

Depression Among Bodybuilders: The Impact of Supplements

Ivan Das

Research Scholar

Department of Psychology, Tripura University

E-mail: ivandas94@gmail.com

Abstract

People join bodybuilding not only to take their physique to the next level, but also as an activity that keeps mind fresh and stable. Often it can also be found that this sport is the root cause of different mental and physical problems. And in that context, supplements and consumption of other drugs have a huge role. In the present study, a sample of 30 non-bodybuilders, 30 bodybuilders who do not take supplements and 30 bodybuilders who take supplements were selected, employing purposive sampling technique, whereby they were assessed for symptoms of depression. Beck's Depression Inventory-II, devised by Beck (1961) was used to assess the level of depression, present in the different groups. The findings state that bodybuilders on supplements have the highest levels of depression, whereas those who do not take supplements were seen to have the lowest depression level. It is to be noted that the non-bodybuilder group showed higher levels of depression than bodybuilders not on supplements. The reports of one way ANOVA indicate that with reference to depression, significant difference exists between the bodybuilders on supplement and those who are not on supplements. It has been found that bodybuilders, taking supplements were significantly more prone to depression than the bodybuilders not on supplements and the non-bodybuilders.

Keywords: Sports Psychology, Depression, Bodybuilding, Applied Psychology, Clinical Psychology

Introduction

Bodybuilding is a sport, which includes its athletes training with weights (often referred to as 'working out') to put on muscle mass in body with the help of a constructing diet, that aids in muscle mass and growth. Bodybuilding is also termed as 'hardgaining' (Retrieved from <http://www.gnet.org/what-is-bodybuilding/>). Some of the major names in the field of professional bodybuilding are: Arnold Schwarzenegger, Lazar Angelov, Branch Warren, Kai Greene, Lou Ferrigno, Jay Cutler and the winner of last six Mr. Olympia bodybuilding competitions (2011-2016): Phil Heath.

According to Schwarzenegger (1999), bodybuilders use three main strategies to gain large muscle mass. The use of elastic hydraulic resistance is a proven way to gain muscles. Secondly, the use of proper nutrition that

includes good amounts of protein and supplements are necessary. And finally adequate rest and sleep, given to the body actually heals the micro tears in muscles that actually lead to muscle growth.

Sociologists and anthropologists will contend that now, more so than some other period ever, muscles have turned into a significant piece of manly character in Western culture. Be that as it may, in the mission to achieve this strong build, most of the men must work their bodies in a physical way. Therefore, muscles have become synonymous with sport and exercise (Drummond & Murray, 1994).

Weight lifters, having better than expected muscle development, are seen to be increasingly manly as a quality that has the idea of animosity more than that in feminism. In this way, numerous weight lifters are

employed in works that requires a greater amount of physical exertion and strength, as in wrestling, bouncer, or armed services. They are observed to be increasingly fit in employments that require their forceful look as a 'dread-intrigue' among other individuals. What's more, that is the reason the greater part of our police and military enlistments favor muscular candidates, too.

According to the findings of Benson (2002), the bodybuilders in 1970s made popular the use of anabolic-androgenic steroids (AASs), like testosterone. In animal models, the relationship between AASs and aggression has been demonstrated. In some studies, more than 80 percent of steroid-treated animals become extremely aggressive. In humans, however, lack of hard evidence has been found. Only in the recent years, the researchers have been able to confirm that steroid-induced aggression--colloquially known as "roid rage"--is a real phenomenon that can occur in individuals who take large doses of steroids for extended periods of time. Also, lifetime prevalence of Steroid abuse has been found in the 'recreational' bodybuilders. In this context certain demographic factors also play a role (Angoorani, &Halabchi, 2015). In another study, 70% of competitive bodybuilders and 24% of non-competitive ones were on AAS usage. It was also established that there exists a relationship between AAS use and BMI (Lindström et. al., 1990).

