking classes such as Greek Mythology and Western Civilization. I just happened to take an honors course in human aggression and it literally changed my life. I was doing a lot of research at Bourns; you can imagine that if you send a space shuttle up into space, those controls better work. So they were doing a lot of experiments exposing different materials to different temperatures, then turn the knob 10,000 times and make sure they work under varying humidity and temperature conditions. So I knew about statistical process, control, and experiments. I was doing research there, but in this honors course on human aggression we read stacks of articles published in the *Journal of Personality and Social Psychology* and I thought, "Wow, why am I doing research on potentiometers? I should be doing research on human aggression instead. This is really cool stuff."

My dad was a fire fighter and hated his job. It was before the time they had all the safety equipment. When we were kids he used to tell us over and over again, "Find a job you love. Find something that really excites you. You don't want to wake up every morning and say, 'I've got to go to work today, I hate my job. You can't do that. I do that every day.'" So he really pounded it into our heads, "Find something you really love." So I took this honors course from Hal Bertelson at Weber State. It was absolutely fantastic and I thought, "That is what I want to do. I want to publish articles in the *Journal of Personality and Social Psychology*," even though I didn't know anything about it. I asked Dr. Bertelson, "Who publishes those articles?" He said, "Mainly social psychology professors." He told me that professors teach and do research. I didn't know anything about teaching, so [I] got a master's degree in Education at Utah State to help me be a better teacher. I knew a little bit about research from working at Bourns, but I wanted to know a lot more. So I got a masters degree in statistics

at the University of Missouri to help me be a better researcher. I also got my Ph.D. in social psychology at the University of Missouri. But it was that honors course that literally changed my life. I thank Professor Bertilson for that, he is great.

Heiner:

What was the reaction of your family and friends to you choosing psychology as a career?

Bushman:

Well my dad was thrilled because I found something I was excited about. And he had told me ever since I was a little boy to find a job I really loved. And my mom also was really thrilled about me finding something that I wanted to do. My family didn't have hardly any money. My father was a fire fighter and my mom was a secretary. They didn't pay for a penny of my education, not one cent. I had to go into debt my first semester to get some loans. But then I got really good grades and got some scholarships to pay for the rest of my education. When I turned sixteen my parents said, "We wish you could drive our car, but you can't. You can take the bus or ride your bike or earn money and buy your own car." I've been working since I was fourteen years old. Actually Chauna Cummings is here. I worked in her brother's (Nick Cummings) metal works. It sucked. You know those railings when you go up the stairs that have the scrolls? He made those and it is hard work. Man, it's dirty and it's hot. It's not fun but I knew that my parents had no money. So if I wanted to do something with my life, I needed to get my own money. It was probably against the law to hire a fourteen year old, but Nick was my cousin and hired me anyway. My parents have always been supportive emotionally, but they couldn't support me financially. I understood that. I worked full time while I was going to college. I went to school in the day, then worked from 3:30 to midnight at Bourns every day. I studied like crazy on the weekends, when I got off work at midnight, and early in the morning.

McKinley:

You mentioned that it was pretty much a fluke that you took a social psychology course on aggression. Was there someone specific who influenced you to study aggression and violence?

Bushman:

Well, Hal Bertilson was the professor who taught the course, so he triggered my interest in the general topic. But I was really interested in violence in the media and at that time Len Berkowitz was a professor at the University of Wisconsin doing the best work in violent media. So I applied to the University of Wisconsin to work with him. I contacted him before I applied and he said, "I'm about ready to retire and I basically just write textbooks. You would be much better off working with my former Ph.D. student Russell Geen." In my honors course on human aggression, I saw that Berkowitz and Geen had published a lot of articles together on the topic of media violence. I read everything they ever published. So I contacted Russell Geen and he said he was taking a new Ph.D. student the year I applied. I told him about Hal Bertilson and he said Hal had just written a chapter in his book. "Yeah, I know Hal." I said, "I'm getting really good grades, and I'm going to study really hard on the GRE. I have a master's degree in Education. I'm really committed to this." He said, "OK, you should apply to Missouri." So I applied to the University of Missouri and they accepted me. I worked with Dr. Geen there and it was great. He was fantastic and a wonderful mentor and I'm really glad I got my Ph.D. working with him. Dr. Geen had written the aggression chapter for the Handbook of Social Psychology. When I read it I thought, "man, this guy really knows aggression, which is what I wanted to know." So he was a really good fit for me.

