

## Portrayal of Lobotomy in the Popular Press: 1935-1960\*

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### ABSTRACT

This study analyzed the content of popular press articles on lobotomy between the years 1935 and 1960. Both a qualitative and quantitative analysis provided evidence that the press initially used uncritical and sensational reporting styles, with the content of articles on lobotomy becoming increasingly negative through time. The initial positive bias occurred despite opposing views in the medical community, which provided a basis for more balanced coverage. These findings support the theory that biased reporting in popular press articles may have been a factor influencing the quick and widespread adoption of lobotomy as a psychiatric treatment.

**Key Words:** lobotomy, popular press, content analysis, history of psychosurgery, Walter Freeman.

### INTRODUCTION

The first scientific report of lobotomy applied as a psychosurgical treatment for severe mental disorders was written by the Portuguese neurologist Egas Moniz in 1936. This study was published less than a year after the first lobotomy had been performed with a human subject, and stimulated experimentation in psychosurgery around the world (Diering & Bell, 1991). A modified version of the Moniz procedure called a 'prefrontal lobotomy' was quickly introduced to the United States by a neurologist named Walter Freeman, and his associate, neurosurgeon James Watts. Although the exact number of lobotomies performed in the United States is not known, two surveys indicated that the number of lobotomy operations increased dramatically in the years immediately following its introduction, and the rate of surgeries per year did not decline until the 1950s (Limburg, 1951; Kramer, 1954). Historical reviews have outlined the prominent social influences which contributed to the rise and subsequent decline of lobotomy (e.g., Valenstein, 1986; Swaze, 1995), al-

though no source of which we are aware has operationalized or tested the influence of these factors.

It has been proposed that biased popular press coverage was one factor which stimulated interest in lobotomy, thus contributing to its widespread adoption. Valenstein (1986), for example, indicated, 'it was . . . generally known that many patients were referred . . . as a result of all the publicity' (p. 160). In addition, there are some specific examples of anecdotal reports that popular press articles prompted persons in the general public to consider lobotomy as a treatment option for themselves or loved ones. One man wrote a story about seeking treatment with lobotomy after his wife had read about the procedure in the popular press (Dannecker, 1942). Crossley (1993) cited an example of one family who wrote to the Medical Superintendent of the North Wales Hospital:

Recent reports in the press have encouraged us to hope that at last a treatment has been found giving a fair chance of recovery in schizophrenia. Naturally we are anxious to

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learn your opinion with regard to the case of my brother. (p. 561)

Much of the press interest in lobotomy was due to Walter Freeman, who cultivated relationships with the writers of prominent newspapers and magazines in order to promote his technique. It is important to note that Freeman vigorously publicized lobotomy before well-controlled research had been conducted, and before information was known about long-term effects. In fact, references were made in scientific journals to the advertising of lobotomy in the popular press (e.g., Atkin, 1946), and generally Freeman's behavior was not sanctioned by others in the medical community. An editorial, published anonymously in a 1941 issue of the *Journal of the American Medical Association* read:

in the present experimental stage there is no excuse for dissemination of discussions or of any statements laudatory of this procedure to the general public. No doctor can yet assert that this is or is not a truly worthwhile procedure. The ultimate decision must await the production of more scientific evidence. (p. 535)

Fleming (1944), who actually held a favorable view toward lobotomy, argued, 'it seems a pity that such a technical matter as prefrontal leucotomy should be discussed in the lay press, and we can only deprecate very strongly the action of medical men who have encouraged this' (p. 486).

At the same time that lobotomy was being promoted in the popular press, the procedure was being severely criticized by some members of the medical establishment. During a scientific discussion on lobotomy published in the *Journal of Nervous and Mental Disease* in 1938, A. A. Brill attacked the scientific validity of outcome results presented to date, stating, 'I feel that there is absolutely no reason why we should be in any way impressed by the seriousness of these presentations' (p. 233). In 1941, a panel discussion held at a meeting of the American Medical Association concluded that lobotomy should be considered an experimental procedure (W. Free-

man et al., 1941). The 1941 American Medical Association panel also issued a warning about several negative effects on personality including apathy, inappropriate social behavior, and lack of initiative (i.e., the frontal lobe syndrome). Therefore, negative information about lobotomy was available in the early years of press coverage.

The goal of this paper is to review the portrayal of lobotomy in magazine and newspaper articles from 1935 to 1960, in an effort to assess if biased popular press reporting may have contributed to the use of lobotomy. This goal was accomplished by analyzing the content of articles across time. Specifically it was hypothesized that (1) the content of early articles would be positive in tone, and become more negative in tone over time, (2) the number of benefits attributed to lobotomy would start out high in number, and decrease over time, and (3) the number of negative side effects reported would start out low in number, and increase over time.

