

Killing for a Living: Psychological and Physiological Effects of Alienation of Food
Production on Slaughterhouse Workers

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Table of Contents

Preface	iii
Abstract	iv
Introduction.....	1
Background	2
Animal feeding operations: background, history, and implications.....	6
History of Concentrated Animal Feeding Operations	6
Air pollution	10
Water Pollution	14
Work Conditions	17
Psychological Effects	20
Physiological Effects.....	25
Research Question and Hypothesis	29
Methods	30
Thesis Research	32
Interview Questions Analysis	33
Discussion.....	43
Discussion of Alienation.....	43
Effects of the alienating nature of food production on niche market-based, smaller-scale slaughterhouse workers	46
Trends.....	46
Niche-Market vs. Industrial Alienation	48
Limitations of Research	49
Recommendations	50
Bibliography	53

Preface

First and foremost I would like to thank my advisors, David Youkey, Benjamin Hale, and Dale Miller for helping me with the writing of this thesis. Through your guidance and help I was able to properly structure, define, and execute this project. This thesis would not be like it is without your input. I would also like to thank Glenda Walden, a sociology professor here at CU, for helping me compile the interview questions for my primary research. Having no prior experience conducting interviews, I asked Glenda for assistance and she helped me construct a simple questionnaire that is the basis of my thesis research. Thank you family and friends as well for enduring my minor panic attacks; without your support this would have been a much harder process. How did I end up writing this thesis? Well after finally having completed the three-week, intense Maymester of advanced environmental studies writing course, I couldn't imagine writing another lengthy, analytical science paper. I couldn't understand researchers who read hundreds of pages of science papers and peer-reviewed studies, extract a few points, statistics or findings of sorts, cite it and leave the other mountain of information behind to move on to another lengthy report. However, as I was interested in agricultural impact on the environment since freshman year in high school, I wanted to explore this field in a more sophisticated manner and thus I found myself sitting in an environmental studies honors thesis course wondering how I could possibly develop a thesis on a subject that has been so well studied. Watching "Earthlings" in my environmental ethics class I thought of the ethics behind our wide use of animals. But what about the workers that work with the animals in these facilities? How are they impacted? Thus an idea was born

that eventually developed into a research question and took shape in the form of this thesis.

Abstract

This thesis research focuses on the negative effects that Concentrated Animal Feeding Operations (later referred to as CAFOs) have on the environment and the psychological and physiological effects of alienation of food production on slaughterhouse workers of industrial slaughterhouses in comparison to niche-market slaughterhouses. Billions of animals in United States are slaughtered each year for food. Concentrated Animal Feeding Operations function as establishments that raise large numbers of animals in small, confined spaces to accommodate the large demand for animal products. This comes at a certain environmental cost concerning water and air pollution. Animal agriculture produces more greenhouse gases than all of the transportation sector combined and poor regulations of CAFO establishments allows for poor waste management, which carries a big risk of contamination and spread of bacteria, viruses, pathogens, and other pollutants. Such large numbers of animals raised require a high speed of the disassembly line in industrial slaughterhouses to keep up with the animal output of CAFOs. A high speed of the disassembly line directly correlates with the injury risk rate earning slaughterhouse establishments the title of one of the most dangerous work places. Slaughterhouse workers are also at risk of Perpetration-Induced Traumatic Stress, which is a form of Post Traumatic Stress Disorder and results from situations where the concerning subject suffering from PTSD was a causal participant in creating the traumatic situation. Karl Marx described alienation under Capitalist conditions as “Estranged Labour” distinguishing between four different aspects: alienation from the product of one’s labor, alienation from the labor process or one’s activity of laboring, alienation from one’s “species being,” and alienation from other human beings as a result of one’s work life demand. According to the primary research of this thesis there seems to be more alienation amongst industrial scale slaughterhouses than niche-market slaughterhouses. However, the sample size of primary research is not large enough to be representative of other niche-market slaughterhouses. The niche-market slaughterhouse investigated operates at a slower speed and employs a different managerial practice, which excludes the alienation of workers from each other. This is recommended to industrial scale slaughterhouses to reduce injury rates and increase worker satisfaction. A long-term, practical recommendation is to decrease the production of animal products as the current rate is unsustainable and negatively affects the environment.

Introduction

The purpose of this thesis is to investigate the psychological and physiological effects that niche-marked based slaughterhouses have on their employees and compare the findings to the existing research done on the large-scale, industrial slaughterhouses. My hypothesis is that niche-market based slaughterhouses do exhibit similar psychological and physiological effects on slaughterhouse workers as the industrial slaughterhouses, but to a lesser degree of severity. Just by operating at a slower speed, niche-based slaughterhouses automatically reduce the injury risk rate, and other factors like managerial approaches may differ contributing to the differences or similarities between the two industries. I will talk about the environmental effects of the alienation of food production from concentrated animal feeding operations as well as present the existing, secondary research on the large-scale industrial slaughterhouses and their workers. I will then discuss the concept of alienation and present my research in a descriptive manner, discuss the findings, and make final concluding statements. The methods of my research comprise of one-on-one interviews with upper management and line workers employed at a niche-market based slaughterhouse. Only one facility agreed to the interviews so while the sample size may not be large enough to be representative of other facilities, it is an addition to an important part of the field that is poorly researched and needs future attention of psychologists, sociologists, and environmental scientists.

Background

Each year about 56 billion animals are slaughtered for consumption worldwide (Koneswaran, Nierenberg, 2008) with 9.7 billion killed in United States alone (USDA, 2014). Of these animals, about 99% are raised in Concentrated Animal Feeding Operations (CAFOs) also known as factory farms (USDA) to meet a high demand of 265lb of meat per person in United States. Concentrated Animal Feeding Operations (CAFOs), a subdivision of Animal Feeding Operations (AFOs), are business establishments that raise large numbers of animals in small confined areas (NRCS). An AFO becomes a CAFO when animals remain in confinement for at least 45 days out of the year, the area of residence does not have any vegetation growing during the normal growth season, and houses a certain number of animals to be qualified as a small, medium, or a large CAFO (USDA). A small CAFO has to have a permitting authority qualify it as a significant contributor of pollutants, a medium CAFO has to have a waterway that animals come into contact with or where pollution can be discharged into a natural or a manmade ditch that would carry the animal waste to a waterway. Finally, a large CAFO has to meet the least number of animals required to be a large CAFO (EPA). However, any AFO that discharges animal waste via a natural or a manmade ditch into a waterway automatically falls into the CAFO subdivision regardless of the size (NRCS). The table from http://www.epa.gov/npdes/pubs/sector_table.pdf below showcases the different number requirements for different species of animals.

Size Thresholds(number of animals)

Animal Sector	Large CAFOs	Medium CAFOs	Small CAFOs
cattle or cow/calf pairs	1,000 or more	300 - 999	less than 300
mature dairy cattle	700 or more	200 - 699	less than 200
veal calves	1,000 or more	300 - 999	less than 300
swine (weighing over 55 pounds)	2,500 or more	750 - 2,499	less than 750
swine (weighing less than 55 pounds)	10,000 or more	3,000 - 9,999	less than 3,000
horses	500 or more	150 - 499	less than 150
sheep or lambs	10,000 or more	3,000 - 9,999	less than 3,000
turkeys	55,000 or more	16,500 - 54,999	less than 16,500
laying hens or broilers (liquid manure handling systems)	30,000 or more	9,000 - 29,999	less than 9,000
chickens other than laying hens (other than a liquid manure handling systems)	125,000 or more	37,500 - 124,999	less than 37,500
laying hens (other than a liquid manure handling systems)	82,000 or more	25,000 - 81,999	less than 25,000
ducks (other than a liquid manure handling systems)	30,000 or more	10,000 - 29,999	less than 10,000
ducks (liquid manure handling systems)	5,000 or more	1,500 - 4,999	less than 1,500

Large-scale livestock production is considered one of the leading causes of land degradation, deforestation, water pollution, and greenhouse gas emissions (Croney et al. 2012). CAFOs make up 15% of all AFOs (EPA) and are regulated by Environmental Protection Agency under the Clean Water Act (NRCS). With a growing population and a demand for meat in developing countries, CAFOs are becoming (and have been) an increasingly unsustainable form of food production and eventually will put an even greater strain on natural resources like land, water, and fossil fuels (Croney et al. 2012). The practices of Western factory farms could potentially become the model of food

production in underdeveloped areas of the world, which would further exacerbate environmental pollution problems (Cudworth, 2011). Interpretation of the importance of the environment, welfare of animals in different housing systems, and different conditions via animal's health, behavior and physiology is ultimately based on values (Croney et al. 2012). In the assessment of the values and discourses of a variety of stakeholders regarding the relation between global climate change and livestock agriculture, the animal agriculture industry stakeholders did not view animal agriculture as a threat to the environment nor did they mention it at all focusing on other environmental risks (Bristow, Fitzgerald 2011).