McKinley:

Is there anyone who would like to ask Dr. Bushman a question on his background?

Cummings:

"Well it isn't a question, but when you did your lecture at Weber State University last year, you told how before you got into that

work your were influenced by something that happened in Ogden, Utah.”

Bushman:

The Hi-Fi murders? They were horrific. So, when I was in high school I was always interested in engineering and electronics. I worked for a place called Audio Service Lab. Most high school kids are flipping hamburgers or whatever. I'm repairing audio equipment, installing car radios, and stuff like that. I went to Weber High school, which is in Pleasant View. There was a teacher there named Brent Richardson. He taught two electronics courses, basic electronics and digital electronics. I took both classes and loved them. Mr. Richardson owned an audio store in Ogden called the Hi-Fi Shop. And one night, just before closing, two armed men broke into the Hi-Fi Shop. There were two employees in the store that night (ages 20, 18) and one friend (age 16). The armed men locked the door and had these three young people go in the basement at gunpoint. When their teenage kids didn't come home, two of the parents came to the Hi-Fi Shop looking for their kids. The gunmen forced the two parents to go down in the basement too and forced all five of these people, the three teenagers and the two parents, to drink liquid Drano and put duct tape over their mouths so they couldn't spit it out. Three of them died that night. One of them was hospitalized and suffered permanent brain damage, suffered chronic pain the rest of his life, and died at age 44. One of the fathers, that I've actually talked to, didn't swallow the Drano even though it was burning his mouth like crazy. He pretended to be dead and forced the duct tape out of the corner of his mouth a little bit and just let it dribble out. So he never swallowed the Drano and he survived that night. I got the court proceedings for this case. One of the witnesses testified that these two killers got the idea of making their victims drink Drano from watching a Clint Eastwood movie called Magnum Force in which a man kills a woman by forcing her to drink liquid Drano. I bought that movie and I've seen that scene.

MYTHS ABOUT HUMAN AGGRESSION

Another witness testified that these two killers watched the movie Magnum Force three times in one day, just before the murders. They took the Drano and the duct tape to the store as a premeditated lethal weapon. The crime had ripple effects on my teacher. Nobody wanted to go in the store anymore because three people were murdered there. So he had to close down his store. For me, the crime made me curious about the possible impact violent media can have on people. In retrospect, it influenced my interest in studying violence in the media.

Seeley:

We are going to move on to questions on your research. The first thing I would like to ask is that a good percentage of your research deals with human aggressiveness. Do you perceive people as generally aggressive and destructive by nature? Or in what ways do you perceive people to be socially conditioned to be violent?

Bushman:

The former. We don't have to teach people how to behave aggressively. We have to teach people to inhibit their aggression. By far the most aggressive people on this planet are toddlers. Richard Tremblay has done some really interesting work with kids 1-3 years old in free play, and found that 25% of their behavior is aggressive. They are biting other kids, tripping them, pulling their hair, kicking them, hitting them, and pushing them down. There is no other group, not the mafia, or street gangs, in which 25% of their behavior is aggressive. Aggressive behavior is observed very early in our life, way before we could learn it by observing others. What we have to learn is how to inhibit aggressive behavior. We don't have to learn how to behave aggressively; that comes very naturally.

Heiner:

You have over 150 publications and your most popular research is about aggression and video games. What research do you feel you have done that is underpublicized or overlooked?

