

MORAL DISENGAGEMENT IN THE CORPORATE WORLD

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We analyze mechanisms of moral disengagement used to eliminate moral consequences by industries whose products or production practices are harmful to human health. Moral disengagement removes the restraint of self-censure from harmful practices. Moral self-sanctions can be selectively disengaged from harmful activities by investing them with socially worthy purposes, sanitizing and exonerating them, displacing and diffusing responsibility, minimizing or disputing harmful consequences, making advantageous comparisons, and disparaging and blaming critics and victims. Internal industry documents and public statements related to the research activities of these industries were coded for modes of moral disengagement by the tobacco, lead, vinyl chloride (VC), and silicosis-producing industries. All but one of the modes of moral disengagement were used by each of these industries. We present possible safeguards designed to protect the integrity of research.

Keywords: moral, conflict of interest, bias, industry, ethics, business, organizational culture

Introduction

In some organizational systems, people routinely perform occupational activities or produce products that cause harm to others. This creates an ethical predicament in which inflicting harm violates one's moral standards. The present study examines the various psychosocial mechanisms by which individuals mitigate the moral consequences of harmful corporate research activities. This analysis is grounded in the social cognitive theory of moral agency (Bandura, 1991). Within this conceptual framework, moral conduct is motivated and regulated through the exercise of evaluative self-sanctions.

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In the course of socialization, individuals adopt standards of right and wrong that serve as guides for conduct. They monitor their conduct, judge it in relation to their moral standards and the conditions under which it occurs, and regulate their actions accordingly. They do things that give them satisfaction and a sense of self-worth, and they refrain from behaving in ways that violate their moral standards because such conduct will bring self-condemnation. However, moral standards do not function as unceasing internal regulators of conduct. Self-regulatory mechanisms do not operate unless they are activated. Many psychosocial maneuvers can be used to selectively disengage moral self-sanctions. Indeed, large-scale inhumanities are typically perpetrated by people who can be considerate and compassionate in other areas of their lives (Bandura, 1999, 2004a; Kelman and Hamilton, 1989; Zimbardo, 2007).

Figure 1 shows the points at which moral self-censure can be selectively disengaged from harmful conduct. The disengagement may center on sanctifying harmful activities by social and moral justification, exonerating social comparison, and sanitizing language. It may focus on obscuring personal accountability by diffusion and displacement of responsibility so that perpetrators do not hold themselves accountable for the harm they cause. It may involve

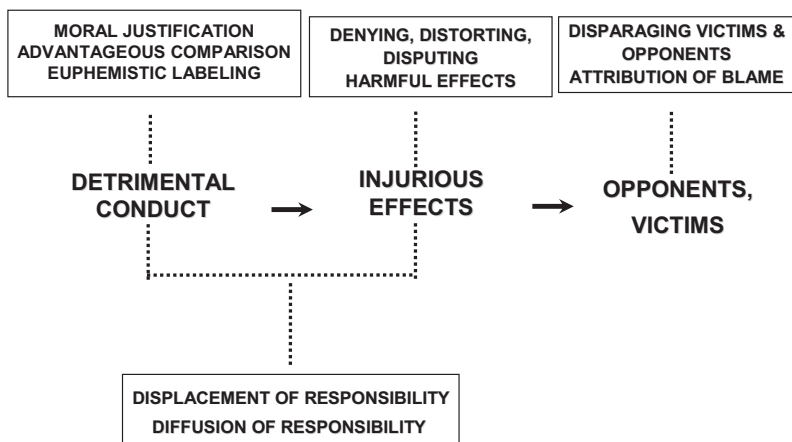


FIGURE 1 Mechanisms through which moral self-sanctions are selectively disengaged from detrimental conduct at different points in the moral control process.

minimizing, distorting, or even denying the harm that flows from detrimental activities. The disengagement may also include dehumanizing and blaming the victims for bringing the harm on themselves, or disparaging those who verify harmful effects. Selective moral disengagement operates not only at the individual level, but does so with even more pervasive consequences at the level of social systems (Bandura, 2004a; Bandura et al., 2002).

People do not operate as autonomous moral agents, impervious to the social forces operating within the corporate system in which they are enmeshed. Collective moral disengagement at the social system level requires a network of participants vindicating the production of harmful products or industrial practices. There is no corporate mind doing the moral disengaging, independent of the behavior of its members (Ambrose et al., 2007; Bandura, 2004b); rather, it is members acting together on shared beliefs. Collective moral disengagement does not require each member to concoct the exoneration on their own. The different players in the corporate system have to neutralize the moral implications of their role in their organization's products and practices. In so doing, they provide exonerations for each other. Therefore, collective moral disengagement is not simply the aggregation of the moral exonerations of its individual members operating in social detachment. It is an emergent group-level property arising from the interactive, coordinative, and synergistic group dynamics (Bandura, 1999, 2004b; Kelman and Hamilton, 1989; Zimbardo, 2007).

The objective of the present study is to examine the forms these moral disengagement practices take in four different types of industries whose products or production processes are harmful to human health. They include the tobacco, lead, vinyl chloride (VC), and silicosis-producing industries. Cigarette smoking causes an estimated 438,000 deaths annually (U.S. Department of Health and Human Services, 2008). Lead poisoning can cause nerve disorders and convulsions in adults, and mental retardation in children. Most exposure to lead was through its use in household paint and as a gasoline additive, until it was banished from both products in the 1970s and 1980s (Markowitz and Rosner, 2002; U.S. Department of Health and Human Services, 2005). VC is used in a host of construction and consumer products. Health effects include degenerative bone disease and liver cancer

(Markowitz and Rosner, 2002; U.S. Department of Health and Human Services, 2006). Silicosis is a respiratory disease common among workers in the mining, foundry, sandblasting, and other “dusty trades.” It is caused by inhalation of silica dust, and increases the risk of tuberculosis. The disease can continue to progress even after the worker has left the dusty worksite (Rosner and Markowitz, 1991; National Library of Medicine, 2007).

