

JUICED MEDIA: MEDIA FRAMES IN SPORTS MAGAZINES AND ADOLESCENT
STEROID USE

By

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PERFORMANCE ENHANCEMENT GLOSSARY OF TERMS

Clomiphene Citrate	A prescription drug typically used for the treatment of female infertility, it is taken by male athletes to negate the effects of increased estrogen, a result of anabolic steroid abuse.
Human Chorionic Gonadotropin (HCG)	A hormone produced naturally during pregnancy, HCG is taken by anabolic steroid users to stimulate the production of testosterone, which is suppressed as a result of steroid use.
Human Growth Hormone (HGH)	The primary purpose of the naturally occurring growth hormone is the maintenance of normal bone growth from birth to adulthood. Synthetic HGH is typically used by physicians to treat growth disorders, but athletes often abuse the drug to build muscle and decrease fat, usually in conjunction with anabolic steroids. The generic name for synthetically produced HGH is somatropin; brand names include Genotropin and Saizen.
Nandrolone	This synthetic anabolic steroid has been used to treat anemia, osteoporosis and breast carcinoma. It builds muscle and increases red-blood-cell count.
Stanozolol	This synthetic anabolic steroid is typically used to treat a rare immune disease in humans and to increase appetite, muscle mass and energy in animals--often horses recovering from illness or injury. It might be preferred by athletes who value speed because it doesn't build muscle quickly. Also, some abusers claim that stanozolol, unlike some other steroids, doesn't cause water retention. Winstrol is a brand name.
Trenbolone	A synthetic anabolic steroid that some claim is a more potent muscle builder than testosterone, it promotes red-blood-cell production and increases the rate of glycogen replenishment, both of which aid in postworkout recovery.

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Steroid use in sports is a problem that first began with Russian weightlifting teams in the Olympics in the 1950s and expanded to professional sports in the 1970s and 80s. While many sports instigated rules to prevent usage, new designer drugs kept athletes ahead of testing, and in some sports (most notably Major League Baseball) there was no testing for illegal anabolic substances. Despite dramatic body changes in baseball players and record breaking statistics in the 1990s and the early part of the 21th Century, testing was not implemented until 2003. Once testing began and government investigations looked into steroid use in baseball, it became apparent that steroids and other performance-enhancing supplements were frequently used in Major League Baseball. Between the early 1990s and the 2000s, athletes in all sports and at all levels – professional, collegiate, and amateur – were caught and punished for using steroids. The use of steroids and their benefits became an overwhelmingly common topic of discussion in sports magazines from 2002-2007.

Research showed that steroid use in the adolescent population went from about 2% in the late 1980s to as high as 20% in some university-based research. This study was designed to determine the content of the steroid articles in popular sports magazines, and the potential impact that the frames in the sports articles could have on increasing experimental behavior of

adolescent steroid use, or even lead to chronic and dangerous steroid abuse. A framing analysis of the magazines *Sports Illustrated* and *The Sporting News* from 2002-2007 revealed three primary frames: beneficial, warning, and social implications. The majority of articles included subframes that mentioned the numerous benefits of steroid use, suggesting that the coverage could encourage the usage of illegal performance-enhancing supplements in the adolescent population.

CHAPTER 1 INTRODUCTION AND BACKGROUND

Introduction

In contemporary American society, sports exist as a powerful cultural influence on the attitudes and behaviors of the general population. As media coverage of athletics and professional athletes has increased, so has the obsession with athletically gifted icons. Past research suggests that sports have a powerful influence on the lives of Americans (Wann, Melnick, Russell, & Pease, 2001), and famous athletes transcend their roles in athletics and function as role models who influence millions of people, particularly adolescents and children (Harris, 1994).

While sports coverage in the media traditionally has focused on the athletic prowess of gifted individuals or the successes of great teams, the bridge between the 20th and 21st centuries ushered in a cloud of uncertainty in athletics and a shift in media coverage. Competition and the desire to become the best have pressured many athletes to rely on illegal chemical supplements that improve athletic prowess. The steroid era, a reference that primarily relates to baseball from the late 1980s until 2005, represents the dangerous risks athletes take to maintain their jobs and, in some situations, accomplish tremendous feats. As governing bodies have engaged in thorough investigations of steroid usage, stories about the use of steroids and illegal anabolic-androgenic substances (AAS) have frequently dominated sports-related media content.

The media's portrayal of a high frequency of steroid use by popular professional athletes has potentially dangerous implications for youth who idolize and identify with their favorite athletes. Critics charge that the naming of athletes who have used steroids negatively influences millions of young individuals (Smith, 2005).

The infusion of steroid-related articles in the media may have a sociocultural impact on adolescent male body image. As time has passed, athletes have become bigger and stronger, and the risk is that contemporary sports coverage may have ushered in a new expectation of a muscular physique that is only achievable for most adolescents via the use of illegal drugs (Blouin & Goldfield, 1995)

The bigger-means-better ideology, which is prominently disseminated in athletics and by steroid users, has altered the cultural ideal image of the male body (Leit, Gray, & Pope, 2002). Not only are today's athletes bigger, stronger and faster than those of the past, but the images of men portrayed in the media –whether athletes or not – reflect those of today's athlete. Some men's fitness and bodybuilding magazines include pictures of hyper-muscular males who are as different from the average man as stick-thin supermodels are from the average woman. In effect, advances in science – specifically the use of steroids, human growth hormone and other anabolic-androgenic substances – have created a new expectation of muscular masculinity that is epitomized by some of the most influential individuals in society: professional athletes. While the media continue to focus on the prevalence of steroids in sports, the presence and effectiveness of steroid abuse in sports has already injected itself into society and, often, into the lifestyles of today's youth via extensive media (Hoffman et al, 2008).

While much of the media coverage appears to focus on the moral indecency of steroid-using professional athletes, adolescents are already suffering as a result of trying to copy their role models. In 2003, 16-year-old Taylor Hooten became the under-publicized poster-child of hyper-masculinity gone wrong. Hooten, who was obsessed with building the ideal muscular male body, turned to steroids to spark growth in the hope of augmenting his success on the baseball

field. As a result of his steroid use, Hooten became depressed and hanged himself just one month after his 17th birthday.

Steroid-related deaths, such as Taylor Hooten's, are frequently overshadowed by other media coverage regarding the smorgasbord of doping allegations in professional sports. Athletic icons such as baseball players Mark McGwire and Barry Bonds, Tour de France winner Floyd Landis, Olympic gold medalists Marion Jones and Justin Gatlin, and Pro Bowl linebackers Bill Romanowski and Shawn Merriman have all created headlines for their use of anabolic-androgenic substances, which increase testosterone in the body and allow for unnatural gains in lean muscle mass. The problem isn't just with the image portrayed in sports. Steroids are illegal supplements that have negative long-term consequences that can't be comprehended by adolescents. The effectiveness of steroids – an improved body or improved performance – could easily overwhelm potential health problems that might not show up for more than 10 years.

With professional sports potentially functioning as an educational forum on the effectiveness of steroids, the media's coverage of today's athletes may reinforce a muscular male body conception and, more importantly, potentially may influence adolescents to engage in experimentation with illegal substances that are proven to build muscle and aid in recovery from muscular stressors. Steroids allow for greater gains in mass, strength, training output and volume, and allow the body to recuperate quicker than “natural” athletes. If adolescents believe that muscular bodies and athletic achievements can be achieved only by unnatural means, then the media coverage of sports could be perpetuating an unrealistic body image, enticing young men to experiment with dangerous drugs and creating a psychological need for muscularity.

As recently as 2006, studies suggest that 5% to 10% of adolescents use steroids (Cafri, Van den Berg, Thompson, 2006; Centers for Disease Control and Prevention, 2006). The Taylor

Hooten story, which was not an isolated incident, brings into question the media's role in increasing adolescent steroid usage in the United States. While an increase in coverage of steroid use in professional athletics is apparent and the creation of the muscular male ideal has been established through research (Agliata, & Tantleff-Dunn, 2004; Brown, Basil, & Bocarnea, 2003; Cafri, van den Berg, & Thompson, 2006; Law, & Labre, 2002; Leit, Gray, & Pope, 2002; Wright, Grogan, & Hunter, 2000), it has yet to be determined what mechanisms reinforce experimentation with AAS, especially in the adolescent segment of the population. Determining what societal factors might be contributing to the increase in steroid use is essential to changing the trend.

The media's creation of the muscular ideal is not only about superficial aesthetics. The need to match a media-created body image can create psychological inadequacies in males that lead to feelings of inferiority (Leit, Gray, & Pope, 2002). These feelings of inferiority can cause a reliance on unnatural methods to increase size and musculature (Law & Labre, 2002). While this pattern explains how and why adolescent males would experiment with steroids, it does not reveal which medium provides the information that would increase adolescents' likelihood of engaging in steroid use.

Given the serious health risks of adolescent use of steroids and other performance-enhancing substances, research is needed to determine whether news media coverage of professional athletes' steroid use is indeed an important source of information for adolescents, and, if so, whether that information source is more likely to engender positive or negative attitudes toward steroid use among adolescent males. This study, therefore, was designed to determine the type of sports media content that is pervasive in magazines – a popular and influential form of communication among adolescent males. Specifically, the study investigated

whether sports magazine content used frames that prime adolescent readers to associate steroid use with physical and social benefits.

The remainder of Chapter 1 provides additional background information about the frequency of adolescent steroid use and the significant health consequences that can result when adolescents strive to achieve the hyper-muscular look represented by steroid-using athletes, especially when they attempt to emulate these athletes by using steroids and other illegal performance-enhancing drugs. Chapter 2 includes a review of the literature relating to male body image and the creation of the hyper-muscular male body ideal, as well as a review of social comparison/social cognitive theory, which, along with framing theory, is the theoretical underpinning for the study. Chapter 3 describes the methods to be used in the study, Chapter 4 presents the results, and the final chapter includes the conclusions and discussion of the implications of the study results.

Background

Despite the media's apparently intense coverage of doping scandals and indirect attempts to raise awareness and discourage steroid usage, research indicates that steroid consumption has been increasing in the United States, most notably among male adolescents (Ricciardelli, McCabe, & Ridge, 2006). The use of anabolic-androgenic substances by adolescents has more than doubled in the past decade, and experts contend that the actual usage is likely greater than the numbers indicate (Ricciardelli et al, 2006).

In a 1996 study, a generalized look at the overall population revealed that 4% to 11% of males had used steroids at least once, as had .5% to 2.5% of females (Wroblewski, 1996). Although both men and women experiment with AAS, men are more commonly the users of the illegal substances and thus most research focuses on males (McCreary & Sasse, 2000).

Some of the most disturbing statistics are found in adolescent steroid usage. Studies indicate that steroid usage by teenagers is increasing. Some of the earliest research on steroid use in high school boys began in 1987. In an early study, a sample of football players – an at-risk population for steroid use – was surveyed. In the study, 1.1% of football players from Oregon admitted steroid usage (Goldberg et al., 1990). The test was then repeated in 1991 in Indiana, with the number increasing to 5.5% (Cleary et al., 1992).

During the 10-year period from 1993 to 2003, anabolic-androgenic substance abuse in the adolescent population continued to increase. In 1993, research indicated that approximately one of every 45 high school students had experimented with steroids at least once (National Center for Chronic Disease Prevention and Health Promotion, 2003). That number had increased to 1 in every 27 students by 1999, and by 2003, the lifetime steroid use had reached 1 in every 16 high school students (National Center for Chronic Disease Prevention and Health Promotion, 2003). Given that the general trend indicates an increase in adolescent steroid use, determining contributing causal factors takes on greater importance.

Contemporary research shows that study results vary significantly in terms of the percentage of adolescents who use steroids. Johnson, Jay, Shoup, and Rickert (1989) tested a sample of high school students and found that 11% of adolescent males either had used or were using steroids. These figures were corroborated by a study conducted by Bahrke, Yesalis and Brown nearly 10 years later (1998). Their research revealed that 4% to 12% of high school boys used steroids (Bahrke, Yesalis & Brown, 1998). In 2000, Yesalis and Bahrke found that 3% to 12% of adolescent males had used anabolic-androgenic substances at least once.

One of the most recent published studies on adolescent steroid use revealed that approximately 10% of adolescent boys had used steroids (Cafri, Van den Berg, Thompson,

2006). The sample came from 269 high school boys in Florida who ranged in age from 13 to 18 years old. If the 10% figure was applied to the 2006 American high school population, more than one million high school boys would be using steroids (Cafri, Van den Berg, Thompson, 2006).

In slight contrast to university-based research, the Centers for Disease Control conducted its own analysis of adolescent steroid usage. Although the rates of usage are not as dramatic as those cited in journal research, the CDC findings corroborate the increase in use. A 2005 CDC survey of high school students found that 5% of the adolescents surveyed reported using non-prescribed steroids (Centers for Disease Control and Prevention, 2006). These figures were mirrored by a 2005 Youth Risk Behavior survey that reported a lifetime incidence of steroid use in 4.8% of boys in a survey of nearly 14,000 high school students (Eaton et al., 2006)

Despite the variance in the statistics, the general consensus among academic researchers is that adolescent steroid usage is more prevalent than what research shows (Agliata & Tantleff-Dunn, 2004; Cafri, Van den Berg, & Thompson, 2006; Johnson et al., 1989; Yesalis & Bahrke, 2000). The underestimates are attributed to the difficulty in gathering generalizable samples and obtaining honest responses from adolescents on surveys. Researchers fear that the general secrecy of steroid users and the tendency of adolescents to respond in a socially desirable fashion undermine the accuracy of the figures (Agliata & Tantleff-Dunn, 2004; Cafri, Van den Berg, & Thompson, 2006; Yesalis & Bahrke, 2000).

