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## The Disproportionate Impact of Toxins in Consumer Products


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## **Cover Page Footnote**

We would like to acknowledge the Organizational Leadership program at Mercyhurst University for supporting our travel to the Seneca Falls Dialogues, and thank them for encouraging and supporting faculty-student research collaborations.

# THE DISPROPORTIONATE IMPACT OF TOXINS IN CONSUMER PRODUCTS

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## **INTRODUCTION**

**T**he following essay will discuss the overuse and under-regulation of toxins in daily consumer products from a gender perspective. Part I of this essay explores the ways in which women are disproportionately affected by toxins in consumer products while at the same time underrepresented in the patriarchal power structures that control and produce these toxins. Part II discusses the advocacy work currently being done to eliminate and reduce toxins in consumer products, and draws comparison between the nature of those efforts and the efforts of first-wave feminists in the suffrage movement. Part III describes a University-level campaign aimed at informing college-aged students about toxins in products. Part IV provides an overview of the dialogue that ensued after the presentation of this information at the 4<sup>th</sup> Biennial Seneca Falls Dialogues. Part V provides a brief conclusion.

## **PART I: TOXINS, WOMEN, AND POWER**

The twenty-first century has witnessed an extraordinary increase in the number of toxic chemicals used in everyday products (“TSCA Chemical Substance Inventory”). Many of the chemicals that are routinely used in common household or consumer products have undergone little to no regulation or testing for safety to human health (Gray 84). Throughout the course of a “normal” day, it is nearly impossible to avoid exposure to these chemicals. They are found in cosmetics, cleaning products, and a

variety of other daily use items, (e.g., shampoo, soap, couches, plastics, electronics, and receipt paper). They truly are ubiquitous. These toxins are linked to a growing number of poor human health outcomes including infertility, cancer, behavioral disorders, and asthma (Bergman et al. 7). The imprudent overuse of chemicals in consumer products without an appropriate regulatory schema stands as one of the biggest national consumer protection failures in history.

Women are disproportionately suffering as a result of this failure. Women are acutely affected by the rampant and under-regulated use of toxins in consumer products for a number of reasons. Exposure to toxins through consumer products is greater for women in part because they use more products than men (“Exposure Adds Up”). Women also carry more of the caretaking burden for family members who are affected by the negative health outcomes listed above (“Women and Caregiving”). The average caregiver, according to the Family Caregiver Alliance, National Center on Caregiving, is a 46 year-old married female, making roughly \$35,000 a year. Women spend approximately 50% more time caregiving than men do, and make up between 59-75% of the caregivers nationally (“Women and Caregiving”). Women’s bodies are particularly sensitive to the endocrine system disruption caused by toxins in consumer products, as evidenced through infertility and strikingly high incidence rates of non-hereditary breast cancer in the United States (Gray 24). The bodies of American women also have been shown to carry higher levels of “foreign chemicals” than their American male counterparts (Reuben 26).

While women disproportionately carry the burden of toxins in consumer products, they are at the same time underrepresented in the decision-making processes related to the manufacture, sale, and regulation of those toxins. Women currently make up about 20% of the United States Congress, which is currently the most important source for effective and meaningful domestic regulation of toxic chemicals. Legislation was introduced in 2013 and again in 2015 to update the ancient and ineffective 1976 Toxic Substances Control Act. These proposed updates have not been supported by key chemical reform

advocacy groups like the Safer Chemicals Healthy Families organization, which states that the current proposed reforms are “too weak” to address the problem (“We Need Stronger Reform”).

Several states, including California, have begun to tackle this problem by passing state-level regulations to curb exposure to toxic chemicals. This state-by-state approach falls far short of the broad national regulation that is needed to effectively regulate the manufacture and use of toxic chemicals. Adequate regulation of toxins in consumer products is critical to the health and well-being of the populace. It would appear to be in the best interest of legislators to act on this issue because of the bipartisan and vast support proper regulation has in the electorate. Across the political spectrum, voters agree overwhelmingly that tighter controls on chemicals are “important” or “very important” (Mellman 11). It is also worth noting that women made up 53% of the electorate in the last presidential election and according to commentators played a significant role in determining the outcome of the election (Omero and McGuinness).

