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### Nefariously Selling Muscle by the Supplement Industry

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Nefariously Selling Muscle by the Supplement Industry

Nick Prechel

Senior Honors Project

Submitted in partial fulfillment of the graduation requirements of the Westover Honors College

Westover Honors College

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***Introduction:***

The fitness industry has greatly benefited a myriad of people. It has helped patrons get access to equipment, personal trainers, and connect with a vibrant community, which has improved people's lives both physically and socially. Thus, it is evident that a healthy balance of weight training and nutritious eating is beneficial for people's lives. However, too much of anything can become a bad thing and the fitness industry is no exception. When people go to extreme measures to achieve the body composition of those who are on the cover of magazines and endorse various health companies, major issues can ensue. The supplement industry has shown a conscientious pattern of taking advantage of people's predispositions to want to achieve the body types of these fitness models through predatory marketing techniques. The results have been a decreased life quality for people as well as physical ailments from adulterated products. The Food and Drug Administration, or FDA, has stood idly by for years while the supplement industry has taken advantage of America's financial and physical health. The continued negative behavior by the supplement industry has led to the creation of this thesis which will propose three main policy recommendations in order to tighten the authority of the FDA, better inform people of the potential dangers of idolizing those with ideal body physiques, and to ensure what people are putting into their bodies will help them achieve their dreams safely. Overall, this thesis will examine how the supplement industry nefariously capitalizes on the prioritization that is placed on the social construct of the ideal male physique by "selling muscle".

***Origin of the Patent Medicine Industry:***

The idea of selling muscle might seem like a relatively new enterprise that is experiencing exponential growth due to the rise in social media exposure in contemporary culture. However, the idea of lifting weights to alter physical appearance by increasing lean

muscle mass has been around for many years. Furthermore, the notion of ingesting additional non-food additives goes far beyond the 20th century in America, and actually dates back to the 18th century during the American Revolution with the patent medicine industry (“History of Patent medicine”, 2017). Patent medicine is a term used to describe unorthodox and often untruthfully marketed health products sold to the American public. These medicines often had overzealous marketing efforts which promised a myriad of positive benefits but produced none of these effects. The term “patent medicine” originated in England, when the king approved a product and used it exclusively he would give his seal of approval to the preferred craftsman who made that product (“History of Patent medicine”, 2017). The craftsman would put a seal or patent on their products to show that they were preferred by the king, similar to how logos can be used as an indicator of quality today. Bottles oftentimes held the king’s preferred craftsman’s product in a variety of markets. Once the branded merchandise was used up in England, the bottles bearing the patent seal of the king were reused and filled with a dangerous mix of chemicals that were sold in America. These bottles from England which were full of illegitimate medicine would give rise to a multimillion-dollar industry and came to be known as patent medicines.

The popularity of patent medicines concoctions was a result of the unethical and unregulated marketing of these products. Extensive marketing efforts by the industry would paint these harmful products as simply the American version of more legitimate British medicines (Denham, 2020). However, a stark difference between the actual British medicines and the American patent medicines, besides the contents, was the price point. The patent medicine companies could afford to make their product much cheaper than their medically sound

counterparts. The lower price point of patent medicines compared to other forms of scientifically proven medicines was a huge proponent of their popularity. During the 1800's, there was not a sizable portion of the United States that would have been considered "middle class" in terms of socio-economic wealth and people could not borrow money on credit cards like they can today. Thus, a large portion of the population would have been without much disposable income, and due to financial hardships lower class Americans would be more inclined to the nefarious advertising promises of the patent medicine industry.

The lower price point of American patent medicines were due to their ingredient make up. Most patent medicines were liquid products being mainly composed of water and were often laced with substances such as alcohol, methamphetamines, and cocaine (Denham, 2020). These forms of "medication" were far cheaper to obtain than actual medical ingredients, which allowed the price to be much lower than more traditional drugs at the time. Another reason that the patent medicine industry was so popular during the 1800's was that the "medicine" was often self-administered and could be ordered through the mail. The convenience and self-administration aspects of the industry would have been particularly useful for those in rural areas of the country, as it saved them a trip into town to see a doctor. Also, the overzealous promises made by the patent medicine industry contributed to their popularity. These bottled concoctions promised to cure everything from headaches to stomach issues and were considered a miracle cure-all for every illness someone could have. The obviously fake promises would have been tempting to 18th and 19th century patrons who did not know any better. Another less apparent attraction people would have had to patent medicines was due to the unregulated drugs that were in the medicines. Drugs such as alcohol, cocaine, and methamphetamines often made up the proprietary "secret formula" of patent medicines. People who had physical ailments that

could not be cured by pre-twentieth century medicine would find their physical pain numbed by the patent medicines as advertised; however, it was due to the fact that they were high from drug use and not from actual medical intervention. The factors of price, availability, convenience, promises, and alterations to the human body combined to create a real demand for the industry's products.