Despite anecdotal evidence about the negative effects of steroids, a dearth of studies proves the long-term negative effects of steroid abuse (Wroblewski, 1996). The studies that prove the long term detriments focus on controlled dosages and not the typical higher doses that athletes allegedly subject their bodies to. The Web site of the United States Office of National Drug Control Policy lists the following information about the detrimental side effects of steroid usage:

Anabolic steroid abuse has been associated with a wide range of adverse side effects ranging from some that are physically unattractive, such as acne and breast development in men, to others that are life-threatening. Most of the effects are reversible if the abuser stops taking the drug, but some can be permanent. In addition to the physical effects, anabolic steroids can also cause increased irritability and aggression.

Some of the health consequences that can occur in both males and females include liver cancer, heart attacks, and elevated cholesterol levels. In addition to this, steroid use among adolescents may prematurely stop the lengthening of bones resulting in stunted growth.

People who inject steroids also run the risk of contracting or transmitting hepatitis or HIV. Some steroid abusers experience withdrawal symptoms when they stop taking the drug. These withdrawal symptoms include mood swings, fatigue, restlessness, loss of appetite, insomnia, reduced sex drive, and depression. This depression can lead to suicide attempts, and if left untreated, can persist for a year or more after the abuser stops taking the drugs (<http://www.whitehousedrugpolicy.gov/drugfact/steroids/index.html>).

Some research indicates that steroid use has negative health effects, but because of ethical issues, researchers have found it difficult to study the long-term safety of steroid use, and almost all research focuses exclusively on adults and not on adolescents (Rosenfield, 2005). Steroid use has been associated with negative side effects such as gynecomastia, forming plaque on the arteries, atrophied testicles, limited sperm production, liver disorders and altered neuroendocrine functioning (Dhar et al., 2005; Lane et al, 2006). The use of AAS also has been linked to psychiatric disorders including hypomania, aggressiveness, depression and increase in suicidal cognitions and suicide (Brower, 2002). Steroid use also has been linked to premature heart attacks, strokes, and the premature deaths of athletes and bodybuilders (Millman & Ross, 2003).

Most studies are limited by small sample sizes (because of the negative stigma of steroid use), the impossibility of a double-blind placebo-controlled study, and the inability to provide steroidal dosages that reflect the amounts used by athletes and bodybuilders who abuse the drugs (Blue & Lombardo, 1999). Most institutional review boards are hesitant to study the effects of anabolic steroids on the athletic population and approve research in a non-clinical population (Hoffman & Ratamess, 2006). This causes many university-based studies to rely on athletes and bodybuilders that self-administer the drugs, which makes it hard to monitor dosages used. Academic research doesn't have significant double-blind evidence on the implications of abusive steroid use, as opposed to use of steroids taken under medical supervision (Hoffman & Ratamess, 2006). Most athletes who use steroids cycle the illegal drugs for longer periods of

time at higher doses than would be allowed to be tested by a review board (Hoffman & Ratamess, 2006).

In comparison, research has consistently proven that combining exercise with the use of steroids or exogenous testosterone can increase muscle and fat free mass (Bhasin et al, 1996). Steroids appeal to adolescents because research and media coverage reveal that AAS use increases strength, improves appearance, performance and recovery, and increases muscle mass while decreasing adipose tissue (Tanner et al, 1995). The strength of evidence supporting the benefits of steroids—both scientifically and anecdotally in the media—potentially limits the ability to deter adolescents from copying the steroid use of professional athletes, leaving young individuals susceptible to media influence that could encourage and pique interest in steroid use.

CHAPTER 2 REVIEW OF LITERATURE

Male Body Image

The media's influence on male body image is a burgeoning concern in society, but the issue has received considerable attention and research only within the past 10 years (Grinspoon & Seely, 2006). Past research indicates that cognitive and behavioral concerns relating to body image are sociocultural in nature and derive, in part, from images displayed in the media (Cafri, Yamamiya, Brannick, & Thompson, 2005). Originally, most research on body image focused on females (Harrison & Cantor, 1997). A strong connection between body image awareness and dangerous diet and exercise regimens in adolescent females became apparent in mainstream culture in the United States (Blouin & Goldfield, 1995). Female body image problems were manifested in a drive for thinness that was represented in the media by models featuring extremely thin physiques (Silverstein, Perdue, Peterson, & Kelly, 1986).

The research on body image focused on the wrong obsession in terms of a more prominent pathology in the male gender. Whereas females desire to be thin and mimic the media's portrayal of the ideal woman (the stereotypic runway model), the male obsession, at least in the past two decades, has focused on the desire to become more muscular (McCreary & Sasse, 2000).

Interest in the male body image has increased as the media's portrayal of the ideal male body has become more pronounced. From 1967 to 1997, the male body type displayed in the magazines *GQ*, *Rolling Stone* and *Sports Illustrated* became more muscular and lean (Law & Labre, 2002). Law and Labre performed a content analysis on the magazines and determined that muscularity in males increased almost 30% during the 30-year period (2002). The media went from portraying a body type that was easy to attain, represented by the body of John Wayne, to

focusing on hyper-muscular males such as Arnold Schwarzenegger or Sylvester Stallone (Vartanian et al., 2001).

In addition to changes in popular magazine images, centerfolds in *Playgirl* magazine reflected the same trend; between 1970 and 2000, the muscularity of *Playgirl* models significantly increased (Leit, Pope, & Gray, 2001). By 1997 the new image of the ideal male body was represented by an extreme form of perfection that would be difficult for most men to attain (Law & Labre, 2002). The ideal male body became defined by an extreme muscularity that represented a hyper-masculine persona (Pope, Phillips, & Olivardia, 2000). Along with the changing image of the male body in the media, the shape of professional athletes' bodies began to become more muscular as well (Pope, Phillips, & Olivardia, 2000). When combined with the images of men in popular media, researchers argue that the ideal male body is now represented by the hyper-muscular prototype, which is typically achievable only by use of steroids.

Sports and fitness magazines are potent mediums for transmitting sociocultural pressure to increase muscularity. These magazines reinforce the importance of male muscularity as a cultural standard and reinforce the ideology that men who obtain these unrealistic body types are rewarded (Botta, 2003).

As the muscular male body becomes more commonplace, a new social construct of body image is created (Cafri et al, 2005). The new body image is linked with success, good looks, popularity and wealth (Agliaia & Tantleff-Dunn, 2004; Brown et al., 2003). There is a growing wealth of evidence that supports the idea that cultural standards for body image are open to change and that these standards are usually determined by the media and highly publicized figures (Groetz, Levine & Murnan, 2002).

This new cultural standard has created a perceived need, encouraging men and boys to desire to become more muscular (Grogan & Richards, 2002; McCreary et al., 2003). This association provides extra incentive for males to try to build a similar type of body, in the hope of mimicking the success of famous individuals who possess the ideal male body (Brown et al., 2003). More importantly, increased exposure to muscular, perfect bodies may decrease an individual's self image and subsequently augment the desire to improve one's body to meet the body ideal as a means of increasing internal satisfaction (Law & Labre, 2002; McCreary & Sasse, 2000).

Research supports the notion that sociocultural expectations encourage the desire to copy the muscular body (Bush, Mann & Bush, 2004). Male adolescents in Generation Y (those born from 1977-1994) reported in surveys that they look to athletes for behavioral norms and try to mimic athletes' behavior as a means to increase success (Bush, Martin & Bush, 2004). Earlier research conducted by Bandura (1986) provided evidence of the power of media models, such as athletes or entertainers, to influence attitudes and behavior and to establish a cultural standard.

In addition to altering body image ideals, past studies have revealed that the media influence men's behavior (Agliata & Tantleff-Dunn, 2004; Brown et al, 2003; Leit et al., 2002). Societal values influence the desire to use drugs to achieve success (Yesalis & Bahrke, 2000). In the book "The Adonis Complex," Pope et al. (2000) reported that 50% of boys between the ages of 11 and 17 believe that the ideal male body shown in the media is only attainable through the use of steroids. And it is the media that influence the rationale behind experimentation with steroids and other anabolic-androgenic substances (Blouin & Goldfeild, 1995; McCreary & Sasse, 2000).

Adolescents look at sports figures in the media and view muscularity as one of the primary factors leading to their success (Yesalis & Bahrke, 2000). The connection reveals that money, fame and athletic prowess can be achieved by those who have a sufficiently muscular physique (Brown et al., 2003). Adolescent desire to use steroids has continued to increase as the pressure to succeed in sports and match the ideal body image has grown (Yesalis & Bahrke, 2000).

Steroid use is becoming more prevalent in adolescent athletes and non-athletes (Yesalis & Bahrke, 2000), and the majority of current research seems to argue that the increase in steroid usage in adolescents is attributable, at least in part, to the unrealistic male body image that frequently appears in the media and the media's focus on steroid usage in sports and bodybuilding (Cafri et al, 2005; Law & Labre, 2002; Leit, Gray, & Pope, 2002; Leit et al., 2001; McCreary & Sasse, 2000; Pope et al, 2000; Wroblewska, 1996; Yesalis & Bahrke, 2000).

Research on male body image and the drive for muscularity indicates that the media have a strong effect on males' perceptions of their bodies. Pope, et al. (2000) found that men desire to be an average of 28 pounds more muscular than their current body type. Some of this desire to gain muscle is derived from the media's portrayals of the ideal body (Pope, Gruber, et al., 2000). By portraying muscular perfection as the standard, the media make men more aware of their own bodies and heighten a sense of inadequacy (Lorenzen, Grieve, & Thomas, 2004).

The importance of the media's portrayal of the male body and the focus on the muscularity of athletes may be as much of a reflection of media dependence as it is an issue of framing. Teenagers are the most at risk targets for athlete modeling because of the age group's high media use (Bush, Martin & Bush, 2004). As teenagers search for their own independence, they often turn to the media for models to mimic – and in media portrayals of athletes, adolescents see these role models as the standard of masculinity and success (Bush, Martin, & Bush, 2004).

Sociocultural Impact and Media Framing

While the media's coverage of steroids may be intended to condemn usage and increase awareness of the detriments of the illegal drugs, there is no evidence that the media attention to steroids decreases adolescents' interest in or approval of steroid use. Instead, psychological modeling, framing, sociocultural effects and social comparison may occur as a result of the inundation with steroid-related stories. Understanding whether and how the media place pressure on adolescents to adhere to certain physical expectations is essential to determining whether the media contribute to adolescent steroid use. The ways that media frames can impact an individual's decision-making process could help to explain the simultaneous increases in steroid-related media coverage and adolescent's usage of the illegal performance-enhancers.

Stereotypic gender roles push boys towards sports, which play a role in socialization and popularity; and the bodies of athletes influence adolescents' perceptions of ideal body image (Ricciardelli et al., 2006). Research indicates that many adolescent males determine ideal body image by looking at popular sports figures (Brown, Basil, & Bocarnea, 2003). These athletes set a standard for body type that represents masculinity, success and popularity. A 2006 study suggested that one of the reasons adolescents want to mirror the bodies of famous athletes is rooted in social comparison theory; the more attributes adolescents share in common with athletes, the more likely they are to share similar success (Ricciardelli et al, 2006). The message is not about gaining wealth, but that steroid use leads to better bodies that are correlated with success or popularity.

The media disseminate the notion that the muscular body is the ideal for men and that those who do not have the ideal body type need to take any step necessary to achieve that ideal (Morrison, Kaliny & Morrison, 2004). The problem with the images of men portrayed in the media – most notably with successful professional athletes who have used steroids, such as José

Canseco, and to a lesser extent, individuals featured in bodybuilding magazines, such as eight-time Mr. Olympia Ronnie Coleman – is that the hyper-muscular ideal male body is unachievable for most men through natural means (Blouin & Goldfield, 1995). The proliferation of muscular males in the media certainly does not guarantee that adolescents will develop body image pathology. In fact, the media's promotion of in-shape men can encourage healthier, more fit behavior and help increase activity (Agliata & Tantleff-Dunn, 2004).

However, inundation with these images also may cause some individuals to internalize a need to match the muscular bodies portrayed in the media, leading to pathological problems when the images become the primary representation of a gender, as is the situation with the prominence of the muscular male and steroid-built athletes (Cafri et al., 2005). Cafri, et al., demonstrated the importance of internalization versus awareness in establishing a sociocultural ideal for body image (2005). If a message is internalized (an active process), the media have an impact on the thoughts and behaviors of an individual. In contrast, if an individual is aware of an image (a passive process) the image conundrum can be avoided.

The media's framing of topics can exacerbate the problem of internalization of concepts on any issue, including body image. And if the muscular body image is internalized, this could lead to adolescent steroid use. The framing of information can have a potent effect on the beliefs and opinions of individuals (Scheufele, 1999). Framing relates to two elements of human cognition: selection and salience (Entman, 1993). According to Entman (1993),

To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem, definition, causal interpretation, moral evaluation and/or treatment recommendation for the item described (p.52).

