Reel to Real: Psychology Goes to the Movies

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One of the first films ever made, *Arrivée d'un train à La Ciotat*, was first shown in France in 1896. The silent, black-and-white, minute-long picture, produced by Louis Lumière, showed a train rushing toward the foreground. As legend has it, when the train started chugging, the audience leapt from their seats and fled the theater.

Apocryphal or not, the era of film had begun, and this new medium's impact on behavior seemed ripe for research. Some 20 years after Lumière's film, a Harvard psychologist named Hugo Munsterberg challenged researchers to figure out the depth of,
and reason for, cinema's influence: "For the first time the psychologist can observe the starting of an entirely new esthetic development, a new form of true beauty in the turmoil of a technical age, created by its very technique and yet more than any other art destined to overcome outer nature by the free and joyful play of the mind," Munsterberg wrote in *The Photoplay: A Psychological Study*, considered by many to be the first important behavioral look at film.

But though the research gauntlet had been thrown down, what followed is what one would expect when looking for artistry in a Pauly Shore flick: nothing. Or, at least, very little, says Stuart Fischoff, founder of the *Journal of Media Psychology*, who in 2003 retired from the psychology department at California State University, Los Angeles. Between 1916, when Munsterberg wrote *The Photoplay*, and the 1950s, perhaps the most influential psychological research on cinema was L. L. Thurstone's 1928 Payne Fund report — a study whose purpose was to indict, not investigate, the role of film on behavior, Fischoff says. In fact, for much of the 20th century, the psychological study of film was considered "lightweight stuff," says Dolf Zillmann, University of Alabama, one of the field's pioneers. Film study was approached with a Freudian mindset, and few empirical studies took place. But in the past decade or so, such research has experienced a resurgence — the rare sequel that outperforms the original. "There's really a new psychology of film in the making," says Zillmann. Film study from a psychological perspective now takes place in campuses around the country, combining interdisciplinary approaches from several areas, with an increasing focus on the neuroscience of viewer response.

Cinematic research also deals with the effectiveness of product placement, the therapeutic role of movies, even the impact that inaccurate portrayals of psychologists can have on the public's attitude toward the profession.

"It's incredibly more sophisticated," says Fischoff of film study. "We're looking at the different dimensions of film experience, at the cognitive component of film, as the human mind mediates what comes out in terms of behavior."

As psychological science has developed, particularly in the cognitive realm, the study of film has progressed beyond a purely psychoanalytical pursuit, says Ira Konigsberg, a Professor Emeritus of Film and Video Studies at the University of Michigan. And it will continue to grow as technology advances —

both in terms of creating films and studying them.

"We are in an amazing age of technology, in which the image itself plays a paramount part in shaping the way we think," says Konigsberg, who is editing a new journal in the field, *Projections*, which will publish its first issue this summer. That issue will reflect the full spectrum of interdisciplinary science and cinema: Cognitive psychologist Patrick Hogan will write on the way the mind processes a movie; Norman Holland will discuss the relationship between neuroscience and film; Torben Grodal will touch on the silver screen's emotional impact.

"Film [was] the art form of the 20th century, and maintains a significant hold on our imagination and culture," Konigsberg says. "It offers immense opportunity to understand individual and social psychology."

Under Siege

Zillmann still remembers walking into the living room and finding his son, then six years old, distressed by a brutal fist fight in the film *Gunsmoke*. "He swung his head to me and said, 'Is this real?' " Zillmann recalls. He explained to his son that the fighters were pretending — that their job was to make the brawl appear, but not be, vicious — until the boy felt relieved.

Zillmann has long studied why films arouse certain types of behavioral responses. Decades worth of literature, including a 2003 *Psychological Science in the Public Interest* report, have argued that viewing violent media increases both short- and long-term aggression and violence. But the jury remains out on the impact of violent media, Zillman says, despite arguments for its widespread role in aggressive behavior. Violent media can create aggression, Zillmann says, but it affects certain types of people differently.

"We have committed mistakes by thinking that everybody will be affected [in an equal fashion]" by violent films, he says. "I've been an advocate of stratifying the public. You can't believe all people are equal in the way in which they respond to media violence ."

