MOSUL JOURNAL OF NURSING
Online ISSN: 2663-0311 - Print ISSN: 2311-8784
Website: https://mjn.mosuljournals.com

RESEARCH ARTICLE

Assessment of Performance-Enhancing Behavior among Gym Users

Ahmed Abbas Darjal [1]*, Arkan Bahlol Naji [2]

1. *MSc Student, University of Baghdad, College of Nursing, Iraq*
2. *Professor, Community Health Nursing Department, University of Baghdad, Baghdad, Iraq.*

Corresponding author: Ahmed Abbas Darjal
Email: Ahmed.abbas1206a@conursing.uobaghdad.edu.iq

ABSTRACT

Study Design: A descriptive predictive correlational design was be used to guide this study.

Study Objectives: This study aims at assessing the Performance-Enhancing Behavior among Gym Users.

Setting: The study was carried out at private gyms for males in Amara City.

*Sample and Sampling: The sample size was determined using G*Power software based on an effect size of 0.25, alpha error probability of 0.05, a power of 0.90, five groups. Thus, the recommended sample size would be 255. The final sample size is 268.*

Study Instrument: The self-reported instrument was used for data collection.

Data Collection: The data were collected for the period from February 14th, 2022 to March 24th, 2022.

Study Results: The finding of the study show that the age mean is 29.65 ± 7.35; more than a half age 20-29-years (n = 150; 56.0%), followed by those who age 30-39-years (n = 84; 31.3%), those who age 40-49-years (n = 30; 11.2%), and those who age 50-59-years (n = 4; 1.5%).

Conclusions: This study concluded that the greater the Stimulus Control, the higher the Stages of Change for performance-enhancing substance use the gym user would therein and the greater the Helping Relationships, the higher the Stages of Change for performance-enhancing substance use the gym user would therein

Key words: Assessment, Performance, Gym Users.

Received: 05 May 2022, Accepted: 10 June 2021, Available online: 27 July 2022.

INTRODUCTION:

More than a billion people use performance and image enhancing drugs and substances (PIEDS) on a daily basis to increase muscle mass, burn fat, maintain endurance, resist fatigue, boost energy, improve mood, tolerate pain, reduce inflammation, improve relaxation, promote concentration, sharpen reactions, maintain alertness, control fluid, improve body shape, induce euphoria, and boost confidence (AL-Hraishawi, & Naji, 2015).Performance and image enhancing drugs and substances any substance that an individual consumes or applies to the surface of his or her body in order to improve physical or cognitive function and/or appearance (Hashim & Almukhtar, 2021). Performance and image enhancing drugs and substances included are drugs and dietary or nutritional supplements. Performance and image enhancing drugs and substances also encompass any drug and/or substance that athletes use to get their appearance looks better. Performance and image enhancing drugs and substances include substances that athletes use for recreational, recovery or stress-management purposes, and which may be perceived as indirectly performance enhancing. These substances may be found in the form of 'nootropics', or so-called 'smart' drugs, which are perceived to bring cognitive enhancements including improved attention, concentration, alertness and rapid decision-making.Because of their negative consequences and widespread usage in many countries, anabolic androgenic steroids (AAS) are considered a public health concern (Eklof et al., 2003; Kanayama et al., 2018). Anabolic androgenic steroids are used in doses exceed supraphysiological limit (Ip et al., 2011; Lood et al., 2012) to obtain the anabolic effect (Brower et al., 1994; Petersson et al., 2010) and they have huge effect (Bhasin et al., 1996;Rogerson et al., 2007). Most of the users are male bodybuilders or those who exercise for recreation (AL-Kerity, & Naji, 2017). Men in many parts of the world are dissatisfied with their bodies, which may be a motive for using AAS (Kelley et al., 2010; Mitchell et al., 2017). Improving the body image and appearance or enhancing the performance are the main motives for using AAS (Börjesson et al., 2016; Petersson et al., 2010). Athletes or bodybuilders may also motivated to use AAS when they feel low self-esteem, curious, desired for increased braveness or criminality (Bonnecaze et al., 2020; Ip et al., 2011; Nilsson et al., 2001).Adopting and maintaining good lifestyle habits, as well as sticking to prescribed therapies, are essential for optimal health. Regular physical activity, a good diet, not smoking, and limiting alcohol use are four lifestyle practices that contribute to a longer and better life. People who engage in all four of these practices have a lower risk of dying young from cancer, cardiovascular disease, and other causes than those who do not (Baktash, & Naji, 2019).Psychologists consider health habits as organized systems made up of highly routinized sequences of acts, consequences, and reactions that culminate in a predictable outcome. Dietary habits, for example, are composed of a set of actions that are repeated frequently, such as shopping for groceries, planning and preparing meals, and eating food with family or in other situations. These routines can be thought of as functional feedback loops in which each behavior in the sequence is enhanced by the consequences it creates, which then set the stage for the next behavior (Naji, et .al.,2021).Theory is vital in driving health research and in understanding health habits. Theory aids in the organization and comprehension of information, as well as the selection of constructs for questionnaires. Theory is essential for developing, implementing, and evaluating interventions and policies to promote health and disease prevention. As a result, theory is critical to public health work (DiClemente et al., 2019).Because health promotion entails changing both settings and individuals in order to support behavior change and achieve health, it may not be considered a distinct topic of study in and of itself. Rather than the subject of its inquiries, health promotion has defined itself in terms of its goals and techniques (Ahmed, 2021).