Bushman:

Almost all my aggression research is publi-

cized in the mass media, except [*Italics added for emphasis*] for my research on violence in the media. For example, I just did a study on “Hangry” (hungry+angry) spouses. It was funded by the National Science Foundation. It took me three years to do the study and was by far the most difficult study I’ve ever conducted. We took 107 married spouses; they had been married about 12 years on average. We measured their blood glucose every morning before they ate breakfast and every night before they went to bed. And we also gave them a voodoo doll. We told them this represented their spouse and they could stab between 0 and 51 pins in the voodoo doll depending on how angry they were with their spouse that day. The voodoo doll procedure is a standardized procedure used in aggression studies. It’s been used in at least 8 other studies involving couples. I like it because it’s not a self-report measure; it’s a quantitative measure. You don’t have to put any pins in the doll if you don’t want. At least three of our people put all 51 pins in the doll and one person did that on two different days. They did this every day for 21 days and then we brought them back in the lab and we measured their aggressive behavior using a noise blast with their partner being their spouse, so they are actually aggressing against their spouse. What we found is that the people in the lower 25% of glucose stabbed more than twice as many pins in the voodoo doll as those in the upper 25%. They gave their spouse longer and louder noise blasts. The more pins they stabbed in the voodoo doll, the longer and louder noise blast they gave their spouse. Well that study had over 170,000 hits in Google.

However, hardly any of my studies on violent media effects get any media attention at all. I believe that the entertainment industry does not want the American public to know they are marketing a harmful product. Anything I ever do on violence in the media is hardly ever covered, and if it is, it’s covered in a bad way or they make fun of it or are very critical of it. So its ironic, the media

don’t want to tell people about my violent media research, even though it is published in some of the top journals in the field. For example, one of my articles on violent media was published in *Science*, one of the top scientific journal in the world, but who reads *Science*? Ordinary people on the street don’t read *Science*. They read the news on the Internet or in newspapers and those stories state that violent media are not harmful. It’s very frustrating as a scientist. We have a graph you can see in *American Psychologist* showing data over time. The U.S. Surgeon General issued a warning about violence in the media in 1972. Since that time the magnitude of effect of violent media on aggression is going up in a significant linear way.

I don’t know if it is because the media are becoming more graphic, more realistic, and more violent over time, or if people are just consuming more of it over time. Compare the video games in 1972 vs. the video games today. It’s unbelievable how much they have changed. We analyzed 636 news reports over the same period and had 5 independent coders rate how harmful the newspaper said violent media were. It’s going in the opposite direction; so overtime violent media effects are getting bigger and newspaper reports are becoming softer and softer on the effects of violent media. What are the newspaper reports based on? Certainly not science. Because if they were based on science, news reports would mirror the scientific studies—but it is going in the opposite direction. As a scientist, nobody reads my science articles, not even my own grad students unless I force them to. The average person on the street certainly does not go home and read science articles for fun. What they read is news stories, which say, “Don’t worry about violence in the media, it’s not a big deal!”

Slider:

I am a student from Weber State University. I spent several years in the Special Forces and I’ve seen a lot of the technology they use to simulate sniper combat and even enclo-

sure clearing combat. They use a realistic firearm that has the same amount of recoil, same weight and everything on digital targets and after you shoot these targets everything from blood splatters to organ splatter are shown so the bodies will resemble how bodies would actually appear when shot.