Our analysis focuses on moral disengagement as it operates in research activities. Numerous studies have documented how industries influence research activities to contest the evidence of harmful effects of their products and practices, and to weaken or block regulatory policies (Bekelman et al., 2003; Bero et al., 2007; Cho and Bero, 1996; Levine et al., 2003; Lexchin et al., 2003; Nestle, 2002). Corporate interests manipulate research by framing research agendas, influencing the design and conduct of research, suppressing unfavorable research, distorting public discourse about research, and disseminating favorable research directly to policymakers and the media (Bero et al., 2005). These activities violate the ethical norms of scientific inquiry related to openness and transparency of data. Manipulation of research not only muddles the body of evidence, but delays dissemination of information to the public about products that harm human health.

This study is a systematic comparison of internal documents from the four industries, available as a result of litigation, and focusing on documents related to the funding, design, evaluation, and dissemination of research. If corporate practices are construed as serving worthy purposes, there is no moral predicament for the perpetrators. Similarly, if possible harmful effects are minimized or negated, this excludes the corporate practice from the moral domain. People’s behavior is heavily influenced by their construal of reality. Thus, for example, if organizational personnel are led to believe that the harmful products they produce are benign or even socially beneficial then, in their view, there is no moral predicament or reason for self-censure. When we speak of companies doing things to eliminate moral consequences we are referring to the psychosocial machinations used to disengage moral self-sanctions from harmful practices rather than changing the harmful practices. We, therefore, hypothesize that among scientific, executive, legal, and public relations/marketing personnel associated with all four industries, investing harmful corporate

activities with worthy social and economic purposes and minimizing and negating adverse effects would be favored modes of disengagement.

Methods

Three-hundred sixty-five internal corporate documents on research activities, and notes on 1000 more, were analyzed in the four industry groups. Document dates ranged from the 1920s through the 2000s. The tobacco documents became public in the 1990s, primarily through litigation against the tobacco industry brought forward by 46 state attorneys general. Over 8 million documents have been archived by and are accessible through the University of California, San Francisco's Legacy Tobacco Documents Library (<http://legacy.library.ucsf.edu/index.html>). Documents from the other three industries were also obtained through litigation and provided by David Rosner of Columbia University (Markowitz and Rosner, 2002; Rosner and Markowitz, 1991). Documents include corporate copies of research reports and journal articles, research conference proceedings, letters, internal memos, internal planning documents, correspondence, public statements, and newspaper articles. Authors included corporate scientists, executives, lawyers, public relations experts, and scientific consultants working with the industries. These documents have been examined previously to demonstrate strategies that corporations use to manipulate research. Therefore, a logical extension of this work is to examine these same sets of documents for the moral disengagement mechanisms.

Document Selection

We defined "research" broadly, to include the fields of medicine, biology, chemistry, engineering, and social science. We reviewed all available documents on lead and silicosis. For the lead industry, we coded examples of moral disengagement from 30 of the 42 industry documents relevant to research (including one 116 page document of proceedings of a national conference in 1925). Examples were drawn from all 22 of the silicosis documents (one being a 112 page document of proceedings from a 1938 national conference). For VC, one author reviewed extensive notes prepared by

Rosner and Markowitz on 1000 industry documents, and selected examples from 39 of the latter. We then obtained original VC documents at the Chemical Industry Archives website (<http://www.chemicalindustryarchives.org/>), a project of the Environmental Working Group. We reviewed all primary source documents cited in 13 scholarly articles related to tobacco industry manipulation of research—approximately 300 documents in all. Examples of moral disengagement mechanisms were found in 175 of these.

Coding

Documents were coded for the pre-defined categories of moral disengagement described in Table 1. The *Manual for Coding Modes of Moral Disengagement* (Bandura, 2006) served as the guide for the coding procedure. It includes formal definitions of each of the mechanisms and exemplars representing the different ways in which moral disengagement is manifested. The coders were trained on sample items. The categories are not mutually exclusive.

Each of the authors coded independently reviewed the coding and achieved consensus in the case of any discrepancies. We identified 320 examples of moral disengagement in the 4 sets of documents and entered them into a database. We then selected exemplars from each industry group for each moral disengagement category based on the following: (1) the example is unambiguous as an indicator of moral disengagement; (2) it is representative of a number of statements in our dataset; (3) it reflects an important development in the history of the industry's response to health effects. We included the most illustrative of these in this article.

The sources of the 320 statements were categorized by the functional role of the personnel in each industry, i.e., scientist, executive, lawyer, or public relations/marketing expert. Consultants and contractors working for or paid by industry companies were categorized in the same functional groups as the employees. These included employees of industry-associated research institutes and trade associations as well as university faculty and others. Collaborators in the insurance and other industries were also included. We used the Glossary of Names for Philip Morris USA, Inc. Privilege Log (<http://www.pmdocs.com/privlogs/clog/clog/Glossary%20Pages%20Index%20rev%201.htm>) to identify tobacco

TABLE 1 Categories used for coding moral disengagement mechanisms

Moral justification

Moral, social, and economic justifications are used to sanctify injurious products and practices, and to challenge regulations. Viewing harmful activities as serving worthy ends not only eliminates any self-censure for performing them, but can even beget pride for doing them well.

Euphemistic labeling

Sanitizing and convoluted language is used to make injurious products and practices personally and socially acceptable. Moral self-sanctions can be reduced by cloaking activities in innocuous language.

Advantageous comparison

The injurious activity or product is compared or contrasted to other activities or products that make it appear benign, of little consequence, or of lesser negative effect.

Displacement of responsibility

Individuals absolve themselves of personal responsibility for the harm caused by products and practices by viewing their activities as ordered by others, and by creating systems of deniability that keep themselves intentionally uninformed. Challenges to public policies, regulations, and scientific findings are shifted to consultants, external scientists, and created organizations that serve as proxies for the industries in the public arena.

Diffusion of responsibility

Personal accountability for one's contribution to harmful activities is reduced by group decision making and group action so no one really feels personally responsible, and by subdividing the various facets of the enterprise across different subsystems that seem blameless in detached isolation. Under widely diffused practices, no one feels personally accountable for the harm done.

Disparaging, denigrating critics, and victims

Self-censure for cruel conduct can be disengaged or blunted by attributing disparaging qualities to victims. Scientists documenting injurious effects and those calling for regulation of the industries are disparaged and invested with sinister motives.

