"I'll Never Have a Clown in My House" — Why Movie Horror Lives On

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Abstract   To explore lingering effects of frightening media, 530 papers written by students over a three-year period (1997–2000) were reviewed. The students could write about their own fright reactions or about a response they had witnessed in another person. Almost all students (93 percent) wrote about their own experiences, and the overwhelming majority (91 percent) described reactions to realistic fiction or fantasy content (depicting impossible events) rather than to the news or a documentary. The ninety-one papers about the four presentations cited most frequently — *Jaws*, *Poltergeist*, *The Blair Witch Project*, and *Scream* — were content analyzed. Of the papers, 46 percent reported an effect on bedtime behavior (e.g., sleep disturbances) and 75 percent reported effects on waking life (e.g., anxiety in related situations). Among the prominent effects on waking life were difficulty swimming after *Jaws* (in lakes and pools as well as the ocean); uneasiness around clowns, televisions, and trees after *Poltergeist*; avoidance of camping and the woods following *The Blair Witch Project*; and anxiety when home alone after *Scream*. More than one-third of the papers reported effects continuing to the time of the study. These consequences attest to the enduring power of emotional memory even when the viewer is aware that the response is to a large extent irrational. Possible reasons for these lingering effects are discussed.

> When I was nine years old I fell ill of typhoid fever, & lay for weeks at the point of death. . . . During my convalescence, my one prayer was to be allowed to read, & among the books given me was one of the detestable "children's books" which poison the youthful mind when they do not hopelessly weaken it. . . . To

an unimaginative child the tale would no doubt have been harmless; but it was a "robber story," & with my intense Celtic sense of the super-natural, tales of robbers & ghosts were perilous reading. This one brought on a serious relapse, & again my life was in danger; & when I came to myself, it was to enter a world haunted by formless horrors. I had been naturally a fearless child; now I lived in a state of chronic fear. Fear of what? I cannot say—& even at the time, I was never able to formulate my terror. It was like some dark undefinable menace, forever dogging my steps, lurking, & threatening; I was conscious of it wherever I went by day, & at night it made sleep impossible, unless a light & a nurse-maid were in the room. But, whatever it was, it was most formidable & pressing when I was returning from my daily walk (which I always took with a maid or governess, or with my father). During the last few yards, & while I waited on the door-step for the door to be opened, I could feel it behind me, upon me; & if there was any delay in the opening of the door I was seized by a choking agony of terror. It did not matter who was with me, for no one could protect me; but, oh, the rapture of relief if my companion had a latch-key & we could get in at once, before it caught me!

   This species of hallucination lasted seven or eight years, & I was a "young lady" with long skirts & my hair up before my heart ceased to beat with fear if I had to stand for half a minute on a door-step!   (From a collection of Edith Wharton's autobiographical writings in Cahill 1994: 11)

The above quotation is an example of how the simple act of reading a book overwhelmed a young girl and plagued her behavior and her outlook on life for years. Although the effect seems strikingly dramatic, it is not that different from the effects commonly experienced by many of today's children and adolescents as they go to the movies or watch television in their own homes (Cantor 1998, 2002). Since the 1930s, research findings have detailed the frequency with which children report being frightened or horrified by movies, radio programs, and television shows (Blumer 1933; Eisenberg 1936; Preston 1941; Wilson et al. 1987; Cantor and Nathanson 1996; Gentile and Walsh 2002). Recent correlational studies have also reported that heavy television exposure is related to longer-term anxiety symptoms and sleep disturbances (Singer et al. 1998; Owens et al. 1999). Although studies of this type show that many children experience emotional problems as the result of media exposure, most of them do not provide the type of detailed view of the nature of the experience that is illustrated by the Edith Wharton quote.

   My collaborators and I have conducted numerous controlled, experimental studies to explore the characteristics of media stimuli that frighten children of different ages (see Cantor 2002 for a review). For obvious ethical reasons, however, these studies have employed only short excerpts of mildly threatening programs and movies, such as *Little House on the Prairie* or *The*

Wizard of Oz. It is not possible to show children horrifying media images in order to explore their immediate and long-term reactions to them. But we know that children are exposed to such images, and anecdotal reports suggest that the effects are often much more intense and long-lasting than the average person might expect.

One way of exploring the nature of the long-term effects of exposure to scary media without encountering ethical difficulties is to study adults' memories of having been scared at an earlier time. In a course on media effects I taught for many years at the University of Wisconsin, I asked students to write a paper about anything in the mass media that had frightened them. This was always a popular assignment and provided a forum for lively discussions and a great deal of student learning about themselves and each other. Many of the papers reported intense and dramatic effects, but I was unsure whether the effects they reported would be considered trustworthy. Even though the papers were written before we covered the topic of media and fear, I was concerned that skeptics would think that my students were embellishing their papers to please me.

Because of this concern, we conducted a retrospective study with first-year college students in public speaking courses (Harrison and Cantor 1999). In that study, we asked the students to answer a simple question for extra credit: "Have you ever seen a television show or movie that frightened or disturbed you so much that the emotional effect endured after the program or movie was over?" The students had the option of responding with "yes" or "no." If their response was negative, all they had to do was check that box on the form. If their response was affirmative, however, they were required to write a one-page paper about the experience and then fill out a three-page questionnaire. Either way, students received the same amount of extra credit.

In spite of the fact that the procedure required much more effort to say "yes" than "no," 90 percent of the students reported that they had had such an experience, and their stories turned out to be as vivid and compelling as the ones I had received as class papers. More than half of the respondents in the study reported that their exposure to media had produced disturbances in their eating or sleeping patterns; more than a third reported that they had subsequently become anxious about or avoided situations similar to those depicted in the frightening program or movie; and more than one-fifth reported that they had had difficulties getting the images or events in the program out of their minds. And the effects were surprisingly enduring. More than one-third of the respondents reported that the effects had lasted more than a year, and more than one-fourth noted that the effects were still with them at the time they participated in the study.