Regulations governing CAFOs are complicated, underdeveloped, and face constant scrutiny and opposition from Farm Petitioners (Centner, Newton 2011). EPA mandates CAFO-specific rules that establishments classified as CAFOs must follow. Any CAFOs discharging pollutants into surface waters (thus considered point sources of pollution) must apply for a National Pollutant Discharge Elimination System (NPDES) permit with their state of residence (EPA, 2014). This is hard to enforce and regulate as neither EPA nor the Clean Water Act monitor point sources. Small CAFOs do not have to obtain an NPDES permit if they claim no potential to discharge, an assertion they do not have to prove. EPA tried to challenge this rule and obligate small CAFOs to prove the lack of potential discharge, but failed in *Waterkeeper Alliance Inc. vs. EPA 2005* as well as *National Pork Producers Council vs. EPA 2011*. Both courts ruled EPA to be overreaching in their scope of regulatory abilities (Centner, Newton 2011). Lack of concrete and definitive instructions also make it difficult for CAFOs to chart out a clear pathway to meet the set requirements (Vansickle 2005). While the federal law does not

allow EPA to regulate proposed discharges, states can set their own requirements and regulations, which pose a conflict and opportunity for companies running CAFOs in different states (Newton, 2011). After a CAFO obtains a permit it also needs to have a nutrient management plan to deal with the large amounts of waste produced by the livestock (Hribar, 2010). Because no federal agency has collected reliable, historic data on CAFOs nor does the EPA know an accurate number of permitted CAFOs nationwide, a United States Government Accountability Office makes several recommendations that include establishing a timeframe for the development of a process-based model to measure emissions as well as calculating and establishing the total number of permitted CAFOs (GAO 2008). Due to these complications, opportunity to dismiss or to under-comply with the existing regulations arises resulting in a host of negative environmental effects as well as negative psychological and physiological effects on slaughterhouse workers tied in the process of food production.

Once animals like cows, chicken, and pigs have reached their “slaughtering age,” slaughterhouse workers have to carry out the daily gruesome slaughter job and may consequently be affected both, psychologically and physiologically. Slaughterhouse management generally does not concern itself with worker rights, safety, and well being of its employees, often paying low wages and hiring unskilled minorities due to high levels of labor turnover (Cudworth 2011). As mentioned above, the agricultural sector does not acknowledge itself environmentally damaging (Bristow, Fitzgerald, 2011) let alone a cause of psychological and physiological stress on its workers. In what follows, I argue that education and awareness are vital in the development of values that will help us as a society decide on the actions we need to take to improve the current state not only

of the present-day agricultural practices, but also the environment and the people working in the agricultural sectors. This thesis will give a brief overview of the pollution that results from CAFOs and investigate the physical and mental well-being of slaughterhouse employees via primary and secondary research. To approach this question, I will first compile a brief history on the emergence of CAFOs, then I will look at the different pollution arising from the daily operations of these facilities, after I will trace the food production chain to slaughterhouses, their brief history, and investigate the psychological and physiological effects that employees experience working in conventional slaughterhouses. Then I will present interviews of employees working for slaughterhouses of a niche-market based slaughterhouse to compare the two industries and assess whether or not the effects of alienation produce similar or different results of the two establishments. Finally, I will discuss the findings, provide concluding statements, and make final recommendation on this issue of alienation of food production from CAFOs and slaughterhouses.

Animal feeding operations: background, history, and implications

History of Concentrated Animal Feeding Operations

Animal agriculture increased with colonization period when cattle ranching became one of the more popular systems of exploitative food productions. Soon, eating fat-rich beef particularly became a sign of status and wealth with men consuming more meat than women (Miele, 1999). Many places in United States replaced buffalo with cattle, killing off around 30 million in around 50 years allowing for cultivation of

longhorn cattle (Cudworth 2011). With construction of railroads cattle were then transported longer distances, which shifted supply and allowed for connections between producers of the feed and other vital key players in animal agriculture. Production of cars brought about the opportunity of eating on the go and opened up doors for fast food industry development and other side road accommodations. Technological developments of 1920s like tractors and other large machinery further allowed for agricultural development and intensification contributing to introduction of confinement and automatic feeding practices of 1950s (Cudworth 2011).

From early 1980s animal agriculture began changing rapidly from family farms to larger, more intensively cultivated and managed farm operations (USGS, 2004). While poultry has been increasing for over half a century, cattle and pigs have only drastically increased in the last few decades (Gurian-Sherman, 2008). Number of family pig farms in the United States decreased by more than two-thirds between 1992 and 2002 (Marcus 2005) while the overall number of animals in CAFOs increased by 88% (Kellogg et al. 2000). According to a report to congressional requesters, USDA data showed an increase of 230% of concentrated animal feeding operations from 3,600 in 1982 to about 12,000 in 2002 allowing as many as 2 million chickens or 800,000 hogs to be raised at a single facility at one time (GAO, 2008). A stark example of Iowa shows that although the number of hogs raised hasn't increased much over the last century and Iowa still raises more hogs than any other state, most are now raised by CAFOs after pig farms declined by 83%, from 59,134 farms in 1978 to 10,205 farms in 2005 (Institute of Science, Technology and Public Policy, 2007). Today about 70% of all beef cattle produced comes from CAFOs with at least 5,000 heads at one time while ten large companies

supply more than 90% of poultry for United States (National Resources Defense Council 2013). Another prominent change that took place was specialization of production and vertical integration. Large farms now focus on producing one single “commodity” be it milk, eggs, hogs, or other animals. While some large-scale operations also grow crops, increasingly specialization in single production is becoming the norm (Economic Research Service/USDA). Vertical integration of CAFOs means these businesses produce their own food for the animals, provide their own veterinary care, medications, slaughter, and marketing. Companies like Tyson, ConAgra and Perdue prefer this model, which means fewer opportunities for other businesses (Verheul 2011).

The economics of CAFOs are controversial in their reports. Some studies show no economic advantages while others show some. One study showed a loss of jobs, lower property values, drain of natural resources, and loss of income for local industries and businesses (Institute of Science, Technology and Public Policy, 2007). However, a recommendation by National Association of Local Boards of Health suggests that when properly managed, CAFOs produce cheap and readily available food and an increased tax expenditures (Hribar 2010) while a Congressional Research Report shows higher unemployment rates in places with CAFOs and the aforementioned loss in property value affects tax assessments which negatively reflects on tax revenues (ISTPP, 2007). The next section of this thesis is going to overview different types of pollution that result from CAFO operations and practices.

Animal Feeding Operations first came to be associated as potential pollutants in the 1972 Clean Water Act. “Feedlots” were identified as “point sources” in Section 502 for AFOs as well as other businesses (Hribar, 2010). The waste and the concentrated

nature of CAFOs pose a serious threat to the environment. According to EPA, CAFOs are a “leading source of pollutants” for waterways producing more than three times amount of waste than the population of United States (Groves 2012). Many AFO and CAFO facilities have slatted floors for the animal waste to fall through and into a holding area (Verheul 2011) from where water is used to flush it into a lagoon—an excavated earthen basin used for storage and treatment of waste prior to land application (Ro et al. 2012).



Georgia Hog CAFO flushing waste into a lagoon Photo Credit: USDA

Many CAFO establishments use anaerobic lagoons to treat animal waste, as anaerobic bacteria decompose more organic matter per unit lagoon volume than aerobic bacteria thus allowing for deeper lagoons since decomposition does not depend on the presence of dissolved oxygen (Barker 1996). Aerobic lagoons on the other hand, need oxygen to initialize biological oxidation with aeration through photosynthesis as a limiting factor for oxygen transfer and light penetration. These aerobic lagoons do not tend to produce malodorous gases, but are considered impractical for CAFOs due the large surface area that they require (Powers et al. 2014). CAFOs have no need for the

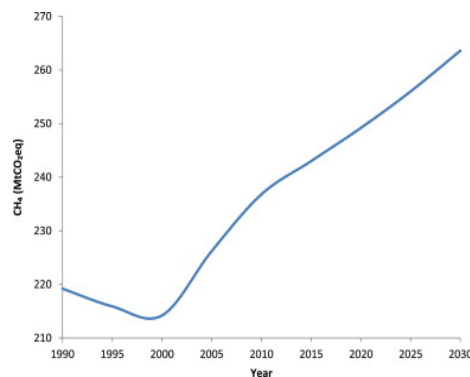
waste they produce, as they do not grow vegetation where manure can be used as fertilizer. As waste accumulates and decomposes, it produces different toxic and heat trapping gases, as well as poses a risk of leaking or spilling into waterways and groundwater (Verheul, 2011). Food and Agriculture Organization also reported that animal agriculture contributes more greenhouse gas output than the entire transportation sector combined (18% vs. 13% respectively) (FAO, 2006). This next section of the pollution discussion will cover air pollution that results from the operations and waste of CAFOs in greater detail.