Patent medicines were such a popular product in the 1800's that they created large economic gains for a myriad of companies. By the second half of the 1800's, the popularity of patent medicines had grown to create a \$59 million per year industry (Denham, 2020). The industry also supported other businesses and aspects of the economy. For example, in the 1800's, patent medicine advertisements made up one-third of newspaper profits and by the year 1900 they were half of all newspaper profits (Denham, 2020). The constant marketing efforts of showcasing patent medicine brands in books, magazines, and taxis coupled with targeting people of a lower socioeconomic status and in physical pain led to the sizable demand for patent medicines. Consequently, the increased demand led to the large economic growth of the industry. While the patent medicine industry would eventually fade away due to increased regulatory demands of the marketing industry and the passing of the Pure Food and Drug Act of 1906, the reincarnation of the industry would come less than thirty years later with the inception of the modern weight training industry including the coinciding supplements and the cultural obsession with the ideal male physique.

### ***Defining the Ideal Male Physique:***

It is important to stipulate what the ideal male body composition and physique is before continuing. The current ideal male body composition has remained the same with some variation from the 1970's and 1980's, simply put males should have large muscle groups with a low body

fat percentage (Karlinsky, A. et al., 2021). The ideal male physique is difficult to obtain and requires a combination of strict dieting coupled with an intense weight training regimen. It is also important to note that the ideal male physique is a social construct, since it varies across time and culture. The western ideal male body composition is determined by mass media as well as the fashion industry (Zanon, 2018). An ideal physique is a fluid concept since it changes about every 10 years slightly, but fashion companies and influencers make these current trends seem permanent to increase the chance that people will choose to take supplements to augment their bodies for the ideal of the decade. However, despite all of the time, effort, and resources that go into obtaining the ideal male body composition it is still highly sought after. The reason people subject themselves to years of training simply to achieve this body type could be fueled by human social psychology.

### ***Psychological Predispositions to Accepting Marketing Messages:***

As previously stated, the demand for pharmaceutical supplements to alter one's physical being has had sustained success for over 200 years. Despite all of the obvious and reported issues associated with the industry, people continue to demand these supplemental products. However, such sustained success poses the question of why people are continuing to demand and ingest drugs that are known to be misleading and potentially harmful? One possible explanation for this could be psychological as well as social pressures people feel to conform their bodies to what society deems as preferable. One of the primary physiological functions that allowed for the rise of the supplement industry is relational orientation, which is a subcategory of value orientations that all people experience and was first theorized in the 1960's (Kluckhohn, & Strodtbeck, 1961). It stated that people within a society are linked to one another, and the concept was found to be a universal finding inside all societies. There is a dominant force, for the particular society an

individual belongs to, that pushes and influences people's behavior in certain patterns. Thus, the consensus of society will have a dominant and sizable impact on the behaviors of its individuals, such as consumption patterns. The main goals and desires society thrusts upon itself could make individuals feel highly inclined to make purchases and engage in risky behavior such as consuming unsafe muscle gaining supplements in order to appease this dominant value orientation within society.

Another potential social psychological reason that people are drawn to the socially determined ideal body physique is referred to as self-discrepancy theory. Self-discrepancy theory suggests that people have three different self-perceptions: their actual, ideal, and ought selves (Higgins, E. T., 1987). The actual self is how a person realistically views themselves; while their ideal self refers to how someone wishes they were or desire to be like. Their ought self is who people feel they need to be, based on the pressures of others around them. Due to society's determination that males with excess muscle mass and a low body fat percentage are desirable, the vast majority of people's ideal and ought selves coincide with that social construct. However, the problems with having such an unrealistic ideal body type for men occur because social discrepancy theory states that the larger the gap between someone's actual self and their ideal/ought self leads to increasing negative thoughts and self-concepts (Higgins, E. T., 1987). More specifically, the greater the difference between actual and ideal self the more likely the person is to have feelings of dejection and related emotions such as disappointment, dissatisfaction, and sadness. While a discrepancy between actual and ought self leads to more agitated feelings such as fear, restlessness, and tension. It is clear that if supplement companies can increase the discrepancies between young male's ideal/ought selves and actual self individuals will experience more negative emotions, thus increasing sales for the industry.



The marketing practices that capitalized on making people feel negatively about their self-image plays a key role in the popularity of the current muscle-gaining supplement industry. Research determined that viewing those with more socially acceptable and desirable physiques (muscular men) often creates negative feelings and body dissatisfaction for the males viewing them (Higgins, E. T., 1987). Further research was conducted and men reported lower body envy scores when viewing models with average body makeups. It can be concluded that images of the average male body composition do not pose a threat to most men. The data indicates that a lot of the negative emotions about body dissatisfaction stem from the ideal male body types pushed by society, which is why marketers will always use models with idealized physiques in the advertisement of supplements to ensure the dissatisfaction men feel compared to the social ideal. The dissatisfaction men feel helps increase the likelihood of purchasing supplements as the consequence behavior. Thus, it is evident why the psychological aspect of social comparison to the ideal male body is used by supplement companies because they want to take advantage of the ideal/ought self and actual self-gap males are experiencing to increase demand and sales within the supplement industry.