These reactions are intriguing not only because of their extended duration but also because they often continue even when the people experiencing them understand that their reactions are irrational. Although respondents in the study could choose to write about any mass media event—including news reports or documentaries—most reported on movies or television shows involving fictional events that never actually happened. Many, in fact, wrote about stories involving supernatural or science fiction themes that have no objective reality in current experience. Recent retrospective studies by Richard J. Harris and associates (Hoekstra et al. 1999; Harris et al. 2000) have reported findings that are similar in the types of symptoms experienced and the types of content that evoked these symptoms.

Content Analysis of Student Papers

Because our study of memories of frightening media produced accounts that were so similar to the papers my students had been writing for my class, I began asking for my students' permission to save their papers for later analysis, granting them, of course, the assurance of confidentiality. These papers provide a wealth of further detail about the experiences of children and adolescents as they encounter media presentations that scare them. Collecting student papers over several years enabled me to analyze a wider range of student reactions and also to compare a larger number of papers written about specific, popular movies that frightened many children and adolescents. The study reported here differs from previous studies in its focus on the nature of long-term reactions to frightening movies.

The assignment that yielded the papers being analyzed in this study was somewhat different from the instructions used in the retrospective study by Harrison and Cantor (1999). The current instructions read as follows:

> Write a paper about a fright experience you had from television, radio, or films, either as a child or more recently. If you cannot remember experiencing such a reaction, you may have witnessed such a reaction in someone else. Describe the mass media stimulus responsible for the reaction, the age and gender of the person experiencing the reaction, and the situation under which it occurred. Then speculate about why the reaction may have occurred.

In contrast to the earlier study, the instructions for the paper did not specifically ask about a media event that had had an enduring effect—it only had to have been frightening. Because of this, although long-term reactions could be reported if they occurred, the instructions made no specific mention of enduring reactions. In addition, although all students were asked to

write a paper, they were given the option of writing about someone else's reaction if they themselves could not recall having experienced one.

This article is based on a collection of 530 papers that were written from the fall semester of 1997 through the spring semester of 2000. It is notable that almost all of the students (93 percent) chose to write about their own experiences. It is also interesting that, even though they could choose to write about any type of media content that had been frightening, the overwhelming majority (91 percent) selected fictional content (including events that were either realistic or impossible) rather than the news or a documentary. In other words, most of the students wrote about a presentation that was the product of an author's imagination rather than something that had actually occurred. The age at which viewers were exposed to the scary program or movie ranged from two years to adulthood.

Several programs and movies were named by large numbers of students. The ten most frequently chosen media productions are listed in Table 1. There are undoubtedly multiple reasons why a particular production would appear on this top-ten list beyond the fact that it was extremely frightening. The more successful or widely seen the program or movie, the greater its chances of appearing in the top ten. In addition, timing of release is a factor although, with the wide distribution of films on video and frequent showings of popular movies on TV, perhaps less than in the past. As can be seen from Table 1, the release dates of these presentations range from 1973 to 1999.

In this article, I have chosen to explore in detail reactions to the top four films on the list, *Poltergeist*, *Jaws*, *The Blair Witch Project*, and *Scream*. This is not just because they are the most frequently mentioned and likely to be familiar to readers, but also because they represent an interesting variety: Two were rated PG ("Parental Guidance Suggested"), whereas two were rated R ("Restricted"). Two are recent and would have to have been seen when the writers were in high school or college, whereas the other two were released before the students were born or when they were very young. Finally, although all four films involve violence, two explicitly involve the supernatural (*Poltergeist*, *The Blair Witch Project*), whereas the other two involve more realistic violence (*Jaws*, *Scream*).

Because each movie produced some reactions that are uniquely related to its contents, I will discuss students' responses to each of these four films separately, focusing particularly on the ways in which the movies changed some aspect of the viewer's later behavior and on the duration of these effects. Following that, I will discuss commonalities in these reactions and discuss possible reasons for the prevalence of lingering responses.

Based on an initial read-through of the papers, I developed two major

Table 1   Most Frequent Topics of Papers about Frightening Media

Title	Year Released	MPAA Rating	Age Range of Viewers	Number of Respondents	Percentage of Respondents ($n = 530$)
Poltergeist	1982	PG	4–10	29	5.5
Jaws	1975	PG	3–11	23	4.3
The Blair Witch Project	1999	R	18–22	22	4.2
Scream	1996	R	17–21	17	3.2
Thriller (music video)	1982	—	4–8	16	3.0
A Nightmare on Elm Street	1984	R	7–12	15	2.8
The Shining	1980	R	8–20	14	2.6
IT (made-for-TV movie)	1990	—	7–13	14	2.6
The Exorcist	1973	R	7–25	13	2.5
E.T., the Extra-Terrestrial	1982	PG	2–8	12	2.3

Note: MPAA = Motion Picture Association of America. Ratings include PG (Parental Guidance Suggested) and R (Restricted).

categories: Effects occurring in the bedtime context and those happening in the course of waking activities. Typical effects in the bedtime context were nightmares, specific "protective behaviors" in bed, inability to sleep, and other effects that occurred while the viewers were trying to fall asleep. Typical waking effects included the avoidance of or discomfort with otherwise nonthreatening activities related to the movie. Because I was mostly interested in effects that caused disruptions in normal activities, I did not include a writer's mention of enduring vivid memories of the movie in the absence of further effects. In addition, in talking about effects on behavior, I did not count papers that only mentioned that the viewer subsequently avoided seeing that specific movie again or avoided horror movies in general.[1] After coding all the papers, I gave a randomly selected subset of 25 percent of the papers to a second coder for independent evaluation.[2] Table 2 summarizes some characteristics of the papers written about the four movies, including reliabilities for the effect variables.

1. Avoiding an entertainment choice that had previously caused a negative experience seems to be a rational reaction. In this article, I am focusing on "side effects" that impinge on life beyond media exposure.
2. Establishing "reliability" by employing a second, independent coder is a common procedure in empirical social science to ensure that a researcher is not selectively observing that which confirms his or her hypothesis. Reliabilities are computed to provide a numerical indication of the degree of agreement between independent evaluators. Agreement of 100 percent is indicated by the value 1.0, and the closer the value is to 1.0, the greater the agreement. Cohen's Kappa corrects for the amount of agreement that would occur by chance.