Air pollution

As mentioned above, Concentrated Animal Feeding Operations produce different gases like carbon dioxide, methane, ammonia, hydrogen sulfide, and other malodorous vapors due to the concentrated and confined conditions. These gases have negative effects on both, the atmosphere and human health (Heederik et al. 2007). Researchers agree that animal agriculture contributes more greenhouse gas emissions than other sectors like transportation, but different studies report different figures. As previously mentioned, a UN report from Food and Agriculture Organization claims the animal sector contributes 18% of total greenhouse gas emissions (FAO, 2006) while a Worldwatch Institute reports livestock and their byproducts contributing a total of 51% of greenhouse gas emissions (Goodland, 2009). The different points of gaseous emissions include decomposing manure, direct emissions from animals, and particulate substances with suspended dust that result from the movement of animals (Hribar, 2010). Small particles of nitrates, sulfates, soil, organic chemicals, dust, and liquid droplets make up particulate matter known to degrade air quality (Government Accountability Office Report, 2008)

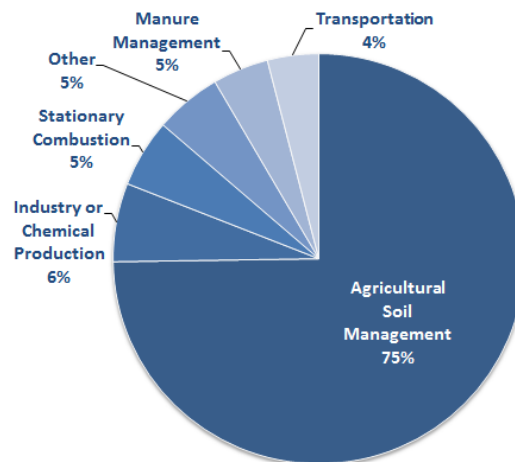
and cause respiratory ailments in CAFO workers and neighboring communities (Gurian-Sherman, 2008). Ammonia emissions from hog farms combine with these particles and other gases to form fine particle pollution, which can also cause a host of respiratory diseases and negative health effects for the employees and those living nearby (Rudek, 2008).

Methane is considered to be the second biggest contributor to global warming with estimations showing livestock manure contributions at about 240 million metric tons of CO₂ equivalent (Tauseef et al., 2013). Although methane, produced during the fermentation of feed in the animal's gut and the anaerobic fermentation of manure in the lagoons (Gurian-Sherman, 2008), has an atmospheric residence time of twelve years while CO₂ is calculated at hundreds to thousands of years, its comparative impact to CO₂ is 20 times greater (EPA, 2010) with a heat trapping potential 21-25 times of CO₂ and an adult cow producing anywhere from 80 to 120 kg of methane a year (Hultin et al. 2006). Methane emissions have overall increased by 11.7% from 1990 to 2008 as a result of CAFO growth and in 2008 alone, the methane emitted by animal agriculture was 61.5 % more than all coal-mining operations (Verheul, 2011) Methane emissions are predicted to increase 16.5% by 2030 from their 2005 levels with most increase anticipated from Africa, Central and South America and the Middle East (Tauseef et al., 2013).



Global trend of methane emissions from the management of livestock manure (USEPA, 2011).

Lagoons store most of the animal waste until it's used as fertilizer on crop fields. Large amounts of animal waste applied to land as fertilizer contain great quantities of nitrogen. This nitrogen can take the form of ammonia while in a lagoon and escape in vast quantities into the atmosphere. When nitrogen is applied to a field or a plot of land, it can also undergo nitrification and denitrification and become nitrous oxide; another toxic gas (Hribar, 2010) with a heating potential 300 times that of CO₂ that remains in the atmosphere for about 150 years (FAO, 2006). With the increasing practice of CAFOs switching to liquid animal waste management systems the effects of the supersaturation of the slurry with nitrous oxide on the atmosphere is unknown as most research focuses on the effects of its gaseous state (Makris, 2009). Agricultural soil management accounts for 75% of all nitrous oxide emissions in US and manure management for 5% with nitrous oxide emissions predicted to increase by 5% from 2005 to 2020 (EPA, 2010).



All emission estimates from the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012*.

The table below summarized few most present gases from CAFOs, their characteristics and health risks.

CAFO Emissions	Source	Traits	Health Risks
Ammonia	Formed when microbes decompose undigested organic nitrogen compounds in manure	Colorless, sharp pungent odor	Respiratory irritant, chemical burns to the respiratory tract, skin, and eyes, severe cough, chronic lung disease
Hydrogen Sulfide	Anaerobic bacterial decomposition of protein and other sulfur containing organic matter	Odor of rotten eggs	Inflammation of the moist membranes of eye and respiratory tract, olfactory neuron loss, death
Methane	Microbial degradation of organic matter under anaerobic conditions	Colorless, odorless, highly flammable	No health risks. Is a greenhouse gas and contributes to climate change.
Particulate Matter	Feed, bedding materials, dry manure, unpaved soil surfaces, animal dander, poultry feathers	Comprised of fecal matter, feed materials, pollen, bacteria, fungi, skin cells, silicates	Chronic bronchitis, chronic respiratory symptoms, declines in lung function, organic dust toxic syndrome

http://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf

By 2050, with a population of about nine billion, meat consumption is predicted to increase by 73% with most growth occurring in developing countries (Pilippe, Nicks 2014). The total overall emissions of the above-mentioned gasses are predicted to increase by over 30% from 2000 to 2020 (Flachowsky, Kamphues 2012). US government enabled EPA to use the Clean Air Act of 1970 to first classify, and then regulate dangerous airborne pollutants. While EPA still hasn't used the CAA to classify gaseous outputs of CAFOs as pollutants, the mounting scientific evidence suggests that EPA will soon need to extend its regulations to CAFOs as well (Verheul 2011).

According to USDA it would take \$1.16 billion per year to effectively deal with all of the manure distribution onto farmland to mitigate toxic and greenhouse gas output. However, this would only reduce airborne ammonia by about 40% (Gurian-Sherman, 2008).

Water Pollution

CAFOs pollute waterways with improper waste management in lagoons and over application of waste or fertilizer on the land. CAFOs produce and store more waste than humans (Natural Resources Defense Council, 2013) and often times apply it to surrounding areas in attempt to empty its lagoons for future use, which often results in over fertilization and nutrient runoff (FEP, 2015). Large amounts of waste in lagoons contain high concentrations of viruses, bacteria, parasites, and pathogens. Impacts of CAFO pollutant loading runoff and spillage are more severe following heavy rainfall and upon direct contact with surface water (Wing et al. 2002).

When these storage basins are flooded with rainwater, the runoff can reach a water surface and decimate ecosystems in near vicinity (Burkholder et al. 2007). While contaminants like veterinary pharmaceuticals, heavy metals, copper, naturally excreted hormones, antibiotics, pathogens, nutrients, and pesticides found in livestock waste can be reduced by anaerobic digestion, the sheer amount of waste in spills and leakages still harms the environment and ecosystems (Burkholder, 2006). About 70% of all antibiotics manufactured in US are used in animal husbandry for non-therapeutic purposes (Mills, Lenczewski, 2013). About 75% of all antibiotics are excreted by livestock with some having an excretion rate of 90%, which contributes to development of antimicrobial-resistant bacteria (Kampagnolo et al. 2002). One study showed prevalence of antibiotic presence in 67% of water samples near poultry farms in Ohio.

Although as mentioned above, anaerobic decomposition of waste in surface storage lagoons can effectively deal with many pathogens and produce little to no malodorous gasses, the considerable remaining volume as well as waste in aerobic

lagoons can also contaminate surface and groundwater (Mallin 2000). However, overflowing of the lagoons by rain is not the only potential cause of lagoon leakage and spillage. At times natural disasters like hurricanes or plain mismanagement can cause these waste storages to burst flooding rivers and fields with millions of gallons of manure. In North Carolina an eight-acre hog-waste lagoon burst releasing 25 million gallons of manure into the New River in 1995 killing 10 million fish and closing about 364,000 acres of coastal wetlands (National Resources Defense Council, 2013).



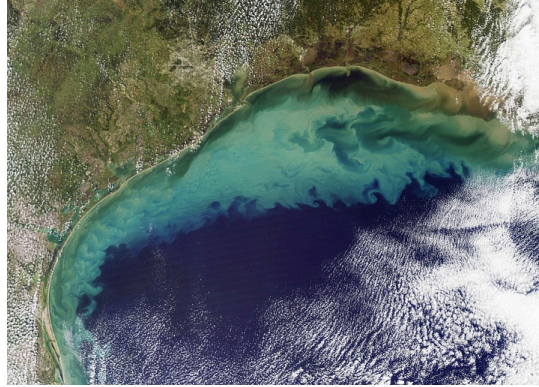
Fish kill from waste outbreak, North Carolina Photo Credit: World Ocean Observatory
At least five manure lagoons burst because of hurricane Floyd in 1999 with 47

lagoons being completely flooded in North Carolina as well (Todd, 2012).