While strict federal regulations remain the best path to meaningful national reductions in exposures, there are other powerful actors who could effect change. The other locus of power, when it comes to curbing the use of toxic chemicals, lies within the leadership ranks of major consumer products manufacturing companies and retail outlets for these products. Women also hold significantly fewer seats of power in these realms, making up only about 20% of the seats on the boards of Fortune 500 companies (McGregor). Women chair the boards at less than 8% of Fortune 500 companies, and serve as CEO at less than 5% of those companies (McGregor). Very few women have a seat at the table when decisions regarding the use of toxic chemicals are made. This has not served anyone well from a public health perspective.

One is reminded of Elizabeth Cady Stanton’s *Destructive Male* speech delivered at the Women’s Suffrage Convention in Washington, DC in 1868. In the speech, Stanton describes a society plagued by “social disorganization” and “destructive forces”. Stanton suggests that including women’s voices in decision-making would temper the

“destructive forces” experienced under a society controlled entirely by men. She closes her speech with the following:

...for woman knows the cost of life better than man does, and not with her consent would one drop of blood ever be shed, one life sacrificed in vain. With violence and disturbance in the natural world, we see a constant effort to maintain an equilibrium of forces. Nature, like a loving mother, is ever trying to keep land and sea, mountain and valley, each in its place, to hush the angry winds and waves, balance the extremes of heat and cold, of rain and drought, that peace, harmony, and beauty may reign supreme. There is a striking analogy between matter and mind, and the present disorganization of society warns us that in the dethronement of woman we have let loose the elements of violence and ruin that she only has the power to curb. If the civilization of the age calls for an extension of the suffrage, surely a government of the most virtuous educated men and women would better represent the whole and protect the interests of all than could the representation of either sex alone. (Stanton)

One can make the argument that America has come close to universal suffrage; however there has not been a true equalizing of power vis-a-vis gender, as illustrated in the low percentage of women who hold seats of power in key legislative and corporate bodies, and any other number of other troubling statistics including the perpetual wage gap. Perhaps a legislature or board of directors with true gender parity would do things no differently than their male-run counterparts have to regulate toxins. Even with gender-parity, profit maximization may still be the axis upon which all decisions turn, and “destruction” and “disorganization” would abound, and toxic chemicals would continue to pervade daily life. However, in light of the current public health issues surrounding the use of toxins, and the growth in the type and severity of health problems, and the high cost to women, one has to wonder if Stanton’s “equilibrium of forces” proposed in this first-wave feminism may hold some answers, or provide some path forward that is not so bent on profit at any cost. Perhaps women, having suffered more and carried

more of the burden under the current state of “disorganization,” do truly understand the “cost” better, as Stanton suggests, and would work more diligently towards reducing the harm caused by toxic substances.

## **PART II: ADVOCACY WORK**

While women may lack an equal voice in the formal seats of power in the legislature and corporate America, their voices are increasingly being heard by those around the table as a result of the current advocacy work aimed at eliminating toxins from consumer products. The work being done follows the model of grassroots advocacy exemplified by Stanton in the fight for women’s suffrage. Each of the examples in table 1 represent the efforts of a small group of people refusing to simply accept the decisions of those who hold the power. Just as Stanton refused to remain quiet and passive about disenfranchisement, advocates for better regulation of toxins too refuse to be silenced. It is their voices and their commitment to providing information to the public about the dangers of these toxins that act as the requisite catalyst for change.

This advocacy work is having an impact. In 2012, Johnson & Johnson made a “global commitment” to remove a number of chemicals of concern from its products. This move was precipitated by the efforts of an advocacy campaign called the Campaign for Safe Cosmetics. The Campaign applied steady public pressure on Johnson & Johnson to reformulate its baby products after reports revealed that the products sold in the United States contained chemicals of concern, while the same product sold outside of the United States did not contain the chemicals. Johnson & Johnson imposed voluntary deadlines for their commitments ranging from 2013 to 2015. Johnson & Johnson’s announced change was met with approval of consumers and advocacy groups. In February of 2013, it was reported that executives from the company were handed a scroll signed by 30,000 consumers thanking them for their commitment to improve their products. In January 2013, Gatorade agreed to remove Brominated Vegetable Oil (BVO), an ingredient shown to cause negative health outcomes, from its sports drinks. The move appears to be related to a petition, signed by over 200,000 consumers, posted on change.org by

