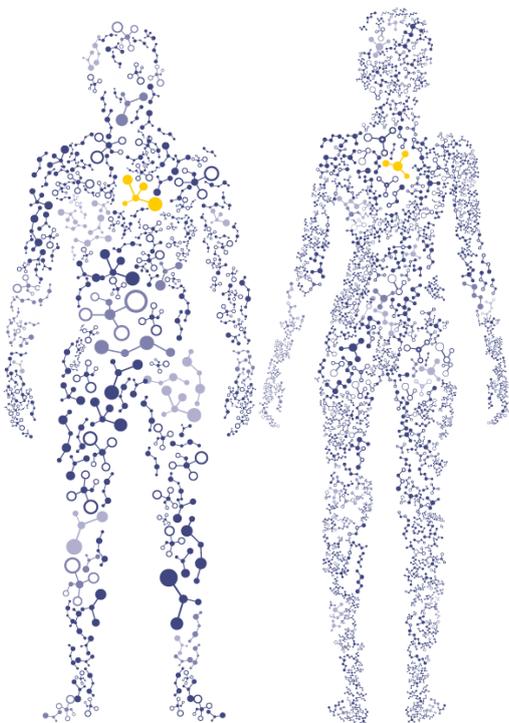


Investigate the psychological motivations behind the use of doping in recreational sport



Investigate the psychological motivations behind the use of doping in recreational sport

Executive summary

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Background

In the last decade, different theoretical models have been developed with the aim to make sense of doping from a psychological perspective. Most studies have studied this in elite athletes. However, there is concern that doping is also impacting "recreational sports." The current study aimed to better understand recreational athletes' doping beliefs evaluating different psychosocial variables. Our approach integrated critical components of moral agency (Aquino & Reed, 2002), social cognitive theory (SCT; Albert Bandura, 2001), and the theory of planned behaviour (TPB; Ajzen, 1991).

Methods and Design

Measures

Socio-demographic characteristics. Each participant reported the following data: age, gender, country, primary sport practiced, level of competition, and years of experience. Subsequently they replied to a battery of questions exploring the respondent's position related to the below concepts.

Doping moral disengagement. Moral disengagement (MD) is a focal development of SCT; can be characterized as the "self-serving, self-regulatory process that allows people to dope while still believing they are acting morally." Doping moral disengagement was measured using the 6-item scale developed by Lucidi et al. (2008) (an example of a question on this scale is: "*Compared to the damaging effects of alcohol and tobacco, using prohibited performance and image enhancing substances is not so bad*").

Self-regulatory efficacy. As indicated by the SCT, "perceived self-efficacy" alludes to people's convictions about accomplishing their objectives and overcoming challenges. A sport-specific version of the doping self-regulatory efficacy scale was used to measure the perceived ability to resist doping (an example of a question on this scale is: "*I feel I can resist using doping when pressured to do so by others*").

Attitudes. According to the Theory of Planned Behavior, attitudes refer to people's assessment of a way of behaving. Consequently, one's attitude toward doping comprises a positive or negative evaluation of its utilization. Attitudes toward performance-enhancing substances was evaluated through a short version of the Performance Enhancement Attitude Scale (an example of a question on this scale is: "*Legalizing performance and image-enhancing substances would benefit sports*").

Moral identity. Moral identity refers to people’s cognition when thinking about their moral character and desire to be a moral person. Moral identity has been evaluated using the 5-item internalization subscale of moral identity scale adapted to sports contexts. Participants were presented with certain traits (e.g., caring, fair, kind, helpful) and asked to respond to statements concerning these traits (for instance, “It would make me feel good to be a person who has these characteristics”).

Results

Calculations were made to assess the difference between Gender (male; female), European Region (Northern, Central, Southern), and Sport Category (CGS; Artistic, Games) on the critical variables of the study.