Flooded hog farm during Hurricane Floyd, 1999 Photo Credit: USDA

CAFO spills carry high concentrations of ammonium, fecal coliform bacteria, suspended solids, total phosphorus, pathogenic microorganisms and along with anoxic conditions cause major kills of freshwater fish and stimulate blooms of toxic and noxious cyanobacteria (Burkholder et al. 2007). Between 1995 and 1998, over 1,000 spills or discharges of manure from animal feeding operations in the Midwestern states were documented, and 13 million fish were killed as a result of 200 manure-related contaminations (Todd, 2012). Use of animal waste as fertilizer on crop fields can also negatively affect surface waters when managed improperly. CAFOs have too much waste to deal with and often over-application of animal waste on the soil or application of animal waste on already saturated soils can pollute runoff and put vulnerable aquifer areas at risk of contamination (Westerman et al. 1995). Livestock waste is responsible for more than 27,000 miles of polluted river waters and contaminated groundwater in dozens of states according to EPA, while California alone cites nitrate pollution of more than 100,000 square miles of groundwater from intense animal agriculture practices (Natural Resources Defense Council). Nutrients like phosphorus in the runoff can contribute to algal blooms and eutrophication of surface waters used for drinking and recreational purposes (Burkholder et al. 2007). The Gulf of Mexico is a good example of algal blooms causing dead zones stretching over 7,700 square miles due to animal-waste fertilizer (Todd, 2012).



Gulf of Mexico Dead Zone Photo Credit: NASA Earth Observatory

The following section shifts to investigate the effects that alienation of food production has on slaughterhouse workers that have to “harvest” the billions of animals grown in CAFOs every year.

Work Conditions

Slaughterhouses largely employ minorities of color with little to no education and a limited knowledge of the language as “at-will” employees (employee can be let go at any time) (Schlosser, 2002). About 38% of the employees are born outside of US and according to Bureau of Labor Statistics no high school education is required for the entry-level positions, which provides a median pay of \$11.21/hour or \$23, 320 per year (2012). Slaughterhouses have one of the highest employee turnover rates, often exceeding 100% annually due to these poor conditions (Human Rights Watch). When a slaughterhouse opened in Lexington, Nebraska, its turnover rate was at 250% and this is not an isolated case (Fitzgerald 2010). Occupational Safety and Health Administration require that all employers provide a working space that is free of recognized hazards that could cause death, or serious physical harm as well as abide by the occupational safety and health standards, rules and regulations (OSHA, United States Department of Labor). However,

OSHA only specifies physical harm, not psychological, as a threat in the work environment. Despite OSHA specifications, work conditions of slaughterhouses are very demanding, high risk, and can take a physiological as well as a psychological toll on the worker. Human Rights Watch reports slaughterhouse jobs as having “extraordinarily high rates of injury” as employees have to cut meat at the conveyor line at a specific, constant speed (New York Times, 2005). Labeled one of the most dangerous jobs in America, meatpacking has an injury risk rate three times higher than the injury risk rate of a typical American factory (Schlosser, 2002). Federal Accident Statistics report that slaughterhouses are usually not concerned with worker rights, safety, and well being; often paying low wages and hiring unskilled minorities resulting in aforementioned high levels of labor turnover (Cudworth 2011). Fueled by the rising demand for cheap meat, these facilities increase the speed of the disassembly line putting more pressure on the low-wage employees already making a cut every two to three seconds, which amounts to about 10,000 cuts a day on the line processing about 300 cattle per hour (Schlosser, 2002). Fast pace of the line produces all sorts of lacerations. One of the employees being interviewed by Gail Eisnitz fighting for humane animal and worker treatment recalls: "I got cut across my jugular, I was scared, scared to death. Stitches go with the territory in a packing house. I can live with stitches. I can live with getting cut once in a while. What I can't live with is cutting my own throat" (Eisnitz p. 55, 2009).



Laceration scars on hand of a slaughterhouse employee Photo Credit: David Bacon

About 25% of slaughterhouse workers become ill or injured from the work and the work conditions and require serious medical attention (Dillard 2008). However, this statistic may be misrepresented, as some slaughterhouse workers disclose being under pressure not to report injuries and slaughter facilities often provide financial incentive programs to staff members, company doctors and nurses for keeping the number of lost workdays to a minimum. Some slaughterhouses also keep two sets of injury logs: one for OSHA and another one for the recording of every injury. An Iowa Beef Processors (IBP) plant in Nebraska kept two different logs with the OSHA log reporting only 160 injuries for a three-month period, while the second log had 1,800 injuries recorded, a difference of 1,000% (Schlosser, 2002). Slaughterhouse employees have to work in either hot or cold temperatures depending on the purpose of the area location within the facility. Slaughtering rooms are often hot and humid; at least 180 degrees Fahrenheit while meatpacking areas are usually below 40 degrees Fahrenheit for safety and quality reasons (Bureau of Labor Statistics, 2012).



Slaughterhouse workers-Photo Credit: Animal Blawg

The floor in the processing area of the facility is usually slippery, which creates more work-related hazard for the employees (BLS, 2012). A fast pace, minority-dominated labor, and the nature of the work create an environment for both, psychological and physiological effects sustained by the employees. The following sections explore and investigate the extent of the psychological as well as physiological harm that slaughterhouse employees may face.

Psychological Effects

Note: Research on the psychological effects on slaughterhouse workers is very limited with few truly credible sources, but those that exist contain compelling and important information that needs to be recognized, analyzed, and further researched. I will mostly be referring to the work of Amy Fitzgerald, Jennifer Dillard, and Gail Eisnitz.

In Perpetration-Induced Traumatic Stress: The Psychological Consequences of Killing, the study by Rachel M. MacNair describes Perpetration-Induced Traumatic Stress as a form of post-traumatic stress disorder with symptoms of drug and alcohol

abuse, panic, depression, paranoia, dissociation, anxiety, and depression stemming from the act of killing. While this study focused on combat veterans and the like, MacNair also includes slaughterhouse workers as a sector of population susceptible to PITS (MacNair, 2002). More specifically, PITS results from situations where the concerning subject suffering from PTSD was a causal participant in creating the traumatic situation. As one study found that 85% of meat consumers were not willing to kill to obtain meat, slaughterhouse workers (especially those responsible for the direct delivery of the act of killing) participate in the process of slaughter on a daily basis, may be susceptible to PITS as form of PTSD (Dillard, 2008). One of the symptoms of PITS is having recurring dreams of violent acts and there are several reports of workers being taken to the mental hospital for treatment of severe cases (Dillard, 2008). Certain jobs like having the responsibility to be the first to kill the animal may have stronger effects on the worker than other jobs. Often times substance abuse like methamphetamine (Schlosser, 2002) and alcohol is very common amongst slaughter employees as a coping mechanisms of the emotional toll (Dillard, 2008). A former hog-sticker (worker who stabs hogs to bleed to death) said, “A lot of the slaughterhouse hog killers have problems with alcohol. They have to drink, they have no other way of dealing with killing live, kicking animals all day long. If you stop and think about it, you’re killing several thousand beings a day” (Dillard, p. 397, 2008). And another former employee of eleven years echoes similar sentiments:

I actually thought I was going crazy at one point. I’d hit the bar after work every day, pound down four or five beers, come home and just sit and stare off into space through three or four more. If I talked at all, it was to bitch and chew. I was

an SOB, royally. I mean gold-plated. My wife thought all this was directed at her. I'd want to tell her the truth, find the right words so she'd really understand, but I never could. Little things would set me off. I was putting a new alternator belt on my wife's car and the wrench slipped and I gouged my knuckle. I stood back and had a fit beating that car. I was beating it, kicking it, screaming at it. It was like I'd lost my mind (Eisnitz, p. 61, 2009).

Another employee explains that slaughter workers can't care about animals they're killing:

The worst thing, worse than the physical danger is the emotional toll. If you work in that stick pit for any period of time, you develop an attitude that lets you kill things, but doesn't let you care. You may look a hog in the eye that's walking around down in the blood pit with you and think, God, that really isn't a bad-looking animal. You may want to pet it. Pigs down on the kill floor have come up and nuzzled me like a puppy. Two minutes later I had to kill them-beat them to death with a pipe. I can't care (Dillard, p. 398, 2008).

Use of a pipe to kill hogs came up quite a few times reading through literature and general websites. Another employee interviewed said: "It's called 'piping.' All the drivers use pipes to kill hogs that can't go through the chutes. Or if you get a hog that refuses to go in the chutes and is stopping production, you beat him to death. Then push him off to the side and hang him up later" (Eisnitz, p. 53, 2009).

Some employees even report killing animals “for fun” without feeling any remorse suggesting psychological damage to the extent of abnormal cruelty that would generate concern amongst the general population (Dillard, 2008).