Bushman:

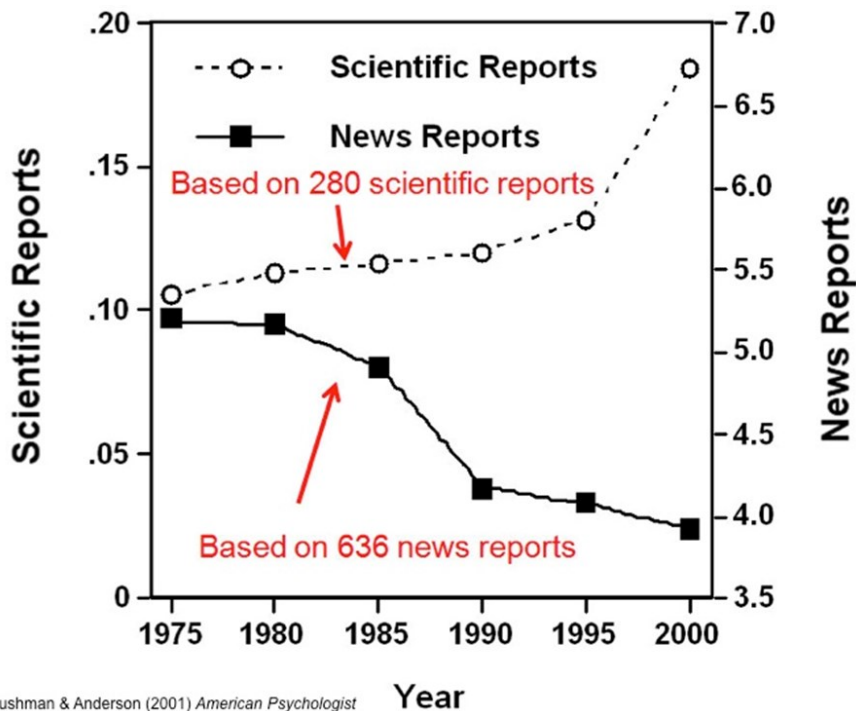
Yes, yes they hire medical people to make sure that happens.

Slider:

To further that, later on in training they actually will have us take out live targets using pigs. So we shoot live pigs, and then the medics try and save the pigs so we can shoot them again, and that's just in the sniper program. But with what I've experienced, the video games are getting more and more realistic, and if that kind of technology is available, it's only a matter of time before it's mass-produced in the media. And kids are going to buy it and its going to be straw purchase for underage kids, and kids are going to play it for 20 hours a day, and its going to go on and on and on, so what sort of future will that hold for America in your opinion?

Bushman:

Thank you so much for your question. You know you have been trained when to shoot and when not to shoot. And its one thing for medical doctors and military personnel to become desensitized because that's their job, that's what we want them to do, but its quite another thing for the general population to become desensitized. And we know that's happening already. A recent meta-analysis showed that showed since the 1970's empathy levels are going down. I presented research today showing that violent video games decrease empathy and compassion for others. One huge problem with violent video games is that you are forced to take the perspective of the killer. You don't have a choice; you are not in anyway encouraged to identify with your victims. In fact, you are rewarded for killing your victims. Empathy requires that you try and put yourself in someone else's shoes and try to imagine what they feel. Violent video games discourage that and it's really a problem. Another recent meta-analysis showed that narcissism levels are going up. Thus, people are becoming more and more selfish and caring less and less about others. These two trends



are troubling.

Slider:

Do you think there is going to be a breaking point? Do you think there is going to be [a] point where we are finally going to say, like prohibition, that this is clearly an issue, or is it just going to keep going until civilization will end?

Bushman:

I can tell you what I hope and what I think. I hope there will be a breaking point. I hope people get so fed up with it they will say, "Enough is enough, violent media is not good for our kids or for our society." I am also a professor in the Netherlands. The Netherlands has a universal rating system for all media (e.g., television programs, movies, video games). The system has two goals: (1) to inform parents, and (2) to protect children. The ratings are easy to understand. 6+ means for kids six or older. If it has drugs in it, it has a picture of a syringe needle. If it has bad language, it has the balloon with all those weird characters in it, and if it has violence, it has a fist on it. So it tells you what the content is. Those ratings are assigned by child development experts. In America, the ratings are assigned by the industry, not child development experts. Different ratings are used for each form of media. The ratings system is like alphabet soup, with different letters for different media and content. For example, FV means "fantasy violence," but only 3% of parents know that. Some parents even think it means "family viewing." The Motion Picture Association of America knows about our research. I sent them correspondences recommending a universal rating system, with ratings assigned by child development experts not the industry. But they don't care; all they care about is money. And I think you can see it in our society too. I do research in the Netherlands and in America. America is much more anti-science. 97% of climate scientists believe in global warming and only 40% of Americans believe it. If I do a study in America, about 30% of parents to agree to let their children participate in my study. If I do the same study in the Neth-