## METHODOLOGY

### Sample

Popular press articles were selected from both magazine and newspaper sources between the years 1935 and 1960. The *Reader's Guide to Periodical Literature* is the standard and accepted reference for popular press magazines, and was used in the present study to generate the sample of relevant magazine articles.<sup>1</sup> The *New York Times* is known as the American "newspaper of record," and newspaper articles were se-

<sup>1</sup> Since 'lobotomy' is not a heading in the *Reader's Guide to Periodical Literature*, articles were selected for review based on titles listed under the following headings: Psychiatry, Psychology – Pathological, Insane or Insanity, and Brain – Surgery. Articles with titles indicating the article was about lobotomy were selected. In addition, articles with titles indicating the content was related to either brain operations or psychiatric therapies without reference to a specific treatment were selected. The original sample ( $n = 128$ ) was reviewed, and articles which were unrelated to lobotomy, or made only brief reference to lobotomy, were excluded from the sample ( $n = 86$ ).

lected from the *New York Times Index*.<sup>2</sup> The final sample consisted of 42 magazine articles and 34 newspaper articles.<sup>3</sup>

## Procedure

### *Quantitative analysis*

A quantitative analysis was conducted in order to objectively evaluate specific content elements relevant to the three hypotheses. Each article was randomly distributed to two different coders for quantitative review.<sup>4</sup> Coders were asked to rate the overall tone of the article in its presentation of lobotomy on a five-point scale (1 = very negative; 2 = somewhat negative; 3 = neutral; 4 = somewhat positive; and 5 = very positive).<sup>5</sup> In cases where there was disagreement in rating, the mean of the coder's scores was entered into data analysis. Coders were also asked to identify benefits and negative side effects of lobotomy mentioned in the article. The average number of benefits and negative side effects mentioned per article was entered into data analysis.

### *Qualitative analysis*

A qualitative content analysis is also presented in order to place the quantitative findings into an historical context. For the purpose of qualitative analysis, articles were sorted by year into histor-

ically meaningful time-blocks. All articles were then carefully reread in time sequence by two of the current authors, with special attention given to identification of themes relevant to the present hypotheses (e.g., portrayal of benefits of lobotomy). Illustrative examples of theme content were then selected for inclusion in the narrative. Historical background information was also integrated into the review where appropriate.

## FINDINGS: QUANTITATIVE ANALYSIS

Correlational analyses with the full sample of articles<sup>6</sup> were conducted using the Spearman rank order statistic due to the use of ordinal data in the analyses. In order to test the first hypothesis, article tone was correlated with year of publication. This analysis was statistically significant and in the expected direction ( $r_s = -.47, p < .001$ ). Examination of Figure 1<sup>7</sup> indicates that the earliest articles received positive ratings of tone and became rated as more negative over time. Hypothesis number two was tested by correlating the number of benefits listed per article with year of publication. This analysis was also statistically significant and in the expected direction ( $r_s = -.41, p < .001$ ), indicating that the number of benefits from lobotomy (e.g., the alleviation of psychological distress, the ability of the person to leave the hospital, the ability for the person to function in society and be gainfully employed) mentioned per article started high in number, and decreased in number with time (see Fig. 2). A third analysis correlating the number of negative side effects mentioned per article with year of publication was conducted to test hypothesis three. This correlation was not statistically significant ( $r_s = .12, p > .05$ ), suggesting that there was not a consistent pattern

<sup>2</sup>Article titles from *The New York Times Index* were reviewed, and 78 indicated that lobotomy was a potential topic of the article. Once again, liberal judgments were made in order to capture as many relevant articles as possible. Articles which were judged to make insufficient reference to lobotomy were excluded ( $n = 44$ ).

<sup>3</sup>A reference list of the articles included in the sample can be obtained from the second author.

<sup>4</sup>Coders were blind to the hypotheses of the study. In addition, articles were edited for publication dates, periodical title, and adjoining articles and advertisements, in order to remove any information which may have biased coder judgments.

<sup>5</sup>All coders had experience in news writing and were instructed that the neutral-point on the scale represented "fair, balanced, and objective" reporting. On tone rating assessments, intercoder reliability was .82 using Pearson's  $r$ .