a 15 year-old consumer, Sarah Kavanuagh. Walmart announced in September of 2013 that it will require suppliers to disclose certain chemicals and eventually will phase out other problematic ingredients. About 30 days after Walmart’s announcement in September, Target made its own announcement, adopting a new program called the Target Sustainable Product Standard. This program will assess the environmental impact and sustainability of products and will then use those assessments to make “merchandising and product placement” decisions (“Introducing the Target Sustainable Product Standard”).

None of these changes was mandated by domestic federal regulations, but rather the result of the pressure placed on these companies from advocacy groups and consumers. It would appear that corporate America is a bit concerned that women (who are understood by marketers to be in many cases the most powerful and important shoppers) are becoming more aware of the dangers lurking in all of those personal care products and cleaning supplies purchased each week.

**Table 1**  
**Advocacy work for eliminating toxins from consumer products.**

Title	Author Filmmaker	Summary	Year
<i>Little Changes: Tales of a Reluctant Home</i> <i>Eco-Momics Pioneer</i> Book	Kristi Marsh	<i>Little Changes</i> follows the story of Kristi Marsh as she attempts to change her life in the wake of being diagnosed with breast cancer. Reluctant to make changes in her own life for fear that they would be costly and imposing, Marsh chronicles her re-education on the products, foods, and environments she had introduced to herself and her family. Marsh hopes <i>Little Changes</i> will enlighten readers to the potentially harmful reality of many everyday products and show that every change makes a difference, no matter how small.	2012



Table 1. Advocacy work for eliminating toxins from consumer products (cont'd)

<b>Title</b>	<b>Author Filmmaker</b>	<b>Summary</b>	<b>Year</b>
<i>Slow Death by Rubber Duck: The Secret Danger of Everyday Things</i> Book	Rick Smith and Bruce Lourie	Rick Smith and Bruce Lourie hope to bring pollution from distant danger to household threat by demonstrating the potential harm of many of our everyday items. Purposefully subjecting themselves to extended contact with many of these items, Smith and Lourie experimentally depict the very real danger of these products. Simultaneously, the two authors shed light on many of the corporate and governmental policies that allow these toxic miscreants into our homes.	2009
<i>The Secret History of the War on Cancer</i> Book	Devra Davis	Devra Davis hopes to bring attention to the ongoing misdirection of the medical industry. She believes that past and present medical positions surrounding cancer have focused solely on finding and treating cancer rather than taking preventative measures. She skillfully outlines how harmful environmental exposures to toxins are to health, specifically their ability to cause cancer.	2007
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<i>The Non-Toxic Avenger</i> Book	Deanna Duke	Deanna Duke illuminates the state of government regulation concerning daily-use products. Using her own families struggles with cancer and autism as a back-drop for her fight to remove dangerous chemicals from her life, Duke advocates personal change in light of lacking governmental responsibility. <i>The Non-Toxic Avenger</i> follows Duke's own quest to rid her life and the lives of her family of toxic chemicals, while discussing what every American can do about it in their own life.	2011
<i>Not Just a Pretty Face: The Ugly Side of the Beauty Industry</i> Book	Stacy Malkan	A group of upset environmentalists are wondering why there are toxic chemicals in so many cosmetic industry products. <i>Not Just a Pretty Face</i> follows these environmentalists as they try to uncover just how exactly this industry has gotten away with so much, for so long.	2007

Table 1, Advocacy work for eliminating toxins from consumer products (cont'd)

