

"If Everyone is Using, Shouldn't I?": Investigating the Influence of Social Norms on High School Athletes' Intentions to Use Anabolic Androgenic Steroids

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High school athletes are more likely to use anabolic androgenic steroids (hereafter referred as "steroids") compared to non-athletes (Terry-McElrath et al., 2011; Wichstrøm & Pedersen, 2001). Steroid use is associated with numerous negative physiological and psychological side effects (Trenton & Currier, 2006). Among male adolescents steroid use has consistently been reported between 2% and 5%, and in some studies exceeds 10% (Johnston et al., 2011; Yesalis et al., 1997). These statistics place steroid abuse alongside cocaine and heroin use, and frequent cigarette smoking by adolescents (Johnston et al., 2011). Compounding this issue is the seemingly cyclical cases of high profile athletes admitting to, or being caught doping. Politicians, sport organizations, academics and the medical community decry these scandals and call on elite athletes to be good role models for young athletes (Petersen, 2010; Martin et al., 2007; Shaw et al., 2010).

Yet the notion that professional athletes influence adolescents is axiomatic rather than empirically based. It is unknown to what extent adolescent athletes are influenced by the behavior of other athletes. This study addresses this issue by investigating the extent to which adolescents' intentions to use steroids is influence by perceived norms of steroid use by others. This study is relevant to sport management because it addresses a major policy concern within sport – i.e., the management of doping abuse among high school athletes.

Perceived norms include descriptive norms and injunction norms (Cialdini et al., 1990). Descriptive norms consist of the perceived prevalence of a behavior, whereas injunctive norms represent perceptions of what influential others expect one to do, with noncompliance associated with social sanctions (Bendor & Swistak, 2001). The theory of normative social behavior (TNSB) states that the relationship between descriptive norms and behaviors is moderated by injunctive norms, outcome expectations, and group identity (Rimal & Real, 2005). Outcome expectation refers to perceived benefits one believes will accrue from one's actions (Rimal, 2008). Group identity refers to the extent one feels affinity and attraction to the referent group (Lapinski & Rimal, 2005). Application of the TNSB in the domain of adolescent steroids use suggests that adolescents are more likely to use steroids if they perceive that its use is high among their social referents (high descriptive norms). According to the theory, this influence will be further strengthened if adolescents also believe that their important referents approve of their steroid use (high injunctive norms) and if they believe use will be beneficial (outcome expectation).

In this study we applied the TNSB to steroid use among high school athletes. We also account for different referent groups and separate these groups based on social distance. Previous research indicates that normative influences vary dependent upon the source (Neighbors et al., 2008). We systematically vary the social distance between the source of normative information and the target in order to model the strength of the influence.

Method

Male high school football, baseball, and basketball players (N = 404) whose ages ranged from 14 to 19 years (M = 16.06, SD = 1.23) were recruited for the study. Athletes completed an online survey administered using Qualtrics. The social distance between respondents and their referents (as the source of normative information) was varied so that the most distal sources were professional athletes, followed by college athletes, athletes' own teammates, and (conceptualized as the most proximal) athletes' own friends. Thus, for football players the most distal source was "professional football players" and the most proximal source was "my friends."

Intention to use steroids was measured using three items (Cronbach's $\alpha = 0.97$). Descriptive norms were operationalized as beliefs about the prevalence of the behavior among others. The "others" – the sources of

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descriptive norms – were divided into the four groups identified previously. Descriptive norms for each group were measured using three items ($\alpha = 0.89, 0.90, 0.94, 0.95$). Injunctive norms elicited how much approval participants believed they would gain by using steroids. As was the case with descriptive norms, we assessed injunctive norms along the same four groups, separated by social proximity. Reliability scores were $\alpha = 0.94, 0.95, 0.95, \text{ and } 0.96$, respectively. Exploratory descriptive analysis of the measures and subsequent bivariate and multivariate linear regression models were carried out using STATA 11. Regression analyses were performed with respect to level of normative influence to study the effect of proximity of descriptive and injunctive norms on intent to use steroids among high school athletes.

Results

Descriptive and injunctive norms differed substantially by social distance; as proximity increased (other professional athletes being the most distal and one's own friend being the most proximal), descriptive norms pertaining to the particular source decreased in magnitude. Global F-tests and pairwise comparisons between the norms levels showed that they were different from each other $F(3, 400) = 106.05, p < 0.001$. The relationship between descriptive norms and intentions varied according to whether the normative information pertained to others who were socially most distal (e.g., professional athletes, $r = .18, p < .001$) or most proximal (close friends, $r = .31, p < .001$). Similarly, the relationship between injunctive norms and intentions also varied according to the proximity of the source of normative information: The most distal were professional athletes ($r = .16, p < .01$) and the most proximal were close friends ($r = .31, p < .001$). Outcome expectations were also positively related to intentions to use steroids ($r = .17, p < .001$).

Separate regression equations were conducted on each group to predict intention to use steroids. Results indicated that across the various tests, descriptive norms were consistently associated with intentions, injunctive norms were associated with intentions for the two proximal (teammates, friends), but not the two distal (college, professional athletes), sources, and perceived benefits were consistently associated with intentions. Furthermore, the magnitude of the explained variance was higher at higher levels of proximity of the source of normative influence.

Discussion

Findings from this study demonstrate an association with descriptive norms and behavioral intentions. On the one hand, distal others were thought to use steroids more often and to approve more strongly of respondents' own use; on the other hand, the predictive ability of normative beliefs pertaining to these distal others was weaker than those who were socially more proximal. Injunctive norms were also predictive of behavioral intentions for the two groups conceptualized as being socially proximal (respondents' own teammates and close friends), but injunctive norms for the two socially distal groups (college athletes and professional athletes) were not predictive of intentions. In other words, contrary to popular belief, the behavior and approval of close others matters more so than that of role-model athletes. A practical implication of these results is that interventions targeted at steroid abuse may wish to focus on emphasizing the low prevalence of use, and approval, among one's reference group.