<sup>6</sup> Additional analyses were conducted of magazine articles alone and newspaper articles alone, however, no source differences were evident. Therefore, only analyses conducted using the entire sample of both magazine and newspaper articles were reported.

<sup>7</sup> As a result of overlapping data, in some instances the figures represent multiple cases as a single data point.

for the reporting of negative side effects over time. However, as illustrated in Figure 3, there appears to be a trend in the data consistent with the present hypotheses, especially in the early years. Therefore, a post-hoc analysis which included only articles published between the years 1935 and 1955 ( $n = 68$ ) was conducted correlating the number of negative side effects mentioned per article with year of publication. This correlation was statistically significant and in the expected direction ( $r_s = .22, p < .05$ ). This finding indicates that there was a significant increase in the reporting of negative side effects up until the year 1955. Perhaps this trend was diminished between the years 1955 and 1960 because lobotomy had already lost favor in mainstream medical practice by this time, thus eliminating the need to enumerate negative side effects of the procedure.

FINDINGS: QUALITATIVE ANALYSIS

**The Early Years: 1935–1944**

The first articles on lobotomy were brief accounts of medical papers or conference presentations, with longer, more detailed articles appearing in 1941. In addition, several popular press articles were prompted by the publication of Freeman and Watts' book *Psychosurgery* in

1942, which outlined the theory supporting the use of lobotomy. Early popular press publications were generally positive in tone, and there were specific examples of biased and misleading portrayals.

One example of misrepresentation in the press was the description of the lobotomy operation itself. Prefrontal lobotomy was performed by burring holes into a patients' skull, and then using a knife to destroy fibers connecting the frontal lobe with the rest of the brain. This was a relatively crude and 'blind' procedure, during which the surgeon was largely unable to see the areas of brain being destroyed. However, the press described steps in the operation as precise. For example, an article which appeared in *Time* quoted Walter Freeman describing the manipulation of the leucotome millimeter by millimeter (Lobotomy, 1936). Kaempffert (1941), in a *Saturday Evening Post* article entitled "Turning the Mind Inside Out," wrote that 'the psychosurgeon . . . cuts at exactly the right angle in exactly the right plane' (p. 18). Later in the same article, Kaempffert created an analogy of the psychosurgeon to a watchmaker, all the while indicating to the audience that the operation is one of delicate precision.

Some of the popular press articles were a curious mixture of objectivity and irrationality. For example, while many of the articles printed the

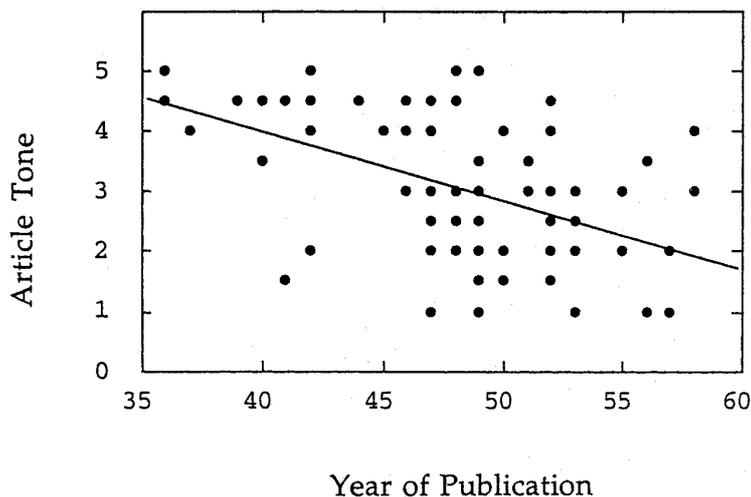


Fig. 1. Correlation between article tone and year of publication.

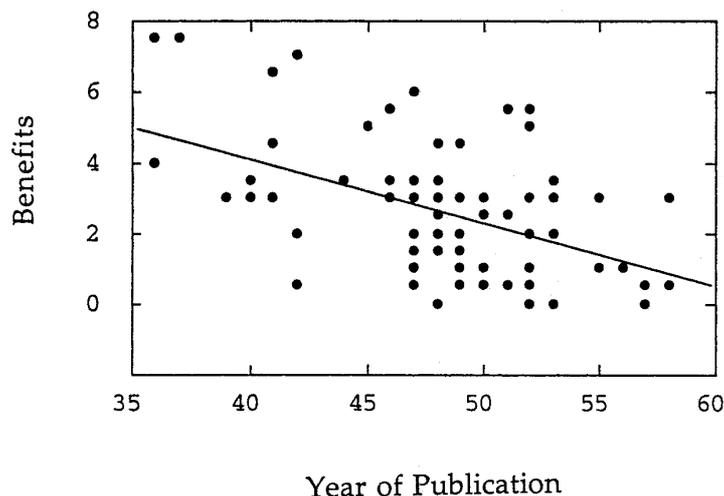


Fig. 2. Correlation between the number of benefits from lobotomy listed per article and year of publication.