Table 2 Features of Papers Written about the Most Prominent Frightening Films

Movie (n)	Self-Reporting[a]	Female[b]	Reporting Bedtime Problems	Reporting Ongoing Bedtime Problems	Reporting Effects on Waking Life	Reporting Ongoing Life Effects
Poltergeist (29)	97	71	72	7	76	31
Jaws (23)	100	68	39	4	83	43
Blair Witch (22)	77	73	18	0	73	27
Scream (17)	88	94	47	0	65	35

Note: Numbers are percentages. Reliabilities, computed using Cohen's Kappa, are as follows: Bedtime problems, 1.00; Ongoing bedtime problems, 0.92; Effects on waking life, 0.92; Ongoing life effects, 0.84.
[a]In the overall sample of papers (*n* = 530), 93 percent reported on the writer's own responses.
[b]Of the overall sample of papers, 64 percent were written about females' responses.

Poltergeist

Poltergeist (directed by Steven Spielberg, 1982) tells the story of a family whose house is possessed by demons as the result of its having been built on the site of a former cemetery. The movie contains a plethora of themes and images that are especially frightening to children, including the following: (1) the supernatural forces kidnap the young daughter by sucking her into the television set, (2) a child's beloved clown doll is suddenly transformed into a vicious fiend that attacks him, and (3) a tree outside the child's window transforms into a monster that reaches into his bedroom and grabs him away. In addition, many scenes involve extremely grotesque and gory images. Finally, the poltergeist and demons are not vanquished at the end; although the family escapes with their lives, there is no reassuring resolution. The following quote, from a male student who saw *Poltergeist* at age eight, typifies many of the responses of children who were frightened by it:

> I was young when I watched the film and because of it I no longer did certain things. First of all, in the film there was a boy who was similar in age to me at the time. Once during the film he looked under his bed only to find a port-hole to another dimension. Because of this, for about six months I would jump from my doorway to my bedroom to my bed, so nothing under my bed could grab me. Secondly, at one point in the movie everything is sucked into the kids' closet. Due to this, I could not fall asleep with my closet door open. Another thing that happens is that all the evil starts the night of a storm; hence for a few months I could not sleep with my curtains open. Finally, the little girl who was sucked into the television was sucked in when the television was on but there was nothing but fuzz on the TV. Because of this I would freak out whenever the cable would go out.

When one looks at the twenty-nine papers that were written about *Poltergeist*, certain trends emerge. Although students could write about the reactions of another person, all but one of them (97 percent) reported on their own reactions. Age at viewing ranged from four to ten years.

Of the students who wrote about *Poltergeist*, 72 percent reported some difficulty with sleeping. Many said they had had nightmares about the movie, and many had tried to "protect" themselves by, for example, locking their toys in the closet or keeping the lights on in order to get to sleep. Approximately 30 percent stated that their sleep problems had lasted more than a month, but only two people (7 percent) reported currently experiencing nightmares related to the movie or continuing to practice these protective bedtime rituals.

Changes in subsequent waking behavior related to *Poltergeist* were reported in more than three-fourths of the papers. One woman wrote, "I got my hair cut shorter so I would not resemble [the little girl in the movie] and the ghosts would not be after me." The most prominent of the carry-over effects involved continuing uneasiness in the presence of objectively non-threatening objects, such as clowns (34 percent of papers), televisions sets (24 percent), and trees (17 percent)! Long-term effects on waking life were prevalent. Almost half of the students reported that the behavioral effects had endured more than a month, and 31 percent said that these effects were still ongoing. Table 3 presents some typical quotes from the papers about *Poltergeist*, which illustrate how this movie significantly altered viewers' emotional reactions in common situations.

Jaws

Jaws (directed by Steven Spielberg, 1975) tells the story of a man-eating great white shark that terrorizes a seaside community. The film is highly suspenseful and involves several depictions of deadly, bloody shark attacks. Some of the attacks are on swimmers who are completely unaware of the shark's presence before the attack. The now-famous musical score adds to the story's emotional impact.

All twenty-three of the students who wrote about *Jaws* told about the effects the movie had on themselves rather than on someone else. Age at exposure to the movie ranged from three to eleven. A young man who saw the movie at the age of six wrote this in his paper:

> My reactions to the film were fairly dramatic. . . . I have a recurring nightmare that still occurs to this day. . . . I am relaxing very close to shore on a very loudly pink raft. . . . I see an increasingly growing dark spot beneath the raft, until an enormous great white shark bursts through the surface crushing my thorax,

Table 3   Examples of Self-Reported Problems after Viewing *Poltergeist*

Clowns

I *still* hate clowns. My grandma, the sweetest lady in the world, used to dress up as a clown and go around children's hospitals cheering them up. I love her . . . until she put that clown suit on with the wig and make-up and everything. That was the moment when she became something else. I was deathly afraid to ride in the same car with her.

I had a fear of clowns *for years* after, and *to this day* they really scare me. I remember a few weeks later being at my best friend's birthday party, [at] which a clown was the star guest. I began crying and had to leave the party.

To *this day* I am scared of clowns and will never have one in my house, even when I have children.

Televisions

After seeing *Poltergeist*, I couldn't sleep knowing the television was there. I stayed up *the entire night* watching the television to make sure it wouldn't come to life. . . . The next day, I immediately told [my parents] and asked them to remove the set.

All I remember is that I had to sleep in between my parents for *the next several nights*. I also did not get too close to television sets *for a few years* after the movie.

Even now, I certainly don't leave my TV on after the station goes off the air, and I *still* always make sure that my closet door is closed before I go to sleep.

Trees

I had such hard times falling asleep *after that* because, like in the movie, the tree outside my window could come in and grab me and my house could have just as easily been built over a cemetery.

For years after that night I was afraid of trees outside my window at night. It took me a *long time* to shake that fear.

I *now* hate watching the shadow of the trees outside of my bedroom window.