Gender

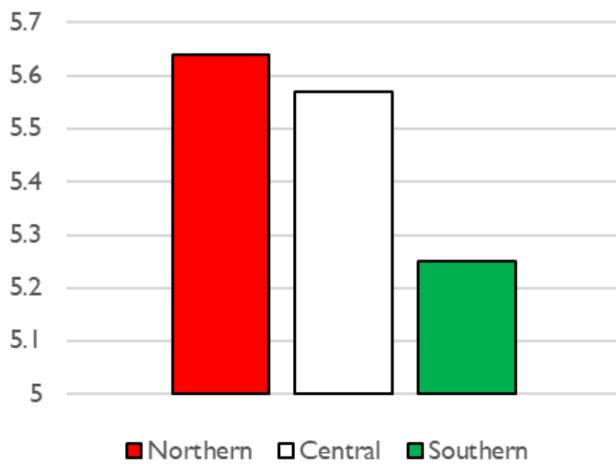
Results showed significant differences between males and females in all the variables except for self-efficacy. Males reported significantly higher levels of attitudes toward doping, and moral disengagement, while females showed significantly higher Moral Identity.



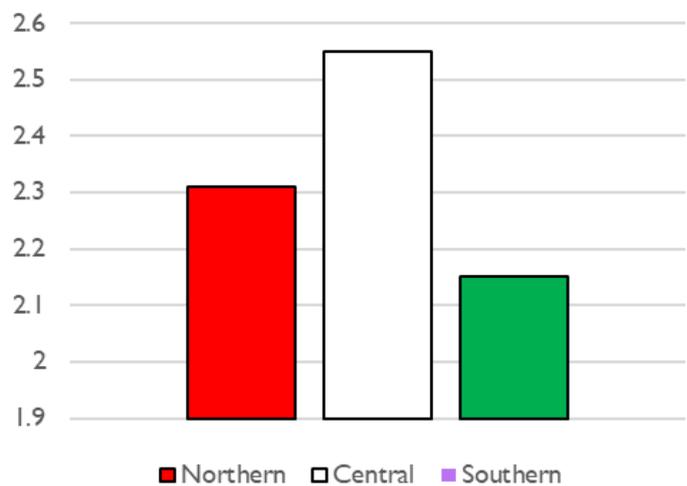
European Region

Results showed significant differences between European Regions on all the variables, except for the attitudes toward doping. The analysis reported a significantly higher level of Moral Identity for the Northern Region compared to the Southern one ($p < .001$); and a substantially higher level of Self-regulatory efficacy for Northern and Central Regions compared to the Southern one ($p < .001$). For what concerns Moral Disengagement, the analysis showed the highest level for Central Region ($p < .001$), followed by Northern and Southern.