erlands, over 90% of parents agree to let their child participate in my study. The Dutch believe science has the answer and that it holds the key to our understanding. We don't have to use hunches, intuitions, gut feelings. We can use scientific research. But in America, we don't even believe in global warming! Americans don't even believe in evolution. Really? It's just a theory? Just like gravity is just a theory. It's a theory that has survived thousands of tests, over a hundred years, and we say it's just a theory. It's a theory that can explain why people have dark skin and light skin. They have dark skin to protect them from ultraviolet radiation if they live near the equator. They have light skin if they live far away from the equator so their skin can absorb vitamin D. Dark skin is not some curse from God. Evolutionary theory can beautifully explain differences in skin color, but many Americans don't believe in the theory of evolution or in the validity of scientific research.

Slider:

So are you saying then, that you don't think anything is going to be done about it?

Bushman:

I don't. I don't because there are so many rich people. The media industry has so much money. The media industry wants more money. It's all about money. It's not about our kids! It's not about what's good for our kids. It's not about helping parents raise their kids. It's about raising money, and until that culture changes, where we as a society value science, where we as a society value our children more than money, until that culture changes, we are doomed. It's not that way in all countries.

Anonymous:

I am a student at Utah Valley University. I have a two-part question: Has your research shown that the use of video games, the constant utilization of video games or playing the video games, have increased levels of depression?

Bushman:

I haven't studied that, I don't know.

Anonymous:

My second question is this. Here in Utah there is a society called the Mormon Trans-Humanist Society, that believes that God uses science to carry out his divine plan, that the ultimate goal of humans is to use science to elevate themselves beyond mortality. So they are completely devoted to science and research. In the Netherlands, have you encountered societies that are similar to that?

Bushman:

The whole society is that way! And half of them are atheists.

Anonymous:

And that's what I was asking, where are religion and science co-habitating peacefully and progressively.

Bushman:

I haven't heard of that other organization but, go science. Without science we would still be in the Dark Ages.

Emily:

I am a student from Fort Lewis College. Have you ever compared the difference between violent media compared to violent interactive video games?

Bushman:

I have not, but other people have. For example, my Dutch colleagues did a study where boys and girls were tested in same-sex pairs. Participants were told, "I am sorry but you both don't have time to play the video game. So what we are going to do is flip a coin to determine who gets to play and the other can watch." Both kids saw exactly the same images. And then researchers watched these kids on the playground and recorded their aggressive behavior (e.g., push other kids down, trip them, pull their hair, kick them). Among boys, those who played the game were much more aggressive than the boys who simply watched the game. She found that girls were not very aggressive physically. In another recent study, participants were more aggressive if they played a violent video game than if they watched a violent movie with the same character (e.g., Superman). Although we need more research, the available research suggests that active involvement is important.

Angelica:

I am a student from The University of Utah. My husband works for the video game industry, and has for 18 years. This is a question we have thought a lot about. So one criticism you often hear is you say that individuals are just acting out how they normally are. Aggressive individuals will choose an aggressive video game. I am wondering now with the new sandbox games that are neither pro or aggressive where you have the tools to do both, you could go build a castle or shoot up everything, have there been any studies to control for individual levels of aggression or pro social behavior.