### ***Three Era's of Idealized Male Bodies: 1930's/1940's, 1970's/1980's, and 2010's/2020's:***

The concept of the ideal male physique is a cash cow of the supplement industry. It is the driving force of the psychological push for males to try and improve their physical physique in order to match the ideal male body composition. However, there is still one question that has to be answered and that is who determines what the ideal male physique is and how has it infiltrated society to such a large extent? Mass media and more recently the rise of social media can be credited as a primary avenue of enforcing the ideal male physique. Looking at three main eras in the history of bodybuilding and mass media consumption will shed some light on how the

classic Greek God body composition has remained the ideal in western society.

The first era that will be analyzed is the 1930's and 1940's, which is considered the inception of modern bodybuilding. Bernarr McFadden's marketing efforts were the first to link physical fitness with fame as well as sexual appeal (Denham, 2020). The idea of linking large muscles to positive and sought-after attributes in society, which was pioneered by McFadden, set the precedent of advertising in the supplements market for years to come. His work continued until 1940 when the industry was taken over by John Weider and other icons of the sport such as Charles Atlas. Thus, starting almost 90 years ago, the idea of having an ideal body with lots of lean muscle was marketed as a positive and desirable aspect in society. The marketing practices by these pioneers in bodybuilding transformed weightlifting from a circus sideshow act to a major tool for men to obtain physical and social desirability for men. Supplements sold in the 1940's were endorsed by the earliest bodybuilders. Bodybuilders would often appear endorsing a certain supplement on magazine covers. Mass media was used to communicate lies and deceptive marketing tactics about the benefits of using supplements. An example of this nefarious practice occurred when Weider advertised that his supplements and programs would add 14 pounds in 14 days. The obviously untruthful claim would eventually come under fire and force Weider to pay \$400,000 for product redemptions in order to avoid a legal dispute. Despite the settlement, the damage of this marketing message was already done since young boys would have already internalized and believed the message. Advertisements such as the "14 pounds in 14 days" campaign, which blatantly lied about the results that are naturally possible helped set the precedent for future advertisers.

Charles Atlas would take the idea of what supplements and gaining muscle could do for someone to another level by becoming a popular culture icon in the 1940's simply because of his

impressive physical stature. He appeared with the famous New York Rockettes in a tug of war match, on television and magazine covers, as well as met with presidents (“Charles Atlas Muscle Man”, 2009). Atlas created the original 97-pound weakling stereotype, which suggested that being a skinnier person was an undesirable aesthetic by society in general, and especially to women. He also attributed his celebrity lifestyle to his muscular physique by pushing the concept that being physically smaller, weaker, and not having excess muscle makes someone socially undesirable. Atlas was also guilty of capitalizing on the image he created since young men were so afraid of becoming the 97-pound weakling that they would buy products that promised to make “a new man” out of them in only seven days. The idea that physical size could give you confidence was a powerful message and was a key component to Atlas’s financial success.

Looking into the future approximately 40 years, the 1970’s and 1980’s were an era that continued to push the ideal male physique through two mass media avenues: action figures and action hero movies. Action figures were adored by millions of young boys for hours on end in the latter part of the 20th century. However, there were startling alterations made to the male bodies of these action figures that pushed the idealized male body image onto young males. The biceps and chest size of action figures on average grew dramatically from the 1970’s to 1990’s in male action figures (Pope, 1999). In addition, there has also been a general trend towards increasing the vascularity and muscle definition of male action figures. The research on male action figures shows the increase in attention to detail on the male anatomy that toy producers were focused on, which consequently young males paid attention to. Young boys internalized these physical dimensions and see that this is the ideal body shape they should obtain. These alterations to male action figures highlight the increased social importance placed on the body composition of men. The research also indicated that if these toys were made human sized, their

biceps would be bigger than any bodybuilder's biceps in history. The measurement and dimensions of these male action figures portray the ridiculously unrealistic body expectations that the action figures push onto young boys. Toys were being created with characteristics of top professional body builders such as muscles on ribs and increased definition of abdominal muscles. The addition of these new figure's physical characteristics which are not naturally occurring and take years of weight training to achieve, are being given to children so they are socialized to believe that is normal. It again enforces the ideal male body image at a young age through increased exposure to the ideal body type by playing with action figures.

The television media platform highlights and perpetuates the ideal male physique with famous 1970's and 1980's series such as *The Hulk*, *The Terminator*, and *Rocky*. Actors Sylvester Stallone, two-time Mr. Universe winner Lou Ferrigno, and seven-time Mr. Olympia champion Arnold Schwarzenegger had the main protagonist roles in these shows and films. Their starring roles, in which they are often shirtless or in revealing clothes, in the *Rocky*, *Hulk*, and *Terminator* series propelled the ideal male body into the general public's sight (Tomasulo, 1995). Two of these men were actual former professional bodybuilders being commissioned to play action hero roles on television. They had dedicated years of their lives to weight training and had won many accolades for their physiques before making the career switch to acting. Hollywood's decision to cast former bodybuilders for hero roles versus professional actors illustrates that these men were not selected solely based on their acting ability but actively chosen based on impressive physical stature to represent the ideal male in mass media. These movies and television series were wildly popular, with millions of fans seeing them and internalizing the ideal male physique by watching television in the 1970's and 1980's.