Note: In this, as in Tables 4–6, emphasis is added to indicators of duration.

popping the raft and pulling me down with it. As a result of this dream, I feel intuitively that I am destined to die as a result of a shark attack; therefore, whenever I swim in the ocean, or even a murky lake, where I cannot see beneath my feet, I feel increasingly panicky and claustrophobic, and in a short time, must leave the water.

Nightmares or other sleep disturbances were reported by 39 percent of the writers, but the young man quoted above was the only one who reported continuing to have nightmares about *Jaws*. Effects on other parts of their lives were another matter, however. Life-changing effects were reported by

Table 4   Examples of Swimming Difficulties after Viewing *Jaws*

Needless to say I didn't venture very far out into the ocean. Even the swimming pool at the campground made me a bit apprehensive. . . . *For a long time* I would associate any body of water with sharks.

It scared me so much that *for years* I was sketchy about swimming in lakes and definitely about swimming in oceans.

I would not go into the water under any circumstances unless I could touch the bottom, or if my father was in the water with me. . . . I thought Jaws was in every body of water around me and that he was going to get me.

I also could not go swimming on the beach *for five years*. I would play in the shallow water or swim in the pool only.

I *regularly* went swimming in a lake by my house, and even though I knew it wasn't possible, I would be afraid when I was in the water and thought about *Jaws*.

Seeing the consequences of a shark attack especially made me more scared to swim in the ocean and even influenced me when swimming in lakes.

[*Five years later*] when I stepped into the ocean I began to panic. . . . *To this day* I am a little apprehensive whenever I swim in the ocean.

As far as the lasting effects, *to this very day*, when floating in a body of deep water, I still occasionally have that feeling that something could come up and grab me.

Today that fear still lurks in the back of my mind every time I go swimming in a lake even though I try to tell myself it was only a movie that I had seen.

I know that sharks are not found in lakes and pools. Yet, *whenever I am* in the deep end at a pool, I swim really fast to get to the edge (always looking behind me).

Today, I still fear swimming in the ocean, and I look over my shoulder whenever I am swimming in a fresh-water lake.

83 percent of the writers. Moreover, 43 percent of the people who wrote about *Jaws* said such effects were still ongoing. Most of the effects (on 65 percent of the writers) involved interference with swimming and mostly not just in the ocean, but also in lakes or pools. In other words, almost all of the people who reported problems with swimming in the ocean were uncomfortable in bodies of water that are completely devoid of sharks. Table 4 displays examples from the papers about *Jaws*.

The Blair Witch Project

The Blair Witch Project (directed by Daniel Myrick and Eduardo Sánchez, 1999) is a documentary-like movie that portrays three college-age filmmakers who camp in a remote forest in order to investigate and make a

movie about the legendary "Blair Witch." The story is conveyed only from the perspective of the protagonists' cameras and purports to be footage found in the woods after the filmmakers had disappeared. The prerelease publicity intimated that both the footage and the story were real. The film became hugely successful and continued to scare many viewers even after it was revealed that the story was fictional. There is very little blood or gore in the film, but it is highly emotional and suspenseful and leaves many of the terrifying details to the viewer's imagination. Although this movie was third in terms of overall frequency as the topic of papers, 10 percent of the students who could have written about it (in the fall of 1999 or later) did so. Seventy-seven percent of these people wrote about their own responses, and the remainder wrote about other people's reactions. All viewers were college-aged.

Of the 22 people who wrote about *The Blair Witch Project*, only four (18 percent) reported interference with the viewer's normal ability to sleep, and these effects, although intense, were reported to last a month or less. For example, one woman wrote:

> I was fine until it was time to go to bed. I left my nightlight on and settled in for the evening. I felt completely unaffected until I closed my eyes. The horror of the film's images came flooding back to me. Death, fear, pain, everything the characters went through seemed to surround me. I couldn't sleep, and left all the lights on in my apartment for three days.

Effects during waking hours were reported by 73 percent of the viewers. Some of these responses reflect uneasiness when at home alone or in dark places; more often they reveal discomfort with or reluctance to go camping or to be in or near the woods. Twenty-seven percent reported that the effects on their waking life were still ongoing at the time of writing the paper. Table 5 exemplifies some of the responses to this movie.

Scream

Scream (directed by Wes Craven, 1996) is a horror movie about teenagers who are threatened by telephone, stalked, and knifed to death by a killer who wears a mask patterned after the Edvard Munch painting *The Scream*. It is highly suspenseful and has huge amounts of blood and gore. Although both men and women are killed in the movie, most of the threatening and stalking is directed at young women.

Most of the people (88 percent) who wrote about *Scream* reported on their own responses. They all viewed the movie in high school or college. All but one of the people who reported being frightened by *Scream* (94 percent) were female, a much higher percentage than in the overall sample (χ^2 ($n = 517$)

Table 5   Examples of Difficulties Brought on by *The Blair Witch Project*

When I woke up I began to panic because I was so scared of the Blair Witch. It was not until about *a month later* that I was able to sleep without the light on, without someone else in the room, shower after the sun went down and basically be able to do anything alone while it was dark.

The Blair Witch Project is a movie that portrays reality so well that it scares me to this day. . . . Actually *as I am writing this paper* I am getting a little freaked out because the images and plot were so real.

Bob* *is terrified* of going into his basement, which is where he does his laundry. This is especially true if it is dark outside.

After I watched the movie and even a while after the true facts about *The Blair Witch Project* became public knowledge, I found myself really scared anytime that I was around woods or near a bunch of trees when any wind would pick up. Even someone mentioning camping in tents or hiking in wooded areas really freaked me out.

I swore that I would never go camping again.

The film was scary when I saw it in the theater, but when I went camping with three friends *two weeks following the film*, that's when it was the scariest. I was twenty-one years old and I found myself not being able to sleep for two nights in the woods . . . every sound that was once soothing to my mind made me shiver on the outside and thoughts run furiously inside my head. I prayed for the morning to come around as I laid in my sleeping bag with my eyes wide open.

I was very frightened by the film and didn't ever want to go into the woods again. *I still am scared* to drive in a car through wooded areas at night.