In other words, the way that the media describe a certain topic – the sub-issues the media focus on, the frequency with which certain concepts appear, the way that information is

portrayed – can impact how the receiver of the information interprets information and the opinions he or she draws from the media content (Entman, 1993). Frames can even impact a cultural mindset and the sociological ideals held by individuals and groups in society (Scheufele, 1999).

Frames increase salience, or the awareness of particular societal issues, by repeated exposure. This form of repetition or reinforcement augments the possibility that an individual will become more knowledgeable about a particular issue and assign meaning to that issue that is consistent with the media's framing of that issue (Fiske & Taylor, 1991). Kahneman and Tversky provided experimental evidence that frames can have a strong impact on large audiences (1984). Their experiments on decision-making on the basis of textual frames indicated that frames highlight some aspects of reality and direct attention away from others. Frames can take a generalized topic, focus on one aspect and shape public opinion for the masses or for subgroups with enough repeated exposure (Kahneman & Tversky, 1984).

In terms of steroid use and adolescents, the media may be framing stories in a way that increases the likelihood of experimentation with muscle-enhancing illegal substances. If the media constantly focus on muscular body types – through written content about the successes of steroid users or the effectiveness of steroids in creating muscularity and/or strength or via pictures in magazines – they may turn adolescents' focus away from the negative consequences and dangers. The focus could shift to the potential benefits linked to steroid usage.

Steroids in the Media

Steroids are drugs that are not used for the pleasure derived from their usage but rather for the results they produce in muscle growth. Therefore, eliciting interest in the benefits of steroids can increase usage (Johnson et al., 1989). The media's constant coverage of steroids and

exploitation in magazines may play a role in the etiology of steroid experimentation (Chung, 2001).

When Canadian Olympic sprinter Ben Johnson tested positive for steroids in 1988 and was stripped of his gold medal, there was a subsequent increase in steroid use among adolescents (Chung, 2001). Teenagers were made aware of the capabilities of steroid use and were provided, via the media, with the specifics of steroid use and how to take the illegal substance. The knowledge about steroids was no longer taboo; the media had put a face on steroids, and that face was one of success. The image may have motivated adolescents to mimic steroid-using athletes in order to achieve the muscular ideal or the benefits of athletic success (Chung, 2001). In general, once adolescents become informed about an issue that can provide benefits, they are more likely to become involved in the behavior if it serves intrinsic drives.

The Psychology: Why Adolescents Take Steroids

Focusing on successful athletes as examples of steroid users can potentially lead to dangerous experimental behaviors in adolescents (Brown, et al., 2003). According to sociocultural theory, the media produce the strongest sociocultural pressure for the changing body ideal and the need for adolescents to take drastic behaviors to mimic the appearance of their models and heroes (Levine & Harrison, 2004; Thompson et al., 1999). Media images make adolescents feel inadequate or bad about their bodies, and these emotions create pressure to match up to an often unrealistic beauty ideal (Dittmer, 2005).

Psychological inadequacies or the pressure to meet the physical ideal created by the media can aid in the formation of the psychological disease known as muscle dysmorphia (Leone, Sedory, & Gray, 2005). Muscle dysmorphic disorder (MDD), which is a subcategory of obsessive-compulsive disorder, is a psychological disorder in which individuals perceive themselves as being less muscular than they actually are (Olivardia, 2001). According to

Olivardia (2001), though muscle dysmorphia can occur in either males or females, it predominantly afflicts men.

While there are different degrees of muscle dysmorphia, similar to a sliding scale of severity, sufferers' self esteem is dependent on their muscularity (Olivardia, 2001). The average age of onset for MDD is 19 years of age (Olivardia, Pope, & Hudson, 2000). Surveys conducted by Olivardia et al. (2000) revealed that men with muscle dysmorphia are affected by sociocultural influences. The subjects in the study desired to match the male body image as portrayed by the media, and their craving for more muscularity increased the pathology of the disorder by boosting the motivation to spend more time working out (Olivardia et al., 2000).

While steroid usage is not limited to sufferers of MDD, the disorder highlights an important aspect of media influence. Those who suffer from MDD are strongly influenced by sociocultural factors, particularly the media's portrayal of athletes or normal men who are extremely muscular and lean (Olivardia, 2001). Olivardia's research also indicates that men believe that there is a cultural expectation for physical appearance, and that the body expectation is defined by extreme muscularity (2001).

Social comparison theory relating to male body image awareness suggests that men compare themselves to the athletes and cover models found in magazines (Morrison, Kaliny & Morrison, 2004). Not only are social comparisons enduring, but these upward social comparisons tend to create negative self evaluations, leading to a strong desire to alter the body. This causes an increase in drastic measures to alter body type, such as the use of steroids, in order to conform to societal pressures to look muscular (Morrison, Kaliny & Morrison, 2004).

According to social cognitive theory, the media play a powerful role in shaping adolescent desires by providing models for both appearance and behavior (Bandura, 2001). If the media

establish a muscular male body type as the ideal, then men, and especially adolescents, will observe this tendency and try to mimic the ideal. More specifically, if adolescents are inundated with coverage showing that athletes gain the type of muscularity that results in success, fame or fortune by using steroids, then they are likely to accept this depiction as reality and work to mimic this model for success. When adolescents are constantly exposed to a particular image of men, such as what has become the norm in magazines, this image becomes instilled as the model or prototype to follow (Bandura, 2001).

It is important to note that personality evaluations are also made based on physical appearance (Tantleff & Thompson, 1992). This is especially crucial during adolescence, when the importance of maintaining popularity or being viewed by peers in a positive manner is heightened. In a 1992 study in which respondents evaluated the personality characteristics of individuals based on their bodies, Thompson and Tantleff found evidence that both males and females appraised muscular chests on males as symbolizing assertive, athletic, sexually attractive and popular individuals. In contrast, those with less muscular physiques were categorized as lonely and depressed. In general, young men feel uncomfortable being viewed as less muscular or skinny (Field et al., 2005), which only reinforces the desire to become more muscular and the perceived need to do what it takes to achieve a level of muscularity that instills confidence.

The media's coverage of steroids poses a significant threat of psychological modeling because of the frequency of coverage. Modeling does not occur if individuals cannot remember the stimulus, which typically results from infrequent exposure to an idea or concept (Bandura, 1986). But with steroid use, the constant spotlight on athletes' usage inundates society with a muscular body image model and a prototype for success that is easy to remember and, unfortunately, easy to mimic due to the widespread availability of steroids. Research suggests

that men are being exposed to a deluge of muscular images, and articles in the media show today's athletes as a representation the ideal male body: a muscular look defined by a V-taper and extreme leanness and density (Law & Labre, 2002).

One of the biggest problems from media coverage is an apparent focus on the benefits gained from steroid use. There appears to be a disparate amount of attention paid to successful athletes, such as Barry Bonds, who have broken records with an alleged assist from illegal performance-enhancing drugs. In the adolescent population, the perception of effectiveness of steroids functions as social reinforcement for usage (Goldberg, 1996). Ninety-seven percent of adolescent steroids users surveyed in a 1996 study indicated that repeated use was influenced by media portrayals of steroid-induced increases in strength, muscle mass, and success (Goldberg).

The reasons for steroid use are not limited to desire for personal improvement or becoming stronger. Feelings of inadequacy also can lead to usage. Social comparison theory shows that individuals will base their own self-confidence on ideal images portrayed in the media (Festinger, 1954). If a discrepancy is perceived between oneself and the ideal, then behavioral changes occur to lessen the gap between the self and the ideal (Elliot & Devine, 1994). By that reasoning, if adolescents feel that they do not match the muscular ideal or are not achieving success in a given sport, then they will go to extreme measures, such as steroid use, in order to match the ideal body type and restore self-confidence.

Festinger's research (1954) also indicates that social comparison can be avoided by rejecting the ideas and opinions of the majority, in this case, rejecting the muscular male ideal. However, rejecting mainstream sociocultural standards is difficult for adolescents, who desire popularity that is associated with body appearance (McCreary & Sasse, 2000). Rejecting the

male muscular ideal would mean risking social isolation by not conforming to the socially constructed standard created by the media.

While evidence exists that adolescents are using steroids and that use is increasing, the causes of an increase in usage are unknown. Very little research has been conducted on the factors contributing to steroid use in adolescents, despite the theoretical explanations for such use. Determining whether popular media are framing steroid use in a way that may encourage adolescent steroid use could help determine if there is a synergistic effect between the media's portrayal of the ideal male body and the inundation of steroids coverage in sports. In an attempt to determine how media popular with adolescents framed steroid users, steroid-related articles in *Sports Illustrated* and *The Sporting News* were analyzed.

- **RQ1:** What frames appear most in steroid-related articles in *Sports Illustrated* and *The Sporting News*?
- **RQ2:** Does the content of steroid-related articles in *Sports Illustrated* and *The Sporting News* focus on the benefits or detriments of steroid use?
- **RQ3:** Where is the information about the detriments of steroid use and illegal performance-enhancers located in articles included in *Sports Illustrated* and *The Sporting News*?
- **RQ4:** Do steroid-related magazine articles in *Sports Illustrated* and *The Sporting News* reinforce the use of steroids as a way to improve athletic performance or achieve the muscular male ideal?
- **RQ5:** Do *Sports Illustrated* and *The Sporting News* differ in the frames provided in their content?

CHAPTER 3 METHODS

In order to investigate whether the media's coverage of steroids influences adolescents' experimentation with and/or usage of illegal anabolic steroids, a framing analysis of magazines was conducted for this study. Specifically, steroid-related articles published between January 2002 and December 2007 in two magazines, *Sports Illustrated* and *The Sporting News*, were analyzed for the frames used in stories about steroid use. This time period was selected because during that five-year period, steroid coverage intensified due to changing steroid- and drug-testing policies in professional athletics and the Olympics (see baseball steroid time, Appendix C).

The mid-point of this time period, 2005, marked a year that included several events that changed the nation's awareness of steroid use throughout professional and amateur sports, most notably in Major League Baseball (MLB). Athletes, athletic administrators and politicians were called before a grand jury to testify about steroid use in professional sports, ultimately culminating with a Congressional hearing on steroid use in baseball in March 2005. This hearing featured former St. Louis Cardinals baseball player and former single-season home run record holder Mark McGwire refusing to talk about the past and his potential steroid use. McGwire's silence appeared to implicate him as a past steroid user and suggested that his use was just a microcosm of a larger drug issue in sports and throughout society. The congressional hearing included some of the top names in baseball, including Baltimore Orioles' star Rafael Palmiero, who vehemently denied ever using steroids. Shortly after his claims, Palmiero was suspended for steroid use, and 2005 was his final year in the major leagues. The selected sample period ended with the December 2007 release of the Mitchell Report. Based on former Senator George Mitchell's investigation of steroid use and abuse in baseball, the report listed almost 90 players

who allegedly had used steroids and recommended changes that needed to be made to the sport. These events, and the numerous steroid allegations and revelations that occurred in all sports during this period, led to an apparent increase in media coverage about steroids, both at the professional and amateur level. A search using Lexis-Nexis revealed that the dramatic shift in steroid-related news coverage starting in 2002. From 1996-2001, a search using the terms “professional athletes” and “steroids” yielded 195 articles in major papers. In comparison, a search with the same keywords from 2002-2007 produced 706 articles in major papers.

Sports Illustrated and *The Sporting News*, sports magazines popular with 12- to 19-year-old males, were analyzed for the study. Research indicates that 8 of every 10 teenagers read magazines (Magazine Publishers of America [MPA], 2003). Additionally, magazines have a greater influence on teens than other forms of media, and the top 25 teen-genre magazines reach a larger audience than the top-25 television programs (MPA, 2003). In terms of salience, teenagers are less likely to multi-task while reading magazines (MPA, 2003). This allows for greater attention and absorption, which, according to social comparison theory, can have a significant impact on influencing thought processes and behavior (Festinger, 1954).

Research also indicates that adolescents not only are impacted by pictures of muscular figures, but that content in magazines about muscularity or fitness achievements also enhance the sociocultural pressure to become more muscular (Botta, 2003). This effect has been shown to have an effect in preliminary studies focusing on magazines’ impact on male body image. In surveys, Botta (2003) found an interaction between the reading of sports magazines and body satisfaction. Those who read sports magazines were more likely to have lower levels of body satisfaction. Lower levels of body satisfaction in male adolescents increase the likelihood of altering behavior in order to increase internal satisfaction (Dittmer, 2005).

Sports Illustrated and *The Sporting News* were selected as the publications for the framing analysis because teenagers constitute at least 15% of each magazine's readership – the number of people who read the magazine but do not necessarily subscribe (circulation), or at least two million adolescent readers for each magazine. These figures have been established in prior research as the cutoff levels for publications to be designated as having significant adolescent reach and influence (Mediamark Research, 2004). *Sports Illustrated* is the largest weekly American sports magazine, and its adolescent readership accounts for more than 22% of its total readership; the magazine has a yearly readership of almost 5 million adolescents (Kaiser Family Foundation, 2004). *Sports Illustrated* also has the highest aggregate total of adolescent male readers among the most popular magazines read by teenagers (Mediamark Research Inc., 2002). Although *The Sporting News* does not have as large an aggregate reach, 30% of the magazine's readership is adolescents. Therefore, both publications reach a broad expanse of the teenage population and are publications that could influence adolescent's interest in and attitudes about steroid use.