The third era that will be analyzed is the twenty-first century and the rise in popularity of

social media. With the dramatic advances in technology, specifically with cellular phones and social media also known as social networking sites (SNS), people are now chronically, constantly, and perpetually bombarded with images of ideal male bodies. SNS creates a platform that fosters an environment that increases availability and proficiency of body comparisons (Flynn, 2020). Users are now able to constantly and almost endlessly see idealized images of perfect male bodies right in front of them everyday; the constant exposure to the idealized form of the male body reinforces the importance of body shape in people's minds. SNS also provides simple editing tools to encourage people to edit their photos to make themselves seem even more perfect than they actually are. Social media sites are also dangerous considering the human body changes in shape and weight retention over the day. The infrequent and often edited picture sharing nature of these sites promotes the idea that the altered and specifically chosen picture is what people look like all the time. As a consequence of this nature of SNS, people are more inclined to feel negatively about themselves through comparison. Plus, the whole culture of social media promotes the idea that the images people post are what they look like every day since that is the only way others see them on social media, when in actuality people only post the best possible photos of themselves. Thus, social media is perpetuating and glorifying unrealistic body images by having these editing and selective posting features on their platforms which elevate peoples idealized images of the male body even higher. The higher ceiling of what an idealized male body looks like, leads to a larger gap between people's ideal and actual self. As stated before, the larger the gap between someone's ideal/ought self and their actual self results in increased sadness and other detrimental feelings for the individual.

Built-in enforcements within social media sites often feed into people's desires for instant gratification such as "likes" and number of followers. The amount of these instant gratification

metrics can influence body satisfaction and increase the desire to conform to unrealistic norms since those with idealized physiques are receiving a large number of likes and follows. For example, look at some of Instagram's most famous bodybuilders and men with ideal bodies. Recent two-time reigning Mr. Olympia champion Chris Bumstead has 2.7 million followers and several posts with 300 thousand likes (Bumstead, n.d.). Four-time Mr. Olympia champion Jay Cutler has 3.5 million followers with the majority of his posts receiving over 100 thousand likes, despite not having won the title in over ten years (Cutler, n.d.). Fitness and Instagram guru Ulisses Williams Jr. has an impressive 8.3 million followers and posts that consistently receive above 50 thousand likes (Williams, n.d.). The vast amount of likes and followers these men have associated with their accounts shows the social media community that a great deal of people place importance and value on idealized male bodies. However, social media creating a platform for society to tangibly show their likes and desire for ideal male physiques creates repeated exposure to these bodies which has been shown to lead to sadness in males (Flynn, 2020). SNS allows for average males to be constantly reminded of their shortcomings compared to idealized males, which pushes average built males to engage in behaviors that shorten the gap between their actual and ideal/ought self, most easily by buying supplements. It is also important to mention that social media is not solely responsible for the promotion of idealized male bodies; social media is simply a tool used by people. Thus, SNS are nothing more than an avenue for society to express their desires on a tangible platform, which means social media is simply a mirror reflecting the true desires of society and not the other way around.

Diving deeper into the specific yet influential social media site Instagram, allows a great deal of the negative effects of social media to be seen. The Instagram centered article showed that the more time people spent on social media apps had a correlation with people having a

higher regard and internalization of ideal body images (Ashraf et al., 2017). Meaning that the more time people spend looking at idealized male physiques, the more importance they place on physical beauty. People are also more likely to internalize these Instagram model body types and determine them to be ideal. It can be deduced that the more often people see idealized images on social media and in the movies, the more the ideal body standard becomes internalized by individuals; setting the standard for one's ideal self even higher which again increases the gap between the ideal and actual self. The article also noted that the more people pay attention to and focus on physical attributes, the more importance they place on physical appearance in general. Indicating that the increased consumption of the idealized body image leads to a hyper focus and importance placed on the human physique, which creates an increased discrepancy between the actual and ideal/ought self. Instagram has also been shown to have a higher influence on someone's idea of self among those with lower self-esteem. Social media and supplement marketers take advantage of the purchasing power of those with lower self-esteem by making them feel even worse about not having the idealized physique, which pushes them to purchase supplements. Overall, it is evident that Instagram and other social networking sites help promote a culture that fixates on the ideal male body resulting in higher consumptions of supplements.