*The name has been changed to preserve confidentiality.

= 6.40, *p* = .01). Almost half of the viewers (47 percent) had problems with sleeping. One woman reported a nightmare that seemed alarmingly real:

> Contrary to my expectation, I had a dream in which the boys I had gone to the movie with called me and told me they were coming to kill me. I hung up the phone; at this point I must have woken up. I proceeded to get dressed, thinking they were really coming over. I stayed awake the rest of the night, dressed waiting to die.

In general, however, the sleep problems were reported to last a week or less. More people (65 percent) were affected in their waking activities, and more than a third (35 percent) of the writers reported that the effects were continuing in the present. Most of these effects involved being afraid when home alone, when babysitting, or when encountering a reminder of the movie. Table 6 presents some of these students' descriptions of their reactions to *Scream*.

Table 6   Examples of Longer-Term Reactions to *Scream*

Last semester, when I saw the movie, I was taking an art history course and the painting [*The Scream*] was displayed in the art history building. The effect was so intense, that *every time I went to class* after that I looked in the other direction when I passed the painting.

When I was finally in bed I found myself hearing noises and squeezing my eyes shut. Of course not all of these reactions lasted for weeks but such things as checking my car's back seat and hearing uncommon noises lasted *for quite awhile*. Even writing about it *now* brings back a twinge of fear.

Even though I had only seen the beginning scene of *Scream*, *I still get scared* when I baby-sit, and every phone call I get makes me jump.

That mask was so incredibly creepy that *even now* when I see it in costume shops my stomach gets a little queasy.

For two years, every time I was home alone I felt uneasy. . . . Even though I am not as bad as I was, *there are still times* that being home alone is extremely scary for me. I also have had to leave the video store because *Scream* was being shown on the televisions.

There are times when I am walking alone to my apartment that I get visions in my head of the mask they wore and I get completely freaked out and will basically sprint to my apartment. I *now* check under the bed, inside the closet and shower when I get home to make sure no one is there.

After seeing this movie, I am *now* very conscious about who is home. If I'm home alone, however, *I am always* listening for unknown sounds and where they are coming from. Many of the characters in the movie that were being chased or harassed by this man were about my age, which made it seem even more realistic for me. I imagined how I would react if this were to happen to me, which made it even more frightening. *Nowadays*, I catch myself looking around or sensing that someone is in my house. *Sometimes* I feel that someone is going to pop out of nowhere into my room.

Explaining the Prevalence of Lingering Effects

The papers written about the effects of these movies give scores of examples of long-term effects on viewers' lives. In fact, looking at the 91 papers as a whole, 46 percent reflected some sort of effect of the movie on bedtime behavior, and 75 percent reported some effect on the viewer's waking life. Only 12 percent of the papers failed to mention effects that spilled over into the viewer's sleeping or waking existence. Of these, almost all reported on young adults' exposure to the recent movies. These findings reveal that scary movies have an overwhelming tendency to stay with the viewer for a long time, long after the viewer understands that the lingering response is to some extent irrational.

Why do scary movies have such powerful effects on the ongoing lives of people who see them for entertainment? The child viewers rarely watched

these movies alone, and they typically saw them with parents or older siblings or caregivers who were in a position to reassure them. The young adult viewers knew in advance that they would be watching a scary movie and almost always watched with friends as well. All four movies were fictional (although *The Blair Witch Project* was initially touted as a documentary). Why, then, did these movies continue to play on viewers' emotions and to influence their ongoing behavior for such long periods of time?

There are a number of factors that seem to contribute to the long-term effects of scary movies. This section explores what seem to be some of the major factors.

Young Children's Vulnerabilities

Research in developmental psychology helps to explain some of the reactions of young children to scary movies (Cantor 1998, 2002). For example, preschool children's ability to distinguish between fantasy and reality is quite limited (Flavell 1963). Some research suggests that very young children at first believe that what they see on television (or in movies) is actually in the room with them (Flavell et al. 1990). After they understand that what they are seeing is not physically present, it takes them until about the age of seven or eight to distinguish between what is real and what is make-believe in the media by understanding that some things are physically impossible in the real world (Morison et al. 1981). For children who have not yet grasped the distinction between fantasy and reality, then, it is no wonder that they worry about clown dolls, trees, or demons in the television attacking them after seeing it happen to other children in *Poltergeist*.

Another characteristic of young children that makes them especially vulnerable to movies like *Poltergeist* is that they are *perceptually bound* (Bruner 1966), meaning that they respond very strongly to visual images (see Hoffner and Cantor 1985). The visual images in *Poltergeist* are so hideous and threatening that it is extremely difficult to counteract them with other forms of information (Cantor 1998). Moreover, young children have difficulty understanding transformations (Flavell 1963) and are especially troubled when a benign-looking character metamorphoses into a monstrous one (Sparks and Cantor 1986).

These developmental considerations explain some of the problems young children have had with *Poltergeist*. They even explain, to some extent, young children's reactions to *Jaws* before they are old enough to know that man-eating sharks can only be found in oceans. However, these issues do not help us understand the reactions of children over the age of eight to these movies, nor do they have any bearing on the enduring reactions of young adults.

Why Fictitious Events Are Scary

Once we know that fictional movies are scripted by a screenwriter for the purpose of entertaining us, we still get scared by them for a variety of reasons. Certain visual images, such as attacking animals and physical deformities, automatically arouse fear (e.g., Hall 1897; Hebb 1946), although adults often can quickly moderate their responses to them when we see them in movies.[3] Humans are also naturally inclined to empathize with the emotions of protagonists, especially those that they like and admire (Zillmann and Cantor 1977). Therefore, if the protagonists in a movie are intensely afraid or are threatened with harm, viewers often feel fear, too (Wilson and Cantor 1985). Viewers have also been said to adopt what has been called by Samuel Taylor Coleridge "the willing suspension of disbelief" in order to enjoy a more intense experience of a scary movie;[4] moreover, accomplished filmmakers include such features as suspense, surprise, and scary music, which are designed to increase viewers' fear (Cantor 2002).