Title	Author Filmmaker	Summary	Year
<i>Pink Skies</i> Documentary	Gulcin Gilber	This documentary showcases the story of <i>Jump For A Cause</i> , an event focused on raising publicity for breast cancer awareness as well as the empowerment of women. The event brought together 181 women from 31 countries in order to set the world record for the largest all-women sky dive. <i>Pink Skies</i> highlights the necessary shift towards funding for prevention research.	2011
<i>The Body Toxic</i> Book	Nena Baker	Taking a closer look at the chemicals that have been introduced to our body through everyday items, Nena Baker addresses the growing health concerns surrounding household products. Examining the lax government policies surrounding the prohibition of these chemicals, and the lengths to which companies will go to defend them, Baker hopes to bring about serious changes that will make the world a safer place to live.	2009
<i>The Hundred - Year Lie: How to Protect Yourself from the Chemicals that Are Destroying Your Health</i> Book	Randall Fitzgerald	A hundred years ago congress passed the Pure Food and Drug Act. Since then, thousands of chemicals have been added to our food, our water, and our medicines, and many of them are taking a toll on everyday citizens. Randall Fitzgerald seeks to overturn the myth that our food is safer, and create a growing realization of the need for change, as well as provide simple solutions that will produce real results.	2007

Table 1, Advocacy work for eliminating toxins from consumer products (cont'd)

Title	Author Filmmaker	Summary	Year
<i>The Human Experiment</i> Documentary	Sean Penn	Sean Penn's documentary takes a look at the world of chemical misuse in everyday products. <i>The Human Experiment</i> outlines the lives of people who have had their lives changed for the worse after exposure to harmful chemicals. The documentary also follows the fight for change as activists take on the chemical industry.	2013
<i>Pink Ribbons, Inc.</i> Documentary	Lea Pool	This documentary seeks to expose the world of cause marketing through a critique of the Susan G. Komen Foundation, as well as many others with corporate interest in breast cancer awareness. Stories of pain and suffering from women who have been diagnosed with breast cancer detail just how far this misguided marketing has gone. <i>Pink Ribbons Inc.</i> hopes to bring about the realization that breast cancer and other very serious illnesses are not grounds for corporate profiteering.	2011
<i>Unacceptable Levels</i> Documentary	Ed Brown	<i>Unacceptable Levels</i> illustrates the story of the constant exposure to potentially harmful chemicals that surround us every hour of every day. Hoping to create greater awareness about the dangers of chemicals, this documentary shows the many dangers that these chemicals pose. <i>Unacceptable Levels</i> calls for people to raise their voices and make a call for change, and to make a decision not to put up with harmful chemical usage anymore.	2013

### PART III: MERCYHURST UNIVERSITY CAMPAIGN

Following the example of many of these grassroots advocacy groups and initiatives, the Fresh Face Forward campaign was established at Mercyhurst University in 2013 to raise awareness about the toxic

chemicals in personal care products and their damaging effect on human health and the environment. The goals of the campaign include increasing knowledge about these chemicals and motivating students, faculty, and staff to swap their more harmful products for safer alternatives. Moreover, Fresh Face Forward was designed to empower individuals through targeted educational initiatives, encouraging consumers (women in particular), to become informed advocates for change.

The Fresh Face Forward campaign was created in an environmental communication class and began as a group project. Following a presentation from Pennsylvania Sea Grant, an organization that works to protect Pennsylvania's precious freshwater resources, the five graduate and undergraduate women in the course decided that something needed to be done to alert others about the dangers these toxins pose to human health and the environment. Saddened by the lack of legislation regulating these toxins and disappointed in industry and corporate professionals for not stepping up, the team found hope that a college-wide grassroots initiative would help begin the necessary process of bringing these issues to light.

The Mission Statement of the Fresh Face Forward campaign reads as follows:

Founded by a group of concerned women at Mercyhurst University and funded by Pennsylvania Sea Grant, Fresh Face Forward was created to raise awareness about the toxic chemicals in personal care products and their damaging effect on our bodies and our environment. Our mission is to empower individuals, encouraging them to become educated consumers and grassroots advocates for change. We believe that we deserve products that are not harmful to us, to our wildlife, or to our water. We hope to inspire others to raise their voices as stewards of the environment and advocates for future generations.