In performing the framing analysis, multiple aspects of the selected magazine articles were analyzed in order to answer the research questions. To determine the quantity of steroids-related articles, the magazines were coded for a five-year period (2002-2007). A steroids-related article was operationally defined as any article that focused on the use of steroids or illegal performance-enhancing drugs and was at least 200 words in length. The necessary length was established at 200 words to eliminate superfluous articles that briefly mentioned steroids, but most likely would not focus reader attention on steroid use; in addition, the researcher believed it would be unlikely that salient frames could be developed in fewer than 200 words. All issues except for commemorative issues were used during the selected time frame. The articles were

read and coded using the coding sheet (See Appendix A), and instructions were followed specifically according to the explanations provided in the codebook (See Appendix B). Each article was analyzed in terms of its information and story structure for components that could influence readers' perceptions of and interests in steroids.

Before coding the actual time period for the study, a pre-coding trial was conducted on articles from 2001-2002 in both publications to determine the types of frames that might be found in the articles and to test the code book and code sheet measures. The frames that were documented served as the foundation for the actual coding process.

Assessing the frames presented in the articles during the sample time frame helped to reveal whether repetition of particular frames in steroids-related stories could have an influence on the increase in teenage use. Because research has yet to be conducted on the potential influence of steroids-related articles, the framing analysis was designed to help build a foundation for understanding the type of content that is disseminated to the public and, most importantly for this study, to adolescents.

CHAPTER 4 RESULTS

The analysis of the magazines produced five-year samples from *Sports Illustrated* and *The Sporting News*, for a total of 98 articles. During the study period, *Sports Illustrated* published 61 stories that met the established criteria for analysis, while *The Sporting News* published 37 articles. All articles were obtained electronically via the Academic Search Premier search-engine. Each magazine was searched for the keyword “steroids,” and articles that did not meet the salience frame criteria were eliminated from the analysis. An initial search in *Sports Illustrated* provided 208 results for articles that included the keyword steroids. One hundred forty-seven articles were removed from analysis because the story was too short or because the article on mentioned the word “steroids” only in passing. The search in *The Sporting News* resulted in 156 articles, of which 119 were removed based on the criteria. Once all of the articles had been accumulated, each article was read in its entirety and coded for the frames presented, the types of sources used, what topics were discussed in the article, and where in the article the detriments of steroid use were mentioned. The continuous comparative method was used to determine sub-frames and overarching frames in the content.

Across both *SI* and *TSN*, 20 percent of the coded articles were editorials – typically written by columnists, such as Rick Reilly in *SI*, or as athlete commentaries, such as Detroit Tigers pitcher Todd Jones in *TSN*. These articles typically included no sources other than the writer. The articles coded ranged in length from approximately 300 words to lengthy features that ran more than 8,000 words. *SI* typically included longer articles ranging between 3000 and 7000 words, with a long of more than 8000 words. In contrast, the majority of articles in *TSN* were between 500-1000 words. As would be expected for sports magazines, every article coded focused on the

relationship between steroids and sports, with the vast majority discussing steroids use in Major League Baseball.

RQ1: What frames appear most often in steroid-related articles in Sports Illustrated and The Sporting News? Three major frames – “beneficial,” “warning,” and “social implications” – were identified as the overarching frames that appeared in the magazine articles from both publications. From those three frames, I identified nine subframes that could be categorized into one of the three identified frames. These subframes included: success, physical improvement, allure, health danger, fear, punishment, epidemic, indifference, and educational. Success, physical improvement, and allure were categorized as the components of the “beneficial” frame. Three other subframes were classified as part of the “warning” frame: “health danger,” “fear,” and “punishment.” And as part of the “social impact” frame, subframes included “epidemic,” “indifference,” and “educational.”

The breakdown of the subframes in the articles coded is shown in Table 4-1 (numbers are amount of occurrences in all articles analyzed):

Table 4-1. Coding scheme for steroid use articles

Beneficial frame	Warning frame	Social impact frame
Success: 86	Health danger: 11	Epidemic: 40
Physical improvement: 38	Fear: 14	Indifference: 20
Allure: 25	Punishment: 50	Educational: 26

Beneficial Frame

The most common frame in both publications was the “beneficial” frame, which reflected components within the selected articles that focused on any benefits – real, perceived, or potential – that were associated with steroid use or other illegal anabolic substances. Any statement that could provide cognitive incentives to experiment with or habitually use illegal

performance-enhancing supplements was classified in this frame. The frame was subdivided into three subframes: “success,” “aesthetic effectiveness,” and “allure.”

Success: The success subframe was the most popular frame in the “beneficial” frame and the most prevalent subframe identified in all articles. Success could be classified in many different ways. Primarily, the success subframe was indicative of professional achievements made by athletes associated with or alleged to be using steroids. This included breaking records, improved performance while taking AAS in comparison to prior performance, and decreased performance after stopping AAS as opposed to while using.

For example, *SI*'s March 13, 2006, edition included an article describing the book *Game of Shadows*, which offered a history of Barry Bonds' alleged use of steroids during his pursuit of the Major League Baseball home run record:

That off-season, the authors write, he began what became a massive doping regimen involving years of use and a cornucopia of drugs. The transformation was like nothing that ever has happened in the game. Through 1998 Bonds averaged one home run every 16.1 at bats. Since then he has hit home runs almost twice as frequently--one every 8.5 at bats. The seven best home run frequency rates of Bonds's career all have come in the seven seasons since the authors say he began his steroid use. Remember, we're talking about a player who turned 35 years old in the first season that the authors say he played while using steroids. At an advanced baseball age, Bonds has played better than at any other time in his career (3/13/06).

Some articles also focused on general changes that occurred in baseball after steroid testing was finally implemented. Comments focused on the changes in player performance after steroid use and how those diminished skills made “steroid” players expendable once testing was implemented. For instance, several high-profile players who allegedly used steroids had their abilities questioned once steroid testing was implemented in baseball. In regard to Paul Lo Duca, a former All-Star catcher, one anonymous general manager had to say,

Concerning Lo Duca, staff notes from that same season reveal, ‘Got off the steroids. . . . Took away a lot of hard line drives. . . . would consider trading. . . .(12/24/07)’

Discussions of performance improvements also included speculation about what former professional athletes could have achieved if they had used illegal substances, such as steroids, when they played. These performance-based categorizations reflected an ideology of dependency – the idea that the improvements and records were more of a reflection of steroid use than of hard work and how previous records and great players could have been even better if the earlier players had used illegal substances. In an interview with Roger Maris, Jr., the son of former single-season home run record-holder Roger Maris, the younger Maris reflected on what his father could have done on steroids.

The mind boggles at the thought of how many home runs his dad would've hit on steroids, HGH, creatine or andro. "He was naturally big anyway," says Maris. "He got all his muscles doing rail-roids. [Roger Sr. laid railroad track for his father, a foreman.] So, I don't know, a lot more than 61, I guarantee you. A lot more." (SI, 4/1/05)

Success was also identified as tangible, concrete benefits such as fame and fortune. Focusing on cars, mansions, or big money contracts for alleged or proven users of illegal anabolic substances provided a link between financial security and the use of banned substances.

In an article about former slugger José Canseco, the author tried to describe Canseco's lifestyle while serving house arrest for legal troubles.

He is a bigger, wealthier, vastly more renowned human being. Not long ago the first question Canseco might have asked, when sentenced to house arrest, was, "Which house?" He had five of them, including a 22,000-square-foot estate in Weston, Fla., patrolled by \$25,000 turtles. "It had four acres, a 5,500-square-foot gym, a waterfall, lagoon, pool, caves, Jacuzzi, koi ponds all over the place," said Canseco...He pared his fleet of Benzes to three, Navigators to two and Rollses to one. (SI, 6/30/03)

In a special section on alleged steroid users, *Sports Illustrated* included the following examples of financial success associated with steroid use:

Outfielder Gary Matthews Jr., whose career year with the Texas Rangers in 2006 earned him a five-year, \$50 million free-agent deal with the Los Angeles Angels, was sent Genotropin (glossary, page 63) in 2004. The prescription was written by a doctor at a now-defunct antiaging clinic in Florida.

Kurt Angle, a 1996 Olympic gold-medal-winning freestyle wrestler and now a star professional wrestler, received two prescriptions for trenbolone and one for nandrolone between October 2004 and February '05. (SI, 3.12.07)

The frame also reflected generic references to improved athletic performance. This appeared with comments that mentioned longer home runs and faster pitching. For example, in a TSN article about the changes in the performance of players who used steroids, Dave Kindred wrote “Steroids build strength and so create two levels of play” (TSN, 1/28/05). Similarly, a TSN article about performance changes in baseball included this explanation:

By increasing their strength, players are able to hit the balls harder and farther. The use of steroids enhances recovery time between workouts. Muscle tissue breaks down during weight training, and steroids replenish the muscles. When someone is taking steroids, he can lift hard one day, then come back and lift the next. The more you lift, the stronger you become. Hitters demonstrate increased bat speed, and pitchers gain life on their fastballs. (TSN, 3/15/04)

In reference to pitchers’ ability, an SI article included a quote from Oakland Athletics general manager Billy Beane:

It does seem like there are a number of pitchers throwing 90, 91 this year who were 94, 95, 96 in previous years. I don't know the reason for that. (SI, 5/30/05)

And in terms of batting statistics,

The postmodern hitting era unofficially began in 1993, the year baseball expanded to Colorado and Florida. The rate of home runs per game jumped 24%, from 1.44 to 1.78. Homers and muscles have kept growing since then. Last year, though some pundits tied the absence of a 50-home-run hitter to the steroid testing, the rate of homers rose again, from 2.09 per game in 2002 to 2.14. Per game in 2003, home runs flew out 49% more often than they did as recently as 1992 and 146% more often than in 1933. (SI, 3.15.04)

Physical improvement: In addition to the success frame, “physical improvement” was another subframe that was part of the beneficial frame. As opposed to the success subframe, which focused more on benefits associated with athletic performance, this subframe discussed specific physiological and physical improvements. Rather than talking about statistics, the

physical improvement frame focused on greater musculature and improved physical abilities such as more strength, power, or quicker recovery.

Some examples of the physical improvement subframe included these examples,

His chest, shoulders and arms are massive, evidence of years of using the products--including steroids--that he developed. (SI, 10/9/06)

HGH is a popular drug among athletes. A synthetic hormone, HGH is thought by some to accelerate recovery times, speed healing, decrease body fat and, particularly when combined with steroids, increase muscle mass and therefore strength. (SI, 3/12/07)

In specific relation to professional baseball players, two examples that represented the athletic subframe included,

Canseco is instructive, too, on how and why steroids work so well. They made him faster and stronger, allowed him to swing a heavier bat, helped him maintain his bat speed over the length of otherwise grueling seasons and swelled his confidence. "The powers you gain can feel almost superhuman," he writes. It's riveting testimony, not from a lab technician, university professor or union lawyer, but from a real-life case study. One of many satisfied customers. (SI, 2/21/05)

One summer Van Slyke stood outside a batting cage in Houston and watched Astros slugger Ken Caminiti, 25 pounds heavier than during the previous season, smoke ball after ball over the fence. Van Slyke pointed to Caminiti and twice, to a Pirates coach, pantomimed injecting a needle into his own rear end. "I had worked my ass off that off-season," says Van Slyke, "and gained seven pounds." (SI, 3/8/05)

The subframe also included references to body image concerns and improved appearance. Articles would discuss rapid weight and muscle gains and describe steroid users with flattering terms, including "superhero" or "Adonis," and mention users' physical attractiveness or appeal to the opposite sex.

An example of baseball player's superhuman appearance occurred in a December 26, 2005 article in *SI*.

The five players were big and striking figures, and in uniform Canseco, Sosa and McGwire had once looked as if they'd stepped out of a Marvel comic. (SI, 12/26/05)

In reference to the growing size of the home run hitters in baseball, a scout was quoted as saying,

Nobody can put on that kind of muscle mass in a period of three months without doing steroids. (TSN, 12/27/04)

Allure: The last subframe identified in the beneficial frame was allure. This subframe was characterized by words and phrases that reflected the desire to take anabolic substances such as steroids or human growth hormone (HGH) and/or the difficulty of resisting use of such substances. The subframe focused on the addictive qualities of the illegal supplements and the rationale for using the supplements, despite the public's apparent lack of acceptance. Some examples of the allure subframe included the following:

Well. Can't you hear a kid baseball player? "If steroids aren't against the rules, and if they're not going to kill me this very second, why not use them?" Especially if the tradeoff is a gain in strength, endurance, quickness and tall piles of money. (TSN, 11/24/03)

An example that focused on the transformation of José Canseco emphasized the draw of steroid use.