Photo courtesy of animals.org

Several studies on empathy amongst farmers in animal agriculture show that slaughterhouse workers and farmers exhibit lower levels of empathy towards animals than the general population. Desensitization was not an uncommon factor amongst the employees of this sector (Dillard, 2008). A study done on butchers working in the slaughterhouse and retail meatpacking business revealed that as butchers work in a negative environment almost every single day, they displayed the highest levels of somatization and anger hostility amongst the general occupation of butchery. Other factors like age and education accounted for, this study of 82 male butchers found higher rates of work accidents, injuries, physical disorders, use of alcohol and drugs, as well as a higher employee turnover (Emhan et al. 2012). Usually fully aware of the kills that go on every single day the workers either become very distressed and leave the job or become numb and begin to display signs of apathy and some even begin to enjoy the infliction of pain (Helle 2012). Some become less empathetic under conditions of stress as well. In one of the interviews from *Slaughterhouse: the Shocking Story of Greed, Neglect, and Inhumane Treatment Inside the U.S. Meat Industry* an employee recalls,

“This is kind of hard to talk about. You're under all this stress, all this pressure. And it really sounds mean, but I've taken prods and stuck them in their (hogs) eyes. And held them there” (Eisnitz, p. 53, 2009). Lower empathy in slaughterhouse workers may be responsible for higher crime rates in neighborhoods where such facilities are located with some of the homicides carried out in a manner of animal slaughtering practices (Dillard, 2008). Amy Fitzgerald, a sociologist investigating the effects of slaughterhouses on communities tested a “Sinclair effect,” a theory Upton Sinclair proposed more than 100 years ago noting that slaughterhouses had negative effects on workers and communities through increases in crime and unemployment rates. These correlations have not been empirically tested until *Slaughterhouses and Increased Crime Rates: An Empirical Analysis of the Spillover From “The Jungle” Into the Surrounding Community* in 2010. The assessment looked at a total of 581 counties from 1994-2002 and found the “Sinclair effect” to be unique to the violent workplace of the slaughterhouse. An example of crime rates in a Finney County, Kansas community where a slaughterhouse opened up, reports that after controlling for migratory and other important factors, the community experienced a 130% increase in violent crimes within five years with the population growth only being 33%. Increased crime rates such as these have been documented in other states as well. Property crimes, slaughter crimes, and child abuse all increased (Fitzgerald 2010). An employee interviewed by Gail Eisnitz recalls:

When I worked upstairs taking hogs' guts out, I could cop an attitude that I was working on a production line, helping to feed people. But down in the stick pit I wasn't feeding people. I was killing things. My attitude was, it's only an animal.

Kill it. Sometimes I looked at people that way, too. I've had ideas of hanging my foreman upside down on the line and sticking him. I remember going into the office and telling the personnel man that I have no problem pulling the trigger on a person-if you get in my face I'll blow you away. Every sticker I know carries a gun, and every one of them would shoot you. Most stickers I know have been arrested for assault (p. 57, 2009).

And another example of near-human violence from another employee:

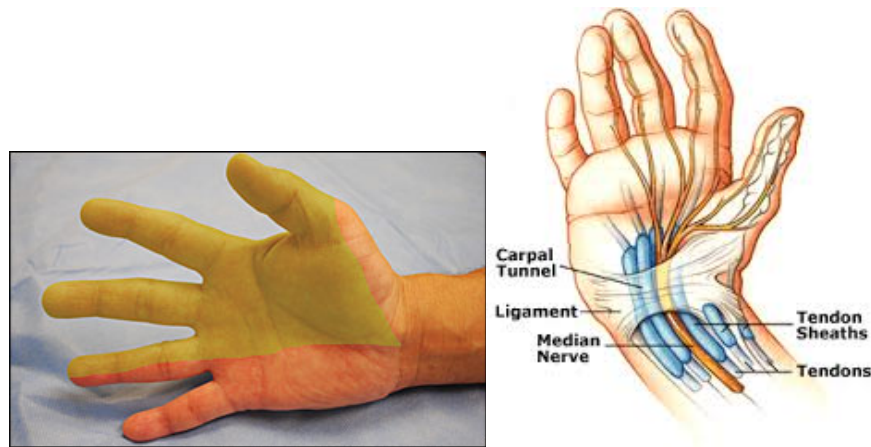
Like, one day the live hogs were driving me nuts and the kill-floor superintendent was playing his power games, yelling at me about something. I threw my knife on the floor, I'm screaming at him, 'Come on, you little pimple. You want a piece of me? Come on! Right now!' If he'd come down there I would've slit his throat. Could've taken a human life and not given it one thought or had one regret for it (Eisnitz, p. 61, 2009).

Amy Fitzgerald also points out that because the employee turnover rate is so high within the slaughter industry, slaughterhouse communities may experience higher unemployment rates and this may result in former workers turning to crime (2010). The following section investigates the physiological effects experienced by slaughterhouse workers.

Physiological Effects

Repetitive and strenuous work as well as the fast pace can have serious physiological effects on the workers of slaughterhouses. Lacerations are the most

common injuries with tendinitis, cumulative trauma disorders, back and shoulder problems and “trigger finger” (finger remains in a curled position) also being very common (Schlosser, 2002). A 12-month study on slaughterhouse workers in Denmark showed a prevalence of shoulder pain and discomfort to be at 61% (Leclerc et al., 2004). Repetitive cutting and other movements can cause cumulative trauma disorders like Carpal Tunnel Syndrome as well as muscle strain (Fitzgerald 2010). Carpal Tunnel Syndrome (CTS) persists as a leading cause of upper extremity musculoskeletal disorders, some of the most significant and costly health problems in working populations (Roquelaure et al. 2008) that account for one third of all days-away-from-work cases (BLS, 2014). Symptoms of Carpal Tunnel Syndrome include numbness, tingling, weakness (WebMD Medical Reference, 2012) and other peripheral, mono-neuropathy related symptoms. Compression of the median nerve as it passes into the wrist through the carpal tunnel causes CTS (Palmer 2011), affects 3-6% of the general population (LeBlanc, Cestia 2011), and often takes days, weeks or years to develop depending on the intensity of the injury-causing activity (Jagga, Lehri, Verma 2011). A study assessing the prevalence of CTS amongst Meat and Fish Processing Plants found 73.9% prevalence with results matching the surveillance case definition set by National Institute for Occupational Safety and Health (Kim et al. 2004; Jagga, Lehri, Verma 2011). Center for Disease Control and Prevention found a 42% prevalence of CTS among poultry slaughterhouse workers thus classifying it a high risk job (Musolin et al. 2013), while another report on a poultry plant found a 48% prevalence of CTS (Cartwright et al. 2012).



Median Nerve Palmar Distribution

Processing thousands of heads a day puts pressure and strain on the workers to keep up with the fast pace of the line (Human Rights Watch 2005). Human Rights Watch Report recorded some of the quotes from slaughterhouse worker interviews as they relay their experience working on the line and the instructions they received: "Speed, Ruth, work for speed! One cut! One cut! One cut for the skin; one cut for the meat. Get those pieces through!" Another worker recalls: "People can't take it, always harder, harder, harder! [*mas duro, mas duro, mas duro!*]." (Human Rights Watch Report 2008).



Slaughterhouse employees Photo Credit: Reuters, Paulo Whitaker

Neurologic illness can also result from working in a slaughterhouse with certain animal parts. A strange illness broke out amongst swine workers in a Minnesota plant in

2008 with all displaying similar patterns of falling ill, missing work, returning, and becoming ill again. This quickly raised concerns. Symptoms of the illness ranged from acute paralysis to symmetric weakness. Having had contact with the pig brain tissue on a daily basis, a hypothesis of the condition stated that because workers were exposed to aerosolized pig neural protein when processing pig brains, this could have induced an autoimmune-mediated peripheral neuropathy later called Progressive Inflammatory Neuropathy (PIN) (Center for Disease Control, 2008). An additional study concluded that such outbreak exemplifies the dangers of work environments of abattoirs to induce respiratory or mucosal exposure thus causing an immune-mediated illness (Holzbauer et al. 2010). Further studies and research revealed that treatment only alleviates symptoms temporarily and although some workers were able to return to their jobs, some are still unable to work (Grady 2008). Another study on employees of pig abattoirs found that a cohort of 510 employees that handled almost exclusively pigs and pork products for about 40 years had a statistically significant occurrence of lung cancer. After adjusting for tobacco smoking in another pilot case, similar results of high lung cancer appeared in poultry slaughtering plants. However, this was not the case in a much larger cohort that processed different livestock instead of one single animal (Johnson et al. 2011).

This field of research is relatively new and is in need of further studies and development. Researchers writing on this topic have expressed this in their concluding statements of their studies reports (United States Government Accountability Office: Report to the ranking Minority Member, Committee on Health, Education, Labor, and Pensions, US. Senate, 2005, Dillard, 2008, Fitzgerald, Kalof, Dietz, 2010) and I couldn't agree more. Different abattoirs need to be studied along with demographic, cultural, and

other important factors. This thesis study will add to existing knowledge of slaughterhouse research, as it is limited.