METHOD :

A descriptive predictive correlational design was be used to guide this study. Predictive correlational research also uses the terms "independent" and "dependent" variables, not to denote causation but in a different way. The variable whose value the researcher is attempting to predict is the dependent variable, sometimes called the outcome variable; the researcher tests one or more other. variables to discover whether they predict the value of the dependent variable, and to what extent they do so.The sampling of the study included a convenience sample of male gym users who agreed to participate in this study. The study subjects were recruited from six private gyms.The sample size was determined using G*Power software based on an effect size of 0.25, alpha error probability of 0.05, a power of 0.90, five groups. Thus, the recommended sample size would be 255. The final sample size is 268.The study was carried out at private gyms

for males in Amara City.The self-reported instrument was used for data collection. The data were collected for the period from February 14th, 2022 to March 24th, 2022. Data were analyzed using the statistical package for social science (SPSS) for windows, version 28. The statistical measures of frequency, percent, mean, standard deviation, linear regression, Kruskal-Wallit Test, and Mann Whitney U-Test were used.

RESULTS

Table 1. Participants' sociodemographic characteristics (N = 268)

Age (Years)	Frequency	Percent
20-29	150	56.0
30-39	84	31.3
40-49	30	11.2
50-59	4	1.5
Mean (SD): 29.65 ± 7.35		
Living Arrangement		
Live with parents	140	52.2
Live with my mother	22	8.2
Live with my father	6	2.2
Live with my relatives	20	7.5
Live with my friend	80	29.9

the age mean is 29.65 ± 7.35; more than a half age 20-29-years (n = 150; 56.0%), followed by those who age 30-39-years (n = 84; 31.3%), those who age 40-49-years (n = 30; 11.2%), and those who age 50-59-years (n = 4; 1.5%).Concerning the living arrangements, more than a half reported that they have been living with their parents (n = 140; 52.2%), followed by those who have been living with their friends (n = 80; 29.9%), those who have been living with their mother (*n = 22*; 8.2%), and those who have been living with their father (*n = 6*; 2.2%)