These factors help explain why adults become frightened while watching fictional movies but not necessarily why they continue to exhibit feelings of fear after the movie has ended. Even if viewers care about the killer's victims while watching *Scream*, once the movie is over and the lights are on, they should be reminded that it was only a movie and should no longer be worrying about the killer. But we often do continue to feel anxious after such movies and with good reason. Even though we know that that specific killer never lived and that those murders never took place, the story vividly reminds us of real threats that (although improbable) do exist in our own lives. Realistic fiction, although the product of an artist's imagination, leads us to believe that it is based on something that actually happened to someone. The details have likely been changed, but because realistic fic-

3. Compare Noël Carroll (1990: esp. 27–52), who, in *The Philosophy of Horror*, defines *horror* as including the presence of a "monster," which must be evaluated by other characters and/or the reader in terms of both "threat" and "disgust." My analysis overlaps only partially with Carroll's because I hold that a threatening visual image may be totally realistic and depict an actual danger existing today, while Carroll's (ibid.: 27) "monster" is "a being not believed to exist now according to contemporary science." Nor is my analysis focused on a particular genre but, rather, on the feelings of fear produced in viewers. Although my study begins with the response of fear and works back to the films that produced it and Carroll starts by defining a genre and works toward understanding the audience response, there are numerous points of agreement between us. What he calls the emotion of art-horror is similar in many ways to the fear responses being described in this article, even though not all the movies written about by my students would be classified as belonging to the horror genre.

4. Carroll (1990: 79–88) convincingly argues that this concept is problematic because disbelief is never completely suspended—otherwise, patrons would run in panic from the theater. In describing responses to horror, Carroll argues that, even though we know that the monster in a horror story is not real, we respond with art-horror to the "thought" or idea of it.

tion is highly plausible, it can have profound effects on the way we view our own world.[5]

The fact that realistic fiction is based on real happenings does not explain the paradox that the overwhelming majority of students said they were frightened by dramatic fiction rather than the news or a documentary, however. If a story's basis in reality were the determining factor, the news would hold a more prominent position in the viewers' memories of scary media. However, whether or not something actually happened does not seem to be as important a determinant of the fear response as the emotional character of the event. Research shows that the more sensational an event, the more likely we are to remember it and the greater our tendency to overestimate its probability of occurrence (see Lichtenstein et al. 1978; Tversky and Kahneman 1973). Although we may not be worried about the specific masked killer in the movie *Scream* (who, we know, is only an actor playing a part), those vivid, sensational depictions of stalking, terror, and gore remind us of our own vulnerability and may have a stronger effect than the more mundane stories of murder that we hear about in the daily news. And as for our vulnerability to shark attacks, although we know that Jaws was killed (and that, in fact, he was only a mechanical monster), witnessing his bloody attacks on helpless victims makes us intensely and memorably aware that there is the possibility of a shark attack in the ocean. This seems to change our perception of our own safety, when we are at the beach, much more profoundly than do the brief, matter-of-fact reports of shark attacks that we typically hear about in the news.

The Supernatural—A Gray Area between Fantasy and Fiction

But what about the supernatural—why are we so strongly affected by movies depicting supernatural forces that have no objective reality?

Research shows that, as children come to understand the difference between fantasy (things that cannot possibly occur) and reality, they become less likely to be frightened by media offerings with unrealistic characters, such as the movie *The Wizard of Oz* and the superhero, action-adventure program *The Incredible Hulk* (Cantor and Sparks 1984). At the same time, they are more likely to be frightened by realistic fiction and reality programs, because both of these categories depict events that they know can actually happen (Cantor and Nathanson 1996; Cantor and Sparks 1984). However, it appears that the difference between fiction and fantasy (what is possible vs. what is not possible) is not always clear-cut. In some cases, the real-

5. Although Carroll's thought theory was developed to explain reactions to the horror genre, it can be applied in such instances to realistic fiction. The viewer can wonder, for example, "what if such a thing were to happen to me?" and respond accordingly.

world plausibility of supernatural events that occur in media presentations is ambiguous.[6]

The supernatural is a difficult category to define. Although children by the age of eight seem to understand that the Wicked Witch of the West (an evil character with a pointed black hat who rides a broom) is just a make-believe movie character, young adults seem to be less certain about whether or not someone like the Blair Witch could exist. For many people, stories of witchcraft, demonic possession, and alien intruders are not easy to dismiss as impossible.

There are good reasons why many people are uncertain about the ve-racity of stories of the supernatural beyond their prevalence in movies and the literature of horror. People who call themselves witches exist in today's society (see, for example, Walker and Jung 2003). Stories of demonic pos-session are reported in the press, and religious exorcisms are still being per-formed (Cuneo 2001). Reports of unidentified flying objects are also com-mon, and we cannot be sure that we will not someday discover intelligent life on other planets.[7] Many of these events are reported not only in fic-tion, but also in so-called reality programs, such as *Unsolved Mysteries*, and on talk shows in which self-proclaimed victims of supernatural intervention tell their stories.

In addition to the ambiguity about their plausibility, another reason for the fright-producing potential of stories of the supernatural is that there is no real defense against these unknown powers. Although we can learn to protect ourselves against shark attacks and homicidal maniacs because these threats function according to the laws of physics, normal protective measures are typically useless against supernatural agents. What good does it do to lock our doors and windows if the ghost can penetrate walls or the evil being can wreak havoc from a distance? And how can we be sure that our weapons would be effective against an alien whose body composition is unknown? The fact that eight of the top ten movies in Table 1 involve supernatural forces is a testimony to the frightening nature of supernatural themes.

6. I am not referring here to Todorov's (1975: 25) conception of "the fantastic"—the hesita-tion *over the course of a narrative* between a natural and a supernatural explanation for events that seem to deviate from the normal. I am describing the ambivalence that many individuals feel about the possibility of supernatural events actually occurring in the real world. Although my argument focuses on the real-world beliefs and practices that foster such ambivalence, it is likely that the fantastic hesitation *within narratives* also fosters this ambivalence.