Bushman:

Hundreds have. In laboratory experiments, you randomly assign people to play a violent game or to play a non-violent game. So you cannot say all the violent game players were more aggressive to begin with because they have a 50/50 chance of playing the non-violent game. Also many longitudinal studies control for individual differences in aggressiveness. Longitudinal studies measure violent media exposure and aggressive behavior at two time points, say a year apart. These longitudinal studies have found that violent media exposure is a much better predictor of later aggressive behavior than aggressive behavior is of violent media consumption. So I would say I don't care what adults do, but if we are going to have sandbox games that children play, lets not put guns and knives in the sand box.

Angelica:

It is interesting to me because, one of the most popular sandbox games recently is Minecraft. But pretty quickly there were individuals and people who found a way to make it a game that had aggression. They added more to it than the original sand box.

Bushman:

You're right in that there is some evidence that aggressive kids are more attracted to violent media than other kids. But that effect is not nearly as strong as violent media leading to later aggression.

Weber:

I am from Weber State University: So most of your studies have the participant play the video game for 20 minutes, or generally about that amount of time. What's the longest amount of time you have had a participant play a video game in one sitting? And if you have done it, what are the differing effects?

Bushman:

In most of our studies, people play games 15-20 minutes. If playing a video game for only 20 minutes can influence aggressive behavior, playing even longer should have stronger effects.

Weber:

I was just wondering because my roommate plays for twelve hours at a time.

Bushman:

That's a really good question, I don't know.

Adams:

I am a student at Southern Utah University. Have there been any studies done on the long-term effects of playing video games. For example, I have been playing video games since I was a kid, so what are the effects of that, and how does that affect someone's schema of life and their scripts and their paradigm?

Bushman:

Yes, there have been several long-term studies of violent media effects. My colleague Rowell Huesmann did a 40-year longitudinal study. He asked first graders to list three favorite video games, or three favorite TV programs, and he counted the number that were violent: zero, one, two, or three. Then 40 years later this can predict criminal convictions. So there have been some pretty impressive long-term studies.

McKinley:

We are running out of time, so we will move on to a couple of different topics: teaching and personal. The basic question, if you could give one piece of advice to an undergraduate student, what would it be?

Bushman:

Do research. Minor in statistics, those are two pieces of advice.

McKinley:

You have a blog with over 100,000 followers. Technology is clearly a powerful tool. How do you feel technology is beneficial as a professor, and how has it affected your students?

Bushman:

Well the reason I wrote that blog is because no mass media would cover my work on violent media and I thought I've got to get the word out somehow. So I'll just write some Psychology Today blogs. People started to read them and I thought that's cool. More people have read them than my articles for sure, so I think it's just another way to get the word out about the research. In my blogs, I stick closely to the science, but also use ordinary language, I don't want people to be confused or have a hard time understanding what I'm saying.

Anonymous:

What is the name of that blog?

Bushman:

I think if you just Google my name "Brad Bushman," and go to my web page, you can just click my Psychology Today blogs.

Seeley:

Some would say that education and psychology have become somewhat too narrow, do you believe this is the case?

Bushman:

Too narrow? I think it's becoming broader.

Seeley:

Some would say that we're not integrating enough information from other fields or other disciplines.

Bushman:

I think the opposite trend is occurring. For example, the National Science Foundation gives money for interdisciplinary work. That's where it starts. So you have fields communicating with each other to solve gun violence, or whatever the topic is, so I think it's getting better.

Heiner:

I'm going to ask a question in the personal topic. We're going to ask maybe a couple, and then we are going to open it up to everyone to ask anything they want. My question is, do you own any video games, and if so,

which ones?

Bushman:

Yeah, we own a lot of them.

Heiner:

What's your favorite one to play?