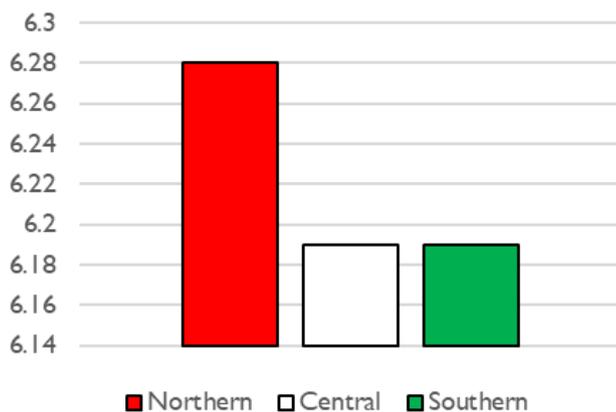
Self-Efficacy



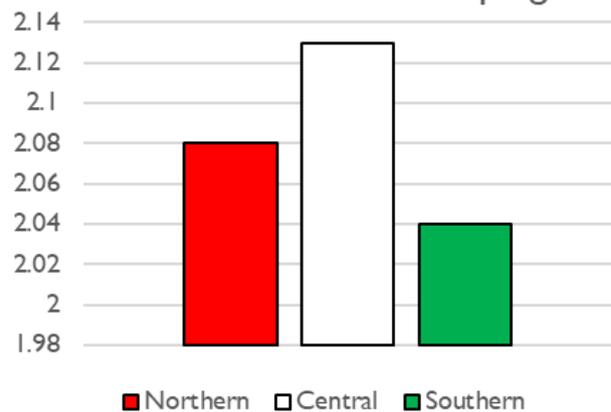
Moral Disengagement



Moral Identity



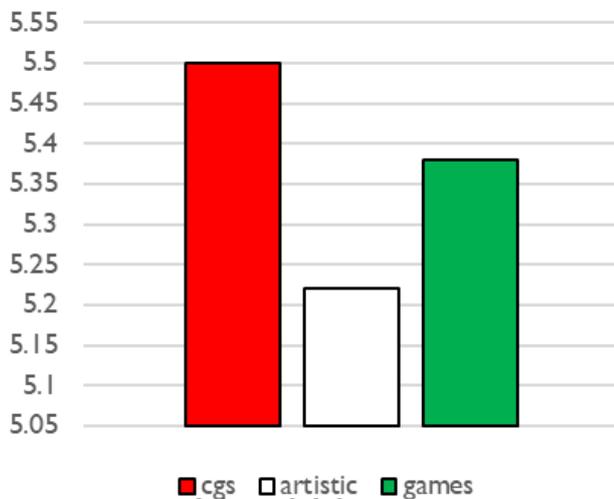
Attitudes Toward doping.



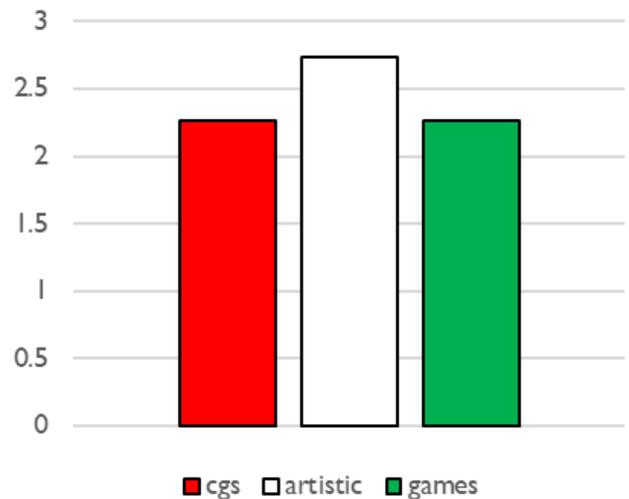
Sport Practiced

Results showed significant differences between the Sport categories on all the critical variables of the study. The analysis reported a significantly higher level of Attitudes toward doping and Moral Disengagement in Artistic sports (which included fitness) than in CGS sports and Games ($p < .001$). Conversely, CGS sports showed higher Moral Identity and Self-Efficacy levels than Artistic sports and Games ($p < .001$).