"I was a nerd, a little dweeb, when I was a kid," Canseco said four days before the arrest. "In high school I was skinny and little. I am the perfect example of Before and After." Today, at 38, Canseco is a Carrara marble sculpture. "I run into people all the time who knew me in high school, and a lot of them don't recognize me as the same guy," he said. "They're always like, 'You have changed so much. You've turned into a different human being.'" (SI, 6/30/03)

Other examples focused on the apparent popularity or frequency of steroid use. These examples did not focus on an epidemic spread of the drugs, but instead discussed the notion that successful or competitive individuals were using illegal substances. The subframe gave the appearance that steroids in athletics were the norm and that everyone was using them.

Examples of the allure due to popularity frame included paragraphs from both magazines.

For instance, a March 2007 SI article discussed the impact of sports media on adolescent athletes:

"Kids are watching ESPN or reading SPORTS ILLUSTRATED and making every effort to gain a competitive edge," says Soares, the Albany County DA. "That we have steroids and human growth hormone so readily available presents a clear and present danger." (SI, 3/12/07)

Another example included quotes from a former bodybuilder regarding the ubiquity of steroids use among his peers.

I used to powerlift and bodybuild. About 85 percent of the males at my gym used steroids. A long list of professional athletes and bodybuilders frequented the gym and got their stuff. You could always find someone that had a bottle of testosterone or winstrol. (TSN, 7/12/04)

The allure subframe also included excerpts that rationalized the use of steroids as misunderstood chemical compounds. These examples instead focused on steroids or growth hormones as substances that will be commonly used in the future and are not proven to be detrimental to the body in safe doses.

In one article, Patrick Arnold, the creator of two substances that were allegedly used by Barry Bonds, shared his opinion on anabolic supplements:

Clearly, Arnold will continue to push supplements to the edge of what Catlin and others consider safe, yet he's not targeting just bodybuilders anymore. "The whole antiaging industry interests me," he says. "There are so many avenues I haven't explored in that. The bodybuilding side is so saturated and has this stigma, and I'm almost afraid to come out with something that works because someone [in law enforcement] will come after you. But a lot of the stuff that increases muscle and helps lose fat also helps the quality of life for older people. And athletes will turn to the antiaging world because it will be easier to get the drugs they want there than from the bodybuilding world." "The side effects were minimal, and Arnold became convinced (as he still is) that steroids had been given a bad rap. (SI, 10/9/06)

Allure also manifested as a lack of punishment for the use of steroids. Articles would either discuss the relatively mild penalties for steroid users or how easy it would be for people to

take illegal performance-enhancing supplements without being caught. Although the subframes alluded to cheating, the predominant message was that if you were careful, you could get away with using banned substances.

These frames were most apparent when discussing baseball and its drug policy:

The policy does have its significant loopholes. Players can still use human growth hormone. (Though it is listed as a banned substance, baseball does not screen for it because only a blood test can detect its usage.) The rampant use of amphetamines and other such stimulants is tacitly approved by their omission from the banned list. Designer steroids manufactured to be undetectable in tests--the successors to THG, the steroid at the center of the BALCO scandal--will continue to be invented. Players can also use lower doses of steroids to avoid detection. (SI, 2/21/05)

Also, in a reflection on the difficulty of catching users of HGH,

HGH is the next step beyond steroids, and its illicit use is not new among athletes. It has wonderful ramifications when applied to help spur the growth of stunted children, but it is on baseball's list of banned drugs. The catch, of course: Players are not tested for it. The only way — and it's not infallible — to detect HGH is with blood tests, and those aren't permitted under the current contract that governs the teams and players. (TSN, 5/19/06)

Warning Frame

The least common frame in the articles analyzed was the warning frame. Despite having the second most common subframe, overall as a collective, the warning frame was the least prevalent in the articles that were analyzed. This frame demonstrated examples that could potentially deter adolescents from using or experimenting with AAS. The warning theme included three major subframes: punishment, health danger, and fear.

Punishment: The most common subframe in the danger frame, and the second most common subframe identified in the study, was the punishment subframe. This subframe focused on the lack of social acceptance of anabolic steroids and other illegal performance enhancers. Athletes who were alleged or proven users of banned performance-enhancing substances were consistently labeled as cheaters and poor role models. The cheating reference was included in almost every column written about steroid use.

An example of the punishment subframe was included in many articles that judged the validity of Barry Bonds' records.

Whether Bonds never hits another home run or hits 48 more, which would give him the most of all time, he never can be regarded with honor or full legitimacy. "Shadows" painstakingly catalogs him as a serial drug cheat, and thus the eye-popping stats that he has accrued stand all too literally as too good to be true. (SI, 3/12/06)

In one column by former SI columnist Rick Reilly, the author shares his thoughts on whether steroid users should be allowed in the Hall of Fame.

Bottom line: They cheated. Which means their numbers are dirtier than Boobs.com. Don't vote the rats in. (SI, 8/15/05)

Similarly, an article in *The Sporting News* condemned Barry Bonds for his use stating,

"I would like Barry Bonds to own up to it all and say he made a poor choice. Then he could become a different example to these kids. He needs to apologize not for what he has done to himself but for creating a situation where cheating is OK — and not only OK but a requirement." (TSN, 12/27/04)

Other articles didn't focus as much on individual cheaters but instead discussed how the collective cheating in sports had tainted sports and athletic achievements. While these references did not mention a concrete punishment from an athletic organization or the government, the articles alluded to a punishment in the court of public opinion.

"This is worse than the Black Sox scandal," Terence says. "That was several players fixing one World Series. This is a much larger group of players fixing records that may last for decades. This story has become baseball's Watergate. It started as a minor break-in and just kept growing, week after week." (SI, 3/28/05)

And,

Everything is devalued now — the player, the era, the home run. And it remains difficult to evaluate where this all goes. Bonds is the biggest name, the slugger trying to make history, but this isn't just about him. It's about the entire sport — a sport that has lost, a measure of innocence, not just for the moment but for good. (TSN, 5/19/06)

Health Danger: Articles that included the health danger subframe tended to include examples of the negative physiological consequences of using anabolic steroids or other anabolic

substances. All health danger subframe examples mentioned significant physiological detriments, including the following consequences: internal failure of organs such as the kidneys or liver, cardiovascular disease, gynecomastia, hormone disruption and psychological damage.

One article included the physical ailments associated with use of HGH:

The risks of HGH use are abundant, including diabetes, muscle and joint pain, hypertension, carpal tunnel syndrome, abnormal enlargement of organs and advancement of cardiovascular diseases. Some researchers believe HGH can accelerate cancer. "The issue is pretty straightforward," says Mark Schutta, a University of Pennsylvania endocrinologist. "You're giving people a hormone that can potentially increase the growth of abnormal cells." Schutta also notes that the American College of Endocrinology does not recommend using HGH to treat adults except in the exceedingly rare instance that a patient produces no growth hormone naturally. (SI, 3/12/07)

Fear: The fear subframe moved away from generic statements that focused on the dangerous nature of steroids and similar compounds. The fear subframe instead narrowed its focus to specific anecdotes and stories that relayed tragic tales of individuals – both adolescents and adults – who had suffered or even died in connection with their steroid use. The fear frame was aversive, providing extreme negative examples and going into significant detail discussing the suffering. Many of the fear subframe examples were apparent in editorials that were apparently aimed at steroid prevention.

One article focused on the physical suffering of Brad Cunningham, a 29-year-old amateur bodybuilder, and how his body completely broke down because of steroid abuse.

Instead he lay facedown on his mom's floor on that December morning, dying. His heart stopped and paramedics shocked him eight times, to no avail. On the ninth try he was revived, and he was rushed to Baylor Medical Center in Garland. "They gave him no chance of surviving," says Julia, her eyes welling up. "A chaplain met me at the door." (SI, 4/24/06)

In another dramatic example in *The Sporting News*, a former adolescent steroid user shared his experiences:

After using for only four months, my personality changed. I became depressed along with all of my buddies, I lost a lot of hair, my testes shrunk, my moods became uncontrollable.

So I stopped completely. Well, it didn't end there. After a few months, my testosterone level was lower than a little girl's. My hormone levels were so messed up that I went even more nuts (no pun intended). I couldn't sleep. My muscles were wasting. I went from a ripped 222 pounds to 170 in less than seven months. All of my joints hurt. I was sick all the time. I had no sex drive, even when confronted by the most beautiful girl (damnit!). I continued to lose weight, my digestive system was totally off. I felt like crap. The doctors told me that I need to wait it out until I feel better. What? Until I feel better? When the hell will that be? I looked in the mirror, and what did I see? Some little, weak, testosterone-less sicko. All for a few more pounds of muscle and strength! It's ironic, I started out pretty damn strong naturally, but using steroids I ended up weaker than when I started! (TSN, 7/12/04)

Other articles focused on the psychological problems associated with steroid use. Taylor Hooton, the high school baseball player who committed suicide during withdrawal from steroids, was mentioned in several articles. One passage that focused on Hooton's story said,

He had used the drug without his parents' knowledge, and, when he tried to quit, became so engulfed by depression that he hanged himself in his room, leaving a note that read, "I love you guys. I'm sorry about everything." (SI, 4/24/06)

Other fear subframe examples were specifically directed at adolescents and individuals who suffered from use. This included,

Dr. Scott's a cardiac surgeon. Does he ever stop to think that every batting practice pitch he throws, every improvement that Jonathan makes, takes him one step closer to a world where his son may be forced to make a choice: to cash in his dream and all these hours they've spent together ... or take a drug that could ravage his heart, kidneys and liver, cause impotence, high blood pressure and mood swings so severe that they could induce him to do what the sons of those parents at last week's hearings did? To press a gun to his head and kill himself, as 19-year-old Efrain Marrero of Vacaville, Calif., did in September, or to hang himself in his bedroom, as 17-year-old Taylor Hooton, the cousin of former major league pitcher Burt Hooton, did in July 2003 in Plano, Texas? (4/24/06, SI)

Social Implications Frame

The final frame identified in the articles was one that reflected steroids' social impact or influence. The articles coded focused on a variety of topics, and many articles did not necessarily emphasize the benefits or detriments of steroids. Instead, the articles discussed how steroid scandals in sports were indicative of general trends and the social implications of using steroids.

The three subframes included were: epidemic, indifference, and educational

Epidemic: The epidemic subframe emphasized the widespread use of steroids in all sports, with a specific emphasis on both Major League Baseball and the Olympics. Beyond sports, several articles also referenced the ease of access to steroids and the ease of use.

Dr. Charles Yesalis, a professor at Penn State University and a prominent steroid researcher, was quoted in a TSN story about the frequency of steroid use in sports. Referring to estimates of steroid abuse in sports Yesalis said that the percentage of users was “multiple times higher than that” and called steroid use among athletes “grossly epidemic.”

Yesalis' experience is that steroid tests usually mean nothing because most users and suppliers are so sophisticated that "only the stupid, careless and foolish get caught." If 5 to 7 percent are so foolish as to be found out, he figures, many more go undetected — especially in a sport that only a year ago made it only a petty violation to use steroids. (TSN, 12/1/03)

In a recent SI article, the author argued that the abuse of steroids, although seemingly on the path to improvement, is still a problem in sports and society,

The Steroid Era is being perceived by the public as a thing of the past, even if in truth the problem of performance-enhancing drugs is ongoing and increasingly complicated. (SI, 11/26/07)

Indifference: The indifference subframe was characterized by passages that discussed a sense of apathy toward steroid use, from professional athletes judging their peers and from sports fans judging professional athletes and in relation to the drug testing policies in sports. Often these indifference examples referred to Major League Baseball, which until 2003 had no steroid testing requirement.

Two articles in *The Sporting News* lamented the lack of discipline in Major League Baseball and provided examples of the indifference subframe,

Either way, it won't be pretty for baseball. Nor should it be. Like Bonds, baseball should reap what it has sown. Virtually every other major sport in the world has had rules against steroids use for years. Baseball dallied until 2002, a year after Bonds hit 73 home runs in a season. One need not be terminally cynical to look askance at MLB and its Players Association. It's obvious the ruling powers condoned steroids use. After all, home runs

brought back customers lost when those pooh-bahs canceled much of the 1994 season and did what world wars and an earthquake had never done: call off a World Series. (TSN, 4/28/06)

MLB didn't simply stick its head in the sand, it buried its entire muscle-bound body, creating an environment in which every player is under suspicion. First, MLB had no drug policy. Then, it enacted a laughable drug policy. And now, thanks to a federal investigation of four men accused of distributing steroids to professional athletes, MLB's co-conspirators — the see-no-evil owners and the hear-no-evil players union — have forfeited control of the issue. (TSN, 3/8/04)

Forgiveness was also part of the indifference subframe. Several articles also noted that fans forgave their favorite athletes for steroid use or that steroid use was acceptable in sports that are more physically demanding on the body, such as football. The articles identified a hypocritical bias toward treatment of steroid users in different sports.

Ask Shawne Merriman: Football players can find absolution for their steroid sins. But in baseball the stain never fades (SI, 1/8/07)

The same article on Merriman mentioned how steroid use was rationalized based on the need to entertain fans and on fans' desire to see more power, strength, and speed in the professional sports that they pay to see. This pressure to perform seemingly justified the need for and allegedly rampant use of steroids in sports.