In general, women and sensitive men do not react to violent pictures. Hostile or physically aggressive men, on the other hand, are two subsets of this stratification that do react strongly. To further test the impact of such movies on people with these traits, Zillmann recently collected data on 120 male subjects. Some had scored high on behavioral tests measuring hostility or physical aggression, some had scored low.

Zillmann and his coauthor, James B. Weaver II, played an eight-minute film clip for each subject. Some subjects watched an innocuous scene from *Driving Miss Daisy*, others watched a violent scene from *Falling Down*. Afterward, the subjects took part in a cooperation task: They each had to teach a research confederate to assemble red and green blocks in a certain pattern. (To the film buff, this experiment evokes a scene from *The Royal Tenenbaums*, in which Bill Murray's psychologist character asks the same of his colorblind patient, to hilarious ends.)

The subjects communicated with these learners via video. As a teaching motivator, the subjects had access to a button that, they were told, would apply a painful amount of pressure to the learner's arm. A phony monitor showed how many volts of pressure were being applied, from zero to 10.

In fact, the learner was not actually there at all; he had been tape-recorded to finally solve the puzzle with 20 seconds to go, maximizing the potential for teacher frustration — as well as the number of chances to hurt the learner.

Highly hostile subjects behaved more aggressively than low-hostility subjects regardless of which film they watched, Zillmann and Weaver report in an upcoming *Journal of Research in Personality*. But only the subjects who scored high on physical aggression behaved more aggressively after watching the violent clip; those who scored low did not. So, the type of person who is typically high in physical aggressiveness might be particularly susceptible to behavioral changes after watching a violent film.

In addition to a viewer's personality, the type of violence shown on-screen makes a behavioral difference, Zillmann argues. Old West films are considered minimally violent by today's standards. And horror films are usually perceived as more funny than aggressive (in fact, they can even prompt romance under the "snuggle theory," when a couple pretends to be scared).

It's the gratuitous but realistic films that have the greatest affect on aggressive behavior, those of Jean-Claude Van Damme, Steven Seagal, and, more recently, Jet Li. And with the line between reality and fiction becoming blurrier — with "based on a true story" used to describe many a matinee and ordinary people producing real-time films on devices like camcorders and cell phones — the violence has a potentially stronger effect.

"You can discount [a film] and initiate getting rid of a strong emotion by discounting reality," Zillmann says. "But if it's based on reality, you cannot discount it."
The importance of being able to discount reality has become clearer with research by neuroscientist Joseph LeDoux of Columbia University. LeDoux has found that violent images elicit an immediate response in the amygdala, the brain's emotional hub, before the information being processed reaches the cognitive center. The more realistic a film, says Zillmann, the harder it is for this cognitive center to reason with the amygdala's natural response.

"If you can't discount [reality], you're aroused longer," Zillmann says. "This time discrepancy is important in new film research….This is the new psychology; it's neuropsychology, in a way."

The Game
The mind games played by violent movies can at least be rationalized as part of a film's greater aesthetic value (or, in the case of Van Damme and Seagal, as necessary plot progression). But other, perhaps equally powerful, head games are being played behind the scenes by movie advertisers.

Such games began in 1982, when Reese's Pieces made its commercial debut during the film *ET*. Since that time, product placement in movies has become far more pervasive. Sometimes, as in *Lethal Weapon II*, entire scenes are written around the chance to grab ad dollars from a vendor (in that case, Subway restaurants). But modern audiences are savvy enough to spot a blatant marketing ploy; it's the subtler references — the ones, like Reese's Pieces, that are embedded in the plot — that stand a chance of having a behavioral impact.

When people are exposed to ads during movies, "they don't have a chance to put up sensors, their shields, it gets through," says Fischoff. "It's not coming in the same door as advertisers

typically have to come through — it's the front door, and people are less armed than they would be in a commercial."

Still, evidence has shown that people don't simply rush out and purchase whatever product appears in a film. In a recent test of the effectiveness of subliminal product placement, psychologist Johan Karremans of Radboud University Nijmegen in the Netherlands showed some 60 subjects a screen that showed slides of random letters. Half of the subjects occasionally saw a brief blip displaying "Lipton Ice." Half the subjects saw a blip with a nonsense word. None of the subjects realized that "Lipton Ice" or the nonsense word had ever appeared on the screen.