outcome percentages reported in scientific journals, some writers used persuasive and extreme language in order to dramatize the findings. One *New York Times* article reported that 'no fatalities have occurred from the operations. In some cases exhilaration resulted' (Tells of operation, 1939, p. 22). In other instances results were described as 'astonishing' (Psychosurgery, 1942,

p. II 7) and 'amazing' (Operate for schizophrenia, 1940, p. 198). A headline for the magazine article 'Psychosurgery Cured Me' indicated that the article was an 'inspiring story of a nervous wreck, miraculously restored to normal life and happiness by a surgeon's knife' (Dannecker, 1942, p. 8). Finally, one article described the outcome of lobotomy in the following way:

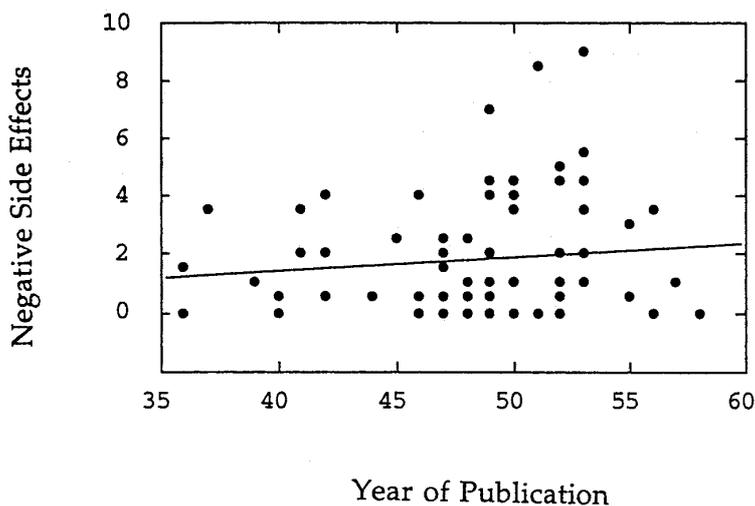


Fig. 3. Correlation between the number of negative side effects from lobotomy listed per article and year of publication.

From problems to their families and nuisances to themselves, from ineffectives and unemployables, many . . . have been transformed into useful members of society. A world that once seemed the abode of misery, cruelty and hate is now radiant with sunshine and kindness to them. (Kaempffert, 1941, p. 18)

In addition to sensationalizing the positive effects of lobotomy, articles during this time period rarely discussed risks involved in the operation. One notable exception was an article covering the 1941 American Medical Association panel discussion (Medical association issues, 1941). However, in most cases mention of negative side effects was either absent or cursory. In some articles the author seemed to minimize the negative side effects deliberately, such as reporting that three people died out of 200 cases, but adding, ‘curiously enough, all three were tormented with the desire to die’ (Kaempffert, 1941, p. 69). Another tactic was to mention the potential for personality change after lobotomy, but then portray the symptoms of frontal lobe syndrome as a positive treatment response. For example, a 1941 article which appeared in *American Mercury* reported that, ‘even the most depressed, agitated victim of an acute-anxiety psychosis is likely to turn into a comfortable I-don’t-give-a-hang sort’ (Clark, 1941, p. 297). One *New York Times* article described how negative emotional states were eliminated by lobotomy and, ‘indeed, the good humor was sometimes embarrassingly excessive’ (Psychosurgery, 1942, p. II 7). Other articles were less enthusiastic about the personality changes, but still argued that these post-operative symptoms were preferred to the previous mental condition. For example, the *Time* magazine article “Psychosurgery” (1942) described negative personality changes which could occur after lobotomy, and then noted, ‘some of these changes would be undesirable if the alternative – an unchanged psychotic personality leading to complete insanity – were not much worse’ (p. 49). A similar opinion was expressed by Kaempffert (1941), who wrote, ‘though the operation may occasionally transform a morbidly anxious man into a

careless happy drone, Doctor Freeman thinks it is better so than to go through life in an agony of hate and fear of persecution’ (p. 74). However, even Walter Freeman recognized that there were significant risks involved in the operation, and on occasion he advocated a conservative approach. Freeman’s words were paraphrased in one article in which he suggests that lobotomy should be used as a ‘last resort after less drastic therapy has failed’. (Psychosurgery, 1942, p. 49)