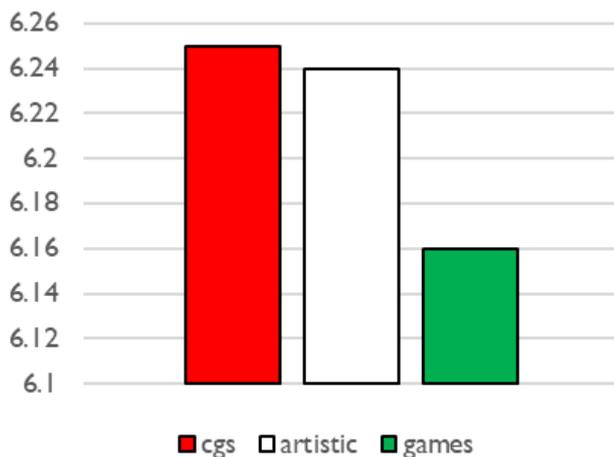
Self-Regulatory efficacy



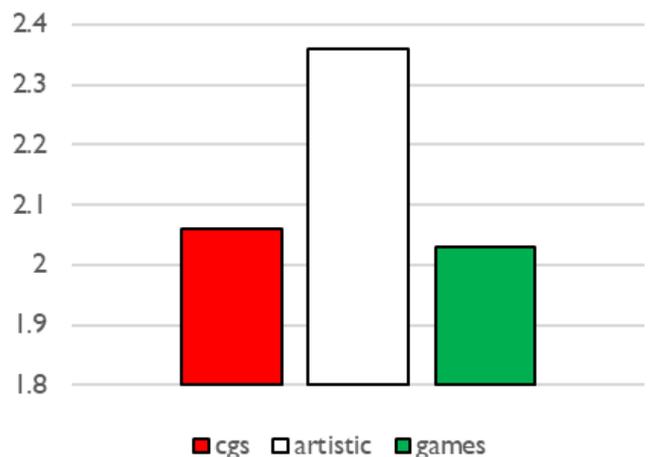
Moral Disengagement



Moral Identity



Attitudes toward doping



Results of the hypothesized model

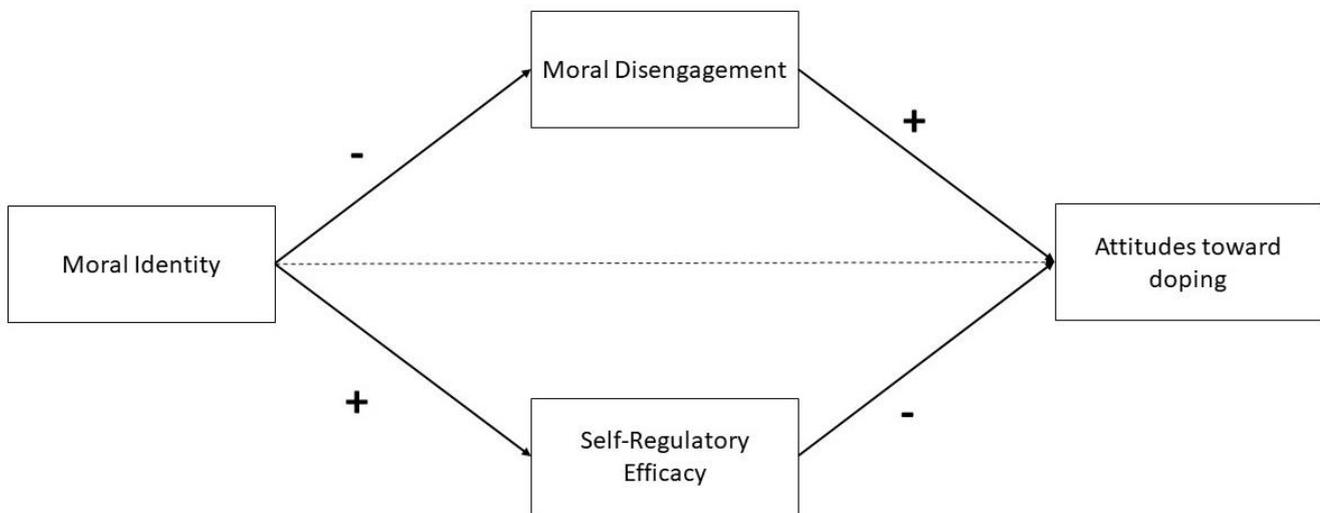


Figure 1 - The tested model of interaction. Note: "-" defines an inverse relationship; "+" defines a positive association. The dotted line is a non-significant effect.

Overall, the tested model (represented in figure 1) showed a positive and significant effect of Moral Identity ($p < .001$) on Self-efficacy and a negative impact on Moral disengagement ($p < .001$). In turn, Moral Disengagement was positively related to attitudes toward doping ($p < .001$), and self-efficacy acted as a negative predictor of attitudes toward doping ($p < .001$). Moral Identity was not directly related to attitudes toward doping, while its effect (negatively related) was indirect through both Moral Disengagement and Self-Efficacy ($p < .001$).