Harvard Medical School psychiatrist Pope (2000), has provided some crucial evidence regarding human steroid abuse boosting the levels of aggression. A double-blind, randomized study confirmed that high doses could increase aggression even in men who were not bodybuilders. The study also showed that individual reactions could vary dramatically even under tightly controlled experimental conditions.

Lee, a senior medical advisor in the Office of Compliance at FDA's Center for Drug Evaluation and Research (CDER), in the consumer advisory wrote on FDA's website:

"Anabolic steroids may have a range of serious adverse effects on many organ systems, and the damage may be irreversible."FDA helped the consumers remember that anabolic steroids and steroid-like substances is known to add to liver damage and can negatively affect hormone levels, bosom estimate, testicles, fertility, cholesterol levels, danger of cardiac arrest stroke, and child development.

High rates of body dissatisfaction, steroid use, body preoccupation and symptoms of feeding disorders such as Bulimia Nervosa has been reported in competitive bodybuilders (Goldfield & Woodside, 2009).

Connections has been found between depression and bodybuilding. Wolke and Sapouna (2008) in their study, reported that history of childhood bullying, victimization among bodybuilders and are strongly linked to concurrent anxiety, and obsessive-compulsive symptoms, depressive and low self-esteem.

During the "phase" or "off-cycle" the male experiences a loss of feelings of happiness, that is often typically replaced by deep depression, and this factor alone is often enough to send the person back to their steroid addiction. Androgenic steroids, both oral and injectable, have been found to cause changes in brain wave activity, which were similar to those alterations, observed when stimulants and anti-depressants are used. A real and growing concern is that anabolic/androgenic steroids may cause severe and sometimes permanent mental disorders. Many athletes have been found become paranoid and to quote former professional bodybuilder Steve Michalik, "unrealistic maniac's" (Occhipinti, 2013).

Morris (2013), a New York based sports psychologist found some startling revelations. It was revealed that professional football players who regularly use anabolic/androgenic steroids were found to be having a direct correlation between the consumption of the substances and depression syndromes, commonly found among alcoholics and cocaine users.

Methods

In this study, the data was collected from a sample of 30 non-bodybuilders, 30 bodybuilders without any supplement consumption and 30 bodybuilders with supplement consumption (total: 90). The age group the participants were set to 18 to 30 years. ‘Non-bodybuilders’ (Group A) are the participants, who have not ever been a part of any sports that require muscular exhaustion, including bodybuilding.

‘Bodybuilders without supplement intake’ (Group B) are the bodybuilders are pursuing bodybuilding for gaining musculomass, in a regular basis for atleast one year. And they must have never taken any bodybuilding supplements.

‘Bodybuilders with supplement intake’ (Group C) are the bodybuilders, who are pursuing bodybuilding for gaining musculomass, regularly for atleast one year. And they must have been taking bodybuilding supplements, in a regular basis for atleast past one year.

Three hypotheses were drawn for this study. The first one states that there is no significant difference in depression between non-bodybuilders and bodybuilders who do not take supplements. The second one is: there is no significant difference in depression between bodybuilders who do not take supplements and those who take supplements. Finally, the last one states, there is no significant difference in depression between non-bodybuilders and bodybuilders who take supplements.

Data from non-bodybuilder group were obtained through different public place sources by questionnaire hardcopies and emails. Data from bodybuilder groups were obtained from different gyms and fitness centers after asking prior permissions.

Purposive sampling technique was employed for the study.

Depression is defined by a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings, and sense of well-being. Beck’s Depression Inventory-II, devised by Aaron Beck (1961) is the scale used to measure depression among the participants of the study. Depression is

measured by this inventory by the questions, which pertain to 21 depression dimensions.

The mean and standard deviation of depression for all the three groups and all the subsequent scales, were computed. Then, the tests to determine normality of the group scores and the necessary plots and charts were referred. One way ANOVA and the necessary post-hoc test were run to determine the differences between the three groups.

