Muscle Dysmorphia and anabolic steroid abuse: Can we trust the data of online research?

To the Editors

We read with interest the recent Letter to the Editor by Zarghami and Nazari (2018) entitled Muscle Dysmorphia and the Great Dilemma for Anabolic-Androgenic Steroid Abuse and we are glad that our study on the relationship between Muscle Dysmorphia and Psychopathology (Longobardi et al., 2017) received attention from scholars interested in these themes. The authors highlighted that in our study, conducted using an online survey, contrary to many previous findings, no relationship between Muscle Dysmorphia (MD) and use of anabolic steroids emerged. Indeed, many studies reported a clear link between MD and body image concerns in general with anabolic steroid use and abuse in populations diverse for age, nationality, and type of sport practiced (Pope et al., 2017). Recognizing the strength of these converging findings, the lack of this link in our sample was a bit surprising, even if it confirmed results from a previous study (Fabris et al., 2017). This recognition led us to make some reflections about the possible factors that may have caused these findings. Here we share our reflections, hopefully interesting for scholars working in this research area. We believe that the sensitivity of the topic and associated social desirability issues could have significantly lowered our chance of detecting this relationship, even if present. This is more than a suspicion: during sample recruitment, various bodybuilders wanted to know if the survey included questions about the use of anabolic steroids and many of them refused to participate once they learned that these kind of questions would be included. This led us to hypothesize that one of the main reasons for the lack of significant relationship between MD symptoms and use of steroids could be the low reliability of the answers to questions regarding substance use. In this case, two dimensions of topic sensitivity could have played a role: social desirability and threat of disclosure. First, social desirability (i.e. the tendency to admit to socially desirable behaviors and to deny socially undesirable ones) could have exerted its effect in a predictable way, keeping many of the respondents from giving honest answers to the question about steroid use. We formulated the question trying to avoid the elicitation of desirability issues, explaining, before the question was posed, that doping substance use is quite common among bodybuilders, but it is possible that this was not enough to overcome the desirability problem. However, social desirability alone cannot explain our findings, given that we expect that even data collected by researchers in previous studies have been affected by the same type of bias. Instead, we hypothesize that the perception of the threat of disclosure (i.e. worries about possible risks, or negative consequences of truthfully reporting a sensitive behavior should the answers become known to persons or institutions beyond the survey setting) of illicit anabolic steroids use, could have been boosted by the use of an online survey. In times of data leaks, and frequent news about online privacy violations, participating in an online survey might have led respondents to have low confidence on the assurance of anonymity received from researchers, with a consequent bias in their answers to sensitive questions. Given that our research was not mainly focused on anabolic steroid use, the bias introduced by this perceived threat could have only a limited effect on data quality as a whole. However, we believe that this threat to research validity is worth recognizing and the extent of its effects should be studied in detail, for instance by analyzing differences in sensitive data collected using different approaches to data collection, e.g. via online, face-to-face, or telephone surveys or by investigating the relationship between trust in online anonymity and actual responses to sensitive questions. A more in-depth knowledge of how different sources of response bias act in different research settings will be very helpful in order to orient scholars willing to gather self-report information about sensitive topics, not only in this research area, in the choice of optimal survey settings to avoid or minimize the risk of collecting unreliable data.

Conflict of interests

Authors declared no conflict of interest.

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Michele Settanni, Laura Elvira Prino*, Matteo Angelo Fabris, Claudio Longobardi
Department of Psychology, University of Turin, Via Verdi 10, 10123 Turin, Italy
E-mail address: lauraelvira.prino@unito.it

* Corresponding author.