7. Indeed, when I was a young child I watched a television program called *Captain Video*, in which the protagonists traveled about in a spaceship. Although that program was science fiction in the 1950s, perhaps a similar series would be considered realistic fiction now.

The Enduring Influence of Emotional Memory

The factors discussed above—young children's cognitive immaturity, the ability of fiction to sensitize us to real dangers, and the ambiguity about threats from supernatural forces—explain some of the long-lasting effects of scary movies, but they still do not account for a good portion of the lingering effects. Why do adults, who are completely sure that they will not encounter a shark in a lake or pool, continue to find themselves uncomfortable in these environments, even though they are aware of the irrationality of their responses? And why do adults continue to dread clown dolls, trees, and television sets that they know cannot harm them? Why are these people's bodily reactions behaving in a way that seems inconsistent with their conscious thoughts? The answer, I believe, can be found in recent research in neuroscience, on the neurophysiology of fear.

In *The Emotional Brain* (1996), Joseph LeDoux, a pioneering neural scientist, brings together current knowledge of the brain mechanisms involved in emotion. To simplify his analysis greatly, there are two brain memory systems that work in parallel in the fear response. Explicit, conscious memories of a fear-inducing event are mediated by a system involving a brain region called the *hippocampus*, whereas implicit, not-necessarily-conscious emotional memories are mediated by an area involving the *amygdala*. The hippocampus mediates conscious processing and is involved in appraising the situation and making sense of it. The amygdala responds more quickly, even before the cause of alarm has reached our state of awareness, and orchestrates more automatic responses, such as tensed muscles, blood pressure and heart rate changes, and the release of adrenaline into the bloodstream. These reactions, which contribute to the way our bodies feel when we are afraid, are part of the so-called "fight-or-flight" response, which prepares us to defend ourselves from harm.

Citing studies involving species ranging from laboratory animals to humans, LeDoux explains the process of *fear conditioning*: a laboratory rat exhibits a fearful reaction upon receiving an electric shock. If the shock is paired with the sound of a tone, that tone comes to elicit the fear reaction, even when the shock does not accompany it. Likewise, if a rabbit encounters a fox (a predator) at a particular pond and escapes safely, it will avoid that pond in the future, or if it has no choice, it will express its fear by exhibiting timidity and hypervigilance whenever it returns to that location. Similarly, if a man has a serious, traumatic automobile accident during which the horn of his car gets stuck on, he is likely to experience bodily reactions associated with fear in future situations when hearing the sound of a horn. The horn may, in fact, remind him of the accident, and he may consciously associate his feelings with that event. However, over time, he may forget

about the association of the horn with the accident but still have physiological responses associated with fear whenever he hears a horn sound. In these cases, the implicit (nonconscious) emotional memory system has been activated to create the bodily experience of emotion. Other contextual features of the accident, never consciously associated with it, may also trigger the implicit emotional memory—a particular make of car, a certain type of intersection, or any other detail that was prominent at the time of the accident.

According to LeDoux, evolution favors the survival of animals (including humans) that can quickly identify stimuli that are life-threatening and that immediately take defensive action. In addition, the emotional memory system makes sure that memories of things that have endangered us in the past are extremely accurate, so that whenever we encounter similar things, even years later, we will be prepared to act quickly again. Because of this, implicit fear memories are especially enduring. Research shows that, although our conscious memories of fearful situations are not always correct and are quite malleable over time, implicit fear memories are highly resistant to change. In fact, LeDoux (1996: 252) calls them "indelible":

> Unconscious fear memories established through the amygdala appear to be indelibly burned into the brain. They are probably with us for life. This is often very useful, especially in a stable, unchanging world, since we do not want to have to learn about the same kinds of dangers over and over again. But the downside is that sometimes the things that are imprinted in the amygdala's circuits are maladaptive. In these instances, we pay dearly for the incredible efficiencies of the fear system.

What may be happening with these lingering effects of movies is similar to LeDoux's descriptions of fear conditioning. If we experienced intense fear while watching *Jaws*, our implicit fear reactions (e.g., the heart rate increases, blood pressure changes, and muscle tension) became conditioned to the image of the shark, to the notion of swimming, to the musical score— most likely to a combination of the stimuli in the movie. Later, one of these stimuli—or even thoughts of these stimuli—trigger these unconscious reactions, even after our conscious minds have gotten past the problem. Similarly, people who were traumatized while watching *Poltergeist* experienced fear conditioning to images of clowns, trees outside windows, televisions displaying "snow," and other images and situations from the film. In spite of now knowing that harm from these agents is impossible, these people experience bodily reactions and anxious feelings in response to related images. Uneasiness and distress in response to images and situations related to *The Blair Witch Project* and *Scream* follow the same principle.

Media Fiction as a Powerful Force

It must be noted here that LeDoux was not referring to viewers of fright-ening movies in his analysis of the enduring effects of fear but, rather, to people who suffer from phobias, panic attacks, and post-traumatic stress as the result of events they have experienced in their own lives. However, the similarity between the experiences of these frightened movie viewers and people with phobic reactions is quite remarkable. Although there are a few published cases in the psychiatric literature in which people were hospi-talized as the result of movie-induced trauma (Bozzuto 1975; Mathai 1983; Simons and Silveira 1994), the examples reported here would not likely rise to the level of a clinical diagnosis. It is clear, however, that the movies writ-ten about in these student papers have influenced the lives of many people in strong and enduring ways, often with disruptive effects on some aspects of the viewers' lives.

The reactions reported in this article are quite similar to the responses detailed in earlier retrospective studies using different assessment tech-niques and involving a larger variety of movies (Harrison and Cantor 1999; Hoekstra et al. 1999). As in the present study, 90 percent or more of the respondents in the earlier studies reported experiencing an intense fear response to a movie, and similar types of enduring effects were described. These studies together confirm that fictional entertainment can be more than just an amusement or a diversion. It can be life-changing in more pro-found ways than many people expect.