Merriman tested positive for the steroid nandrolone, a drug he says he never knowingly took and must have ingested through -- drumroll, please -- a tainted supplement. That's his story, and he's sticking to it. Not that it matters anymore. When the subject is football, we are either very forgiving or very forgetful. Merriman is a ferocious and speedy linebacker who finished with 17 sacks and four forced fumbles in 12 games. That's good enough for most people, if not Jason Taylor, the Dolphins' defensive end who complained last week that "you really shouldn't be able to fail a test like that and play in this league to begin with." (SI, 1/8/07)

Educational: While the number of articles was limited, some of the features in both magazines included educational subframes that defined steroids and performance-enhancing drugs. Typically the subframes included information attributed to a medical doctor or a university researcher. The subframes explained how steroids and other supplements like HGH

work and discussed the future directions of sports supplementation. Other educational information also discussed the dosages used by professional athletes, the types of drugs used by athletes, and the various effects associated with use.

In describing HGH, for example, an SI article explained:

HGH can be prescribed by doctors for legitimate medical purposes. Historically, this has meant combating rare pituitary disease and treating patients with progressively debilitating conditions resulting from AIDS and some forms of cancer. Yet lately some doctors have ascribed a liberal definition to "legitimate medical purposes," contending that aging is, in effect, a progressively debilitating disease and that any patients with diminishing hormone levels are eligible for the drug. The American Academy of Anti-Aging Medicine, a Chicago-based group that supports using HGH to replace growth hormone as its levels decline with age, counts more than 10,000 health-care practitioners among its members. This "off-label," or unorthodox, use of HGH is the source of significant controversy in the medical community. "It's a ruse," says Dr. Thomas Perls, an associate professor at Boston University School of Medicine, who maintains the website antiagingquackery.com. "The public has equated hormones with youth, and HGH is the drug of choice for these hucksters to push." (Through a spokesman the academy said in a statement to SI that Perls's comment "is on the level of that of a 'flat earth society' uninformed person.") (SI, 3/12/07)

Another feature story included an interview between a reporter and the anonymous Dr. X, a creator of designer steroids. In this article, the reader learns:

I asked how he created THG. He explained that it is a substance that is chemically similar to Gestrinone (an infertility drug) and Trenbolone (an anabolic steroid), and that it had been around since the late 1990s. While Dr. X wasn't the first to make it, he refined the process and was one of the few who could produce and distribute the substance. He'd get Gestrinone by sending women to a fertility specialist "who'd write the pass [prescription], and we'd pay cash. Doctors love that, man. We'd spend a couple hundred, spin it [mix the components] and sell it for a couple thousand." (SI, 4/25/05)

A *Sports Illustrated* article also taught readers about Barry Bonds' alleged illegal supplement routine:

"The cream" (a testosterone-based balm), "the clear" (THG), human growth hormone, Depo-Testosterone and trenbolone (steroids), insulin, Clomid (a female fertility drug used to enhance the effects of testosterone) and Modafinil (an antinarcolepsy drug used as a stimulant). According to the Chronicle, Bonds testified that he used the cream and the clear but did not know they were steroids. Bonds has not been charged with any crime. His personal trainer, Greg Anderson, is under indictment as part of the BALCO investigation. (SI, 2/21/05)

In the earlier-referenced article about Brad Cunningham, the amateur bodybuilder who suffered severe consequences from his abuse, Cunningham described his dosing cycle:

"I was doing about 500 milligrams of Teston QV 200 a week, stacking that with Deca QV-300 and using Winstrol and Equipoise too. I could work out hard for an hour and a half. Without steroids I'd get tired after 45 minutes." The drugs he used were made by Quality Vet, one of the companies owned by Alberto Saltiel-Cohen and a favorite brand within his circle of lifters and trainers. (SI, 4/24/06)

Educational subframes also provided information on the legal ramifications of steroid use. The articles discussed the different legal options for professional athletes using steroids and mentioned the penalties and legal ramifications for public consumption or sale of steroids.

The worst-case scenario involves charges of perjury and obstruction of justice and serving a few months in jail. At the very least, someone convicted of those crimes would be placed on probation. (SI, 3/1/04)

And,

Yes, but it appears more likely that they would be charged with perjury than drug use. Some of the athletes who testified before a federal grand jury in the BALCO case reportedly received limited immunity. However, the athletes could be charged with perjury if prosecutors believe some of them lied to the grand jury. (TSN, 4/12/04)

RQ2: Does the content of steroid-related articles in SI and TSN focus on the benefits or detriments of steroid use? The vast majority of the articles analyzed focused on the numerous benefits associated with steroid use. Despite the overwhelming outrage that was expressed by columnists and the negative moral appraisals made of steroid users, most of the articles spent more time discussing how steroids can benefit athletes or individuals and rarely focused on the negative physical consequences of steroid use. Although some of the sample articles focused on the negative side effects and made it clear that steroid use can lead to an early death, most articles that were critical of steroid use primarily centered on moral judgments about the decision to use illegal products. The majority of articles analyzed did not educate readers about the risks and dangers involved with use. Readers frequently would be subjected to discussions of

improved athletic performance such as greater strength, more power, better endurance, and quicker recovery. The frames also focused on the professional success of steroid users, improved physical abilities and the lack of punishment for users. While both benefits and harms were included in the articles, the frequency and quantity of references to the benefits of steroids, which doctors reiterated and reinforced as indisputable, outweighed and overwhelmed the negative problems linked to steroid use.

RQ3: Where is the information about the detriments of steroid use and illegal performance-enhancers located in articles included in Sports Illustrated and The Sporting News? Each article that was coded was analyzed for the location of the negative frame material discussing steroid use. The coder had to determine if the negative frames were in the lead of the story, the first third of the story, the middle third, or the final third of the story. With the exception of four stories, every story that included negative or detrimental frame material referenced that information in the middle or final third of the article. Also, it was common for the benefits to be listed before the detriments in articles. Overall, there were only 11 articles that included health danger subframes, and 14 that focused on a fear subframe.

RQ4: Do steroid-related magazine articles in Sports Illustrated and The Sporting News reinforce the use of steroids as a way to improve athletic performance or achieve the muscular male ideal? The “beneficial” frame included the three subframes – success, athletic improvement, and allure – that reinforced the idea that, steroids, although illegal, undoubtedly improve performance and can provide a more muscular and athletic body. While no writer directly stated that taking steroids was the way to achieve the ideal body, attributed sources and statements focused on the benefits of illegal performance-enhancement and the athletic benefits that can be derived from steroid use.

For example, the interview with the steroid creator known as Dr. X boasted to the writer: “Give me six weeks, and I'd have you in the best shape of your life.” This provided a direct, powerful statement that alluded to the fact that steroids are a quick fix to solving body image concerns and achieving peak fitness.

RQ5: Do Sports Illustrated and The Sporting News differ in the frames provided in their content? The frames presented in both magazines were very similar. Each frame and the corresponding subframes that were identified in the coding process were similarly displayed in the articles that were analyzed for the selected time period. A few differences did stand out, and interestingly, they might be connected to the magazine's mission statements. The mission statement for *Sports Illustrated* is:

Sports Illustrated is the most respected sports brand in the world. Each week, the magazine covers the people, passions and issues of numerous sports with the journalistic integrity that has made it the conscience of all sport. It is surprising, engaging and informative, and always with a point of view that puts its readers "in the game."

In contrast, the mission statement for *The Sporting News* reads,

The Sporting News is the only sports media company dedicated to the most passionate fans. We educate and entertain our consumers about the teams they love by taking them places they can't visit – out of the stands and inside the action with a fresh perspective, provocative journalism, and in-depth analysis to “See a different game.”

Sports Illustrated contained nearly twice as many steroid-related articles as *The Sporting News*, which was surprising since both publications are weekly. But considering their “in the game” ideology, *SI* clearly attempts to capture the social fabric of sports, which recently has been inundated with steroid allegations across all sports. *The Sporting News* also included more references classified in the “warning” frame, featuring more health danger and educational subframes. This would apparently parallel their goal to “educate and entertain” their readers. Both magazines had similar frequency per article of the “beneficial” and “social implication” frames. But despite the smaller sample, *The Sporting News* included more health danger frames

that went into details from doctors and credible sources that detailed the specific physiological consequences of steroid use and educated readers on the different types of steroids used by athletes.

CHAPTER 5 CONCLUSION AND DISCUSSION

The framing analysis of steroid-related articles in two magazines, *Sports Illustrated* and *The Sporting News*, from 2003 to 2007 revealed three primary frames. These frames allowed for the categorization of the different information subframes that were disseminated in the magazine articles. One frame, “beneficial,” focused on the beneficial aspects and possibilities of steroid use; the “warning” frame emphasized the negative consequences associated with the use of the illegal drugs, and a third frame, “social implications,” reflected the media’s appraisal of steroid use and educated readers on the role steroid use plays in society. Despite three themes that appear to provide balanced coverage of steroid use in sports, there are many reasons to be concerned that the proliferation of steroids-related articles in magazines popular among adolescents, such as *SI* and *TSN*, could be instigating, reinforcing, or perpetuating steroid use in the adolescent population.

At the conclusion of the coding process, it was very apparent that the beneficial frame was discussed frequently in articles and was included in substantially more articles than the other two frame. Even editorial articles that were seemingly written to condemn steroid use and the athletes who used illegal drugs still included frames that referenced the benefits of steroid use. And while the list of encouraging frames was seemingly endless, the list of danger frames that could deter use was limited. Although the negative consequences of steroid use are severe, the coverage of negative effects was lacking in quantity in comparison to the encouraging aspects, thus making steroids appear more appealing than dangerous. The content of these two popular magazines provides enough reason to be concerned that magazines – a powerful communicative medium for adolescents – could potentially be assisting or contributing to adolescent use and interest in AAS.

The multitude of benefits listed in the numerous articles provides enough information to create the potential for psychological reinforcement. Because most of the articles focused on famous and successful athletes, the frames suggest that the magazines may contribute to sociocultural pressure to follow the path to success that has been established by current professionals. Steroid use in the adolescent population is most common among athletes who play sports that demand strength and size (Bahrke, Yesalis, Kopstein & Stephens, 2000; Stilger, 1999). In addition, surveys have shown that male adolescents believe that steroids can improve athletic performance (Faigenbaum, et al., 1998; Hoffman, et al., 2007). The finding that beneficial frames was the most common among these articles, combined with prior research about adolescent attitudes toward steroid use, only furthers the concern about the impact of magazine steroid articles on adolescent use tendencies.

Even if some articles presented both sides of the steroid issue – the benefits and the detriments – the desire to experiment with, begin, or continue use of steroids can be increased by a greater awareness of the drugs, which articles about steroids may provide. Awareness can increase the likelihood of experimentation with performance-enhancing drugs, and becoming more aware of the beneficial aspects of steroid use positively reinforces the desire to experiment with or use illegal anabolic substances (Corbin, Feyrer, Phelps et al, 1994; Komoroski & Rickert, 1992).

Most importantly, several studies have indicated that an increase in awareness about the topic of steroids or their potential benefits increases favorable attitudes toward experimentation with steroids and augments the potential for usage (Cafri et al., 2005; Dittmer, 2005; Field et al., 2005). A multitude of studies have shown that an increase in knowledge, especially when combined with beliefs linking athletic success or muscle-building capabilities to steroids,

increases positive attitudes toward and the possibility of experimentation with AAS (Chang, & Moore, 1990; Corbin, Feyrer, Phelps, et al., 1994; Komoroski & Rickert, 1992; Krowchuk, Anglin, Goodfellow, et al., 1989).

The perception of the relationship between athletes' successes and steroid use has been demonstrated prior to this study. Hoffman, et al., (2007) found that 10% to 20% of teenage boys believe that professional athletes are dependent on illegal performance enhancers, such as steroids, to improve performance in their sports. The influence of athletes on adolescent behaviors was also exhibited in the Hoffman et al. study. Between 18% and 24% of boys said that professional athletes influence their decision about steroid use, and among adolescents who had ever used steroids, more than 63% said that professional athletes influenced their use (Hoffman, et al, 2007).

Although negative frames were included in several articles, those negative statements generally focused on moral judgments of users and not on the physical and mental harm caused by steroid use. There were two major issues with the negative statements: 1) they were contained late in articles, and 2) there was a willingness to rationalize and forgive users. While the late positioning of the negative frames is not as much of an issue in *The Sporting News* because of the shorter length of articles, it is problematic in *Sports Illustrated* where articles were frequently longer than 3,000 words. When negative frames are buried at the end, it is very likely that those frames will not be salient, will be overlooked, or will potentially go unread by adolescents. And when negative, critical moral judgments were made of athletes who had cheated in their sport, some writers, fans, and players still displayed a general indifference or apathy to steroid use in sports. In articles where no indifference was apparent, there was still a willingness to forgive steroid users or to rationalize that some athletes – because of the physical demands of the sport

and the need to provide high quality entertainment to the fans – were pressured into a position in which steroids could be considered a valid and tempting option, thus rationalizing the use of illegal performance-enhancing drugs. The double standard was most apparent when comparing athlete’s use in baseball to athletes use in football. Steroid use in football, a more physical sport, was seen as a necessity to deal with the physical stressors of the job and as a way to provide the highest form of entertainment. And even with baseball, some fans that were quoted didn’t mind the use of steroids because it created a more entertaining product.