Bushman:

I like the Mario Kart ones. I don't play violent video games unless I have to. But once I was on the CBS Evening News with Dan Rather about the video game America's Army. At that time, the U.S. Army made this video game to try to induce young men to join the army. The last thing that I wanted to happen is for Dan Rather to ask me about some mission in this America's Army video game that I did not know about, so as soon as I found out about the interview, I spent at least 30 hours playing that game, and I went through all the missions. I don't want somebody to discount what I say because they think I don't know about it. Also if I'm an expert witness in a court case involving a particular video game, I need to know about that game. I'm not going to stand before a judge and be asked, "Have you even played Grand Theft Auto, do you even know about Grand Theft Auto?" So I spent 30 hours playing Grand Theft Auto. I hate Grand Theft Auto, but if I'm going to be an expert witness about it, I need to know about it.

McKinley:

What do you enjoy the most about being a psychologist?

Bushman:

Everything. It's the best job ever. I like teaching when I'm teaching, but as soon as I'm done teaching I realize how much more I like research. I like to teach, but I love to do research, because as soon as the semester is over, and I can just dive in and do research full time. So I really like the research part the best. The worst part is service, for sure. Like being on a bunch of committees.

Guilliam:

I am a student from the University of Northern Colorado. I would like for you to think broadly and touch on some of the things you've already talked about, and one is, how do we teach our kids not to be violent? It has

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to happen early on. How do we do that in context of a sports minded public, where aggression, playing sports, going for it is pushed? What do you think about Georgia's gun laws? I mean you can go anywhere, bars, schools, churches carrying a gun.

Bushman:

I know a bit about the research on guns. In our textbook, we have box on the tradeoffs of gun ownership and I read over 300 articles on the topic. The bottom line is, if you own a gun, it's much more likely to be used to kill you, or somebody you love than a stranger. I know in America, we have the right to bear arms. We have almost as many guns in America as we have people. But we also have over 20 times the gun violence in America than any other developed country. We have more kids killed in America by guns than all other developed countries combined. By next year, the number of deaths in America due to guns, will exceed the number of deaths due to traffic accidents. Now I'm not saying we should ban cars either, but we've done a lot to make cars safer. We have speed limits, we have air bags, we have better materials for the windows, and we have car seats for infants and children. We have all these laws to protect us and to make our cars safer. In the wake of the Newtown shooting, the National Science Foundation asked me and the Dean at John Hopkins to assemble a group of scientists to talk about youth violence. One of those people was Daniel Webster. He's one of the leading experts on gun violence in the world and he's also on president Obama's committee. He talked about the technology that ensures a gun will only shoot if it recognizes the fingerprints of the owner. Well, why aren't all guns like that? So a kid picks up a gun and the gun recognizes that these fingerprints are not the owner's, and it won't shoot. Why aren't all guns like that? How is that taking away anybody's rights? To have a gun that will recognize fingerprints and be safer for other people to use. How is that taking anybody's rights away?

We also have something we never talk about; the mere presence of a weapon can increase aggression. You don't even have to touch it, all you have to do is see it. So if you're going to have a gun, why not lock it up in a container with an opaque container so nobody can see it, because just seeing a gun can make people more aggressive.

About the parenting thing, I think we just need to teach our kids how to empathize, how to recognize facial expressions, how to put themselves in the position of others, how to love. I think love really is the answer. To love our kids, to teach them to love others, to teach them to respect others, I don't care what their religion is (including none at all). I don't care what color their skin is. I don't care what their sexual orientation is. I don't care how much money they have. We are all humans. We've got to just teach people to love, respect, tolerate, be open minded, be caring about every other person on the planet. We're all part of the human family.