Research Question and Hypothesis

Drawing from the limited body of research done on slaughterhouse workers, I wanted to compare the mental well-being and job satisfaction of workers of a niche-market based slaughterhouse to employee well-being and job satisfaction of the larger, industrial scale slaughterhouses. Based on the previously conducted research and peer-reviewed papers, I conclude that industrial slaughterhouse employees have very low job satisfaction which shows through the high turnover rate due to the physical demands, high injury risk, low pay, and the nature of the job. Niche-market based slaughterhouses process animals at a slower speed, operate a smaller facility, and may have different managerial practices that may or may not result in similar findings of well-being and job satisfaction. I hypothesize that niche-market based slaughterhouse employees will have similarities of job satisfaction and well-being as industrial scale slaughterhouses as they are still killing large numbers of animals, but to a lesser degree of severity. Niche-market based slaughterhouse employees will have a higher job satisfaction just by virtue of the slower speed of the production line and possible other factors that I hope to find out. The following section will explain the methods of the case study and reasons for this particular approach.

Methods

The study only utilized open-ended interview questions with a quantitative scale question at the end asking the worker to rate his or her level of work satisfaction. The interview questions in no way placed or suggested issues and when needed, follow-up questions for elaboration were asked for clarification. Smaller-scale, niche-market based slaughterhouse employees were interviewed about their general feelings, sentiments, and perceptions of working in such facility. In doing so, I can compare these results to the research into the worker conditions of conventional, larger-scale slaughterhouses discussed earlier in the paper. I obtained the slaughterhouse locations and contact information from <http://www.finalnail.com/colorado.html#slaughter> which is a list of different slaughterhouses in Colorado. It was difficult to obtain permission to interview employees of slaughterhouses and many turned me away or gave me their headquarters contact information, but upon contact, headquarters also denied me access. I did manage to schedule an interview with a small slaughterhouse and I interviewed five line workers and four upper management employees. I informed participants that I have no affiliation of any kind with the facility or that their employment or employment benefits will be affected in any way. I planned to interview employees at the slaughterhouse facility in a one-on-one private setting. However, I did not do this in my research as upon arrival, I was informed that the conference room was occupied and I could interview in a break room. The break room was situated between the front entrance office space and managerial offices down the hall and did not have a door. I agreed to the arrangement, as there seemed to be minimal activity passing through the break room. I obtained verbal

consent from the subjects and only took written notes on my password-protected computer (laptop). I did not record subjects' names or the name of the slaughterhouse facility to maintain the subjects' privacy and confidentiality. I denote the location as "a market-niche slaughterhouse" or "small-scale slaughterhouse." I have divided the human subjects into two categories: Upper Management Human Subjects (UMHS) and Line Worker Human Subjects (LWHS). Upon answering the questions, subjects completed the study and were no longer needed, as there were no follow-up studies. The questions asked are listed below and I will go through each one differentiating between answers from line workers and upper management.

What do you do for your job?	What do you like most about your job?	Do you dream about your job?
How long have you worked here?	What do you like least about your job?	Do you talk about your job outside of your usual work hours and to whom? If yes, what do you usually say about your job?
How often do you work?	What was your best day like at this job?	Do you often think about your job outside of your usual work hours?
How did you find out about this job?	What was your worst day like at this job?	On the scale of 1(one) to 10(ten) can you please rate your level of satisfaction of working for this facility.

Given a chance to implement a change in this facility, what would you change?

By asking general questions of like/dislike and least/most favorite I hope to receive honest, descriptive answers where the employee is given a chance to talk about his job and his true impressions without the interview suggesting the existence of problems or any implying particular answers.

Thesis Research

A total of nineteen slaughterhouse facilities were contacted, eighteen by phone and one by email. Out of the nineteen, two directed me to their headquarters, two claimed they did not meet the requirement qualifications of the study, fourteen were left a voicemail and then received at least two follow up calls. Out of the fourteen, six returned the call, one turned out to be a meatpacking facility, three gave a negative answer, two agreed, but one had to be disqualified for not agreeing to the setup of the study so the facility was removed from consideration. The main supervisor of that facility insisted on being present during the interviews while the study set-up called for individual interviews with line employees without the presence of upper management so to avoid any falsification of answers from fear of potential negative consequences. The second facility agreed to the interviews under the condition of receiving the written report of the study upon its completion, which is one of the requirements under the IRB. Eight slaughterhouse facilities did not return any calls.

The facility that agreed to allow me to perform interviews was a smaller-scale, niche-market-based slaughtering plant processing cattle and bison. Although I specified the website I primarily looked to contact the facilities, I was directed to this facility from one of the contact numbers that was a meat packing plant. Upon contacting the plant, an

agreement was made that I will disclose the findings of my research to the facility in exchange for interviews. Such agreements are permissible under the Institutional Review Board. I interviewed five line-workers and four upper managerial positions. The following section will go into deeper detail of each question asked and the differences and similarities of answers between line workers and upper management.

Interview Questions Analysis

These are the questions employees were asked and the answers they gave. Because I only interviewed nine employees in total, I will report answers for every question in a descriptive manner. The only distinction made is one between line workers and upper management. Although I am comparing industrial slaughterhouses to niche-market based slaughterhouses, the distinction between upper management and line workers is important because it also highlights important differences within the facility and in comparison to the larger industrial scale slaughterhouses as well. First, upper management answers will be presented followed by line worker answers. Similarities and differences will be noted as well as discussed later.

What do you do for your job?

Upper Management Human Subjects:

Technical service director, operations manager, quality control, and office operations.

Line Worker Human Subjects:

Side-puller, assistant supervisor (although the title suggests upper management, employee still works on the floor), the skinner, the trimmer, and the down-puller.

How long have you worked here?*Upper Management Human Subjects:*

The answer for this question for upper management ranged from five months to two years with one UMHS claiming to have worked at the facility for three years despite the facility operating for only two years. This was counted as a mistake and discarded from data.

Line Worker Human Subjects:

The different lengths of time for line workers were two months, ten months, a little over a year for two workers, and a year and a half for the last one.

How often do you work?*Upper Management:*

Two of the UMHSs said they work between ten to eleven hours Monday through Friday. One UMHS said the average hours are between nine and ten hours, while another stated between nine and eleven hours, five days a week. The average hours are 9.5 hours-10.75 hours.

Line Worker Human Subjects:

All LWHSs reported working five days a week; one LWHS reported working a seven-hour week while others reported working 40-hour weeks.

How did you find out about this job?*Upper Management Human Subjects:*

Three out of four UMHS used to work at a different plant, then had this facility recommended by a friend or a family member, and began working at it after applying. Two out of four worked in the industry for over ten years before being employed at this facility.

Line Worker Human Subjects:

One LWHS reported simply walking into the facility looking for a job, two others said they were working in a different plant and were referred by coworkers already employed at the facility while another had a family member working at the facility that recommended the job as well. One LWHS elaborated on the differences between the two facilities and that the one being researched runs slower, takes the time to process meat at a less moderate pace whereas a larger facility does not usually take worker concerns into consideration, operates at a much faster pace, and does not care to communicate with the employees. Another LWHS also expressed positive sentiments about management at this facility treating workers better and taking time to help.

What do you like most about your job?

Upper Management Human Subjects:

The answers to this question from UMHSs shared similarities in a sense that all liked the flexibility, the environment, meeting daily goals and when everything operates well. One UMHS reported liking not having to be at the desk all the time, and being in a team-setting environment with other managers. Another UMHS elaborated about working with bison as a different business from cattle and that aspect being interesting. Another UMHS reported liking everything about the job because of the people that create

the pleasant work environment (although the same job was despised at a prior plant where the subject used to work).

Line Worker Human Subjects:

Two LWHSs said they like getting paid and do not like anything about the job. Another LWHS said he likes when the production line runs without interruption and another LWHS said he doesn't like anything about the job duties, but does like the people he has to work with. The last LWHS did not mention anything about the job duties themselves, but did report liking the environment, the people, and the overall treatment of the employees. The subject also likes that the management takes time to explain anything that does not make sense (whereas a larger plant would not take the time to do that).

What do you like least about your job?

Upper Management Human Subjects:

Two UMHSs expressed dislike for having to deal with the government regulations, certain government representatives, as well as a few picky vets. One UMHS reported not liking having to walk a lot while another UMHS said there is nothing to dislike, as hectic and stressful days go by faster.

Line Worker Human Subjects:

One LWHS expressed dislike for having to wake up early in the morning for work and having to wear a chain down on the floor (the chain is a safety measure, but does restrict movement). Another LWHS reported no dislikes and another said that the only

downside of the job is it has a tendency to become boring. Two LWHS said they do not like the smell, the blood, and the heat, especially in the summer.

What does a good day at this job look like?

Upper Management Human Subjects:

All four UMHSs stressed the importance of daily operations running smoothly with one subject also labeling Fridays as the best days as that is when checks are run and employee attendance is at its highest. Two UMHS clarified the expression ‘daily operations run smoothly’ as time when quality control tests do not show any *ecoli* contamination, all employees comes in to work, the carcasses received arrive clean, and the line is not interrupted for any reason.