However, even articles that included only “danger” and “educational” frames about steroids might not be enough to deter adolescents’ interest in steroid use. Research by Hoffman, et al., offered a shocking demonstration of adolescents’ willingness to risk their long-term health for the short-term benefits provided by steroids (2007). More than 3,000 adolescents in 8th – 12th grades were surveyed about steroids, and there was an increase in each succeeding grade in reported willingness to use supplements to reach fitness goals, even if it meant detrimental health problems or a shorter life span. Almost 15% of 12th-grade boys demonstrated a willingness to take supplements that would damage their health, and almost 9% said they would be willing to take a supplement that would shorten their life, as long as the product helped them achieve their fitness goals (Hoffman, et al., 2007). Even in situations that don’t focus on any beneficial attributes, using professional athletes as examples of steroid users automatically provides the assumption that steroids are connected with success.

Steroid use is positively correlated with the desire to be the best in competition and sports, and this competitive drive increases the allure of a product that promises to help teenagers achieve their goals. By focusing on winning, success, benefits, and the allure of use, the media may foster a risk-taking attitude in adolescents (Yesalis & Bahrke, 2000). Additional studies

show that adolescents perceive the media's coverage of the muscular ideal as positively correlated with sports and athletic images and that the images in the media serve as “proof” that greater muscularity will result in more success in sports (McCreary & Sasse, 2000). If the connection is made that steroids give you more muscle, and more muscle equals greater success, then the articles that include these frames risk triggering a chain reaction that potentially can lead to steroid use.

Even the moral condemnation seen in many articles – as represented by the punishment subframe – which was the most common negative frame observed in the analysis and commonly referred to users as “cheaters,” may not be enough to deter adolescent users. Steroid use is typically viewed negatively by the public, but individuals are strongly influenced by outcomes that are perceived as rewarding, even if that behavior creates moral dilemmas (Bandura, 2001).

If individuals are more concerned with outcomes and intrinsic drive, then they will be willing to risk social rejection (Bandura, 1986). Although the general public views steroid use as immoral, incorrect or dangerous, adolescents experimenting with steroids could perceive these supplements as beneficial or even necessary to their personal goals. If this occurs, then the negative perceptions can be rationalized as unimportant, and the likelihood of behavioral modeling, in this case with AAS use, may be increased. Even if users are aware of the negative side effects, they are willing to risk detrimental physiological problems in exchange for the multitude of aesthetic benefits seemingly offered by the illegal drugs (Pecci & Lombardo, 2000).

Prior research has also shown that a large percentage of adolescents do not believe that steroids are a significant threat to their health (Johnston, et al., 2006). Thus it is plausible that adolescents would be willing to learn about steroids or that encouraging media coverage about steroid use could promote a desire to learn more or even begin use. The overall concern is that

the frames presented either will have no discouraging effect on adolescent steroid use or will increase the intrigue and desire to experiment with dangerous drugs.

An even bigger issue could be connected to steroid use by adolescents not involved in athletics. If one of the primary consequences of use (as portrayed in the magazines) is moral condemnation and punishment, then there is no consequence of use for non-athletes. They can't be considered cheaters or creating an un-level playing field if there are no "rules" against use for aesthetic purposes. While steroid use is illegal, adolescents engage in illegal behaviors all the time. Thus, the adolescents are faced with a variety of benefits and no real, actualized threat if the negative physical consequences are made salient in articles.

The issue thus becomes determining the optimal way for the media to provide information about steroids. While it is impossible for the media, in particular sports magazines, to avoid the issue altogether, the media should be conscientious of its potential impact on adolescent steroid use. The biggest problem is that any mention of steroids in athletics could potentially elicit interest in the illegal drugs because of social comparison theory and the link between the illegal drugs and successful athletes. However, articles that provide some background about the drugs, such as how they are illegal not only in sports but in all facets of society and the detrimental consequences of use could help deter the usage of illegal performance-enhancers. A best-practice for sports journalists may be the inclusion of at least one paragraph that provides background information on the illegal drug that is being discussed in the article. By included this information, the readers will be provided with some foundation of understanding of the topic, instead of risking being influenced to experiment with the drugs because of the perceived benefits. For example, an article in March 2007 in *Sports Illustrated* provided a list of illegal performance-enhancing drugs and explained how they worked (see Appendix D). While the ideal

information would focus more on the potential threats, this educational approach is more along the lines of what is needed in articles about steroids. There needs to be a sense of social responsibility in journalists to not only cover the topic, but to ensure that the topics discussed – especially health-related topics – are placed in a context where people will not carelessly engage in dangerous behaviors because of the information provided.

Steroids appear to be a problem because of their scientifically proven effectiveness and a lack of focus on the potentially deadly consequences of use. By focusing more on the risks involved in use and the legal consequences, there is a greater possibility of aversively conditioning adolescents to be afraid of usage. Each steroids-related feature would ideally contain at least one paragraph – located early in the story – that briefly mentions the illegal and dangerous effects of illegal performance-enhancers such as steroids and HGH. While this may be repetitive, these “warning” frames will increase the salience of the danger of steroid-like supplements and might provide a greater balance to the current beneficial-heavy frames that are apparent in sports magazines. Programs that teach adolescents about the dangers of steroids have already proven effective in changing attitudes and behaviors. Two Oregon Health & Science University programs, ATLAS (Adolescents Training and Learning to Avoid Steroids) and ATHENA (Athletes Targeting Health Exercise and Nutrition Alternatives), have experienced success in reducing the desire for and use of anabolic steroids by informing teenagers about the dangers of products and offering healthier, safer alternatives (OHSU, *Sports Illustrated* partner to prevent steroid, drug use among teen athletes, 2006). According to a 2006 press release, the ATLAS program led to 50% reduction in new use of anabolic steroids in ATLAS-trained students. *Sports Illustrated* partnered with the two programs in 2006 by providing a \$1 million grant to continue research and development of anti-drug programs (OHSU, *Sports Illustrated*

partner to prevent steroid, drug use among teen athletes, 2006). The next logical step seems to be for the magazine to implement some of the educational strategies used by the program in its coverage.

Study Limitations

While this study provides new information about the content frames that are presented in popular sports magazines, the data provide no way of determining how many adolescents read these articles or whether their perceptions of the information would be similar to the researcher's interpretations. Despite high adolescent readership in both magazines, subscriptions contain many articles in each issue, and to assume that adolescents read every article that relates to steroids in every issue is very presumptuous. Adolescents may skim or even skip steroid-related articles completely and thus miss the different frames presented.

Future Research

Further research would have to be conducted on the reading patterns of adolescents in sports magazines and specifically for steroid-related articles. Other future research could use focus groups with adolescents to provide a clearer picture of adolescents' attitudes toward steroids, their perception of the media's depiction of steroid use among professional athletes, and the impact of the media's portrayal and delivery of steroid information. Research that compares the magazines' frames to adolescents' perceptions of magazine coverage of steroids and to their knowledge, beliefs and attitudes regarding steroid use would provide better insight into the influence of the articles on adolescent decision making.

Another potentially confounding characteristic of the study was the publications selected for analysis. The research was designed to examine and analyze articles in popular magazines that would be read by adolescents. Magazines that are not read by a significant number of adolescents are unlikely to increase the salience of the issue and thus would not have an

influence on teenage cognitions and behaviors in relation to illegal performance-enhancement. Both magazines selected are sports magazines, and one could argue that sports magazines are essentially feature beats on a variety of different sports, and the job of the journalists is not to cover the health aspects of the topic. Instead, these magazines focus on the societal issues, such as cheating, and why the readers should care about what is occurring in the world of sports, as well as reporting on the specific sports, games and athletes readers want to know about. The magazines are likely to focus on positive attributes of successful athletes regardless of their moral obligations because that is the magazine's priority. Even though the articles were heavily slanted toward the beneficial frame, the same types of frames could be expected in any sport-specific magazine. Sports are games of statistics, so sharing the incredible achievements of athletes, regardless of whether they use drugs, is a priority of a sports magazine's agenda. Analyzing health and fitness magazines likely would produce a very different set of frames regarding steroid use, but those magazines do not have the same quantity of adolescent readers as the publications chosen for the study.

Another important topic for future research would be the relationships among fitness magazine coverage, body image, and the attitudes of people who use steroids but who are not involved in sports. In a 2000 study, Bahrke, et al., determined that 16% to 36% of adolescent steroid users were not athletes and did not participate in any group or individual sport. Other research could further investigate muscle dysmorphic disorder – the desire for increased muscularity – and the different mediums that influence and perpetuate body image pathology and foster the sense that men need to rely on illegal anabolic substances to attain their ideal body goals.

Future researchers may be able to determine how much steroid-related media content adolescents consume and what role, if any, the media play in the troubling frequency of adolescent – and adult – steroid use. More research, both qualitative and quantitative, is needed before the media can be assumed to play any causal role in adolescent steroid use. However, the results of the study do indicate that the coverage of steroids in magazines occurs frequently and that the articles frame the issues in ways that are more likely to increase interest in use rather than deterring adolescents from experimentation with effective, yet very dangerous, drugs.

APPENDIX A
CODE SHEET

1. Case:
2. Coder:
3. Publication:
4. Date:
5. Headline:
6. Type of article:
 - Hard news
 - Feature
 - Editorial
7. Article length:
8. Lead:
9. Frames:
 - Types:
 - Count/Totals:
 - Quotes that exemplify frame:
10. Location of negative side effects of steroid use
 - Lead
 - 1st third
 - Middle third
 - Last third
11. Sources used to validate arguments:
 - How many:
 - Types:
 - Doctors/Researcher
 - Bodybuilders
 - Teenage users
 - Professional athletes
 - Amateur athletes
 - Government officials
 - Athletic officials
 - Athletic Trainers
 - Other
12. Story includes:
 - Steroids (definition)
 - Athlete usage
 - Professional
 - Amateur
 - Teen
 - Supplement usage
 - Supplements (in general)
 - Regulatory bodies
 - Government
 - Olympic committee
 - Professional sport (NFL, NBA, MLB, NHL)

NCAA

Doctors

Laws applying to steroids

Benefits of AAS

Dangers of AAS

Physical consequences (negative)

Mental consequences (negative)

Body image

Cheating

APPENDIX B CODEBOOK

1. Case: Write the title of the article and the designated number assigned to the magazine article
2. Coder: write the coder's name
3. Publication: Indicate the publication where the article was published
4. Date of article: mm/dd/yy
5. Headline: Write the headlines of the article and the quickread – any subtitle that is included. Also note if the font is bold, underlined, italicized, or a different font from the rest of the article.
6. Type of article:
 - HN: Hard news – Article should be factual news without opinion. The tone is serious and urgent.
 - F: Feature – Article is written to entertain or inform the reader and contains elements found in short stories. There is a clear lead that is meant to grab the readers' attention. Tone is conversational
 - E: Editorial – Article expresses a point of view or opinion. Typically short.
7. Article length: Approximate in words the length of the news article. If the word count is available, write the exact number. If not, count the number of words in the first paragraph and divide by the number of lines in the first paragraph. Multiple this number by the total number of lines in the article. Record this number.
8. Lead: The part of the story that indicates the focus of the story. The lead is oftentimes the first sentence (in a hard-news/summary lead) or located within the first paragraph. Sometimes in a feature story, a delayed lead is used and it is located in the second or third paragraph. Write, verbatim, one to two sentences that capture the focus of the story.
9. Frames: While reading the article, carefully analyze every paragraph for word usage, location of attribution, sources used, opinionated vs. factual information, dramatic anecdotes, and use of data figures and presentation of the main issues. The main idea is to identify and examine the frames presented that are related to steroid usage and how these frames could sway/mold the reader's interpretation of the topic. It is important to code for both motivational and detrimental frames for any topic that is covered in the article.
 - Count/totals: Count the number of times that a specific frame is referenced and total the amount of times the frame was used in the entire article.
 - Quotes that exemplify frame: If there are any quotes, full or partial, that represent the frame directly, write them down.

10. Location of negative side effects of steroid use: Make note of the location of the explanation of negative side effects related to steroids. Focus on location in the article of negative physiological detriments of steroid use and not on opinionated judgments about people who use steroids. The purpose is to determine where, or if, readers are made aware of the negative physical problems associated with steroid use.
11. Sources to validate arguments: Identify the names and titles of the individuals that are quoted or paraphrased in the story. Also identify any non-human sources, such as Internet Web sites, books or pamphlets.

How many: Record the number of different sources referenced. If a person is mentioned more than once, only record for the first occurrence. Write the number next to the appropriate category from the list that follows:

- Doctors/Researcher
- Bodybuilders
- Teenage users
- Professional athletes
- Amateur athletes
- Government officials
- Athletic officials
- Athletic Trainers
- Other

12. Story includes: After reading the article, determine the focus of the story by including what topics and who was mentioned in the article. If any of the following topics are included in the article, summarize what details were included and write down the page number in the article. The categories are broad, so examples can be used in more than one category.