The campaign team decided that college aged students, women in particular, would be the most effective target for this message. Studies have shown that women use twice as many products as men, with the

average woman using 12 personal care products daily and the average man using only 6 ("Exposure Adds Up"). A preliminary study conducted at Mercyhurst University in 2013 surveyed 346 respondents, 237 women and 109 men. Respondents included 157 undergraduates, 29 graduates, 73 faculty, 87 staff, and 4 with other affiliations. The modal age of respondents was 15-20. Individuals were asked about their daily personal care product use, including the number and type of products used, importance of cost in purchasing products, and where they received messages about products from (television, magazines, doctors, etc.). Additional questions assessed participants' knowledge of the terms "natural" and "organic", awareness of chemical toxins in products, and the ability to read and understand product labels. A combination of multiple choice and open-ended questions were used.

The study confirmed with high statistical significance ( $p = 0.001$ ) that women in this population use more products than men, further justifying the campaign's focus on women. The study also revealed some strikingly high usage of personal care products, with four female students regularly using more than 25 different personal care products daily. The survey also substantiated the need for a targeted informational campaign. Across the board, both women *and* men were vastly unaware of the toxins in daily use items, with 70% admitting they were uneducated about the ingredients listed on the labels of their favorite products ("Fresh Face Forward Campaign 2013 Survey").

The team reasoned that a specific focus on the college demographic would provide a significant opportunity to interject in students' lives when it would be most impactful. At this time, most young women and men have been making purchasing decisions for a while. They have some familiarity with particular brands and the process of searching for and purchasing consumer goods. They are also likely on their own for the first time and making more decisions independently with their own money. This is the prime time for messages, like those espoused by Fresh Face Forward, to be heard. The impact on students is potentially more meaningful now than at any other time in life - before habits are set in stone and before they begin to make purchasing decisions for their future

families. College is a formative time in many young lives and provides a leverage point for infusing the country's future leaders, workforce, and consumers with important knowledge.

Also, during the college years, females are particularly vulnerable to negative impacts from toxins ("Exposure to Toxic" 1-3). These young women are entering their prime childbearing years. High exposure to potentially harmful chemicals in consumer products, as evidenced through much of the research on consumer product use, puts females in a compromised position. This is the time when, statistically, they are most likely to be using a high volume of products, thereby placing a large chemical load on themselves. The Mercyhurst University study confirmed this assertion, with younger individuals using significantly more products than older individuals ( $p = 0.001$ ) and women using more products than men ("Fresh Face Forward Campaign 2013 Survey"). Women are negatively impacted during these reproductive years, when endocrine-disrupting chemicals (EDCs) can significantly influence the formation and functioning of the developing baby, and negatively affect fertility ("Exposure to Toxic" 1-3). Thus, the timing of these health-related messages is critical for college females.

Once the survey results were tabulated, the Fresh Face Forward team began a campaign aimed at educating the college community about these toxins with the hope of creating behavior change. The campaign team selected a handful of chemicals to educate students about during the 2014-2015 academic year. Highlighting one chemical of concern per month, the team aspired to influence students to swap one product per month for a safer alternative. Many of the featured chemicals are known endocrine disruptors, while others are noted for links to cancer, allergies, and environmental harm.

Of particular focus were hormone disrupting compounds like triclosan and phthalates. Triclosan is an antibacterial pesticide found in many antibacterial hand soaps and other household items. While its purpose is to kill bacteria on the hands, studies have shown that it cleans the skin no better than regular soap and water, and it may actually lead to the creation of antibacterial-resistant bacteria through

continued use (“Triclosan: What Consumers Should Know”). Animal studies have revealed its endocrine-disrupting properties, meaning it may change the way that hormones function in the body (“FDA”). What is concerning is that triclosan runs rampant in the environment and in human bodies. A study conducted by the Centers for Disease Control and Prevention found triclosan in the urine of 75% of people tested (“Triclosan”). The chemical has also been detected in “finished drinking water, surface water, wastewater, and environmental sediments, as well as in the bile of wild fish, indicating extensive contamination of aquatic ecosystems” (Fang et al. 150).