Line Worker Human Subjects:

One LWHS said a good day at the job is when top management does not complain about the processed animals and when all operations are running smoothly. Another only reported liking Fridays the most as he gets to rest. Another LWHS said he likes days when the facility processes more cows than bison as cows are easier to process. The fourth LWHS said he likes when the chain operates without interruptions and when it does not break (If it does, employees have to wait for it to be fixed and then finish the job). If that happens, the subject then gets to leave work early. The last LWHS said that he likes when employees work as a team, jobs are done right, and everyone tries to put in their best effort.

What does a bad day at this job look like?

Upper Management Human Subjects:

Two UMHS said shortage of people on the floor could make a day very difficult. Because Fridays are paydays, most people choose not to come in to work on Mondays. Another UMHS reported that when a shortage of people occurs, employees have to be moved around and placed on the jobs they may not be familiar with, which complicates the day even further. Another UMHS said dirty carcasses coming in increase the effort that employees on the floor need to put in to finish the quota for the day. Lastly, the fourth UMHS said a bad day is also when there are not enough cattle to process for a workday, which shortens the hours and the paycheck.

Line Worker Human Subjects:

One LWHS described a bad day being when a lot of people are missing and supervisors and managers are not happy and not in a good mood. This LWHS also used expressive language to describe this in more detail as well as expressed dislike for always being kept on one spot. Another LWHS reported every day being more or less the same so there really isn't any difference between good or bad days. Another reported disliking having to process a lot of male bulls, as the skin is tighter and harder to remove. The fourth LWHS expressed similar sentiments that the more bison the worker has to process the more stress as there is a certain time frame that employees have to follow. The subject also said the less cows the facility has to process the faster the day goes whereas the more bison the longer the workday. The last LWHS had a similar opinion labeling the worst day as the day when the buffalos have to be processed, especially when they

arrive dirty and the recently hired employees that still need training are put on the line, which oftentimes means longer workdays.

Do you have dreams about your job?

Upper Management Human Subjects:

Two UMHSs said they had dreams about their job when they first started, with one implying they were nightmares. One said the dreams lasted less than a week while the other said they lasted first couple of weeks. Both said they have since stopped having dreams and they do not bother them anymore. One UMHS reported no experience of any dreams and the other one seemed to misunderstand the question and the answer was excluded from the data.

Line Worker Human Subjects:

One LWHS corrected me and said the dreams were nightmares and that they lasted first couple of weeks and were solely about the job. The subject also reported that he does not suffer from them anymore. Another employee also reported experiencing dreams about the job at first, but no longer having them as well (however, the subject did not correct me). The third LWHS said he still experiences dreams about the job two or three times (time frame not specified), but not very often. The fourth LWHS replied in a sarcastic manner: “yeah can you believe that?!” The subject also said he doesn’t want to be there as is, but then upon going home, experiences dreams about the job either way. He reports having dreams about once a month now instead of a higher frequency (not specified). The last LWHS reported having dreams in the beginning and about the chain going around and never stopping. This lasted for about a month and then stopped.

Do you talk about your job outside of your usual work hours and to whom?

Upper Management Human Subjects:

Two of the UMHS said they talk about their job outside of their usual work hours to their friends and family while two of the UMHS said they do not. Instead, they try to separate the outside life from work and try not to take any kind of work-related subjects to their home.

Line Worker Human Subjects:

One LWHHS reported trying not to talk about his job and also used expressive language in answering this question. The second LWHHS reported sometimes talking to his friends from his job about the good and the bad. Two LWHHSs reported talking to their family members about their job and their day. Another LWHHS reported talking to his friends working at another plant and his family about his job.

If yes (addressing the previous question), how do you usually talk about your job?

Upper Management Human Subjects:

One of the two UMHS that answered yes to the previous question said that he usually brags about the job to his friends and family while the other UMHS said that the talk is usually pretty positive and is centered more around the issues of the day and their possible solutions.

Line Worker Human Subjects:

Three LWHSs reported talking about both, negative and positive aspects while another reported comparing the present job to the job the subject used to hold at a prior plant and pointing out the positive aspects of the new job.

Do you often think about your job outside of your work hours?

Upper Management Human Subjects:

One UMHS reported thinking about the job outside of the work hours, as sometimes that is necessary to prepare for the work ahead of time, or to make sure that the job for the day past was done correctly. Another UMHS reported thinking about the job sometimes when there is a hard day ahead while another said that he tries not to think about it at all. The last UMHS said that he tries not to think about the job, but at times has to do it for preparation for the workload ahead.

Line Worker Human Subjects:

Two LWHS said they try to not think about the job at all while another LWHS reported thinking about his job everyday outside of the work hours. The third HWHS reported trying not to think about the job unless it was a particularly bad day at which point he will think about it and then talk about it to his family. The last LWHS also reported trying not to think about the job unless he messed up at the job. The subject also reported thinking about his job on Sunday evenings and experiencing feelings of dread.

One the scale of 1(one) to 10 (ten) can you please rate your level of satisfaction of working for this facility?

Upper Management Human Subjects:

All four UMHS rated their satisfaction at ten with one giving it a ten plus.

Line Worker Human Subjects:

Here are the job satisfaction ratings from line worker human subjects: 4,5,9,9,10 with an average of 7.4.

Given a chance to implement a change in this facility, what would you change?

Upper Management Human Subjects:

Two of the UMHS said there is nothing they wanted to change within the operations of the facility. Another UMHS said he would like to have the facility closer to his house, while another reported wanting more vacation time as the employees only get one week instead of two.

Line Worker Human Subjects:

One LWHS said he would like the work schedule to begin earlier so he could leave earlier. The second LWHS said he doesn't know what he would change. The third LWHS said he would have the facility process only cows, the fourth LWHS said he would increase air conditioning, especially in the summer, to alleviate the smell on the floor, and the fifth LWHS reported that he would change things to how they used to be before. After further imploration he clarified that he would like more vacation time as it was decreased from two weeks to one, and the subject also expressed that it would be better if some changes (that happened in the past, but did not specify what changes) did not happen at all.

Where do you see yourself working in the future?

Upper Management Human Subjects:

The first UMHS reported wanting to move up into a higher managerial position and being in charge of the plant. Two UMHS reported wanting to stay in the same department, while another reported wanting to be in a better position, but did not specify which.

Line Worker Human Subjects:

The first LWHS was unsure about the future but said hopefully he does not remain working in that facility. The second LWHS reported wanting to stay and move up from a line-worker position into a managerial position. The third LWHS also expressed feelings of uncertainty, but did want to leave eventually and work in a different kind of business. The fourth LWHS was unsure, but also wanted to leave, and the fifth was unsure, but did not specify wanting to leave or stay.

The following section presents the theory of alienation, effects of alienation on niche-market based slaughterhouses, the trends within, and comparisons between the industrial slaughterhouses and niche-market based slaughterhouses.

Discussion

Discussion of Alienation

In his Economic and Philosophic Manuscripts of 1844, one of the most famous philosophers, Karl Marx described alienation under Capitalist conditions as “Estranged Labour” distinguishing between four different aspects: alienation from the product of one’s labor, alienation from the labor process or one’s activity of laboring, alienation from one’s “species being,” and alienation from other human beings as a result of one’s work life demand (Arneson 2006). Alienation from the product of one’s labor means that

the worker does not own the product he produces. The means of production do not concern the worker and he is merely interested in receiving compensation for his work in the form of money (Gasper, 2009). A good example of alienation from the product of one's labor can be seen in slaughterhouse worker interviews in *Slaughterhouse: the Shocking Story of Greed, Neglect, and Inhumane Treatment Inside the U.S. meat Industry* by Gail A. Eisnitz where one employee states:

One thing I learned after my accident, is that nobody's irreplaceable. The minute I left they just hired somebody else. And the minute he gets hurt bad they'll put somebody else down there. And the chain will just keep going. Because people need a job, and they're willing to do anything they can to keep their job. I proved it by sticking live animals. I did it, I just wanted that job, that weekly paycheck (p. 51, 2009).

Alienation from the labor process or one's activity of laboring signifies being separated from your own creativity by having to fulfill the duties decided by someone of a higher rank. This does not allow the worker to express his own goals or aspirations and the worker has no control over the set activity (Coser 1977).

In another interview with Gail Eisnitz a worker recalls trying to improve the production line by asking the upper management to turn up the voltage on the stun gun so to actually knock the hogs out:

I went to the foremen about it, I went to the main foreman. We kept telling them we were slaughtering conscious hogs. We asked them to set the stunner voltage

high enough to knock the hogs out. We said we could try this, try that. The main foreman would agree to take care of the problem then just walk away. Five minutes later, when we knew he was in another area, we'd run upstairs to the control room and turn up the voltage. What does management do? Puts a lock on the control-room door (p. 55, 2009).