### **Mounting Controversy: 1945–1954**

There was a burgeoning of popular press articles written on lobotomy between the years 1945 and 1954. During this time period, there was a trend toward more balanced reporting. Articles began to express the need to examine evidence and weigh the pros and cons of the operation. Kurt Goldstein (1950) wrote an article for *Scientific American* in which he cautioned against the widespread use of lobotomy. Specifically, he asserted, ‘it is of supreme importance to investigate whether the claims of the optimistic advocates of the operation correspond to the facts’ (p. 45). After presenting some of his own data on the loss of abstract abilities, he conveyed a moderate position, stating, ‘it is certainly an exaggeration to refer to all lobotomized patients as “human vegetables”, as one author has done. Yet the results are serious enough to give us considerable concern’ (p. 47).

Another excellent example of balanced reporting was a feature article in the *Saturday Evening Post* entitled “The Operation of Last Resort” (Wallace, 1951). This article reviewed the development of the lobotomy technique, as well as the controversy. The author outlined the positions of advocates, critics, and those who took a middle ground by encouraging the procedure in rare cases, but discouraging indiscriminate use. In addition, a detailed account of one personal story of life before and after a lobotomy was presented. This story illustrated for the audience the complex issues involved in weighing the various arguments. For example, the author asked, ‘in trying to determine if an operation has been good or bad, what measuring stick or standard will be used to judge?’ (p. 24). In the end, the audience is urged to consider the issues

thoughtfully and asked, ‘what would you have done?’ (p. 95).

Another trend that emerged during this period was an increase in decisively negative press. In 1949 *Newsweek* published “Lobotomy Disappointment,” reporting on a scientific meeting, which, ‘ended with severe criticism of the treatment’ (p. 51). The chief criticisms listed in this article were that lobotomy was being used indiscriminately, that there was not enough scientific evidence to support widespread use, and that the procedure did more to help caretakers than patients. Similar sentiments were outlined in several *New York Times* articles published that same year (e.g., L. Freeman, 1949a; Mental Aid Found, 1949; Plumb, 1949).

Articles voicing the opinions of critics in the scientific community usually focused on the potential for post-operative changes in intelligence and personality. *Science Digest* reported information from two scientific articles that ‘sounded a warning’ about the negative effects of prefrontal lobotomy on intelligence measures (Surgery for Psychotics, 1947, p. 34). Popular press articles also featured research suggesting lobotomy resulted in problems with abstraction ability (Kaempffert, 1948) and planning ability (Planning ability impaired, 1947). A *New York Times* article discussed personality changes which accompanied lobotomy (Personality Shift, 1947). Freeman and Watts themselves published a scientific article on personality changes after lobotomy, and this was also reported in the popular press (L. Freeman, 1949b).

Interestingly, during this time period there were far fewer attempts to write about personality changes as a benefit, and in fact, there was instead a relative increase in the sensationalizing of this negative side effect. For example, the article “Personality Shift” (1947), quoted a family who believed their loved one ‘has lost her soul’ as a result of lobotomy (p. 51). Gumpert (1948) quoted one doctor, ‘the operation may produce a human vegetable’, and this doctor also referred to lobotomy as ‘rape of the soul’ (p. 518). A very critical *New York Times* article was entitled “Lobotomy Banned in Soviet as Cruel.” This article indicated that doctors in the Soviet Union concluded, ‘the proce-

cedure is contrary to the principles of humanity,’ and, ‘through lobotomy’ an insane person is changed into an idiot’ (Laurence, 1953, p. 13).

Despite the introduction of more balanced reporting in the popular press, the number of lobotomies performed continued to grow (Valenstein, 1986). There are several possible reasons for this inconsistency. First, just as the criticisms began to mount heavily against lobotomy, the procedure was given impetus by the scientific establishment in 1949 when Egas Moniz was awarded the Nobel Prize for medicine for developing the technique. The award was reported in two *New York Times* articles, one of which appeared on the front page. Given the prestige of the award, it is not surprising that lobotomy was portrayed positively. For example, one article referred to lobotomy as ‘revolutionary’ (Zurich, Lisbon Brain Specialists, 1949, p. 1), and the other noted, ‘the sensational operation justified itself. Hypochondriacs no longer thought they were going to die, would-be suicides found life acceptable, sufferers from persecution complexes forgot the machinations of imaginary conspirators’ (Explorers of the Brain, 1949, p. IV 8). There was no mention in either article of controversy, criticism, or potential risk.

