

Psychiatric Implications of Anabolic Steroids: Investigating Their Role in Anxiety and Depression

Romael Ahmed

1st year MBBS, Islamabad Medical and Dental College, Islamabad, Pakistan

Key points:

- Introduction
- Use of Anabolic Steroids among teenagers and their associated effects
- Anabolic steroid use in adult males and its association with narcissistic traits
- Association between anabolic steroid use and mental health issues in men engaged in weight training

Introduction

The misuse of anabolic steroid in society has risen sharply in recent years, particularly due to social media influencers promoting its use. Teenagers suffering from body dysmorphia are increasingly turning to these substances in pursuit of unattainable body standards. Many teenagers remain unaware of the serious health impacts of steroid use and often overlook its long-term effects. This can lead to significant mood disorders including anxiety and depression, due to hormonal imbalances. This paper explores the role of social media in the rising abuse of anabolic steroids among teenagers and examines both the psychological and physiological hazards of their use.

Use of Anabolic Steroids among teenagers and their associated effects

The initial focus was on the effects of anabolic steroid use among adolescents. Systematic doping programs were applied to competitive adolescent athletes aiming to enhance athletic performance beyond natural limits. The study compared three groups: (I) competitive athletes with doping, (II) competitive athletes without doping and (III) individuals with no sports activities.

Somatic and psychological conditions were analyzed to identify the adverse effects of doping during the critical developmental stage of adolescence. Participants were asked to provide their personal medical and behavioral history and complete a questionnaire with standardized psychological tests. The doping group showed a higher rate of somatic diseases, psychological disorders and challenges in social relationships alongside workplace functioning. The differences were gender-specific, with males more often having impaired liver function, depression, tumors and difficulties associated with the workplace. They demonstrated lower optimism, more pessimistic, perceived less social support and exhibited more depressive symptoms.¹

Furthermore, the effect that anabolic steroids have on men was studied in another research, where a total of 319 healthy individuals aged 18–44 years (33.4 ± 9.4), who had been training regularly at bodybuilding gyms for at least 3 years, participated voluntarily. Individuals over the age of 45 years and under the age of 18 were not considered. This study was conducted as a cross-sectional survey in 10 different fitness centers in Nicosia, Cyprus in 2021–2022. Researchers visited

gyms during peak hours ie.17:00 and 19:00, to administer questionnaires, and the completed forms were collected. The results of this study provide insights into the relationship between anabolic-androgenic steroids (AAS) use, aggression, and narcissism, highlighting patterns and associations observed among the participants. Seventy-eight participants reported having used AAS at some point, while seventy-six indicated that they were currently using AAS either during or between cycles.

Anabolic steroid use in adult males and its association with narcissistic traits

Sociodemographic data on AAS use were recorded for all participants, while psychological metrics were analyzed primarily for current users to assess the acute effects of AAS use. A comparison of narcissism and aggression scores among athletes based on AAS use is presented in the table. Significant differences in narcissism and aggression were noted between AAS users and non-users.²

	AAS Usage	n	\bar{x}	s	t	p
Vulnerable Narcissism	Yes	76	38.71	6.20	6.282	0.000 *
	No	243	33.06	7.03		
Grandiose Narcissism	Yes	76	154.36	21.97	6.396	0.000 *
	No	243	135.79	22.13		
Narcissism Scale	Yes	76	193.07	24.96	7.237	0.000 *
	No	243	168.84	25.62		
Physical Aggression	Yes	76	31.92	6.43	12.420	0.000 *
	No	243	20.84	6.90		
Anger	Yes	76	24.54	5.04	9.132	0.000 *
	No	243	17.88	5.70		
Hostility	Yes	76	27.38	5.43	9.515	0.000 *
	No	243	20.66	5.36		
Verbal Aggression	Yes	76	15.91	3.65	3.318	0.001 *
	No	243	14.48	3.16		
Buss-Perry Aggression Scale	Yes	76	99.75	17.77	10.812	0.000 *
	No	243	73.86	18.36		

* $p < 0.05$, independent sample t test.

This table compares psychological traits between individuals who use AAS and those who do not. It presents statistical results from independent sample t-tests, which assess statistical significant differences between the two groups. AAS users scored significantly higher in **vulnerable narcissism**,

grandiose narcissism, and overall narcissism compared to non-users.

Association between anabolic steroid use and mental health issues in men engaged in weight training

In another study conducted in Norway, the participants completed a set of structured questionnaires using a web solution provided by the Services for Sensitive Data, managed by the University of Oslo. The questionnaires assessed relevant background and health information. The AAS group was also asked about their AAS use and report any adverse effects related to AAS use. To examine the correlation between steroid use and depression, the **Hopkins Symptom Checklist-25 (HSCL-25)** was used. This psychological screening tool is used to measure symptoms of **depression and anxiety**. The **mean score of 1.75 or higher** indicated **significant psychological distress**, suggesting that the individual indicated a high likelihood of clinical anxiety or depressive symptoms. Additionally, a shorter version, called the **HSCL-10**, was used for quicker assessments, particularly during the cycle when the athletes were using steroids.³

In conclusion, individuals who use steroids tend to show higher levels of narcissism and aggression compared to non-users. Hormonal imbalances caused by steroid use can lead to mood swings, making many bodybuilders more susceptible to depression and anxiety as side effects.

References

1. Berger K, Schiefner F, Rudolf M, Awiszus F, Junne F, Vogel M, Lohmann CH. Long-term effects of doping with anabolic steroids during adolescence on physical and mental health. *Die Orthopädie*. 2024 Aug;53(8):608-16.
2. Ceto E, Yigitoglu PH, Yavuz HU. Relationship Between Anabolic-Androgenic Steroid Use, Aggression, and Narcissism in Male Bodybuilders. *Medicina*. 2025 Jan 30;61(2):241.
3. Klonteig S, Scarth M, Bjørnebekk A. Sleep pathology and use of anabolic androgen steroids among male weightlifters in Norway. *BMC psychiatry*. 2024 Jan 22;24(1):62.