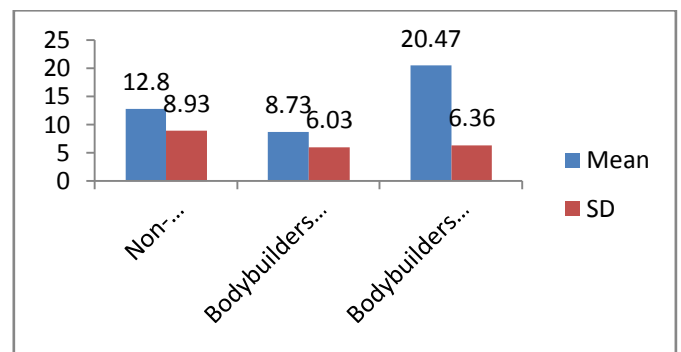
Results

The results have been put forward in the following tables and graphs:-

	Mean	SD	Shapiro-Wilk’s significance
Non-Bodybuilders (Group A)	12.8	8.93	0.171*
Bodybuilders not on supps. (Group B)	8.73	6.03	0.315*
Bodybuilders taking supps. (Group C)	20.47	6.36	0.108*

*Groups represent normal distribution

Table 1: Showing the Mean and SD of depression for the three groups



Graph 1: Illustrating the Mean and SD for the groups

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2129.86	2	1064.93	20.40	.000*
Within	4540.13	87	52.185		

Groups			
Total	6670	89	

Tukey HSD			
Groups	Mean Difference	Std. Error	Sig.
AvsB	4.06	1.86	.080
BvsC	-11.73*	1.86	.000
AvsC	-7.66*	1.86	.000

* Significant at 0.05 level

Table 2: Showing the ANOVA and post-hoc results

From the above tables and graphs, it was noted that the highest mean value is recorded for Group C, and the lowest for Group B. The Shapiro-Wilk test reports that all the study groups assume normality ($P > 0.05$).

The ANOVA table gives us an F-ratio of 20.4 for the groups, which is significant at 0.05 level of significance ($P < 0.05$). In context of the difference between groups A and B, the Tukey Post Hoc test shows insignificant group mean difference ($P < 0.05$). However, there exists significant group mean differences between groups B and C, and also, between groups A and C, respectively ($P < 0.05$).

The fact that greater mood control is a drive for individuals associated with the sport of bodybuilding, can be supported by a study of Emini and Bond (2014). Three motives for bodybuilding were identified: personal challenge, mood control and physique anxiety. Among these, mood control and personal challenge were the most directly salient to dependence. Social dependency was particularly seen to be relevant to personal challenge. And also, training dependency was associated with both mood control and personal challenge.

However, the finding that non-bodybuilders are less likely to have depression than the bodybuilders, is contradicted by a study by Faganel and Tušak (2005), where it was found that bodybuilders scored lower on emotional instability, depression, suppression, irritability, sincerity. They also showed higher levels of self-esteem.

Also, the finding that the bodybuilders taking supplements are most vulnerable to

depression concurs the findings of study by Occhipinti (2013). During the the “phase” or “off-cycle” the male experiences a loss of feelings of happiness, that is often typically replaced by deep depression, and this factor alone is often enough to send the person back to their steroid addiction. Androgenic steroids, both injectable and oral, have been found to cause changes in brain wave activity, which were similar to those alterations, observed when stimulants and anti-depressants are used.

Conclusion

On the basis of the findings, it is reflected that bodybuilders who do not take supplements, showed the lowest level of Depression. Bodybuilders not on supplements showed significant lower levels of depression than the non-bodybuilders and the bodybuilders on supplements. However, depression was significantly the highest among the bodybuilders on supplements, when compared to the other aforesaid groups.

Discussions

The study reveals that people who are into bodybuilding and are free from supplement intake are the ones who experience the lowest level of depression. Hence, in modern times, more adult people should be encouraged to indulge in the sport of bodybuilding.

Also, it has been found that supplements put forward a higher risk of depression and other problems in people. So, awareness should be there to conduct a check on sales all sorts of supplements, dietary or injectables.