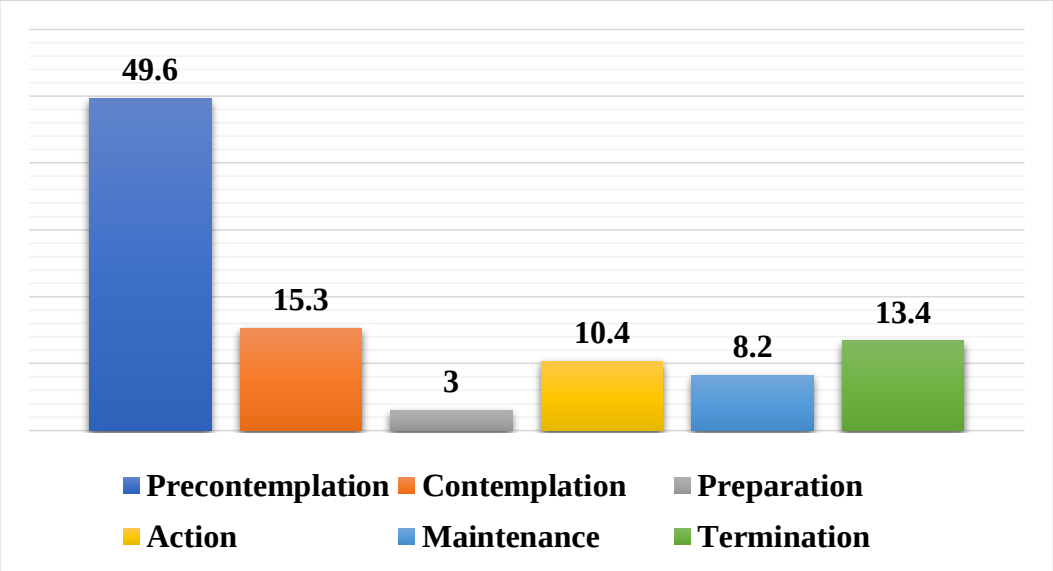

Figure 1. Participants' distribution according to Stages of Change for performance-enhancing Gym user

The study results display that around a half are in the Precontemplation Stage of Change (n = 133; 49.6%), followed by those who are in the Contemplation Stage of Change (n = 36; 13.4%), those who are in the Action Stage of Change (n = 28; 10.4%), those who are in the Termination Stage of Change (n = 22; 8.2%), and those who are in the Preparation Stage of Change (n = 8; 3.0%).

Table 2. Difference in the Behavioral Processes of Change among the Stages of Change for performance-enhancing Gym user

Ranks				Kruskal-Wallis H	df	Sig.
	Stages of Change	N	Mean Rank			
Helping Relationships	Precontemplation	133	131.16	6.816	5	.235
	Contemplation	41	150.49			
	Preparation	8	92.13			
	Action	28	134.93			
	Maintenance	22	116.82			
	Termination	36	148.53			
	Total	268				
Environmental Reevaluation	Precontemplation	133	106.44	64.229	5	.000
	Contemplation	41	119.49			
	Preparation	8	183.00			
	Action	28	141.21			
	Maintenance	22	193.18			
	Termination	36	203.39			
	Total	268				
Social Liberation	Precontemplation	133	124.45	.000	5	.251
	Contemplation	41	130.22			
	Preparation	8	148.13			
	Action	28	148.79			
	Maintenance	22	152.91			
	Termination	36	151.11			
	Total	268				
Self-Reevaluation	Precontemplation	133	110.50	60.623	5	.000
	Contemplation	41	106.80			
	Preparation	8	149.88			
	Action	28	190.04			
	Maintenance	22	145.36			
	Termination	36	201.47			
	Total	268				

Ranks				Kruskal-Wallis H	df	Sig.
	Stages of Change	N	Mean Rank			
Reinforcement Management	Precontemplation	133	119.42	15.096	5	.010
	Contemplation	41	131.38			
	Preparation	8	188.50			
	Action	28	148.04			
	Maintenance	22	159.73			
	Termination	36	155.83			
	Total	268				

The study results display that there are statistically significant differences in the Environmental Reevaluation, Self-Reevaluation, and Reinforcement Management among the Stages of Change for performance-enhancing substance use (p-value = .000, .000, .010) respectively.