- Steroids (definition)
- Athlete usage
 - Professional
 - Amateur
 - Teen
- Supplement usage
- Supplements (in general)
- Regulatory bodies
 - Government
 - Olympic committee
 - Professional sport (NFL, NBA, MLB, NHL)
 - NCAA
- Doctors
- Laws applying to steroids
- Benefits of AAS
- Dangers of AAS

Physical consequences (negative)
Mental consequences (negative)
Body image
Cheating

APPENDIX C
BASEBALL STEROID TIMELINE:

(retrieved from: <http://www.baltimoresun.com/sports/baseball/bal-sp.timeline14dec14,0,3186232.story?page=1>)

August 1998

Reporters spy a jar of androstenedione, a prohormone steroid precursor that is sold over-the-counter, in Mark McGwire's locker during his chase of Roger Maris' single-season home-run record.

April 2001

Baseball institutes steroid testing for minor league players.

May 2002

In a Sports Illustrated cover story, Ken Caminiti admits he used steroids during his 1996 Most Valuable Player season.

August 2002

Baseball announces plans for anonymous "survey" testing of big leaguers.

November 2003

Baseball announces that 5 to 7 percent of major leaguers failed survey testing, triggering the creation of a mandatory testing program.

December 2003

Ten players, including Barry Bonds, testify before a federal grand jury in connection with the BALCO investigation.

November 2004

The San Francisco Chronicle obtains leaked testimony in which Jason Giambi admits using steroids and Bonds says he allowed his trainer to apply a cream that he thought was flaxseed oil.

January 2005

Baseball and its players union agree to a testing program that will reveal the names of first-time steroid offenders and impose stiffer penalties.

February 2005

Former slugger Jose Canseco releases an autobiography, admitting steroid use and leveling allegations at others, including McGwire.

March 2005

Six active and former players testify before a Congressional panel investigating steroid use in baseball. McGwire says he doesn't want to discuss the past. Orioles first baseman Rafael Palmeiro issues a finger-wagging denial of steroid use.

April 2005

Tampa Bay outfielder Alex Sanchez becomes the first major leaguer suspended under the new drug policy.

August 2005

Palmeiro's positive test for Stanozolol is announced.

November 2005

Players agree to stiffer steroid penalties of 50 games for a first offense, 100 games for a second and a lifetime ban for a third.

March 2006

Baseball announces that former Sen. George Mitchell will lead a full investigation of past steroid use in the game.

June 2006

The home of former Orioles reliever Jason Grimsley is raided by federal agents. Grimsley admits to using HGH and allegedly shares names of other drug users.

June 2006

Former Oriole David Segui admits using HGH with a doctor's prescription.

October 2006

The Los Angeles Times reports that the Orioles' Miguel Tejada, Brian Roberts and Jay Gibbons are among the players named in Grimsley's affidavit. The facts of the story are disputed by an attorney involved with the case.

September 2007

Sports Illustrated reports that Gibbons allegedly received performance enhancers from an Orlando, Fla., pharmacy.

November 2007

Bonds, the new home run king, is indicted on federal perjury charges for allegedly lying about steroid use.

December 2007

The Mitchell Report is released, naming 87 players linked to performance-enhancing drugs, including seven MVPs and 31 All-Stars

REFERENCES

- Agliata, D., & Tantleff-Dunn, S. (2004). The impact of media exposure on males' body image. *Journal of Social and Clinical Psychology, 23*, 7- 22.
- Aronson, E. (1997). A theory of cognitive dissonance. *American Journal of Psychology, 110*, 127-137.
- Bahrke, M, Yesalis, C., & Brower, K. (1998). Anabolic-androgenic steroid abuse and performance-enhancing drugs among adolescents. *Child Adolescent Psychiatric Clinician, 7*, 821-838.
- Bahrke, M., Yesalis, C., Kopstein, A., & Stephens, J. (2000). Risk factors associated with anabolic-androgenic steroid use among adolescents. *Sports Medicine, 29*, 397-405.
- Bandura, A. (2001). Social cognitive theory of mass communication. *Media Psychology, 3*, 265-299.
- Bandura, A. (1986). Social foundations of thought and actions: A social cognitive theory. Englewood, NJ: Prentice-Hall.
- Blouin, A., & Goldfield, G. (1995). Body image and steroid use in male bodybuilders. *International Journal of Eating Disorders, 18*, 159-165.
- Botta, R. (2003). For your health? The relationship between magazine reading and adolescents' body image and eating disturbances. *Sex Roles, 48*, 389-399.
- Brown, W., Basil, M., & Bocarnea, M. (2003). The influence of famous athletes on health beliefs and practices. *Journal of Health Communication, 8*, 41 57.
- Bush, A., Martin, C., & Bush, V. (2004). Sports celebrity influence in behavioral intentions of Generation Y. *Journal of Advertising Research, 44*, 108 118.
- Cafri, G., van den Berg, P, & Thompson, K. (2006). Pursuit of muscularity in adolescent boys: Relations among biopsychosocial variables and clinical outcomes. *Journal of Clinical Child and Adolescent Psychology, 35*, 283-291.
- Cafri, G., Yamamiya, Y., Brannick, M., & Thompson, J.K. (2005). The influence of sociocultural factors on body image: A meta-analysis. *Clinical Psychology: Science and Practice, 12*, 421-433.
- Centers for Disease Control and Prevention, [Youth Risk Behavior Surveillance—United States, 2005](#), June 2006.
- Chung, B. (2001). Muscle dysmorphia: A critical review of the proposed criteria. *Perspectives in Biology and Medicine, 44*, 565-574.

- Corbin, C., Feyrer-Melk, S., & Phelps, C. (1994). Anabolic steroids: A study of high school athletes. *Pediatrics Exercise Science*, 6, 149- 158.
- Elliot, A., & Devine, P. (1994). On the motivational nature of cognitive dissonance: Dissonance as psychological discomfort. *Journal of Personality and Social Psychology*, 67, 382-394.
- Entman, R. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43, 51-58.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117-140.
- Field, A., Austin, S., Camargo, C, Taylor, C., Striegel-Moore, R., Loud, K., & Colditz, G. (2005). Exposure to mass media, body shape concerns and use of supplements to improve weight and shape among male and female adolescents. *Pediatrics*, 116, 214-220.
- Grinspoon, S., & Seely E. (2006). Is adolescent steroid abuse/misuse rampant? *Endocrine News*, 7, 2006.
- Goldberg, L., Mackinnon, D., Elliot, D., Moe, E., Clarke, G., & Cheong, J. (2000). The adolescent training and learning to avoid steroids program: preventing drug use and promoting health behaviors. *Archive of Pediatric Adolescent Medicine*, 154, 332-338.
- Goldberg, L., Elliot, D., Clarke, G., MacKinnon, D., Zoref, L., & Moe, E. (1996). The adolescent training and learning to avoid steroids prevention program: background and results of a model intervention. *Archives of Pediatrics of Adolescent Medicine*, 150, 713-721.
- Goldberg, L., Bosworth, E., Bents, R., & Trevison, L. (1990). Effect of an anabolic steroid education program on knowledge and attitudes of high school football players. *Journal of Adolescent Health Care*, 11, 210- 214.
- Groez, L., Levine, M., & Murnan, S. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta- analytic review *International Journal of Eating Disorders*, 31, 1-16.
- Grogan, S., & Richards, H. (2002). Body image: Focus groups with boys and men. *Men and Masculinities*, 4, 219-234.
- Harris, J. C. (1994). *Athletes and the American hero dilemma*. Champaign, IL: Human Kinetics.
- Harrison, K., & Cantor, J. (1997). The relationship between media consumption and eating disorders. *Journal of Communication*, 47, 40-67.
- Johnson, M., Jay, S., Shoup, B., & Rickert, V. (1989). Anabolic steroid use by male adolescents. *Pediatrics*, 83, 921-924.
- Kahneman, D., & Tversky, A. (1984). Choices, values and frames. *American Psychologist*, 39, 341-350.

- Kaiser Family Foundation (2004). Teen Magazine Survey. Menlo Park, CA. Author.
- Komoroski, E., & Rickert, V. (1992). Adolescent body image and attitudes to anabolic steroid use. *Archives of Pediatric and Adolescent Medicine*, 146, 823-828.
- Law, C., & Labre, M.P. (2002). Cultural standards of attractiveness: A thirty-year look at changes in male images in magazines. *Journalism and Mass Communication Quarterly*, 79, 697-711.
- Leit, R., Gray, J., & Pope, H. (2002). The media's representation of the ideal male body: A cause for muscle dysmorphia? *International Journal of Eating Disorders*, 31, 334-338.
- Leit, R., Pope, H., & Gray, J. (2001). Cultural expectations of muscularity in men: The evolution of playgirl centerfolds. *International Journal of Eating Disorders*, 29, 90-93.
- Leone, J., Sedory, E., & Gray, K. (2005). Recognition and treatment of muscle dysmorphia and related body image disorders. *Journal of Athletic Training*, 40, 352-359.
- Levine, M. & Harrison, K. (2004). Media's role in the perpetuation and prevention of negative body image and disordered eating. In J.K. Thompson (Ed.), *Handbook of Eating Disorders and Obesity*, 695-717. New York: Wiley.
- Lorenzen, L., Grieve, F., & Thomas, A. (2004). Exposure to muscular male models decreases men's body satisfaction. *Sex Roles*, 51, 743-748.
- Magazine Publishers of American (2003). Teen Market Profile. New York, NY. Mediamark Research Inc.
- McCreary, D., & Sasse, D. (2000). An exploration of the drive for muscularity in adolescent boys and girls. *Journal of American College Health*, 48, 297-304.
- Morrison, T., Rudolf, K., & Morrison, M. (2004). Body image evaluation and body image investment among adolescents: A test of sociocultural and social comparison theories. *Adolescence*, 155, 571-592.
- OHSU, *Sports Illustrated* partner to prevent steroid, drug use among teen athletes. (2006). Retrieved 4/19/2008, from <http://www.ohsu.edu/landing/goldberg/>
- Olivardia, R. (2001). Mirror, mirror on the wall, who's the largest of them all? The features and phenomenology of muscle dysmorphia. *Harvard Review of Psychiatry*, 9, 254-259.
- Olivardia, R., Pope, H., & Hudson, J. (2000). Muscle dysmorphia in male weightlifters: A case-control study. *American Journal of Psychiatry*, 157, 1291-1296.
- Pinhas, L., Toner, B., Ali, A., Garfinkel, P., & Stuckless, N. (1999). The effects of the ideal female beauty on mood and body satisfaction. *International Journal of Eating Disorders*, 25, 223-226.

- Pope, H.G., Gruber, A.J., Mangweth, B., Bureau, B., deCol, C., & Jouvent, R. (2000). Body image perception among men in three countries. *American Journal of Psychiatry*, 157, 1297-1301.
- Pope, H.G., Phillips, K.A., & Olivardia, P. (2000). *The Adonis Complex: The secret crisis of male body obsession*. New York: Free Press.
- Ricciardelli, L.A., McCabe, M.P., & Ridge, D. (2006). The construction of adolescent male body through sport. *Journal of Health Psychology*, 11, 577-587.
- Scheufele, D. (1999). Framing as a theory of media effects. *Journal of Communication*, 49, 103-122.
- Silverstein, B., Perdue, L., Peterson, B., & Kelly, E. (1986). The role of mass media in promoting a thin standard of bodily attractiveness for women. *Sex Roles*, 14, 519-532.
- Thompson, J., Heinberg, L., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting Beauty*. Washington, D.C. American Psychological Association.
- Thompson, J., & Tantleff, S. (1992). Female and male rating of upper torso: Actual ideal and stereotypical conceptions. *Journal of Social Behavior and Personality*, 7, 345-354.
- Vartanian, L.R., Giant, C.L., & Passino, R.M. (2001). "Ally McBeal vs. Arnold Schwarzenegger": Comparing mass media, interpersonal feedback and gender as predictors of satisfaction with body thinness and muscularity. *Social Behavior and Personality*, 29, 711-724.
- Wann, D. L., Melnick, M. J., Russell, G W, & Pease, D. G (2001). *Sport fans: The psychology and social impact of spectators*. London: Routledge.
- Wroblewska, A.M. (1996). Androgenic-anabolic steroids and body dysmorphia in young men. *Journal of Psychosomatic Research*, 42, 225-234.
- Yesalis, C., & Bahrke, M. (2000). Doping among adolescent athletes. *Bailliere's Clinical Endocrinology and Metabolism*, 14, 25-35.

BIOGRAPHICAL SKETCH

Adam Mark Bornstein was born in 1982 and raised in Northbrook, IL. The second of four boys, Adam grew up in the northern suburbs of Illinois, graduating from Glenbrook North High School in 2000, and then moving to Boulder, Colorado, to attend the University of Colorado. He earned his B.A. in psychology from the University of Colorado, and graduated Summa Cum Laude. After graduation, he spent two years working as a faculty member at the University of Colorado as a professional research assistant in the CU Stereotyping and Prejudice lab.

While in Colorado, Adam also freelanced for local newspapers, *The Boulder Daily Camera*, and *The Colorado Daily*. He enrolled in the master's program at the University of Florida and will be earning an M.A.M.C in journalism. Adam worked at *The Gainesville Sun* during his time in graduate school, was the lecture assistant for MMC 2100: Writing for Mass Communication, and was awarded as Most Outstanding Graduate Student in the College of Journalism and Communications. Upon graduation, Adam will begin work as the fitness editor for Men's Health magazine. Adam is the son of Ira and Sandy Bornstein, and has three brothers: Josh, Aaron, and Jordan.