More researches should be put forward to explore what more risks supplements pose to people’s health and psyche. Also, more researches can be conducted to figure out, in what other ways bodybuilding promotes mental health, like eliminating the adversities of stress and anxieties.

References

A. M. Klein (1993). Narcissism in American bodybuilders. *Psychology of Men & Masculinity*, 29-36.

- Angoorani, H., & Halabchi, F. (2015). The Misuse of Anabolic-Androgenic Steroids among Iranian Recreational Male Body-Builders and Their Related Psycho-Socio-Demographic factors. *Iranian journal of public health*, 44(12), 1662.
- Batrinis M. L. (2012). Testosterone and Aggressive Behavior in Man. *International Journal Of Endocrinology And Metabolism*, 563-568.
- Berkowitz L., & LePage A. (1967). Weapons as aggression-eliciting stimuli. *Journal Of Personality And Social Psychology*, 202-207.
- Christiansen K., & Knussmann R. (1987). Androgen levels and components of aggressive behavior in men. *National Center for Biotechnology Information Journal*, 170-80.
- Darden E. (2013). Sixteen Personality Factor Profiles of Competitive Bodybuilders and Weightlifters. *Research Quarterly For Exercise And Sports*, 142-147.
- Emini N., & Bond M. (2014). Motivational and psychological correlates of bodybuilding dependence. *Journal Of Behavioural Addictions*, 182-188.
- Etienne B. (2002). More Male Than Male. *Monitor Staff*, 49.
- Faganel M., & Tusak M. (2005). Psychological Profile Of Slovene Bodybuilders. *Review of Psychology*, 55-61.
- Goldfield, G. S., & Woodside, D. B. (2009). Body image, disordered eating, and anabolic steroids in male bodybuilders: current versus former users. *The Physician and sportsmedicine*, 37(1), 111-114.
- Grimes J. (2003). Steroids May Alter Aggression Area of Brain. *Hormones And Behaviour*, 271-280.
- Pope H. (2000). Steroid abuse and aggression. *Drug And Alcohol Dependence*, 1-12.
- Klein M. (1934). Psychogenesis of manic-depressive states: contributions to psychoanalysis. *International Journal of Psychoanalysis*, 145-174.
- Lee C. (2015). *FDA Warns Consumers Bodybuilding Products Contain Steroids*. Retrieved from www.fda.gov/MedWatch/report.htm.
- Lindström, M., Nilsson, A. L., Katzman, P. L., Janzon, L., & Dymling, J. F. (1990). Use of anabolic-androgenic steroids among body builders—frequency and attitudes. *Journal of internal medicine*, 227(6), 407-411.
- Occhipinti, M. J. (2016). Anabolic Steroids and The Depression Connection. *American Fitness Professionals & Associates*. Retrieved January, 28.
- Pickett, T. C., Lewis, R. J., & Cash, T. F. (2005). Men, muscles, and body image: comparisons of competitive bodybuilders, weight trainers, and athletically active controls. *British Journal of Sports Medicine*, 39(4), 217-222.
- Rubinstein, & Gidi (2003). Macho man: Narcissism, homophobia, agency, communion, and authoritarianism-- a comparative study among Israeli bodybuilders and a control group. *Psychology of Men & Masculinity*, Vol 4(2), 100-110.
- Vaeroy H. (2013). Aggression questionnaire scores in extremely violent male prisoners, male bodybuilders, and healthy non-violent men. *Open Journal of Psychiatry*, 293-300.
- Wagner M., McBride R., Crouse S. (1999). The Effects of Weight-Training Exercise on Aggression Variables in Adult Male Inmates. *The Prison Journal*, 72-89.
- Wolke D., & Sapouna M. (2008). Big Men Feeling Small: Childhood bullying experience, Muscle Dysmorphia And Other Mental Health Problems. *Psychology Of Sports And Exercise*, 595-694. Ω