Attribution of blame

Those who suffer the harmful effects of the products and practices are blamed for bringing the harm on themselves by their behavior, psychosocial deficiencies, and biological vulnerabilities. Other factors such as environmental conditions, genetic factors, and other diseases are blamed for the harmful effects.

Minimizing, denying, or distorting consequences

The harm resulting from the injurious action or products is minimized, distorted, or denied. Evidence of harm is discredited. As a result, there is little reason for self-censure to be activated.

industry individuals and their functions within the company at the time the document was written. If not clearly identified in the documents or in the Rosner and Markowitz books, we used Google to identify the roles of persons within the lead, VC, or silicosis-related industries.

Analysis

We present exemplars of the eight moral disengagement mechanisms that reflect common practices and perspectives of the time for each industry. We include historical, political, or scientific contexts for examples as needed. We also report the occurrence of coding categories by function of the person making the statement. We used Fisher's exact test to evaluate associations between use of moral disengagement mechanism by type of industry and type of industry personnel in our sample.

Results

The sections that follow document how each of the mechanisms of moral disengagement is enlisted in the service of the four industries under study.

Moral and Social Justification

Moral and social justification took several forms. These included promoting the importance of the industry's well-being to the national economy; the purported social benefits of the product; dependence on the industry for their livelihood of workers, farmers, retailers, and related industries; and protecting the integrity of scientific inquiry.

Economic Benefits

This mechanism included the contribution of the industry to the national well-being and the economic losses which would ensue if the industry were forced to reduce hazards or stop manufacturing its product.

Lead: In 1925, a scientist allied with the lead industry spoke at a national conference convened in response to a series of

deadly accidents at lead processing plants, portraying the industry as vital to the economic well-being of the “Nation:”

We should look at the problem in the large, rather than be swayed by prejudice. It is often much easier to see the concrete immediate dangers than to evaluate the perhaps more important industrial advantages. We do not like to match the life of a man against the life of a Nation. (Thompson 1925)

Social Benefits

VC: As unease grew in the 1950s about the increasing spread of chemicals such as VC in the environment, DuPont Chemical’s representative on the Manufacturing Chemists Association’s Medical Advisory Committee, A. J. Fleming, argued for reframing the discussion:

[The industry] should cite the benefits to mankind through chemicals . . . Feeding the world will depend on the use of chemicals. We should work in some propaganda along these lines. Chemicals are important for both protection and production of food. (Stephenson 1960)

Protecting the Integrity of Science

Tobacco: The industry’s professed commitment to high scientific standards before congressional committees, regulatory committees and the media belied their own violations of research standards through such practices as selective data publication and data suppression (Bero, 2005; Bero et al., 2005). In 1998, Federal Focus, a consultancy group working with Philip Morris, orchestrated a campaign to pressure Congress to enact “sound science” legislation which would open previously confidential data to public (i.e., corporate) inspection. The industry’s purpose was to slow the regulatory process by obtaining and reanalyzing scientific evidence on the link between secondhand smoke and lung cancer (Baba et al., 2005).

There is general consensus as to the importance of maintaining high standards of information quality for scientific data . . . Such [regulatory] changes and their associated costs are reasonable only when the conclusions, and the scientific data upon which the conclusions are based, are sound. Otherwise, scare [sic] public resources may be spent combating illusory concerns while actual problems go unaddressed (Federal Focus Inc., 1998)

The industry's goal of enabling data access and reanalysis according to the industry's own lower scientific standards was achieved when Congress passed the Data Access and Data Quality Acts in 1999 and 2001, respectively.

Lead: Robert Kehoe, head of the industry-funded Kettering Laboratory, was “a virtual commissar of lead toxicology” (Markowitz and Rosner, 2002, p. 35). Throughout his lengthy career Kehoe never publicly acknowledged that lead posed any danger to the public; his view was that it was “normal” for all human beings to have some lead in their bodies (Markowitz and Rosner, 2002, p. 109). The 1960's civil rights movement and the war on poverty began to focus public attention on lead poisoning among the poor. Independent scientists began to challenge Kehoe's research, which never considered the smaller body mass and developing neurological systems of children, who were lead's primary victims. Late in his career, Kehoe responded to criticism of his research by the California Department of Health in 1966, claiming that his research was conducted with integrity and thus above moral reproach:

I am aware of the public anxiety. I consider it most unfortunate that we are compelled to take this into account in our investigation of this matter, for it disturbs calm judgment . . . I have somewhat mixed feelings, therefore, about those who have recognized and been concerned about this problem only very lately, and who seem to believe that they have discovered something new and threatening beyond previous evidence and judgment. (Kehoe, 1966).

Euphemistic Labeling

Euphemistic practices used to mask the harmful effects of products and production processes take two forms: sanitizing language and convoluting language.

Tobacco: For years, the tobacco industry denied the addictive properties of nicotine (Glantz et al., 1995; Glantz et al., 1996). Even at an internal company conference, British American Tobacco (BAT) scientists in 1984 used the term “pharmacological satisfaction” in discussing their research on addiction:

The human studies at the . . . Clinical Pharmacology Department will be extended to establish the minimum dose of smoke nicotine that can provide pharmacological satisfaction for the smoker. (British American Tobacco 1984)

In internal communications, industry scientists converted carcinogenicity of their products to “specific biological activity” or “specific activity” (Brown & Williamson Co., 1984; Evelyn and Esterle, 1977).

Lead: The Ethyl Gasoline Corporation decided in 1923 to use the sanitizing term “ethyl” instead of “lead” for their gasoline additive, following a number of deadly accidents in lead manufacturing plants:

Midgely told me his Company had decided to adopt the trade name ‘ethyl gas.’ Of course, their objects in doing so are fairly clear, and among other things, they are not particularly desirous of having the name ‘lead’ appear in this case. (Lind, 1923)

The term “ethyl” caught on and was used in marketing and research publications for decades (Kovarik, 2005; Graebner, 1986; Przybyłowski et al., 1978).

Advantageous Comparison

In advantageous comparison injurious activities or products are rendered benign or of little consequence by comparing them with other detrimental activities or products.