Young males see idealized physiques, which are almost always pharmaceutically or digitally enhanced, all over various media platforms every day. The constant exposure further internalizes that this ideal male body type is what society, specifically females, deem to be desirable. It is important to note that the preferences of female friends of young heterosexual males deem as an ideal body type will have a more profound effect on what male's deem as ideal more so than any other influential group (Mitchison et. al, 2015). The interactions and ideals of females on male physiques within social media adds even more desire for males to achieve the

idealized male physique in order to impress female friends and potential partners . In order to obtain the socially ideal male physique, men will start to look to supplemental sources of energy, weight gain, and fat loss for help.

A major reason that there has been such a rise in the number of fitness models and those promoting ideal bodies on social media is that the supplement companies are paying top dollar to fitness influencers and individuals who are famous for having idealized physiques with advertising dollars. Companies have been using top bodybuilders to sell supplements since the 1940s. Since consumers often assume that if the person on the supplements packaging with an ideal form attributes their success to a supplement then it should work for them as well. However, it is always conveniently left out of the marketing message that it takes years of hard work, dedication, a gifted genetic makeup, and synthetic enhancements to achieve the idealized body image. The fitness spokesmodel will always make the connection that the supplement they are being paid to promote had a direct impact on their physical stature. If people see enough of this equivocation-based advertising, it will be internalized that supplements will make average customers look like the advertisement spokesmodels. Another reason that supplements are demanded by the public is due to the over promises of the supplement companies. It started in the early 1940s with Charles Atlas making claims like “let me make you a new man in 7 days”(“Charles Atlas Muscle Man”, 2009.) This type of deceitful advertising promotes unrealistic body enhancement practices and expectations for young men. The lack of these types of results from natural training would cause frustration and ultimately push them towards the supplement market which promised these unrealistic results. However, due to males' desire to meet the societal expectation of what their bodies should look like they are often willing to accept these false claims. Consumers often believe the claims made by supplement companies



since the FDA should be making sure that companies are truthful; however, this is not an accurate representation of how involved the FDA is in the supplement market.

***Ethical Marketing Violations by Major Food Corporations:***

Males are willing to buy and consume various supplements that promise naturally unattainable results because they believe them to be safe, since organizations like the FDA should theoretically be overseeing all food and drug products in the United States but this is not the case. Even among fortune 500 food companies, there is dishonesty and deceit in the marketing messages in regard to the physical benefits of consuming products. For example, Coca-Cola was marketing their line of Vitamin Water drinks as healthy and even went as far as to make claims such as drinking Vitamin Water would promote healthy joints and reduce the risk of eye disease along with other positive side effects (Suneson et. al, 2020). The company agreed to change Vitamin Water's labels when it was shown that there was no scientific evidence to support these claims. Coca-Cola is considered an American institution by many accounts and has been around since the 1800's. Coca-Cola undoubtedly made millions of dollars off people's assumptions that something marketed as "healthy" actually had health benefits. Another example of major corporations taking advantage of the American public with deceitful marketing tactics occurred when New Balance and Sketchers both made claims suggesting that wearing their shoes would burn more calories than other brands and that their shoes had an increased toning effect for the wearer. Both companies would be taken to court over these false claims and eventually settled for 2.3 and 50 million dollars apiece (Suneson et. al, 2020). These two court cases show that companies are always trying to market what people want to hear, not what is necessarily realistic. Companies will also make marketing promises saying they are backed by scientific studies in order to gain business when their products have no scientific precedent that proves

their claims were accurate. These and hundreds of other cases have gone to trial with major corporations that have taken advantage of the public's trust. These major companies set an example of ethical business conduct for the rest of the industry. By not taking swift action against major corporations, the FDA is showing small time supplement companies that they are not strict with enforcing and reprimanding companies that break FDA regulations on false advertising.

### ***Issues with FDA Labeling Regulations:***

Consumers should be concerned since major companies are breaking FDA guidelines and they have more regulations to break compared to supplement companies. The supplement industry is highly unregulated in comparison to the normal food industry and this absence of extra rules allows many adulterated ingredients to make their way into the systems of unknowing consumers. Only five statements are required to be on supplement bottle labeling according to the FDA : “1) the statement of identity (name of the dietary supplement), 2) the net quantity of contents statement (amount of the dietary supplement), 3) the nutrition labeling, 4) the ingredient list, and 5) the name and place of business of the manufacturer, packer, or distributor.” (“Center for Food Safety”). The lack of legislation by the FDA indicates that regulation of the supplement industry in regard to labeling is not sufficient; since, the labeling regulation does not go into much detail about the precise nature of labeling ingredients. Also, the FDA only requires that ingredients be stated when they are put into the product if the company makes a direct claim about that ingredient. Thus, if a company does not make a specific claim about a certain ingredient then they do not have to list it. Obviously, this leaves a lot of room for error, negligence, and the possibility of putting adulterated products in the supplements since the company legally does not have to disclose all of the ingredients. Companies can, and often do,