Conclusion

This is the first survey that evaluated psycho-social aspects underpinning doping in recreational athletes across different European Countries.

Results of the first set of analyses showed that male recreational athletes had a more positive attitude toward doping and, at the same time, reported more Moral disengagement with a lower Moral identity. Concerning differences regarding the European Regions, the results did not show any differences in terms of attitudes toward doping. However, they showed a pattern that put Northern Region with the strongest Moral Identity and high Self-efficacy. Also, the sports categories revealed some differences in the critical variables of the study; specifically respondents doing Artistic sports reported the highest level of Attitudes toward doping and Moral disengagement. In contrast, participants who practiced CGS sport had a higher moral component (Moral identity) and a higher perception of resisting doping than others.

Overall, our data showed all significant, but small differences between the considered groups. In terms of relationship and process between the key variables, it appears that the role played

by moral stable personality structures such as moral identity, become crucial by means of more malleable beliefs such as moral disengagement and self-regulatory efficacy. Future anti-doping strategies on this target group could consider the described intercorrelations, and the role of these variables in order to focalize their interventions.

Acknowledgement

We are grateful to our academic partners of the survey in

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- Spain: Thomas Zandonai, the Miguel Hernández University of Elche,
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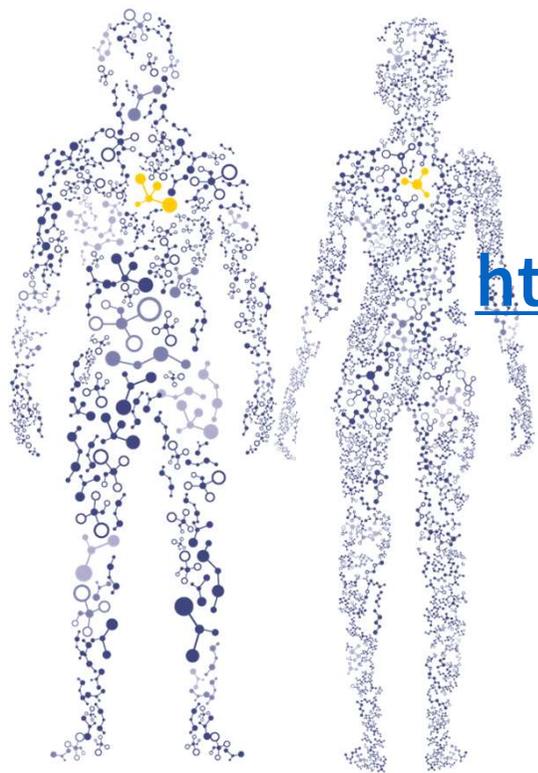
Bandura, A. (2001). Social cognitive theory: An agentic perspective. In *Annual Review of Psychology* (Vol. 52, pp. 1–26). <https://doi.org/10.1146/annurev.psych.52.1.1>

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Question pages of the FAIR+ survey



For more information, see:
<https://fp.socioeconomy.eu/index.php>

Survey on the use of medication in recreational sport for the year 2019

In this survey, we inquire about your use of medication in recreational sport in 2019. Since many sports and events were closed or cancelled in 2020 and early 2021, we focus on 2019.

The survey is intended for people 16 years and older who play sports recreationally, and who are not professional or elite athletes. We invite participants from all sports to participate.

As we use a special survey technique, we ask you to read the questions and follow the instructions carefully. We do this to safeguard your anonymity and ensure that you can answer honestly, even if you think the question or a truthful answer is embarrassing. You can find more information on the survey technique [here](#).

Please complete the whole survey. It will only take approximately 10 minutes. Thank you for your kind participation.