Tobacco: The biggest challenge for the tobacco industry in the 1980s was the growing evidence of the toxicity of secondhand smoke, or, as the industry labeled it, “environmental tobacco smoke” (ETS). In a 1989, “ETS Strategy” document, Philip Morris (PM) executives recommended that PM “identify a strategy in risk assessment methodology that allows comparison of ETS to other commonly found environmental agents such as those found in indoor air (volatile organic chemicals), foods (pesticides), and water (lead, fluorine). Design a communications package that illustrates the significant risks associated with everyday life that includes ETS as a ‘negligible risk’” (Philip Morris USA Inc., 1989/E).

Lead: At a 1925 conference convened by the U.S. Public Health Service shortly after a series of deadly accidents in lead manufacturing plants, an industry ally used the following exonerative comparisons:

We have on an average one death each day from automobile accidents, approximately 300 to 350 each year, and yet there has been no legislation so far to do away with the automobiles. Furthermore, we annually have a few

people who close themselves up in the winter months in their garages, and . . . insist upon choking themselves to death with carbon monoxide, and still we have not legislated against the construction of garages . . . (Vaughan, 1925)

Silicosis: In 1946, an Industrial Hygiene Foundation physician favorably compared dust exposure to other pollutants, writing in the journal *Industrial Medicine*:

Too few [physicians] have realized the prognosis with the so-called benign pneumoconioses due to inert dust deposits is no more unfavorable than is the mild anthracosis of every city resident. (Sander, 1946a)

Attribution of Blame

People who suffered adverse effects were often blamed for their health conditions. The harm was ascribed to personal choice, carelessness, or low education of the persons exposed; or displaced to other factors such as diseases, genetics, and environment.

Blaming the Victim

Tobacco: In the 1980s, as independent researchers gathered evidence that smokers compensate for low nicotine delivery in so-called “light cigarettes” by inhaling more deeply (Sutton et al., 1982; Pettit and Friedman, 1983; West et al., 1984), members of the tobacco industry blamed the smoker for inhaling more deeply or smoking more cigarettes. Nicotine addiction was denied as a contributing factor. Thus, at a 1984 internal conference a Brown & Williamson Co. scientist announced that the company’s “stance on smoking in general is that it is a matter of adult choice. It follows that the number of cigarettes smoked is also a question of adult choice . . . The choice of number of cigarettes smoked rests with the consumer and we don[sic] directly influence this decision in either direction” (Brown & Williamson Co., 1984).

Lead: In 1945, a Lead Industry Association (LIA) spokesperson placed the blame for childhood lead poisoning on the children themselves:

Dr. Aub told me he felt that children who have sub-normal appetites, or the disease known as ‘pica’ which caused them to chew on inedible articles, were sub-normal to start with! (Wormser, 1945b)

Twelve years later, the LIA's Director of Health and Safety blamed "ignorant parents:"

Of some, but secondary importance is lead paint mistakenly applied by ignorant parents to cribs, play pens, and other juvenile furniture and subsequently chewed off and ingested. . . Childhood lead poisoning is essentially a problem of slum dwellings and relatively ignorant parents. (Bowditch, 1957)

VC: By 1973, the MCA's own epidemiological and animal studies confirmed that VC exposure could cause liver cancer (Markowitz and Rosner, 2002, p. 226). Nonetheless, in 1975 a physician at Pittsburgh Plate Glass wrote:

It is my feeling that the vast majority of abnormal liver function tests are caused by regular and rather heavy drinking of alcohol, and I expect that the people who have abnormal liver tests as a result of this may be inclined to resume their previous habits as soon as they think they are okay. (Lovejoy, 1975)

Blaming Other Factors

Tobacco: The tobacco industry funded numerous studies indicating that factors other than smoking were the cause of various health problems otherwise attributed to tobacco (Glantz et al., 1996; Schotland and Bero, 2002; Bero and Glantz, 1993). When OSHA proposed the first federal indoor air quality rule in 1994, the Tobacco Institute provided the following "talking point" for industry spokespersons at the OSHA hearings:

Because ETS is the most visible component of indoor air, many people wrongly attribute complaints about sore eyes, dry throats, and other symptoms of poor indoor air quality to it. Studies have confirmed that symptoms often attributed to ETS may result from exposure to various substances such as ozone, fungal and bacterial spores, cotton fibers, and fiberglass fragments . . . Imposing smoking bans does not address the major reasons for sick buildings. (Tobacco Institute, 1992)

VC: Chemical industry personnel used smoking habits to exonerate VC. For example, a Shell Oil scientist suggested in 1977 that the MCA highlight smoking in an epidemiological report prepared for their use: "We recommend that a statement about the

absence of workers' smoking histories and the influence smoking might have on workers' health be included" (Kary, 1977).

Silicosis: Silicosis was associated with, and sometimes misdiagnosed as tuberculosis. Industry officials preferred to attribute a worker's illness to tuberculosis rather than silicosis. Two scientist consultants to the industry claimed at the 1938 National Silicosis Conference, "It is tuberculosis which disables and kills the silicotic . . . It is usually the onset of tuberculosis which is the critical factor in finally determining a man's capacity for work and causing him to relinquish his employment" (U.S. Department of Labor, 1938).

Displacement of Responsibility

None of the documents revealed denial of personal responsibility for harmful products or processes. Nor did any acknowledge that these products or processes were harmful except in large doses. If the products or practices are not harmful, there is no blame to shift elsewhere. However, displacement of responsibility did occur in the form of using proxies (front organizations, scientists, consultants, etc.) to negate scientific evidence, argue against regulations, and discredit researchers.