make claims that a product increases strength or muscle mass, and as long as they do not attribute that claim to the addition of a certain ingredient (ex. Fish Oil supplements) then the company does not have to disclose any of the ingredients. Coinciding with the lack of legislation of labeling ingredients, manufacturers can list proprietary blends as just “proprietary”. The decision by the FDA to allow supplement companies to keep their ingredients “proprietary” as opposed to enlightening the consumer is eerily if not overtly similar to the patent medicine industry. The FDA’s rules and regulations on supplement labeling illustrate how there is limited government involvement in the supplement industry and the buyer should beware; since there is no legal recourse or cause for companies to list the ingredients in their products. As if the FDA has not already endangered the consumer enough with their limited regulations on the supplement industry, companies can actually be granted exemptions from certain FDA compliance laws. If companies are able to simply ignore the few rules that are put in place, it shows that the FDA is not truly taking supplement regulation seriously. The lack of steadfast rules by the FDA allows companies to have almost free reign over the industry. How is the FDA supposed to regulate labeling, marketing, and ingredient creating practices if they are not even requiring companies to disclose their ingredients or follow the regulations already in effect?

### ***Issues with FDA Syntax Regulations:***

There is another ethical issue within the supplement market is in regard to vernacular changes and loopholes that are blatantly misleading to the average consumer. Different terms that would be synonyms in normal society are used to indicate completely different purity standards and requirements. For example, the FDA requires that additive ingredients must be 100% of what is stated on the label while naturally occurring ingredients only have to be 80% of the mentioned ingredient (“Center for Food Safety”). The preceding statement shows all of the

technicalities and semantics that are involved in supplement labeling that will ultimately take advantage of the average consumer because they will be unable to determine the difference in vernacular without prior research on FDA regulations. The FDA also does not require there to be scientific research supporting “qualified health claims”, while “authorized health claims” must have scientific evidence to support it. The alteration of one word, which are synonyms for each other, means that a company goes from being required to have scientific evidence to make a claim to not needing any evidence. The words are so similar and carry similar connotations that any normal and rational consumer would consider them the same thing when shopping for supplements. The examination of FDA legislations show that the FDA allows for predatory advertising techniques by building in loopholes right into their regulations.

Unsupported notions and rumors that are common in the weightlifting community also promotes supplement usage. The results from a study by Morton, found that taking protein post exercise did not affect the efficiency of the supplementation being absorbed into the body (Morton RW, et al, 2018). The research is relevant to the supplement industry since a myriad of activists talk about the necessity of taking in protein within a thirty-minute metabolic window after working out. Even experts from BodyBuilding.com such as Krissy Kendall who has a PhD states how she used to be a contributor to the metabolic window theory (Kendall, 2019). Thus, people are persuaded against eating protein at any time of day from a variety of natural sources since they are afraid of not getting their protein in quickly enough after exercise. Out of this fabricated fear consumers will invest in protein supplements, such as shakes and bars, for a quick protein boost that can be ingested within the thirty-minute window. Notions such as these push those who are worried about their aesthetics matching that of their ideal self to make supplement purchases, they would not necessarily make on their own.

The unregulated nature of the laws governing the supplement industry put into place by the FDA is a major reason for the growth of the supplement industry. The vast lack of legislation coupled with the social pressure to have a muscular physique has allowed for the supplement industry to grow into an economic powerhouse. The amount of capital that the industry produces completely overshadows the economic impact that the patent medicine industry had throughout the 19th century. The economic success of the industry has been at the expense of the consumer due to the vast amount of adulterated ingredients that have made their way into supplement bottles.

### ***Economic and Physical Impacts of FDA's Relaxed Regulations:***

The supplement industry is a multibillion dollar a year industry and provides millions in government taxes. The supplement industry, which operates in all 50 states, raked in an astounding \$122 billion in 2016 with almost \$15 million of additional taxes to government entities ("Economic Impact of the Dietary Supplement Industry"). The staggering economic scope of the supplement industry today indicates why companies are not so willing to stop their marketing tactics. They simply do not want to let go of such large profit margins. Consequently it is no surprise of the unethical marketing and pharmaceutical practices that have come from the supplement industry.

While most general consumers of supplements assume that the products they are being sold on store shelves and over the internet are safe to consume, the industry has proven that the buyer must be extremely cautious about what exactly is in their supplement bottle. For example, 776 adulterated dietary supplements were on the market and consequently discovered by the FDA within just a 9 year span from 2007 to 2016 (Tucker J, et al., 2018). The removal of these supplements, which contained dangerous and often illegal ingredients, led to 146 different

dietary supplement companies being prosecuted. More specifically, products that were specifically geared towards muscle building accounted for a total of 92 products. The data illustrates the extent and frequency that dangerous chemicals are inside supplements that are marketed as safe consumables. Instead of supplements containing products such as cocaine and methamphetamines like they did in the 1800's, contemporary adulterated supplements are often filled with anabolic steroids or similar substances. Anabolic steroids and other similar synthetic enhancement drugs have been linked to kidney failure, heart attacks, and strokes along with other negative physical reactions (Tucker J, et al., 2018). Aromatase inhibitors are also a common adulterated substance found in supplements which have been linked to similar physical detriments as steroid use such as kidney failure, increased aggression, and decreased bone maturation.