DISCUSSION

This descriptive predictive correlational study aims mainly to identify gym users' inclination to use performance-enhancing substances. Around a half are in the Precontemplation Stage of Change, followed by those who are in the Contemplation Stage of Change, those who are in the Action Stage of Change, those who are in the Termination Stage of Change, and those who are in the Preparation Stage of Change. This finding reflects the subjects' great readiness to use performance-enhancing substances. The Stimulus Control positively predicted subjects' Stages of Change for performance-enhancing substance use. This finding implies that according to the Transtheoretical Model of Change, Stimulus Control helps subjects in eliminating cues for using performance-enhancing substances such as the fascinating containers of the performance-enhancing substances which helps in minimizing the likelihood that they would be tempted for using such substance. On the other hand, Stimulus Control offers cues that back the adoption and maintenance of healthy behaviors which could be seeking healthy diet, particularly diet that provide the highest amount of calories which give gym users the endurance they struggle for and help in building muscular mass they aspire for. Individuals might lessen their chances of being enticed to stop in for a snack by avoiding these places. Furthermore, such cues would be to keep healthy diet around or in car as a reminder to consume them (AlAbedi, & Naji, 2020). Table 1:show that the age mean is 29.65 ± 7.35; more than a half age 20-29-years (n = 150; 56.0%), followed by those who age 30-39-years (n = 84; 31.3%), those who age 40-49-years (n = 30; 11.2%), and those who age 50-59-years (n = 4; 1.5%).Concerning the living arrangements, more than a half reported that they have been living with their parents (n = 140; 52.2%), followed by those who have been living with their friends (n = 80; 29.9%), those who have been living with their mother (n = 22; 8.2%), and those who have been living with their father (n = 6; 2.2%).The study results display that around a half are in the Precontemplation Stage of Change (n = 133; 49.6%), followed by those who are in the Contemplation Stage of Change (n = 36; 13.4%), those who are in the Action Stage of Change (n = 28; 10.4%), those who are in the Termination Stage of Change (n = 22; 8.2%), and those who are in the Preparation Stage of Change (n = 8; 3.0%).The study results display that there are statistically significant differences in the Environmental Reevaluation, Self-Reevaluation, and Reinforcement Management among the Stages of Change for performance-enhancing substance use (p-value = .000, .000, .010) respectively.

CONCLUSIONS:

This study concluded that the greater the Stimulus Control, the higher the Stages of Change for performance-enhancing substance use the gym user would therein and the greater the Helping Relationships, the higher the Stages of Change for performance-enhancing substance use the gym user would therein.

RECOMMENDATIONS:

The study recommended that there is a need to replicate this study in as many private gyms as possible across Iraq and Future similar studies need to consider variables that are not included in this study such as duration and route of using performance-enhancing substances.

REFERENCES:

Ahmed, F., & Naji, A. (2021). Assessment of Health Beliefs about Cardiovascular Disease and its relation to Some Social Variables among Elementary School Teachers in Baghdad City. Annals of the Romanian Society for Cell Biology, 25(6), 7963-7969.

AlAbedi, G. A. H., & Naji, A. B. (2020). Impact of Physical Activity Program upon Elderly Quality of Life at Al-Amara city/Iraq. Prof.(Dr) RK Sharma, 20(3), 6.

AL-Hraishawi, T. A. H., & Naji, A. B. (2015). Impact of Nurses' Knowledge Upon The Infection Control in Primary Health Care Centers at AL-Amara City. kufa Journal for Nursing sciences, 5(2).

AL-Kerity, S. H. F., & Naji, A. B. (2017). Evaluation of Healthcare workers' Practices Concerning Infection Control Measures at Primary Health Care Centers.

Baktash, M. Q. (2019). Arkan Bahlol Naji. Kufa Journal for Nursing Sciences, 9(2).

Baktash, M. Q., & Naji, A. B. (2019). Efficacy of Health Belief Model in Enhancing Exercise Behavior to Preventing Stroke among Geriatrics Homes Residents in Baghdad City. Indian Journal of Public Health Research & Development, 10(02).

Bhasin, S., Storer, T. W., Berman, N., Callegari, C., Clevenger, B., Phillips, J., Bunnell, T. J., Tricker, R., Shirazi, A., & Casaburi, R. (1996). The effects of supraphysiologic doses of testosterone on muscle size and strength in normal men. New England Journal of Medicine, 335(1), 1-7. https://doi.org/10.1056/nejm199607043350101.

Bonnecaze, A. K., O'Connor, T., & Aloi, J. A. (2020). Characteristics and attitudes of men using anabolic androgenic steroids (AAS): A survey of 2385 men. American Journal of Men's Health, 14(6), 1557988320966536. https://doi.org/10.1177/1557988320966536.