In addition, lobotomy may have continued gaining acceptance because innovative uses and variations of the procedure were promoted in the popular press. Several articles featured stories about lobotomy being used to cure criminal behavior (e.g., Kill or Cure, 1946; Ruch, 1946; Crime Cure, 1947; Parole is Denied, 1952). Lobotomy was also reported as a treatment for pain (e.g., Body Pain is Ended, 1948; Laurence, 1951). Moreover, as criticisms of standard lobotomy mounted, successes using modified procedures were reported with new fervor. The most significant innovation was the ‘transorbital lobotomy’, which was introduced by Walter Freeman in 1945, and widely reported in the press by 1948 (e.g., 10-Minute Brain Operation, 1948; Pierced Brains, 1948). While the prefrontal lobotomy was performed using a knife placed through holes burred into the temporal regions of the patient’s skull, the transorbital lobotomy used an ice-pick-like instrument hammered into

the brain through the orbital plate above the eye socket. Transorbital lobotomy was introduced as a faster, safer method, which could be conducted on an outpatient basis. In several articles, Freeman cited the negative side effects of the prefrontal lobotomy to promote his new method, which he suggested did not have as many negative side effects (e.g., L. Freeman, 1950; Looking Backward, 1953). In addition, Freeman promoted the transorbital lobotomy as an alternative procedure, which could be performed by psychiatrists as well as neurosurgeons. James Watts strongly disagreed with this latter claim by Freeman, and ended his association with Freeman as a result.

It was also during this time period that Freeman began advocating intervention early in the course of the disease, because he came to believe that lobotomy was not therapeutic if performed after significant mental deterioration had occurred. A *Time* article entitled “Mass Lobotomies” (1952) emphasized this point in the following quotation: ‘Dr. Freeman, who once said, “I won’t touch them unless they are faced with disability or suicide”, now believes that “it is safer to operate than to wait”’ (pp. 86-87). Freeman also advocated using transorbital lobotomy on a larger scale and with more lenient patient selection criteria. For example, the *New York Times* reported that Freeman recommended relaxed criteria for lobotomy be used in V.A. hospitals (V.A. Urged to Widen, 1950).

Transorbital lobotomy also gained favor in institutional settings as a tool to settle difficult patients and to empty overcrowded state hospitals. An article published in *Newsweek* reported, ‘the operation had made the mental patients . . . much easier to care for in the institutions’ (Surgery for Insanity, 1952, p. 100). Another article began, ‘a brain operation so simple that 15 can be done in one and one-half hours may help to clear the “back” wards of our mental hospitals’ (Ice Pick Operation, 1950, p. 24). The *New York Times* reported an article under the headline “‘Ice pick’ surgery is tried en masse: West Virginia conducts tests of brain operation to bar impulses to misbehave’ (1952, p. 61). The article described how within weeks 228 lobotomies were performed by Walter Freeman. In

fact, Freeman was on a crusade, traveling across the country to hospitals to perform operations and teach his technique. It is because of Freeman’s promotion of transorbital lobotomy, in part waged through the popular press, that Valenstein (1986) concluded, ‘virtually all of the transorbital lobotomies in the United States can be traced to the influence of one man – Walter Freeman’ (p. 229).

### **The Decline: 1955–1960**

The introduction of Chlorpromazine in 1954 provided a noninvasive alternative treatment for severe mental illness. Drug therapy became the new hope for a desperate public, and lobotomy, as well as other somatic therapies (e.g., insulin coma), rapidly lost favor. There were only a few popular press articles published on lobotomy during this period. Some articles contrasted lobotomy with newer brain surgery techniques (e.g., Deep in the Brain, 1955; Pfeiffer, 1955; New Lobotomy Used, 1958), and a few attacked the procedure (e.g., Neurologist Hits Psychosurgery, 1956; Williams, 1957). One *New York Times* article reported that research using a control group, a methodological consideration that had been absent in many previous investigations, found no superior effects of lobotomy (Lobotomy scored in schizophrenia, 1957).

The only feature-length article on lobotomy published during this period presented a retrospective, and recounted Walter Freeman’s ‘dramatic half-million-mile journey . . . to check personally on the patients who had once been operated upon by himself and Dr. Watts’ (Did their Minds Clear?, 1958, p. 48). Not surprisingly the article reported that Freeman still advocated the procedure. While it is unlikely that this one article made a significant impact on public opinion in 1958, it is evidence that Freeman continued to be an avid promoter of lobotomy until the very end.