Tobacco: In 1991, PM recruited two Japanese scientists to refute Hirayama's influential article demonstrating that second-hand smoke was associated with lung cancer (Hirayama, 1981; Hong and Bero, 2002). PM's Director of Science and Technology discussed with the company's top lawyer how to hide their involvement in the research:

This is NOT (sic) a project that should be funded by CIAR [Center for Indoor Air Research, an industry research group], although there MAY (sic) be . . . a reason to say it was sponsored by CIAR so as to 'hide' industry involvement . . . Proctor [a scientist working with PM] . . . may be necessary to help get this done . . . but this should be a Japanese study: Proctor should not be a coauthor on any publication that comes out of it. (Pages, 1991)

Lead: The lead industry had a similar credibility problem in making its case for the safety of lead. In 1945, the Lead Industry Association's head wrote to its Executive Committee, "I feel that the word of the Lead Industries Association might carry even

more weight than if some other agency, used as a screen, were utilized in order to do the job for us . . . It is obviously not possible to procure the services of any education institution for what would be, in part, publicity or public relations purpose” (Wormser, 1945a).

Silicosis: In 1935, the head of the Mellon Institute, a corporate-funded research group, suggested to industry leaders that locating research on silicosis at his institute would enable individual corporations to sponsor research surreptitiously, thereby avoiding accusations of conflict of interest:

If this work were to be centralized in Mellon Institute, it . . . could be carried out in a most confidential manner as to who was supporting the research, and no one would know what industries or individuals were contributing to the fund. This would enable the organization to get soundly established, so that if later on it was desired to come out in the open this could be arranged (Weidlein, 1935)

Diffusion of Responsibility

This mechanism involves dispersing accountability for one’s participation in harmful activities through group decision making, division of labor into isolated subfunctions, and collective action so no one can be held responsible for the final product. Because we focused solely on the research arena, diffusion of responsibility across a wide range of contributing subsystems did not apply.

Disparagement of Critics and Victims

Disparaging critics took the form of ad hominem attacks on researchers and other challengers of the industry, and denigrating their views. Sometimes the victims themselves were disparaged.

Tobacco: Industry spokespersons dismissed the work of independent researchers whose publications demonstrated the harm of tobacco as the “emotional hysteria of antis,” (Leo Burnett Agency, 1993) and as having “no justifiable claim to professional expertise” (Andrade and Tyson, 1994). They branded research findings unfavorable to their industry as “propaganda” (Latshaw, 1982; Pepples, 1978), “lacking credibility” (Blackman, 1984), “dangerous and misleading” (Brown & Williamson Co., 1971),

and most notably, “junk science” (Philip Morris USA Inc., 1997; Ong and Glantz, 2001).

Lead: After public outcry regarding the injuries and deaths of several workers in lead factories in 1925, the editor of *Chemical and Metallurgical Engineering* wrote in the *New York Times*:

[The] public controversy over this product . . . has been characterized by incompetent and hysterical testimony. One can imagine how chemical progress in the past might have been hampered by a similar crusade by self-appointed guardians of the public health . . . The chemical industry . . . does want a reasonable degree of assurance that it is not to be tried and convicted by incompetent critics or forced to abandon its legitimate pursuits by misguided zealots. (Parmelee, 1925)

Silicosis: Spokespersons for silica industries disparaged those who helped the victims, as well as scientists and victims themselves, in their efforts to ward off pressure from politicians and labor unions to address the silicosis problem. Lawyers working with injured workers were “shyster[s],” “racketeering lawyers” (Hirth, 1936), “ambulance-chasers” (Mount, 1936), and “parasites” (Hirth, 1936). Doctors who diagnosed silicosis were “quacks” (Hirth, 1936) or “uninformed” (Sander, 1946a). In 1948, an Industrial Hygiene Foundation scientist wrote of workers’ “hysterical manifestations which undoubtedly exaggerated the symptoms” (Sander, 1946b).

The moral disengagement mechanisms previously discussed illustrate the ways in which corporations portrayed their products as serving vital purposes, sanitized harmful effects, and manipulated research to obfuscate information on harmful products and processes. If production processes and products cause no harm, there is no moral dilemma requiring disengagement of moral self-sanctions. Hence, minimizing and denying harmful effects was the most frequently used mechanism of moral disengagement.

Minimizing, Denying, and Disputing Health Consequences

In this mechanism, the harm resulting from injurious products or practices is minimized, misrepresented, or disputed. One way to dismiss mounting scientific evidence is to sow doubt and controversy

about the results. This was succinctly expressed by Brown & Williamson Co. marketing executive J. W. Burgard in 1969:

Doubt is our product since it is the best means of competing with the 'body of fact' that exists in the mind of the general public. It is also the means of establishing a controversy. (Burgard, 1969)

This mechanism takes several forms: (1) straightforward denial, distortion, or minimization of health effects; (2) distorting public discourse about research demonstrating harm; (3) creating an exposure threshold below which there is assumed to be no harm; (4) claiming that not enough information is available or more research is needed; (5) denying access to industry data showing harm; and (6) invoking adverse consequences of regulating the product or limiting its availability.

Minimization or Denial of Health Effects

Lead: In 1943, Time Magazine published an article indicating that many children in Boston suffered mental retardation due to exposure and ingestion of lead in early infancy. The head of the Lead Industry Association moved quickly to deny this:

Our investigation to date discloses that: 1. This assumption is not proven. 2. Many of the alleged cases of lead poisoning were probably nothing of the kind. 3. The X-ray technique now being used by doctors as a short cut to prove lead poisoning in children, is unreliable. (Wormser, 1945b)

Silicosis: Corporations ignored the progressive nature of the disease and required workers to demonstrate an inability to work before they could be compensated. Using this criterion of disability, the industry absolved itself of responsibility for the health of workers who had retired, many of them due to the progressing silicosis itself (Rosner and Markowitz, 1991, p. 116). By 1946, IHF scientists announced that "silicosis, once a great hazard to the health of industrial workers, is no longer a threat . . . The dangerous trades of our fathers have all but disappeared" (Industrial Hygiene Foundation, 1946). In fact, silicosis has remained a major problem for workers, often misdiagnosed, and ignored in retirees (Rosner and Markowitz, 1991, p. 180).

Distorting Public Discourse About Research

Tobacco: In 1993, public relations firm Leo Burnett developed for PM “Project Brass,” an action plan responding to the Environmental Protection Agency’s 1993 report which classified second-hand smoke as a group A carcinogen. The first step was to create a “sense of doubt” about the EPA report, primarily by attacking the science as flawed, as shown in Fig. 2 (Leo Burnett Agency, 1993).