Journal of Psychological Inquiry

The *Journal of Psychological Inquiry* (JPI) encourages undergraduate students to submit manuscripts for consideration. Manuscripts may include:

- *Empirical studies*
- *Literature reviews*
- *Historical articles*
- *Special Features I: Evaluating controversial issues*. Two students work together on different facets of the same issue.
 - Select a controversial issue relevant to an area of psychology (e.g., Does violence on television have harmful effects on children?—developmental psychology; Is homosexuality incompatible with the military?—human sexuality; Are repressed memories real?—cognitive psychology). Each student addresses the current empirical research and makes a persuasive case for one side of the argument.
- *Special Features II: Conducting psychological analyses- Dramatic*. This manuscript is a psychological analysis of a television program or movie.
 - Television program: select an episode from a popular, 30-60 min television program, describe the salient behaviors, activities, and/or interactions, and interpret that scene using psychological concepts and principles. The presentation should identify the title of the program and the name of the television network. Describe the episode and paraphrase the dialogue. Finally, interpret behavior using appropriate concepts and/or principles that refer to the research literature.
 - Analyze a feature film for psychological content. Discuss the major themes but try to concentrate on applying some of the more obscure psychological terms, theories, or concepts. Briefly describe the plot and then select key scenes that illustrate one or more psychological principles. Describe how the principle is illustrated in the movie and provide a critical analysis of the illustration that refers to the research literature.
- *Special Features III: Conducting psychological analyses- Current events*. By using the perspective of any content area in psychology, this manuscript analyzes a current event.
 - Example 1: Several psychological theories could be used to describe people's reactions to the destruction of the World Trade Center on September 11, 2001. Terror management research has often shown that after reminders of mortality people show greater investment in and support for groups to which they belong and tend to derogate groups that threaten their worldview (Harmon-Hones, Greenberg, Solomon, & Simon, 1996). Several studies have shown the link between mortality salience and nationalistic bias (see Greenberg, Simon, Pyszczynski, & Solomon, 1992). Consistent with these findings, the news reported that prejudice towards African Americans decreased noticeably after 9/11 as citizens began to see all Americans as more similar than different.

- Example 2: A psychological concept that could be applied to the events of September 11 would be that of bounded rationality, which is the tendency to think unclearly about environmental hazards prior to their occurrence (Slovic, Kunreuther, & White, 1974). Work in environmental psychology would help explain why we were so surprised by his terrorist act.
- *Special Features IV: Teaching techniques*- Student and faculty mentor collaborate on this manuscript regarding a teaching technique the faculty member uses that the student found particularly helpful.
 - Some examples of teaching techniques are interteaching, the use of clickers, podcasting, team-based learning, and reflective journaling. The description should contain enough information so that another teacher could use the technique and should provide reasons why you think the technique worked well. The second half of the paper should be written by the faculty member who can explain why he or she chose the technique you found to be effective, and what they hoped to accomplish in terms of learning outcomes by using the technique.

Manuscripts may cover any topical area in the psychological science. Further details for the special features submission can be found at the end of volume 18 (1), available at: <http://www.fhsu.edu/psych/jpi/>

Submission Details:

1. Manuscripts must have an undergraduate as the primary author. Manuscripts by graduates will be accepted if the work was completed as an undergraduate. Graduate students or faculty may be co-authors, if their role was one of teacher or mentor versus equal collaborator.
2. Manuscripts must come from students who meet the following conditions: (a) from students at institutions who are current on their financial annual support of JPI (see list on JPI website), (b) from students at institutions who are willing to pay an \$80 annual processing fee for unlimited submissions, or (c) from students who pay a one-time \$30 processing fee to have a single submission processed.
3. Submit original manuscripts only. Do not submit manuscripts that have been accepted for publication or that have been published elsewhere.
4. All manuscripts should be formatted in accordance with the APA manual (latest edition).
5. Submissions are made online at <http://www.edmgr.com/jpi>.
6. Ordinarily, the review process will be completed in 30 to 60 days.
7. If a manuscript requires revisions, the author(s) is (are) responsible for making the necessary changes and resubmitting the manuscript to the Journal. Sometimes you may have to revise manuscripts more than once.
8. For further submission guidelines, see the JPI website at <http://www.fhsu.edu/psych/jpi/> or contact Dr. Jenn Bonds-Raacke (jmbondsraacke@fhsu.edu) or Dr. John Raacke (jdraacke@fhsu.edu).