Executive Summary

Intermediate and high school students' attitudes toward and behavior regarding steroids and sports supplements use: The mediation of clique identity.

This study examined intermediate and high school students' attitudes toward and behavior regarding steroids and sports supplements use with a sample of junior high school and high school students from Nassau and Suffolk Counties on Long Island, New York. Behavior was measured by questions about respondents' future steroid use, and current sports supplements use. Attitudes were measured through respondents' reactions to whether it was appropriate for their peers and themselves to use steroids and sports supplements in a variety of corporeal situations, and the degree to which use of these substances impacted fairness and health issues. Respondents' also decided whether the use of steroids and sports supplements was legitimate in three specific scenarios involving fictitious male and female high school students, and gave reasons for their decisions. The respondents' answers and choices were described and assessed for the effect of gender and level of school (junior high school and senior high school). The effect of their clique identity on steroids and sports supplements attitudes and behavior was also assessed. The potential relationship between sports supplements and steroid use was described, and finally a profile presented of the respondents who predicted that they would be very likely to use steroids in the future. The major findings of the study are summarized below:

- The great majority of respondents (over 92%) felt that it was either "unlikely" or "very unlikely" that they would use steroids in the future. 7.7% of the respondents said that future steroid use was "somewhat likely," "likely," or "very likely." The great majority of respondents (86%) felt that "none of the kids I hang out with" used steroids. 3.2% of the respondents felt that steroids were used by "more than half," or "all the kids I hang out with."
- Nearly 22% of the respondents said they currently used sports supplements on a regular basis, but 40% said they had never tried sports supplements. Over 56% of respondents felt that "the kids I hang out with" had never used sports supplements, while 7.5% felt that "more than half," or "all the kids I hang out with" used sports supplements.
- Respondents reported very similar reasons for the future use of steroids by themselves and by their peers. These reasons included improving strength, increasing muscle size, playing sports better, and wanting to look good. Sports supplements were also seen as an important source of energy. From the respondents' perspective, sports supplements use appears to be a less negative way than steroid use to achieve the same corporeal benefits. Furthermore, curiosity, excitement, and group pressure were equally unimportant reasons for using both steroids and sports supplements.
- Respondents showed strongly negative attitudes to the health and fairness implications of steroid use. For example, almost 70 % agreed or strongly agreed that using steroids leads to health problems, and over 71% agreed or strongly agreed that using steroids give athletes an unfair advantage in sports. There was much greater disagreement among respondents over the effect of using sports supplements on health and fairness issues. For example, 45% agreed or strongly agreed that using sports supplements leads to health problems, and 46% agree or strongly agreed that using sports supplements give athletes an unfair advantage in sports.

- Respondents felt that steroid use was not appropriate in three fictitious scenarios involving high school students but that sports supplements use was appropriate. Specifically, over 90% of respondents felt that "Derrick" should not take steroids to increase his chances of getting a college football scholarship, but over 77% felt sports supplements use was appropriate. "Jill's" use of steroids to improve her muscle definition and get a cheerleading scholarship was rejected by over 92% of the respondents, but sports supplements use was accepted by almost 71%. Finally, 89% of respondents rejected "Mark's" use of steroids in an attempt to build up his muscles and avoid being bullied, but over 69% agreed with him using sports supplements in this situation. Respondents' reactions to these three scenarios show that they endorse the themes of health and fairness commonly used to reject the use of steroids in sports. They also endorse the belief (reinforced by advertising if not by scientific research) that sports supplements are valuable sources of energy during physical activity. To some extent the legitimacy of sports supplements are supported against the illegitimacy of steroids. That is, the reasons for not using steroids are the reasons that it is OK to use sports supplements.
- There were few gender differences in respondents' steroids and sports supplements attitudes and behavior. Females were significantly less likely than males to say they currently used sports supplements and to see themselves using steroids in the future. However, there were no male and female differences (except over the issue of steroids providing an unfair advantage for athletes) in attitudes towards steroid and sports supplements use the general and in the specific scenarios. When seen within the context of the total distribution of responses, the gender differences do not seem of great practical significance. For example, on the question of future steroid use, the mean values for females and males both fall between the choices of "not likely," and "very unlikely." These are not differences of direction, and reinforce the general finding that the respondents' reject the view that steroid use is a legitimate option in sports behavior and physical development.
- The respondents generally made decisions about their future steroid use, their current sports supplements use, attitudes towards steroids and sports supplements use, independent of school level. As with gender differences, level of school differences where not substantive. Respondents' in JHS and HS had similar views about steroids and sports supplements. They rejected steroid use in the future, in specific sport and fitness situations, and with regard to fairness and health issues. They were less negative about using sports supplements in all these situations, and generally endorsed the use of sports supplements in the specific sport and fitness scenarios.
- Clique membership had a small but significant effect on respondents' perceptions of steroid use, but no effect on their perceptions of sports supplements use. Specifically, there was less rejection of steroid use and less negative attitudes towards steroid use among the "troublemakers" clique compared to the other cliques. In contrast, the "jocks" were one of the strongest cliques to reject future steroid use and agree that steroid use had negative implications for fairness and health.
- Respondents' current sports supplements use had a small but significant predictive effect on their projected steroid use, particularly among the boys. Other factors that predicted future steroid use for boys were grade in school, and worrying "about what other people think about my body." These results tentatively support the claim that sports supplements provide a "gateway" to steroid use. Given this finding, and the more favorable attitudes towards sports supplements by the respondents compared to their attitude towards steroids, future research on sports supplements seems justified.

- A descriptive profile of the 17 respondents (3.5% of the sample) who said they were very likely to use steroids in the future showed both consistency and diversity. Of these respondents, 13 were male, 10 were athletes (all were starting on their school team or had achieved a higher level of performance, e.g., all-County, all-State), and 12 said they took sports supplements on a regular basis. However, their attitudes towards steroids and sports supplements use both generally and in the specific scenarios were not uniform, the importance of their bodies and their exercise habits were varied, as was their clique identity. This profile does illustrate the reality (at least for this sample of adolescents) that potential steroid users have a broad spectrum of corporeal interests and attitudes, not just an involvement in sports and bodybuilding.
- The practical implications of this research were based on the belief that anti-steroid • education needs to adapt to the changing face of adolescent steroid users. The results of this study suggest that sports supplement use should also be included within anti-steroid education programs. Based upon the results of this study, adolescents may reject steroid use, but see sports supplements as an acceptable alternative in the pursuit of specific sports and fitness goals, without much knowledge about the effects of these substances on physical performance and health. Given the attention paid to sport and exercise in the media, and the importance of physical appearance and body image to adolescence, some guidance on how to avoid the problems associated with such cosmetic fitness needs to be given to adolescence. This guidance could be part of the junior high school and high school curricula. However, because the subject is salient to the members of different cliques, some of which may not want to take much notice of what adults tell them (e.g., the "troublemakers" clique in this study), curriculum planning should prioritize individual involvement with the subject matter that focuses on life skill development. For example, a series of interactive modules on physical health could be developed in which students could investigate for themselves the effects of their diet, exercise habits, and use of drugs on their own physical health. Such an approach may have more chance of helping students bring about proactive changes in their life styles than the more common lecture format.