VC: Union Carbide scientist Nick Wheeler, commenting on a consultant’s 1976 report of a study of polyvinyl chloride (PVC) workers, discredited the field of epidemiology, the main research method used to identify harmful substances in human populations. He wrote, “The epidemiology as presently practiced is too gross a tool to pinpoint a VC problem with any certainty” (Wheeler, 1977).

Creating a Threshold

Industry officials also presented quantitative arguments that the amount of exposure to their products was insufficient to cause harm, even if their product was harmful in large doses. Although there was no evidence to suggest that their products were safe

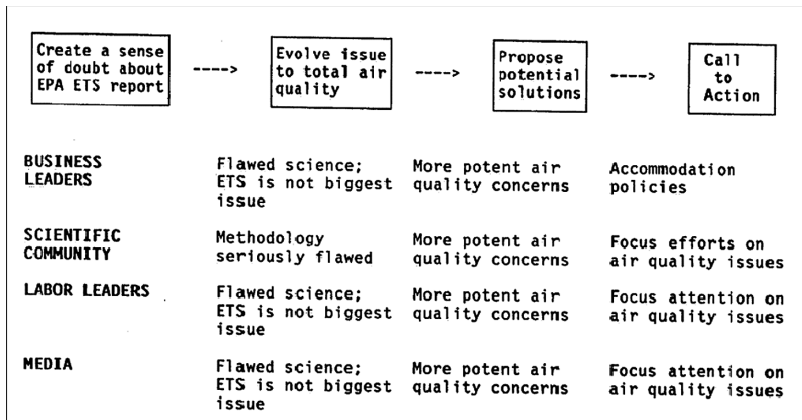


FIGURE 2 Excerpt of a Philip Morris planning document on how to respond to the Environmental Protection Agency’s 1993 report on secondhand smoke (ETS). (Leo Burnett Agency, 1993, #102).

below a certain threshold, they discussed establishing specific thresholds below which their products would not be considered toxic to humans.

Lead: In 1925, a physician consultant to the industry described an

experiment upon men to determine the amount of lead retention from an exhaust containing lead from 'ethylized gasoline' and found that, on the average, 85 percent of the lead inhaled was again exhaled . . . the amount inhaled and absorbed in the hazard under discussion is evidently far below the 'threshold' of toxicity. (Hayhurst, 1925)

More recent research, however, has demonstrated that even minute levels of lead poisoning affects neurological functioning, particularly of children. In the 1970s Herbert Needleman and others demonstrated that lead could decrease IQ and affect behavior at blood lead levels lower than 60 microg/dL—levels that are not sufficient to produce the clinically obvious symptoms that had been the focus of discussion in earlier years (Needleman et al., 1979). More recent research "suggest[s] that there is no safe threshold for the toxicity of lead in the central nervous system" (Landrigan, 2000; Lanphear et al., 2000).

VC: In 1974, the President of the Society of the Plastics Industry stated to NIOSH:

There seems to be no dispute at this time that VC monomer is a carcinogen in both man and animals. However, . . . the only study to date that has compared exposure levels with disease, or the lack of it, was conducted by the Dow Chemical Company . . . The results showed a general cancer increase among heavily exposed workers (above 200 parts per million [ppm] on a time-weighted average for an eight-hour day) but none among workers below that level. (Harding, 1974)

Five years earlier, in fact, an MCA-commissioned study at the University of Michigan had concluded that a safe threshold for VC should be below 50 ppm (Markowitz and Rosner, 2002, p. 176).

Silicosis: Measurement instruments for silica dust in the mid-20th century were crude, resulting in dust concentration readings that varied by a factor of 4 or more (Rosner and Markowitz, 1991, p. 117). Nevertheless, industry-funded scientists at the 1938 National Silicosis Conference identified a specific concentration

as the threshold for harm: “For prolonged exposure a concentration of more than 5 million particles per cubic foot of a highly siliceous dust is dangerous” (U.S. Department of Labor, 1938). The 5 million was arrived at because company engineers had determined that when dust levels were reduced to this amount, workers did not get sick after five or ten years. They thus ignored the long latency period for silicosis, which often extended well into retirement (Rosner and Markowitz, 1991, p. 116).

More Research is Needed

Tobacco: The 1964 Surgeon General’s Report (Office of the Surgeon General, 1964) concluded that cigarette smoking was causally related to lung cancer and other disease. The industry’s response was typified by a statement of the Tobacco Industry Research Committee, an industry-wide research and public relations organization, in 1967:

While these research studies have increased our factual knowledge, they have at the same time continued to make clear and to emphasize the great and critical gaps in that knowledge . . . There have been and will continue to be speculations and opinions on the causes, but it is a matter of scientific fact that, in our present state of knowledge, no one knows the answers . . . As the tobacco industry continues its support of the search for truth and knowledge, it must recognize, as is always the case in true scientific research, there can be no promise of a quick answer. (Tobacco Industry Research Committee, 1967/E)

Silicosis: A decade after silicosis reached epidemic proportions among U.S. mineworkers, a scientist from a research center funded by the mining industry minimized the state of knowledge regarding silicosis in an article in the *Journal of the American Medical Association*:

The scarcity of factual information and lack of knowledge of already established fact are responsible for the major part of the medical expert’s shortcomings. Additional study is certainly needed (Wright 1949)

Denial of Access to Data

Tobacco: As the groundbreaking 1964 Surgeon General’s Report was being prepared, Brown & Williamson Co.’s general counsel

advised withholding research commissioned by, but problematic for, Brown & Williamson Co. from the Tobacco Industry Research Committee's (TIRC) independent Scientific Advisory Board (SAB) or the Surgeon General:

Hoyt [Executive Director of TIRC/Council for Tobacco Research] . . . agreed to withhold disclosure of the Battelle Report to TIRC members or SAB until further notice from me. Finch [B&W executive] agrees submission Battelle or Griffith developments to Surgeon General undesirable, and we agree continuance of Battelle work useful but disturbed at its implications re cardiovascular disorders (Yeaman, 1963)

Lead: The Lead Industry Association's 1956 Annual Report described a report where adverse effects were partially suppressed through editing:

Getting wind of a forthcoming report on the suitability of plastic pipe for potable water supplies in preparation at the University of Michigan, we arranged to see the galley proof of the report and, through contacts with members of the advisory committee on the report, were able to secure elimination of a number of statements adverse to the use of lead stabilizers. (Bowditch, 1956)

Invoking Adverse Consequences

The benefits of curbing use of harmful products or practices could also be minimized or denied, and adverse consequences could be invoked.