In case of any questions, please contact your national academic partner for Great Britain, [Dr. Paul Dimeo](#)

[I want to Start the survey](#)

--- change language ▾



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Survey on the use of medication in recreational sport for the year 2019

Personal details

<i>Which of the following most accurately describes you?</i>	male ▾
<i>When were you born?</i>	1970 ... 1974 ▾
<i>In which country did you live in 2019?</i>	Denmark ▾
<i>What is the highest level of education that you have reached?</i>	doctorate ▾

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My sports

Please indicate the sports you practised in 2019 as a recreational athlete.

Sport	in a sports club	Period	Level of competition in 2019
<input type="text" value="Football"/>	yes <input checked="" type="radio"/> no <input type="radio"/>	since 1992 ▾	regional level ▾
<input type="text" value="Cycling"/>	yes <input type="radio"/> no <input checked="" type="radio"/>	since 2007 ▾	local level ▾
<input type="text" value="please enter your spor"/>	yes <input type="radio"/> no <input type="radio"/>	since --- please select ▾	--- please choose ▾
<input type="text" value="please enter your spor"/>	yes <input type="radio"/> no <input type="radio"/>	since --- please select ▾	--- please choose ▾

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Instructions to answer the following questions

To answer the following questions, you will need a 5-digit random number.

We will refer to different digits of the random number in the questions that follow.

Please choose **only one** of the following randomly generated numbers.

- 21948
- 89151
- 77532
- 67602
- 17216

As we cannot know which number you chose, your answers on the next pages will be perfectly anonymous.

You may choose to preserve your number until you finish the survey or to delete it. If you select "delete", please write down your chosen number or copy it, so you have it available.

It is important that you will **stick to the same number** throughout the survey.

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preserve numbers
and proceed

delete numbers and
proceed



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	<i>If the first digit of your random number is</i>	
*	<i>a 1, 2, or a 3 please answer the question on the right side,</i>	
*	<i>a 4 or a 5 please answer the question on the left side,</i>	
*	<i>otherwise please answer the question in the middle.</i>	
	Show random numbers	

Does every week have 9 days?

In 2019, did you use over-the-counter medications to enhance your sporting performance?

Does every week have 7 days?

Answer: Yes No

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	<i>If the third digit of your random number is</i>	
*	<i>a 1 please answer the question on the right side,</i>	
*	<i>a 2 or a 3 please answer the question on the left side,</i>	
*	<i>otherwise please answer the question in the middle.</i>	
	Show random numbers	

Does every week have 9 days?

In 2019, did you use medication for training or for competition for purposes other than performance enhancement (e.g. for pain relief, injury recovery, or to control sleep, mood or menstrual cycle)?

Does every week have 7 days?

Answer: Yes No

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Survey on the use of medication in recreational sport for the year 2019

	<i>If the last digit of your random number is</i>	
*	<i>a 1, 2, or a 3 please answer the question on the right side,</i>	
*	<i>a 4 or a 5 please answer the question on the left side,</i>	
*	<i>otherwise please answer the question in the middle.</i>	
	Show random numbers	

Does every week have 9 days?

When participating in **football in 2019**, did you **knowingly use prohibited substances or methods** to enhance your sporting performance?

Does every week have 7 days?

Answer: Yes No

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	<i>If the second digit of your random number is</i>	
*	<i>a 1 please answer the question on the right side,</i>	
*	<i>a 2 or a 3 please answer the question on the left side,</i>	
*	<i>otherwise please answer the question in the middle.</i>	
	Show random numbers	

Does every week
have 9 days?

When participating in **cycling in 2019** did you **knowingly use prohibited substances or methods** to enhance your sporting performance?

Does every week
have 7 days?

Answer: Yes No

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Survey on the use of medication in recreational sport for the year 2019

	<i>If the second to last digit of your random number is</i>	
*	<i>a 1 please answer the question on the right side,</i>	
*	<i>a 2 or a 3 please answer the question on the left side,</i>	
*	<i>otherwise please answer the question in the middle.</i>	
	Show random numbers	

Does every week have 9 days?