### **CONCLUSION**

Both the quantitative and qualitative analyses support the conclusion that early popular press articles on lobotomy were positively biased. The

quantitative analysis indicated that the average tone of articles remained positive until the 1950s, the number of benefits of lobotomy listed per article was highest in the early years, and the number of negative side effects listed per article started low in number and increased with time (at least until the mid-1950s). In addition, the qualitative analysis uncovered many instances of misrepresentation and sensationalized reporting in the early years. The portrayals of lobotomy remained positive despite the availability of opposing viewpoints in the medical community, which provided a basis for balanced coverage. Although early publications were biased with positive portrayals, the reporting styles became increasingly balanced, and eventually negatively valanced, through time. These findings are consistent with observations presented by Valenstein (1986), and lend further support to the theory that early uncritical press coverage may have been one factor in the rapid acceptance and widespread use of lobotomy.

Of course this is not to suggest that popular press portrayals were the only, or even the primary, factor facilitating the use of lobotomy. It is more likely that there was a complex and interactive relationship of popular press portrayals with other social, personal, medical, and economic forces creating the environment in which the proliferation of lobotomy could take place (see Valenstein, 1986; Swaze, 1995 for reviews). Valenstein (1986) proposed that similar influences prompted biased portrayals of medical innovations in the contemporary press, such as with new treatments for AIDS and Alzheimer's Disease (p. 292). Therefore, results of the present study may provide more than a curious historical review.

Indeed, perhaps a cautionary lesson can be learned from the history of lobotomy. The hallmark of scientific discovery is objective and controlled experimentation with replication that creates a dynamic process evolving through time. However, as illustrated by the present study, this process does not occur in a vacuum. For example, medical research is propelled in part by public needs, and at times, public desperation. However, as happened in the case of lobotomy, competition in the media to break

dramatic stories can combine with fame-seeking by persons in the medical community to create a symbiotic relationship which serves the media and the physicians, but not necessarily the public interest. This is a situation where human emotion undermines the foundation of the scientific process leading to a rush to press without proper justification, and stimulating public interest, without adequate information. It is true that with time the full story of lobotomy was known, but by then it was already too late for untold thousands of people who had undergone this irreversible procedure.

## REFERENCES

- Atkin I (1946): Physical therapy in mental disorder [Letter to the editor]. *British Medical Journal*, 1, 328
- Anonymous (1941): Frontal lobotomy. *Journal of the American Medical Association* 117, 534-535.
- Body pain is ended by brain surgery. (1948, June 17): *New York Times*, p. 27.
- Brill AA (1938): Discussion, in W Freeman, J Watts: Some observations on obsessive tendencies following interruption of the frontal association pathways. *Journal of Nervous and Mental Disease* 88, 232-233.
- Clark M (1941, March): Surgery in mental cases. *American Mercury* 52, 292-298. Crime cure? (1947, July 14): *Time* 50, 53.
- Crossley D (1993): The introduction of leucotomy: A British case history. *History of Psychiatry* 4, 553-564.
- Dannecker HA (1942, October 6): Psychosurgery cured me. *Coronet* 12, 8-12.
- Deep in the brain. (1955, March 21): *Time* 65, 45.
- Did their minds clear? (1958, August 4): *Newsweek* 52, 48.
- Diering SL, & Bell WO (1991): Functional neurosurgery for psychiatric disorders: A historical perspective. *Stereotactic and Functional Neurosurgery* 57, 175-194.
- Explorers of the brain. (1949, October 30). *New York Times*, p. IV, 8.
- Fleming GWTH (1944): Prefrontal leucotomy. *The Journal of Mental Science* xc, 491-500.
- Freeman L (1949a, February 4): State's research aids mentally ill. *New York Times*, p. 16.
- Freeman L (1949b, September 9): Surgery of brain studied in report. *New York Times*, p. 23.
- Freeman L (1950, May 5): Pioneer sees peril in brain operation. *New York Times*, p. 17.
- Freeman W, Tarumianz MA, Erickson TC, Lyerly JG, Palmer HD, & Grinker RR (1941): Neurosurgical