Alienation from one's "species being" implies being alienated from what makes humans human, being separated from the human nature. By human nature Marx implies our ability to freely engage in activities that stimulate our creativity and help us develop. Alienation through labor reduces humans to the level of animals by suppressing the human nature to express itself freely and consciously (Gasper 2009). Finally, in the fourth aspect of alienation from other human beings as a result of one's work life demand Marx argues that through the alienating nature of the job, humans are also alienated from each other. The characteristics of the job performed are reflective of the relationships people hold with one another (Coser 1977). Here are few examples from Gail Eisnitz's book where employees recall product being valued more than humans:

I paid for every minute of it, too. Alcoholism, arthritis. Got hung up in the hoist shackling live hogs, trying to keep the product moving. That's their big concern. When it comes to people, they don't give a shit (p. 65, 2009).

Today, management doesn't care how the hog gets up on that line. Management doesn't care whether the hog is stunned or conscious, or whether the sticker is injured in the process. All Morrell (the plant) cares about is getting those hogs killed (p.52, 2009).

The three previously mentioned cases of alienation combine to cause the fourth one. Alienation of product, alienation of labor, and alienation of the conscious drives of human nature cause alienation of human interaction with each other (Coser 1977). This thesis will look at the first, second and fourth aspects of “Estranged Labour” which are alienation of product, alienation of labor process, and alienation from other humans. Next section of this thesis will cover a brief history of the emergence of the slaughterhouses and then report the findings of the primary research.

Effects of the alienating nature of food production on niche market-based, smaller-scale slaughterhouse workers

This case study of nine employees is not representative of the perceptions and well being of the entire niche-market based slaughterhouse sector, as it does not contain a population sample large enough to do so. However, this analysis is still important as it helps to begin the micro-level evaluation of some employee perceptions and well-being. The following section will evaluate the prevailing trends noted from the employee interviews.

Trends

There appears to be a higher employee turnover amongst line workers than upper management. Out of five line workers, two have worked at the facility longer than one year while others have worked there few months. Upper management on the other hand, has worked there for as long as the facility has been operating with the exception of one employee. The facility was contacted to determine an actual turnover rate amongst employees, but no answer was given. However, the employee turnover rate does not appear to be as high as the turnover rate of large scale industrial slaughterhouses.

Eight out of nine employees interviewed speak Spanish as their first language, which is reflective of the broader, slaughterhouse employment of different races and ethnicities. I had to interview one employee in Spanish which also presented a challenge as the employee seemed uncomfortable and provided very short answers.

Line workers expressed more dissatisfaction with their jobs than upper management with two using expressive language.

Eight out of nine employees experienced dreams during an extended period of time with one subject implying the dreams were nightmares and another subject openly correcting the question and specifying the dreams were nightmares.

Eight out of nine employees were referred to the job by friends or family and eight out of nine also worked at a different plant prior to starting work at a present facility. Although there is a high turnover rate present in the industry, the workers appear to be staying within the industry, but changing job placements between different companies.

Most line workers reported liking the environment and the people they have to work with, but disliking the actual duties their jobs entail. The workers also reported liking the slower speed of the production line as that reduces the physical strain they've come to experience working in a larger facility. These two trends highlight the main differences between the large-scale slaughter industry and niche-market based industry and this may be due to a difference of managerial practices.

All upper management reported liking their job and as opposed to most line workers, seemed to express more association with the company and further aspirations to remain and advance within the industry. The following section looks at the differences of

alienation between the primary research of the niche-market based slaughterhouse versus the industrial slaughterhouses previously investigated.

Niche-Market vs. Industrial Alienation

Based on secondary research, some of the more common complaints from industrial scale slaughterhouse employees were the speed of the production line and poor managerial practices (Schlosser, 2002, Dillard, 2008, Eisnitz, 2009, Human Rights Watch). These are examples of alienation of labor process and alienation from other humans. Workers are not allowed to perform the duty themselves, but rather have to follow the instructions set by higher authority. Workers do not like the fast pace of the disassembly line, but can do very little to actually alter that speed. Although the speed of the niche-market slaughterhouse is at least ten times slower, I've noticed other facets of labor alienation as well. A line employee did not like having to wear a chain down on the floor and others did not like having to process bison with one employee even saying that if it were up to him, the facility would only process cattle. Alienation from other humans is very prevalent in industrial slaughterhouses. Jennifer Dillard, Eric Schlosser, Amy Fitzgerald, and others talk about employees being replaceable cogs in the wheel of the production. Management cares more about the profit and the product than about employees and their safety. Upper management is therefore alienated from line workers and Alienation of product, alienation of labor process, and alienation from other humans and the characteristics of the job performed are reflective of the work relationships. Fortunately, the niche-market slaughterhouse did not seem to exhibit the same facet of alienation. Most employees reported upper management being attentive, patient, and caring. Both upper management and line workers said the smaller facility, fewer

employees, and good, caring people created a family-like environment that made job duties more bearable. The final facet of alienation that I wanted to talk about is alienation of product. Alienation of product is evident in industrial slaughterhouses as many employees report only working there for money and not for any other reason. Compensation is attractive to immigrant workers as they can send whatever they earn back to their home country to help out the family living there (Schlosser, 2002). With niche-market slaughterhouse, I too, noted presence of alienation of the product more amongst line workers than upper management. Several line workers reported liking getting paid and not missing Fridays, as they were paydays. All upper management reported viewing their job as a career and cared about the job even after leaving the facility premises. Overall, the niche-market slaughterhouse exhibited less “Estranged Labour” than the industrial slaughterhouses from secondary research, but this is not representative of the entire facility or other niche-market slaughterhouses, as I have only interviewed nine employees total and this sample size does not warrant representation of the niche-market slaughterhouse industry. The following section will look at the limitations of the case study researched.

Limitations of Research

One of the limitations of the research is the sample size. The sample size of this study was not large enough to be representative of the general population of niche-market based slaughterhouses. Nineteen facilities were contacted and only one agreed to the interviews. It was very difficult to schedule the interviews as many facilities denied access, directed contact to their headquarters, and the headquarters also gave a negative

answer. Another limitation of this study was interviews not being conducted in a private room. Although originally planned, the facility was not able to provide a private room for interviews, which could have affected answers of some employees. The interviews took place in a break room that did not have doors and was located between the front office and managerial offices. Often times other employees walked past and into the break room during the interviews. This could have had an effect on some of the employees' answers. Lack of more constructive questions and difficulty of communication was also a limiting factor. As an undergraduate just beginning to conduct primary research, I felt like the questions asked were not elaborate enough and did not cover the full spectrum of the psychological evaluation (and did not touch on physiological aspects at all). The nature of the senior thesis itself is a limitation of sorts due to the time constriction of the project.

Recommendations

Having interviewed only a small number of employees, more research is needed in this field to further investigate the numerous effects of slaughterhouses on workers and communities. This is an emerging field of study for environmentalists, psychologists, and sociologists. Jennifer Dillard, Amy Fitzgerald, Gail Eisnitz amongst others all advocate for more research exploring different facets and angles of slaughterhouse workers and the varying effects. It is hard to conduct research when access to certain places like slaughterhouses, is restricted, even though the methodology may be fairly structured and recognized within the scientific community. I contacted 19 facilities and only one was willing to comply with my simple requests. Although other researchers

may have better statistical outcomes when contacting the facilities, based on personal experience and on how much research on slaughterhouse effects actually exists, I wouldn't predict significantly better outcomes.

Although a high turnover rate of the slaughter industry may negate the psychological effects for some workers, more research that distinguishes between long-term and short-term slaughterhouse employees is needed. Also, as previously mentioned, some slaughterhouse workers may leave one facility only to begin employment in another, which is another field of investigation that should not be overlooked.

For short-term, immediate action I would recommend implementing policy regulations in setting guidelines concerning the speed of the production line to minimize injury rates and increase worker well-being. As the speed of the line is directly tied to profit, slowing down would inevitably affect output, but worker safety should be of primary concern. The determined safe speed should be set and enforced for all major industrial slaughterhouses. Although niche-market slaughterhouses process less livestock, they too, should be further investigated to determine the safety of the speed of the production line in determination of the necessity of regulation.

For industrial scale slaughterhouses I would also recommend developing better managerial practices to create a more positive environment for the workers. Because the job is both physically and mentally demanding, effective communication is very important in raising employee satisfaction and well-being. This suggestion is based on the answers received from the employees of the niche-market slaughterhouse interviews reporting dislike of the job, but appreciating the friendly atmosphere and attention of upper management. Overall, this field is very poorly researched and requires more

attention of scientists, psychologists and sociologists to assess the full extent of the effects of slaughterhouses.

Based on the primary and the secondary research presented in the first half of this thesis, my long-term, practical solution recommendation would be to decrease the overall meat consumption in United States as the current levels are unsustainable, environmentally damaging, and encourage slaughterhouses to increase the speed of the production line which increases injury rates amongst slaughterhouse workers. Educating the consumer, raising awareness thus dealing with the alienating nature of our food production may also drive the demand for animal products down thus decreasing the number of animals processed as well as the speed of the production line and the injury rates. Overall, more research around alienation of food production and slaughterhouses is needed in order to make critical assessments, determine and quantify varying effects and derive more specific, immediate, and long-term recommendations.

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