In 2019, did you knowingly use prohibited substances or methods to enhance your **image?**

Does every week have 7 days?

Answer: Yes No

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Survey on the use of medication in recreational sport for the year 2019

Views on medication use in recreational sports

How many recreational athletes in football do you think use prohibited substances or methods to enhance their performance? (range 0-100%)	<input type="text" value="5"/>	%
How many recreational athletes in cycling do you think use prohibited substances or methods to enhance their performance? (range 0-100%)	<input type="text" value="6"/>	%
In all recreational sport how many (amateur) sports people in your country do you believe use prohibited substances or methods to enhance their performance or their image? (range 0-100%)	<input type="text" value="7"/>	%

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Recreational sportspeople have different views about the use of prohibited performance and image enhancing substances in sport. Listed below are several statements describing some.

Read these statements carefully and tick the box to indicate the extent to which you agree with each:

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
Compared to the damaging effects of alcohol and tobacco, using prohibited performance and image enhancing substances is not so bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is not right to condemn those who use prohibited performance and image enhancing substances to improve their body or their performance, since many do the same	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using prohibited performance and image enhancing substances is a way to "maximize" your sporting potential	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is no reason to punish those who use prohibited performance and image enhancing substances to improve their physical appearance, after all, they do not hurt anyone else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Those who use prohibited performance and image enhancing substances should not be blamed, but those who expect too much from them should	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is ok to use prohibited performance and image enhancing substances if this can help to overcome personal limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Here are some characteristics that may be used to describe a person:

caring	compassionate	fair	friendly	generous
hardworking	helpful	honest	kind	

The person with these characteristics could describe you or someone else. For a moment, visualise in your mind the kind of athlete who in your opinion has these characteristics. Imagine how that person would think, feel, and act. When you have a clear image of what this athlete would be like, answer the following questions.

	Strongly Disagree	Disagree	Slightly disagree	Neutral	Slightly Agree	Agree	Strongly Agree
It would make me feel good to be a person who has these characteristics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being a person who has these characteristics is an important part of who I am	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be ashamed to be a person who has these characteristics	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having these characteristics is not really important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I strongly would like to have these characteristics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Below are some statements that refer to situations concerning use of prohibited medications to improve performance and image in sport.
For each statement, indicate to what extent you would be able to resist the temptation to use prohibited substances.

Regarding your sport, how confident are you in your ability to avoid using prohibited performance and image enhancing substances...

	Not at all confident 1	2	3	4	5	6	Completely confident 7
... despite the pressure to do so from others	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to improve your image or performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... when pressured to do so by others (e.g., friends, coaches, trainers etc...)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to improve your image or performance, even if it will not have any adverse side-effects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
... to get results more quickly, even if no one would ever know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

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Read these statements carefully and tick the box to indicate the extent to which you agree with each:

	Strongly Disagree	Disagree	Slightly disagree	Slightly Agree	Agree	Strongly Agree
Legalising performance and image enhancing substances would be beneficial for sports.	<input type="radio"/>	<input checked="" type="radio"/>				
Prohibited performance and image enhancing substances are necessary in order to be competitive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
The risks related to prohibited performance and image enhancing substances are exaggerated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance and image enhancing substances give the motivation to train and/or compete at the highest level.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recreational sports people should not feel guilty about breaking the rules by taking prohibited performance and image enhancing substances .	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recreational sports people are pressured to take prohibited performance and image enhancing substances.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Survey on the use of medication in recreational sport for the year 2019

Thank you very much

We would like to take this opportunity to thank you very much for the effort.
You helped us a lot with it!

We would be pleased if you would send the **link to this survey to as many active and former athletes as possible** as well as to **your friends and acquaintances who are active sports people**.

<https://fp-survey.eu?lang=en>

Thank you in advance.

We hope you continue to enjoy the sport, be it as an athlete or as a spectator!

The [FAIR+ Research consortium](#)