Other odd ingredients that are not typically associated with gaining muscle can also be found in supplement containers. The creator of "Craze" put methamphetamines in the product as well as him having previously served jail time for selling supplements with pesticides in them (Denham, 2020). The brand Young's Aries included OxyElite Pro which has been linked to damaging liver function along with other drugs. These are further examples of dishonesty in the supplement industry today and highlights the dangers of the unregulated nature of the industry.

The FDA is still seizing and attempting to try and stop supplement companies that are selling adulterated products even in 2021. A raid was carried out in May of 2021 by the FDA where they confiscated "more than 207,000 units of dietary supplements and bulk dietary ingredients containing kratom, including over 34,000 kilograms of bulk kratom" ("FDA Announces Seizure of Adulterated Dietary Supplements Containing Kratom", 2021). The FDA seized these nefarious assets from Autofil LLC which was using the unapproved product in a

variety of labels and company names. Kratom has a stimulant-like effect and is associated with weight loss which is why this company was including it in their product lines; however, it also has the effects of respiratory depression, is addictive, and not taking it regularly can cause motor control issues which is why the FDA has no approved uses for Kratom. All of the units ready to sell to consumers found in this raid shows the scale at which illicit companies can pump out supplements that are harmful to the general public.

Finally, the most tangible piece of evidence to show the negatives and harmful effects of the lack of regulation of the supplement industry is the number of hospitalizations that occur every year due to supplement use. Research that was published by the New England Journal of Medicine shows that “23,005 emergency department visits, resulting in 2,154 hospitalizations, were attributed to adverse reactions from supplements annually” (Geller, A., et al, 2015). The thousands of people that are hospitalized every year due to the supplement industry’s greed shows the deadly effects that result from the industry creating such a sense of social pressure to obtain physical perfection coupled with lacking regulation by the FDA. The result is that companies look to gain as much of the \$122 billion market share as possible, and they are willing to put people’s lives at risk to obtain it.

### ***Legislative Recommendations:***

Upon analyzing all of the evidence presented throughout this thesis, it has been shown that there are obvious health implications to taking supplements in the current US market. Young males’ desire to gain excess amounts of lean muscle mass is fueled by a variety of social factors from mass media outlets to their inner circle of friends. However, it is clear that the obsession supplement companies have to maximize profits have led them to take advantage of unsuspecting and uninformed consumers who are afflicted by the social pressure to conform to a

certain ideal body image. Luckily there are potential solutions to the unregulated supplement industry crisis in the United States; three potential areas of improvement would be increased regulation and legislation passed at the federal level, mandatory Public Service Announcement initiatives from supplement companies, and increased education and warnings about the over exposure to ideal images by mass media companies, especially social networking sites. With these three legislation proposals implemented, there will be dramatic change in the supplement industry in regard to consumer knowledge and safety.

The crux of the issue facing the consumers in the supplement market is the lack of regulation of the industry as well as the FDA neglecting to enforce pre-existing rules that supplement companies have to adhere to. As previously stated, the United States has had a long history of not heavily regulating the supplement industry starting from the late 1700's with patent medicines all the way through the 21st century when thousands of people are still being hospitalized due to consuming supplements that promise muscle growth. The only way to combat the issues plaguing consumers is to start by enforcing the limited regulatory practices that the FDA has in place for supplement companies. The FDA needs to either reallocate part of its budget or receive more funding to increase their presence in the supplement market. First and foremost, the FDA must begin to crack down heavily on companies selling adulterated products. Random samples should be taken from retailers all over the nation both in brick-and-mortar stores as well as online locations to be tested for quality assurance. The loopholes that are given to smaller supplement companies that allow them to be exempt from certain rules must be abolished; all companies large and small will be held to the same standard to ensure some level of trust and uniformity in the products that consumers are purchasing.

Finally, the FDA must increase its control over the industry by passing more aggressive



policies to ensure product safety, uniformity, and makeup. The relaxed nature and overall vagueness of many policies the FDA has on the supplement industry will have to be updated in order to ensure consumer safety. The FDA's policy on the labeling of supplements needs to be tightened to where all ingredients that are found in the product are clearly listed. To respect proprietary information, the exact dosages and the way that the company combines them do not have to be listed. However, there will be no more rules such as companies only need to list an ingredient if they make a claim about it; if the company puts any ingredient into a supplement, it will be listed under the nutritional facts. Legislation will also need to be passed regarding the predatory and unethical marketing practices that are currently allowed by the FDA in regard to vernacular and syntax of labeling. Supplement companies will no longer be able to make claims without scientific evidence from a third-party organization. Whether a company says that their products are backed by "qualified health claims" or "authorized health claims" will have no difference in the eyes of the law. If a company makes any health or body alteration claim it will have to be proven scientifically; the proposed legislation will not allow synonyms of words to be used as a loophole to get around actual scientific backing. All of these seemingly dramatic legislation proposals for the supplement industry are in reality not drastic at all. It will simply ensure that consumers are aware of what's in the supplements they are taking, ensure there are no adulterated ingredients in the supplements before they get to market, and that products are advertised to where any reasonable adult could tell when a product is scientifically supported or not. It will cost the industry and federal government millions of dollars, but that is a mere percentage of the billions of dollars that the industry produces every year based on deceitful marketing practices.