Flashing "Lipton Ice" did increase a subject's likelihood of choosing that drink over a different drink, but only if that subject had been thirsty to begin with, Karremans and his colleagues report in the November *Journal of Experimental Social Psychology*.

This research reflects other social-cognitive findings by psychologists like APS Fellows and Charter Members John Bargh and Bob Zajonc, Karremans says. But the effectiveness of such subliminal advertising in real-life scenarios is debatable.

"These stimuli should be goal-relevant," Karremans says. "Subliminally presenting an ad [for Apple computers] would probably not affect a person to buy a Macintosh if the person does not even want to buy a computer."

Good Will (Toward Psychologists) Hunting
Early in the film *Good Will Hunting*, the character Will, played by Matt Damon, visits psychotherapist Sean Maguire, played by Robin Williams. Will notices a painting on Sean's wall of a solitary man at sea struggling to row his boat amid a tempest. It turns out that Sean painted the picture. To Will, the picture suggests something haunting in Sean's past. "Maybe you married the wrong woman," Will says. Sean, whose wife we'll later learn died after a long bout with cancer, thrusts Will against the wall by the throat and threatens to "end" him should such a comment be repeated.

To APS Charter Member John V. Flowers, Chapman University, Williams' portrayal of a mental health professional is extremely damaging to the public's understanding of psychological therapy. Flowers has written a historical reference book on films depicting psychologists dating back to 1899. Since that time, less than a quarter of some thousand films featuring psychologists portray them in a positive light, he says. The remainder of the films can't be taken seriously, he thought; otherwise, "the profession would be clobbered."So Flowers began one of the only empirical studies to investigate which types of portrayals cause the most harm to psychology's reputation.

Flowers split all negative portrayals into three categories: evil or manipulative, such as the nurse in *One Flew Over the Cuckoo's Nest*; goofy, as in *What About Bob*; and flawed or unethical, like Sean Maguire. Flowers measured subjects' skin conductance, respiration, and heart rate as they viewed clips of one of these three films. After a single viewing, subjects respond greatly to evil portrayals. Each time the same clip is repeated, however, this response softens. But flawed portrayals elicit a strong response even after five viewings, says Flowers, who has tested more than 100 subjects for each type of portrayal. "We get more response from flawed than evil," he says, "and it does not die out."

Such depictions of psychologists might have a negative influence on therapy, says Lindsay M. Orchowski, who is working on her doctoral degree at Ohio University's psychology department. Orchowski and her colleagues reviewed the literature of psychologist portrayal in the October 2006 *Professional Psychology: Research and Practice*. They concluded that, in the emotional sea of viewer perception, psychologists are lonely boat-rowers struggling against the elements.

"The general public is not well socialized to know what psychotherapy's like," Orchowski says, adding that many students she helps counsel still walk in and wonder where the couch is. "The amount [of psychologists in films] is increasing, and we want to make sure those portrayals out there are valid."

But while some films might hinder psychological therapy, Birgit Wolz, a clinical practitioner in Oakland, has harnessed the power of film to help counsel her clients. Wolz' method, called cinema therapy, uses movies to familiarize patients with emotional problems they have a hard time identifying in themselves but can spot more easily in film characters. The method has yet to receive adequate empirical testing, admits Wolz, but, when used as an adjunct, it can enhance traditional therapeutic methods. "There's a lot of talk about mirror neurons," says Wolz. "The whole idea is that we experience things internally, subjectively, if we experience them for real. But the emotional response can be exactly the same in real life as in reel life."

Zillmann, who says he has not seen convincing data of cinema therapy, takes a different approach to capturing the psychological benefits of film. Instead of trying to cure psychological illnesses with movies, he would rather simply change a person's mood. Such mood-management studies have shown that movies can help a person escape from a bad mood, he says. This work might not help a person suffering from serious mental or emotional conditions, but it does get back to the core of the power of film.

"If you can change people's mood by film exposure in a desirable direction, then you can say this is the therapeutic effect, but you don't talk about healing illnesses," he says.

"You talk about making people feel better. And that's what entertainment is for."