- treatment of certain abnormal mental states (panel discussion). *Journal of the American Medical Association* 117, 517-527.
- Freeman W, & Watts, JW (1942): *Psychosurgery in the Treatment of Mental Disorders and Intractable Pain*. Springfield, IL, Thomas.
- Goldstein K (1950, February): Prefrontal lobotomy: Analysis and warning. *Scientific American* 182, 44-47.
- Gumpert M (1948, November 6): Lobotomy: Savior or destroyer? *Nation* 167, 517-518.
- Ice-pick operation helps patients on "back" wards. (1950, July 8): *Science News Letter* 58, 24.
- "Ice-pick" surgery is tried en masse. (1952, August 24). *New York Times*, p. 61.
- Kaempffert W (1941, May 24): Turning the mind inside out. *Saturday Evening Post* 213, 18-19, 69, 71-72, 74.
- Kaempffert W (1948, September 26): New tests devised to gauge results of brain operation for emotional disorder. *New York Times*, p. IV, 9.
- Kill or cure. (1946, December 23): *Time* 48, 66-67.
- Kramer M (1954): The 1951 survey of the use of psychosurgery. In FA Mettler & W Overholster (Eds.), *Proceedings of the Third Research Conference on Psychosurgery* (Public Health Service Publication No. 221, pp. 159-173). Washington, DC, US Government Printing Office.
- Laurence WL (1951, January 12): Big advances seen in brain surgery. *New York Times*, p. 29.
- Laurence WL (1953, August 22): Lobotomy banned in soviet as cruel. *New York Times*, p. 13.
- Limburg CC (1951): A survey on the use of psychosurgery with mental patients. In FA Mettler & N Bigelow (Eds). *Proceedings of the First Research Conference on Psychology* (Public Health Service Publication No. 16. pp. 165-173). Washington, DC, US Government Printing Office.
- Lobotomy: Cutting the ability to worry out of the brain. (1936, November 30): *Time* 28, 66-67
- Lobotomy disappointment. (1949, December 12): *Newsweek* 34, 51.
- Lobotomy scored in schizophrenia. (1957, September 4). *New York Times*, p. 73.
- Looking backward at lobotomy. (1953, June 22): *Time* 61, 46.
- Mass lobotomies. (1952, September 15). *Time* 60, 86-87.
- Medical association issues warning against operation, "frontal lobotomy," which makes frontal lobes useless, is still in experimental stage, AMA journal says. (1941, September 6): *Science News Letter* 40, 157.
- Mental aid found in brain surgery. (1949, April 15): *New York Times*, p. 26.
- Moniz E (1936): *Tentatives operatoires dans le traitement de certaines psychoses*. Paris: Masson et Cie.
- Neurologist hits psychosurgery. (1956, September): *Science Digest* 40, 36-37.
- New lobotomy used. (1958, May 10): *Science News Letter* 73, 290.
- Operate for schizophrenia. (1940, September 28): *Science News Letter* 38, 198.
- Parole is denied. (1952, January 16): *New York Times*, p. 12.
- Personality shift is laid to surgery. (1947, December 14): *New York Times*, p. 51.
- Pfeiffer JE (1955, June): Brain operations with needles. *Science Digest* 37, 59-63.
- Planning ability impaired by lobotomy. (1947, December 27). *Science News Letter* 52, 405.
- Plumb R (1949, May 7): Wider data urged in brain surgery. *New York Times*, p. 9.
- Pierced brains. (1948, June 7). *Newsweek* 31, 46-47.
- Psychosurgery. (1942, January 11): *New York Times*, p. II, 7.
- Psychosurgery. (1942, November 30): *Time* 40, 48-49.
- Ruch WW (1946, December 7): Operate on brain to reform woman. *New York Times*, p. 34.
- Surgery for insanity? (1952, April 14): *Newsweek* 39, 100-101.
- Surgery for psychotics? (1947, May): *Science Digest* 21, 34-35.
- Swaze VW (1995): Frontal leucotomy and related psychosurgical procedures in the era before anti-psychotics (1935-1954): A historical review. *American Journal of Psychiatry* 152, 505-515.
- Tells of operation to cure insanity. (1939, March 9): *New York Times*, p. 22.
- Ten-minute brain operation. (1948, May 29): *Science News Letter* 53, 338.
- V.A. urged to widen brain surgery rules. (1950, April 5): *New York Times*, p. 42.
- Valenstein ES (1986): *Great and Desperate Cures: The Rise and Decline of Psychosurgery and Other Radical Treatments for Mental Illness*. New York: Basic Books.
- Wallace I (1951, October 20): The operation of last resort. *Saturday Evening Post* 224, 24-25, 80, 83-84, 89-90, 92, 94-95.
- Williams S (1957, August): Lobotomy is a dangerous weapon. *American Mercury* 85, 141-144.
- Zurich, Lisbon brain specialists divide Nobel prize for medicine. (1949, October 28): *New York Times*, p. 1.