References

Blumer, Herbert
  1933 *Movies and Conduct* (New York: Macmillan).
Bozzuto, James S.
  1975 "Cinematic Neurosis Following *The Exorcist*," *Journal of Nervous and Mental Disease* 161: 43–48.
Bruner, Jerome S.
  1966 "On Cognitive Growth," in *Studies in Cognitive Growth*, edited by Jerome S. Bruner, Rose R. Olver, and Patricia M. Greenfield, 1–67 (New York: Wiley).
Cahill, Susan
  1994 *Writing Women's Lives: An Anthology of Autobiographical Narratives by Twentieth-Century American Women Writers* (New York: Harper Perennial).
Cantor, Joanne
  1998 *"Mommy, I'm Scared": How TV and Movies Frighten Children and What We Can Do to Protect Them* (San Diego, CA: Harcourt).
  2002 "Fright Reactions to Mass Media," in *Media Effects: Advances in Theory and Research*, edited by Jennings Bryant and Dolf Zillmann, 287–306 (Mahwah, NJ: Erlbaum).
Cantor, Joanne, and Amy I. Nathanson
  1996 "Children's Fright Reactions to Television News," *Journal of Communication* 46: 139–52.

Cantor, Joanne, and Glenn G. Sparks
  1984 "Children's Fear Responses to Mass Media: Testing Some Piagetian Predictions,"
    Journal of Communication 34: 90–103.
Carroll, Noël
  1990 *The Philosophy of Horror; or, Paradoxes of the Heart* (New York: Routledge).
Cuneo, Michael W.
  2001 *American Exorcism: Expelling Demons in the Land of Plenty* (New York: Doubleday).
Eisenberg, Azriel L.
  1936 *Children and Radio Programs* (New York: Columbia University Press).
Flavell, John
  1963 *The Developmental Psychology of Jean Piaget* (New York: Van Nostrand).
Flavell, John, Eleanor R. Flavell, Frances L. Green, and John Korfmacher
  1990 "Do Young Children Think of Television Images as Pictures or Real Objects?" *Journal
    of Broadcasting & Electronic Media* 34: 399–419.
Gentile, Douglas, and David Walsh
  2002 "A Normative Study of Family Media Habits," *Applied Developmental Psychology* 23:
    157–78.
Hall, G. S.
  1897 "A Study of Fear," *American Journal of Psychology* 9: 147–249.
Harris, Richard J., Steven J. Hoekstra, Christina L. Scott, Fred W. Sanborn, Joseph A.
    Karafa, and Jason D. Brandenburg
  2000 "Young Men's and Women's Different Autobiographical Memories of the Experience
    of Seeing Frightening Movies on a Date," *Media Psychology* 2: 245–68.
Harrison, Kristen, and Joanne Cantor
  1999 "Tales from the Screen: Enduring Fright Reactions to Scary Media," *Media Psychology*
    1: 97–116.
Hebb, Donald O.
  1946 "On the Nature of Fear," *Psychological Review* 53: 259–76.
Hoekstra, Steven J., Richard J. Harris, and Angela L. Helmick
  1999 "Autobiographical Memories about the Experience of Seeing Frightening Movies in
    Childhood," *Media Psychology* 1: 117–40.
Hoffner, Cynthia A., and Joanne Cantor
  1985 "Developmental Differences in Responses to a Television Character's Appearance
    and Behavior," *Developmental Psychology* 21: 1065–74.
LeDoux, Joseph
  1996 *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* (New York: Simon
    and Schuster).
Lichtenstein, Sarah, Paul Slovic, Baruch Fischoff, Mark Layman, and Barbara Combs
  1978 "Judged Frequency of Lethal Events," *Journal of Experimental Psychology: Learning and
    Memory* 4: 551–78.
Mathai, John
  1983 "An Acute Anxiety State in an Adolescent Precipitated by Viewing a Horror Movie,"
    Journal of Adolescence 6: 197–200.
Morison, Patricia, Hope Kelly, and Howard Gardner
  1981 "Reasoning about the Realities on Television: A Developmental Study," *Journal of
    Broadcasting & Electronic Media* 25: 229–41.
Owens, Judith, Rolanda Maxim, Melissa McGuinn, Chantelle Nobile, Michael Msall, and
    Anthony Alario
  1999 "Television-Viewing Habits and Sleep Disturbance in School Children," *Pediatrics*
    104: 552.
Preston, Mary I.
  1941 "Children's Reactions to Movie Horrors and Radio Crime," *Journal of Pediatrics* 19:
    147–68.

Simons, D., and W. R. Silveira
    1994 "Post-Traumatic Stress Disorder in Children after Television Programmes," *British Medical Journal* 308: 389–90.
Singer, Mark I., Karen Slovak, Tracey Frierson, and Peter York
    1998 "Viewing Preferences, Symptoms of Psychological Trauma, and Violent Behaviors among Children Who Watch Television," *Journal of the American Academy of Child and Adolescent Psychiatry* 37: 1041–48.
Sparks, Glenn G., and Joanne Cantor
    1986 "Developmental Differences in Fright Responses to a Television Program Depicting a Character Transformation," *Journal of Broadcasting & Electronic Media* 30: 309–23.
Todorov, Tzvetan
    1975 *The Fantastic: A Structural Approach to a Literary Genre*, translated by Richard Howard (Ithaca, NY: Cornell University Press).
Tversky, Amos, and Daniel Kahneman
    1973 "Availability: A Heuristic for Judging Frequency and Probability," *Cognitive Psychology* 5: 207–32.
Walker, Wren, and Fritz Jung, eds.
    2003 *Witches' Voice*. Web site available at www.witchvox.com/twv/meet.html.
Wilson, Barbara J., and Joanne Cantor
    1985 "Developmental Differences in Empathy with a Television Protagonist's Fear," *Journal of Experimental Child Psychology* 39: 284–99.
Wilson, Barbara J., Cynthia A. Hoffner, and Joanne Cantor
    1987 "Children's Perceptions of the Effectiveness of Techniques to Reduce Fear from the Mass Media," *Journal of Applied Developmental Psychology* 8: 39–52.
Zillmann, Dolf, and Joanne Cantor
    1977 "Affective Responses to the Emotions of a Protagonist," *Journal of Experimental Social Psychology* 13: 155–65.