Börjesson, A., Gårevik, N., Dahl, M. L., Rane, A., & Ekström, L. (2016). Recruitment to doping and help-seeking behavior of eight female AAS users. Substance Abuse Treatment, Prevention, and Policy, 11(1), 11. https://doi.org/10.1186/s13011-016-0056-3.

Eklof, A. C., Thurelius, A. M., Garle, M., Rane, A., & Sjoqvist, F. (2003). The anti-doping hot-line, a means to capture the abuse of doping agents in the Swedish society and a new service function in clinical pharmacology. European Journal of Clinical Pharmacology, 59(8-9), 571-577. https://doi.org/10.1007/s00228-003-0633-z.

Hashim, A. M., & Almukhtar, S. H. (2021). The Influence of Anabolic-Androgenic Steroids on Males' Hormones Among Gym-Goers in Mosul City. 1st International Ninevah Conference on Medical Sciences (INCMS 2021), 140-148.

Horwitz, H., Andersen, J. T., & Dalhoff, K. P. (2019). Health consequences of androgenic anabolic steroid use. Journal of Internal Medicine, 285(3), 333-340. https://doi-org.ezproxy.okcu.edu/10.1111/joim.12850.

Ip, E. J., Trinh, K., Tenerowicz, M. J., Pal, J., Lindfelt, T. A., & Perry, P. J. (2015). Characteristics and behaviors of older male anabolic steroid users. Journal of Pharmacy Practice, 28(5), 450-456. https://ezproxy.okcu.edu:4744/10.1177/0897190014527319.

Kanayama, G., Pope, H. G., & Hudson, J. I. (2018). Associations of anabolic-androgenic steroid use with other behavioral disorders: an analysis using directed acyclic graphs. Psychological Medicine, 48(15), 2601-2608. https://doi-org.ezproxy.okcu.edu/10.1017/S0033291718000508.

Kelley, C. C., Neufeld, J. M., & Musher-Eizenman, D. R. (2010). Drive for thinness and drive for muscularity: Opposite ends of the continuum or separate constructs? Body Image, 7(1), 74-77. https://doi.org/10.1016/j.bodyim.2009.09.008

Lood, Y., Eklund, A., Garle, M., & Ahlner, J. (2012). Anabolic androgenic steroids in police cases in Sweden 1999-2009. Forensic Science International, 219(1-3), 199-204. https://doi.org/10.1016/j.forsciint.2012.01.004.

Mitchell, L., Murray, S. B., Cobley, S., Hackett, D., Gifford, J., Capling, L., & O'Connor, H. (2017). Muscle dysmorphia symptomatology and associated psychological features in

bodybuilders and non-bodybuilder resistance trainers: A systematic review and meta-analysis. Sports Medicine, 47(2), 233-259. https://doi.org/10.1007/s40279-016-0564-

Naji, A. B., Ahmed, M. M., & Younis, N. M. (2021). Adherence the preventive measure against for covid-19among teachers at university of mosul. International Journal of Medical Toxicology & Legal Medicine, 24(3and4), 273-277.

Nilsson, S., Baigi, A., & Marklund, B. (2001). The prevalence of the use of androgenic anabolic steroids by adolescents in a county of Sweden. European Journal of Public Health, 11(2), 195-197. https://doi.org/10.1093/eurpub/11.2.195.

Petersson, A., Bengtsson, J., Voltaire-Carlsson, A., & Thiblin, I. (2010). Substance abusers' motives for using anabolic androgenic steroids. Drug and Alcohol Dependence, 111(1-2), 170-172. https://doi.org/10.1016/j.drugalcdep.2010.04.008.

Rogerson, S., Weatherby, R. P., Deakin, G. B., Meir, R. A., Coutts, R. A., Zhou, S., & Marshall-Gradisnik, S. M. (2007). The effect of short-term use of testosterone enanthate on muscular strength and power in healthy young men. Journal of Strength and Conditioning Research, 21(2), 354-361. https://doi.org/10.1519/r-18385.1.