While a major part of the current supplement industry issues is focused on the FDA and

the need for implementation of more stringent regulations, legislation affecting the marketing departments of supplement companies should be put in place as well. In the 21st century it is now considered common knowledge that smoking cigarettes is bad for people's health in a myriad of ways, from bad breath all the way to increased chances of developing different cancers. A great deal of this knowledge was spread to consumers through public service announcements or PSAs. However, in order to continue selling products that are scientifically proven to cause cancer, cigarette companies had to start allocating certain amounts of their advertising budget to creating PSAs that talk about the dangers of smoking cigarettes. Similar campaigns have been launched more recently with the rise in popularity of e-cigarettes. While the comparison of taking supplements and smoking cigarettes is not entirely equal, the same governing principles apply. The supplement industry is pulling in billions of dollars in revenue annually while some of their products taken in any dosage and all of them if taken in unrecommended amounts to “achieve results faster” can cause serious injury to the consumer. Thus, legislation needs to be pushed through that dictates a certain amount, approximately 15%, of supplement companies’ marketing budget needs to go to PSA outreach specifically targeting younger males. The outreach campaigns will focus heavily on realistic amounts of muscle that can be gained, the dangers of taking more than the recommended dose in order to “see results quicker”, and the importance of having a healthy meal plan as the basic building block of gaining muscle. It would be highly encouraged that popular bodybuilders and those in mass media could endorse these PSAs much like their promotion of various supplement brands. The additional information going to consumers will increase their knowledge of the benefits and potential issues associated with supplements, increase responsible use of supplements, and manage health expectations on the amount of muscle the human body can realistically gain. Again, this

proposed legislation would cost the supplement industry millions of dollars, but it is necessary to ensure the safety of consumers in an industry with a history of unethical conduct at the expense of the consumer.

The last policy recommendation that should be enacted would be to increase awareness of the dangers of overexposure to ideal male physiques sponsored by various forms of mass media. As mentioned throughout the entirety of the thesis, mass media over the last 90 years has led to men with the ideal body compositions dominating the media landscape to such a degree that people have internalized that a bodybuilder's stature is what is desirable within society. This thesis has also looked at the effects of increased exposure to males with idealized physiques and there were steadfast results that showed the negative impact on self-concept. To counteract this issue and protect millions of younger males who readily consume mass media, new legislation will require these mediums of entertainment to address the potential issues that can ensue from increased and repeated exposure to ideal male physiques. In television programming, a simple banner at the start of the program that describes how the men starring in the movie or show are paid actors and are not a reflection on what men are supposed to look like in regular society would be beneficial. The addition of this banner to network television will serve as a gentle reminder of the unrealistic expectations that Hollywood sets for men. For social networking sites, the legislation will have to be a little more complex and allow for alterations as the market of social media sites evolves rapidly. On sites such as Instagram, there could be additional warnings about the over consumption of idealized bodies when logging into the app as well as the same warning appearing as a small banner on posts that contain idealized images. While this may seem like a nuisance to individuals who are aimlessly scrolling through apps or trying to watch television it will serve as an important reminder that the body images that are perpetuated

on mass media are ideal but certainly not the expectation or even attainable for the majority of consumers of media.

***Conclusion:***

Overall, the supplement industry is not a monster that is trying to poison both the minds and bodies of young American men. However, the industry has gone almost an entire century relatively unregulated by the FDA. While the supplement industry is not selling mixtures of illicit drugs and calling it a miracle cure-all anymore, the industry is still making nefarious marketing decisions based upon the relaxed FDA regulations over the industry. Demand for supplements have remained high throughout the years through their endorsements by professional bodybuilders and society's obsession of the ideal male physique which can be seen in all forms of mass media. Young men tend to gravitate toward these supplement companies' promises due to internalization of the ideal male physique from mass media as well as value orientations that occur in all humans. The greater the distance between what people feel like they actually are and where they want to be with their bodies will motivate impressionable young men to take supplements that are obviously risky to their health. In order to combat this underpublicized issue plaguing the United States, three legislative alterations were proposed based on the data presented throughout the thesis. An increase in the regulation of the supplement industry's labeling and creation process, mandatory PSAs about the potential side effects of supplement use funded by the industry, and extra warnings about the consumption of idealized male bodies associated with mass media were all suggested to ultimately decrease the number of consumers who are consuming illegitimate and mislabeled products in the supplement market. The supplement industry has been operating as a laissez faire subsection of the American economy for almost a century now; however, the true test will be if they can continue to rake in

billions in profits every year once they are required to abide by the same regulations the rest of the food and beverage industry do.

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