

Skeptical – Jessica Sheffield

People take in an immense amount of information on a daily basis that requires a great deal of shifting through to determine what information to remember and what information to ignore. There are several criteria in which people base information credibility, such as date obtained, the author, initial reaction, or scholarly review. The article, “Before You Vape: High Levels of Formaldehyde Hidden in E-Ciggs,” published by NBC News focuses on the amount of formaldehyde in e-cigarettes and why the contained amount is concerning. However, despite seeming reputable, there are several problematic statements that lack clarification, leading to the reader questioning NBC News’s definition of fact.

The first problematic concept in the NBC News article is the article makes formaldehyde seem like the primary cause of sickness from smoking with statements such as, “exposure to formaldehyde from e-cigarettes...could be five to 15 times higher than from smoking cigarettes” and “When gaseous formaldehyde... is inhaled, it breaks down in the mouth, nose, throat, and airways. Exposure has been linked to throat and nasal cancers and leukemias” (Before You Vape). Even though the article does mention that formaldehyde is one of the chemicals involved in cancers, the diction emphasizes formaldehyde, “There are more than 8,000 chemicals in tobacco smoke, so it’s hard to pinpoint whether formaldehyde is the main culprit in cigarette-related cancers” (Before You Vape). The mentioning of 8,000 chemicals also makes formaldehyde appear to be a greater danger because the article chooses to concentrate on only one of the 8,000 chemicals, showing the reader that formaldehyde must be important. The article only mentions the thousands of chemicals found in cigarettes, not e-cigarettes, and the article’s focus is formaldehyde exposure from e-cigarettes. “Before You Vape” also states the various

other places where people might be exposed to formaldehyde, such as, “embalming fluid, building materials and some medicines and cosmetics” (Before You Vape), but the article does not mention that exposure to a certain level of formaldehyde is considered safe and how the safe amount compares to the quantity emitted from smoking cigarettes or e-cigarettes.

There is one fact in particular from NBC News’s article that highlights formaldehyde’s possible dangers, “formaldehyde has been shown to cause cancer in laboratory animals and has also been linked to some cancers in humans” (Before You Vape). This fact has two parts, formaldehyde causing cancer in laboratory animals and formaldehyde causing cancers in humans. There are several places that the reader could go to check the credibility of this fact, such as searching scholarly journals for research done with formaldehyde and cancers or reliable websites such as the American Cancer Society. The three sources that I used as the reader to check this fact were The American Cancer Society, The National Cancer Institute, and a scholarly article titled “A Review of Selected Chemical Additives in Cosmetic Products.”

Annotated Bibliography

"Formaldehyde." *Formaldehyde*. N.p., n.d. Web. 05 Feb. 2015.

The article “Formaldehyde,” by The American Cancer Society, focuses on defining formaldehyde and explaining the sources of exposure along with exposure related dangers. Formaldehyde is found in a plethora of places such as plywood, glues, insulation materials, food preservatives, medicines, cosmetics, and naturally in the environment and within the body (Formaldehyde). Studies have shown, while The American Cancer Society does not mention who conducted these studies, that formaldehyde is linked to cancer in both rats and humans. The article also references other well-known and trusted organizations in which data on

formaldehyde has been obtained and then continues on to suggest how to limit formaldehyde exposure.

The American Cancer Society's strengths as a website are their easy to understand organization. The article starts with a detailed definition of formaldehyde leading into how people are exposed to the chemical. Then, based on exposure, the topic of whether or not formaldehyde is capable of causing cancer is addressed and is backed up sufficiently by referencing reputable health organizations. After concluding that formaldehyde is a danger to humans, the article concludes with how to limit exposure.

The article's weakness is that it is very basic in its information. The article does not give specific example of studies done when talking about formaldehyde causing cancer, despite mentioning studies. Plus, the article is biased, due to the organization writing it being called The American Cancer Society, meaning that the article is going to focus on formaldehyde's links to cancer.

I consider The American Cancer Society to be a credible source due to its well-known reputation. Their website is also kept up to date, being last updated in 2015. Plus, their suggested websites and organizations for more information and references within the article are also credited.

"Formaldehyde and Cancer Risk." *National Cancer Institute*. N.p., n.d. Web. 02 Feb. 2015.

Like The American Cancer Society, The National Cancer Institute also starts their article on formaldehyde off with a definition of formaldehyde and continue on to talk about formaldehyde exposure through construction materials. Formaldehyde is shown to be connected with cancer formation and formaldehyde exposure can be limited by choosing specific products

when doing construction on a house. This article does talk about short term affects and how workers are being protected from formaldehyde.

The strengths of this article are that, in the beginning, there is a quick reference “key points” (Formaldehyde and Cancer Risk) lists, giving a bullet point summary of the article. The article also gives very specific references such as the Environment Protection Agency and the Occupational Health and Safety Administration.

The article’s weaknesses are that one references that they give as a source of study for formaldehyde’s connection to cancer is themselves. While their study can definitely be reputable, it seems questionable to use oneself as a source due to bias. However, the article does state, “The results of this research have provided EPA and the Occupational Safety and Health Administration (OSHA) with information to evaluate the potential health effects of workplace exposure to formaldehyde,” (Formaldehyde and Cancer Risk).

I consider this source to be credible due its reputable sources. This sources was also updated fairly recently, in June 2011. Plus, there is a list of references used at the end and all of the links within the references work. Several of the references come from PubMed, which is an online database for medical related articles.

Juhász, Margit Lai Wun, and Ellen S. Marmur. "A Review of Selected Chemical Additives in Cosmetic Products." *Dermatologic Therapy* 27.6 (2014): 317-322. *Academic Search Complete*. Web. 3 Feb. 2015.

This source focuses on chemical additives in cosmetic products. While several of the chemicals discussed in this sources are not pertinent to the NBS News article, formaldehyde is also one of the additives examined. Because this source focuses on formaldehyde exposure

through cosmetics, formaldehyde is not portrayed as such a dangerous chemical. However, formaldehyde's connection to cancer is briefly mentioned.

This source's strengths are that they use reputable organizations for references, both within the article and in the reference section at the end. Some of these organizations include the Federal Drug Administration and the Occupational Safety and Health Administration. This source is also straight to the point, so the reader does not have to sift through a bunch of material to gather information.

This source's weaknesses are that almost every bit of information they give concerning formaldehyde is credited to another source. By being credited to another source, whether or not these other sources are reliable, gives the reader the interpretation that the article was written based off of other people's work. Plus, the source does not go further and analyze any of the information they gained from other sources. Because of this source's weaknesses, in conjunction with the fact that it is supposed to be a scholarly article, I considered this source to not be credible.

Based on the three sources listed above, I concluded that the statement, "formaldehyde has been shown to cause cancer in laboratory animals and has also been linked to some cancers in humans" (Before You Vape) to be a fact. My credible sources talk about cancer and formaldehyde in connection to exposure levels, where exposure to small amounts is natural. Whereas the NBC News article does not make the same connection. However, when looked at as an individual statement, NBC News's statement of formaldehyde being linked to cancer in both laboratory tests and humans, is proved by the credible sources.

A statement can be considered factual or false for several reasons. With the abundance of information made present to people on a daily basis due to media, the fine line of what is

considered a fact is often skewed. Statements can be true if presented by themselves, but the context in which they are presented can lead to factual misrepresentations. These factual misrepresentations, if not corrected, can lead to inaccurate information spreading. Therefore, information consumption is a process that people dangerously take for granted and should be approached from a skeptical point of view.

Works Cited

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