Phthalates are a class of chemicals that plasticize and fix colors and scents in cosmetics and personal care products. They are also known to disrupt the endocrine system, interfering with the body’s hormones. Like triclosan, evidence shows they are accumulating in human bodies. Several studies have found phthalates in human urine, blood, and breast milk (Gray 43). Women and children carry a higher body burden of phthalates, as, according to a national CDC survey, phthalate levels are highest in the bodies of children ages 6 to 11 and women (Gray 43). Phthalates can also cross the placenta, putting children in the womb at particular risk (Gray 43). In fact, some studies have suggested that prenatal exposure to this class of chemicals can compromise infant development, and one study of Danish children revealed a link to thyroid disruption (Boas et al.). In young girls, phthalate exposure has been associated with early breast development, which can be a predictor of the development of breast cancer later in life (Gray 44). Thus, phthalates are an important group of chemicals about which college-aged women should be both aware and concerned.

Sharing this important information through the campaign has been a constructive step towards informing consumers about these toxins and changing their behavior. Even in its inaugural year, Fresh Face Forward has celebrated much success in its efforts. The initiative has realized both the educational and behavior change goals it had hoped to achieve. According to a post-campaign survey administered to the campus community, 32% of individuals reduced their personal care product use



and 54% began using products with fewer toxins due to the campaign team's efforts ("Fresh Face Forward Campaign 2014 Evaluation Survey"). Also, 69% of respondents now read their product labels, as compared to only 36% before Fresh Face Forward initiated its strategies and tactics ("Fresh Face Forward Campaign 2014 Evaluation Survey"). These early achievements give hope for the campaign's future successes and highlight the potential of other "ground-up" movements to realize similar victories.

Though unintentional, the campaign team, after two years, is still entirely made up of women. These women are stepping up to the challenge of changing common practices and illustrating a primary concern for environmental and health issues. The movement, while designed to empower members of the university community, has also been empowering for the student members of the campaign, allowing them to add their voices to the discussion on this important topic. At the outset the team did not fully appreciate the feminist nature of the project. However, it has become clear throughout that it is indeed addressing in a targeted way an issue that disproportionately affects women, and working towards improving the health and lives of women through education and information sharing. Through its work, the Mercyhurst team has contributed to the national conversation and raised awareness about toxins and their impact, and made positive contributions to improving the lives and health of women and children.

#### **PART IV: SENECA FALLS DIALOGUES PRESENTATION**

The authors along with a colleague presented this information at the 4<sup>th</sup> Biennial Seneca Falls Dialogues in October, 2014. The audience was engaged and receptive to the information presented. During the post-presentation discussion, several audience members shared personal stories of experiences with toxins in products that affect them or a family member. The authors' perception, which was confirmed by a post-presentation survey, was that the audience was generally aware of the "toxin" problem, but lacked information on the specifics such as names of chemicals, where they are found, and what harm they are known to do.

The authors were asked about reliable resources that could be accessed for further information to assist in making informed and healthy shopping decisions. Materials from the Fresh Face Forward campaign were distributed and information on reducing toxins was shared. The audience felt this was an important topic and one that they wish they knew more about so that they could make better choices for themselves and their families. It became clear throughout the dialogue that each woman in the audience shared concerns about how toxins adversely affect their lives and the lives of their loved ones. It also became clear that these women would make changes and advocate for change if they were given more information on how to do each of those things more effectively. This realization informed the direction of the Fresh Face Forward campaign at Mercyhurst University. In the future the campaign will focus on providing more concrete guidance on what toxins and products to avoid, and also provide more information on how to join in and become a contributing member to the grassroots advocacy efforts.

## **PART V: CONCLUSION**

The toxin crisis in this country has grown out of a patriarchal regulatory and industrial system. Like many of the failures that mark the patriarchal system (perpetual war, extreme wealth disparity, destruction of the environment) women suffer a high cost, yet lack a voice in the decision-making process on the very things that affect them the most. And like many of the problems created by the patriarchal system, the solution to the toxin crisis appears to lie in collective and sustained advocacy efforts, like those seen in the suffrage movement. Informing consumers of the dangers of these toxins, pressuring elected officials and corporate leaders to act, and making informed shopping decisions are currently the primary drivers of change in reducing the toxins used in everyday products. The “equilibrium of forces” that Stanton called for over a century ago has certainly not been realized, but undoubtedly it is closer now than it was then. And with that recognition of progress, albeit small and slow, it becomes clear that sustained effort and work by a

relatively small group of dedicated people can lead to progress and change.

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