Tobacco: In a 1977 article titled "Some Benefits of Smoking," a BAT scientist wrote:

It is a reasonable inference that the mental health of the smokers would be even worse if they were deprived of smoking. Professor I. Mills (University of Cambridge) has pointed out that underlying depression can be masked by increasing the level of arousal and many subjects resort to this mechanism to cope with depression. Smoking would appear to be one method of sustaining high levels of arousal. If . . . the masking mechanism is withdrawn for any reason a catastrophic change in behavior usually occurs, varying from the so called nervous breakdown to suicide. (Thornton, 1977)

Moral Engagement

Occasionally, individuals expressed reservations or concerns about the manipulation of research or the health impacts of a product or activity, concerns which potentially would not serve the financial or strategic interests of the company. These individuals adhered to moral standards despite strong social pressures to compromise their standards. Such moral engagement appeared occasionally and only among scientists in our sample.

Tobacco: In 1981, Brown & Williamson Co. executives became concerned because the Scientific Director of their research arm in Germany, Franz Adlkofer, was objecting to Brown & Williamson Co. criticisms of the landmark Hirayama study on the health effects of secondhand smoke (Hirayama, 1981):

Dr. Adlkofer . . . believe[s] Hirayama is a good scientist and that his non-smoking wives publication was correct . . . At a meeting of the board of the research arm on July 15 Adlkofer was asked how he could continue to support the projects if Hirayama's work was dead. He replied with a strong statement that Hirayama was correct, that the TI [Tobacco Institute] knew it and that TI published its statement about Hirayama knowing that the work was correct. Mr. Von Specht is reported to have cut Adlkofer short. (Wells, 1981)

Patterns of Disengagement Mechanisms by Industry and Personnel Type

Table 2 shows the pattern of moral disengagement mechanisms use by industry. There were few differences in the distribution of mechanisms across industries. Minimizing, denying, or distorting harmful effects was the most frequently used mechanism across all industries, followed by moral justification. The VC industry was significantly more likely than the other industries to attribute blame to other hazards, and least likely to disparage critics or victims ($p = .029$, Fisher's exact test).

Table 3 shows the relative frequency with which the eight mechanisms were used by different industry personnel groups who were engaged in the design, funding, conduct, or dissemination of research. There was a similar pattern across the four different professions, suggesting a common system of beliefs,

TABLE 2 Distribution of moral disengagement mechanisms by the four industry groups

Mechanism	Tobacco n = 173	Lead n = 44	Vinyl chloride n = 29	Silicosis n = 74	Total n = 320
Moral justification	40 (23.1%)	6 (13.6%)	4 (13.8%)	13 (17.6%)	63 (19.7%)
Euphemistic labeling	23 (13.3%)	5 (11.4%)	2 (6.9%)	4 (5.4%)	34 (10.6%)
Advantageous comparison	14 (8.1%)	5 (11.4%)	4 (13.8%)	4 (5.4%)	27 (8.4%)
Displacement of responsibility	11 (6.4%)	2 (4.5%)	0 (0.0%)	1 (1.4%)	14 (4.4%)
Diffusion of responsibility	0 (.0%)	0 (.0%)	0 (.0%)	0 (.0%)	0 (.0%)
Disparaging critics and victims	18 (10.4%)	6 (13.6%)	1 (3.4%)	11 (14.9%)	36 (11.3%)
Attribution of blame	9 (5.2%)	8 (18.2%)	7 (24.1%)	8 (10.8%)	32 (10.0%)
Minimizing, denying, or distorting consequences	58 (33.5%)	12 (27.3%)	11 (37.9%)	33 (44.6%)	114 (35.6%)

motivations, and thinking. Overall, industry scientists accounted for 55% (174/317) of the moral disengagement examples. They did not limit themselves to discussion of the science itself, but were often fully aware of their role in implementing the marketing and public relations goals of senior executives in the company. Scientists were more likely than the other professions to blame victims' faulty genes, biological vulnerabilities, lifestyles, or environmental conditions for their impaired health. Lawyers engaged in more disparagement of victims and critics than did members of other professions ($p < .0005$, Fisher's exact test).

Executives, lawyers, and public relations personnel played a major role in the manipulation of research by the tobacco industry (Bero et al., 1995; Fields and Chapman, 2003; Ong and Glantz, 2001). Tobacco was the only industry with examples from the PR profession. Lawyers and insurance executives played major roles in efforts by the dusty trades to avoid liability for worker disability from silicosis as it grew to crisis proportions in the 1930s (Rosner and Markowitz, 1991, p. 82).

TABLE 3 Distribution of moral disengagement mechanisms by four personnel categories (authors of three moral disengagement statements did not fit these personnel categories and were not coded.)

Mechanism	Scientist n = 174	Executive n = 61	Lawyer n = 36	PR/Marketing n = 46
Moral justification	39 (22.4%)	11 (18.0%)	5 (13.9%)	8 (17.4%)
Euphemistic labeling	15 (8.6%)	11 (18.0%)	5 (13.9%)	2 (4.3%)
Advantageous comparison	14 (8.0%)	7 (11.5%)	1 (2.8%)	4 (8.7%)
Displacement of responsibility	6 (3.4%)	6 (9.8%)	2 (5.6%)	0 (.0%)
Diffusion of responsibility	0 (.0%)	0 (.0%)	0 (.0%)	0 (.0%)
Disparage critics/victims	15 (8.6%)	6 (9.8%)	10 (27.8%)	4 (8.7%)
Attribution of blame	28 (16.1%)	0 (.0%)	0 (.0%)	4 (8.7%)
Deny/minimize consequences	57 (32.8%)	20 (32.8%)	13 (36.1%)	24 (52.2%)

Discussion

The findings of the present study lend support to the hypothesized role played by moral disengagement in industries whose products or production processes are harmful to human health. Different modes of moral disengagement were enlisted by each of the industries. Moreover, the patterns of moral disengagement were highly similar across types of industries. Replication of similar patterns of moral disengagement across four highly diverse industries provides some basis for generalizing our findings under conditions in which corporations produce products and use production practices with well-established harmful effects. Also in accord with hypothesis, minimization and denial of harmful effects was the most frequently used mode of moral disengagement. Social, moral, and economic justifications were also widely used. Industry personnel attributed harmful effects, that could not be dismissed, to personal deficiencies of the victims or to other causative factors operating in the environment. Bad genes, personal vulnerabilities, and unhealthy lifestyles were invoked

as the causes of health problems. The complexity of variables contributing to health status provides a fertile ground for attributing harmful effects to a host of other factors while excluding the corporate products and production practices even as contributors to health impairment.

In most social systems, diffusion and displacement of responsibility figure prominently in self-exoneration for harm that is caused collectively. People do not feel personally responsible if they view their harmful actions as prescribed by authorities. The authorities themselves create mazy chains of authorization, sanction detrimental conduct surreptitiously, keep themselves intentionally uninformed, and devise insulating social arrangements that permit deniability of wrongdoing (Bandura, 1999).

There were no instances of displacement of responsibility to others for detrimental effects. This is because all of the industries steadfastly denied that their products and practices are harmful. Hence, there was no blame to displace or diffuse. A different form of nonresponsibility was widely practiced, however. It involved concealing efforts to shape scientific evidence by shifting the responsibility to others to do the research and try to influence regulatory policies. The industries enlisted scientists and consultants, funded research programs likely to vindicate the industries, and created front organizations to conduct research on their behalf under a cloak of independence and credibility. Outsourcing the research activities shifted the moral predicament to the proxy agents.

The present study centered mainly on moral disengagement in corporate research practices. The scope of the analysis could be broadened to other subsystems contributing to the corporate enterprise. For example, in the case of the tobacco industry, the responsibilities for the production, marketing, and sale of tobacco products are widely diffused. In addition to executives, researchers, and public relations personnel, the network of contributors include farmers, advertisers, politicians, exporters, and trade representatives (Bandura, 1999, 2007).

All of the personnel groups—executives, scientists, lawyers, PR/marketers—relied heavily on minimization and negation of harmful effects as mitigators of moral self-sanctions. They also consistently enlisted modes of disengagement that sanctified or sanitized harmful corporate practices. In addition, lawyers were

prone to blame victims for their health problems and deprecate scientists reporting injurious effects on human health. Industry-related scientists were also prone to blame victims for their impaired health.

The exercise of moral agency and its selective disengagement encompass more psychosocial processes than justification or simply “rationalization.” Euphemistic practices through sanitizing and convoluted language mask detrimental activities rather than justify them. In fostering nonaccountability through displacement and diffusion in responsibility, mazy networks of authorization are built into the very structure of social systems to create personal deniability. If the effects of detrimental practices are disregarded or negated there is nothing to justify. Blaming the victim involves a causal attribution process rather than justification of harmful products or production practices. These various psychosocial processes contribute in their unique way to the moral self-exoneration.

As noted in the preceding analyses, individuals are not the sole author of moral disengagement at the social system level. In systematic moral disengagement, different personnel address certain loci of moral disengagement depending on the role they play in the system. The higher echelons create the accountability structures and come up with worthy purpose for their products and practices. Others clothe detrimental practices in language that makes them personally and socially acceptable. Industry scientists provide evidence refuting data showing that the corporate practices have harmful effects. Together they create a shared belief in the morality of their work.

Research findings figure prominently in evidence informed public policies, thus safeguards must be designed to protect the integrity of research from corporate players who must also keep an eye on profit margins and the bottom line. One safeguard is for government and corporate policymakers to encourage diversity of opinion within an organization, collaboration across disciplines, and institutional protection of dissent within the corporate structure (Bandura et al., 2002). In his seminal article on “groupthink” (Janis, 1992), Janis recommended that organizational policymakers be explicitly encouraged to act as “critical evaluators,” that leadership be required to consult with their own work units on policy questions, and that outside experts be

brought in for critical [ethical] decisions. Governments can do their part by enacting legislation or regulation to protect corporate whistleblowers.

Another safeguard is for research publishers to monitor, publicize, and make transparent strategies utilized by industries to manipulate research, and the moral disengagement mechanisms used to avoid the ethical implications of their actions. The more visible the manipulation of research and the moral exonerations for unethical practices, the less weight the research will carry in public policy initiatives. Policy makers and regulatory authorities can give greater weight to independent, peer-reviewed research.

Another safeguard involves careful management of the conflicts of interest of those engaged in research, including full disclosure of the influence of funding sources. Our findings show that corporations exercise tight control over research findings, including evidence of harmful effects (Bero, 2005). A lack of transparency about the roles of sponsors in published research studies can make it difficult to determine if a study is “independent” of the sponsor or not. Therefore, researchers and those presiding over the publication of research should demand disclosure of all results, and of corporate roles in the design, conduct, and dissemination of research. Sponsored investigators should retain control over the publication of their research regardless of the results (Bero, 1999). Government agencies and academic institutions should require high standards of disclosure, but peer reviewed journals should also strengthen and, most importantly, enforce their standards.

As part of the effort to increase transparency and personal accountability, shifting responsibility to proxy research agencies should be publicized. Exposing sanitizing language that masks harmful effect and exonerative comparisons that render detrimental practices personally and socially acceptable are additional correctives.

When harmful effects are hard to dismiss, the corporate activities are often cloaked in lofty pretensions to secure and maintain public support. As the corporate documents reveal, individuals reporting adverse effects tend to be disparaged, often in ad hominem ways. Such histrionics need to be challenged publicly. The affected parties often lack social influence and status,

making it easy to disparage and blame them for bringing the harm on themselves. They need to be personalized and the harm they have suffered publicized and addressed with trustworthy evidence. Such corrections should make it difficult for corporations to remove humanity from their practices.

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