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Hidden Patterns behind Doping Use among Norwegians 18-19 Years Old

Jan Ove Tangen[1] and Bjørn Barland[2]

1. Department of Sport and Outdoor Life Studies, Telemark University College, Bø i Telemark 3800, Norway

2. Norwegian Police University College, Slemdalsveien 5, 0369 Oslo, Norway

Abstract: There is a growing public concern about the increasing use of performance enhancing drugs (doping) in sport, exercise and fitness activities. Research has been carried out to answer the question "Why do exercising young people use performance enhancing drugs?" The explanations of most quantitative researches are based on bivariate statistical analysis. But there are reasons to believe that one factor or motive is not suffice to explain such a complex and stigmatized behaviour. More probably, there may be clusters of psychological and societal, more or less hidden, reasons behind such behaviour. This study uses EFA (exploratory factor analysis) and combines sets of variables, in order to reveal hidden factors or patterns in the empirical data. Our study indicates that this kind of doping use should be interpreted within a social context where youths struggle with their lives, making sense of societal demands and expectations, using the "tools" they find fitting, and make their choices meaningful and functional. In other words, doping has something to do with muscles, self-presentation and meaning trying to build identities in a world where the body is the main symbol of value and morality.

Key words: Performance enhancing drugs, youth, exercise, identity, self-presentation, meaning.

1. Introduction

There is a growing concern among politicians, sport leaders, owners of fitness centres etc. about the increasing use of performance enhancing drugs (doping). Politicians worry about the resumed connection between doping and health risk, and doping and anti-social behaviour. The sport leaders argue that the use of doping threatens the important value of fair play and sportsmanship as well as the athletes' health. The use of doping among some those who exercise in fitness centres may scare away regular or potential customers of fitness centres and so threaten the business.

In Norway, as rest of Europe, there has been an increased focus on doping outside organized sport in recent years [1]. Political mobilization is taking place within the EU system and within the bodies of the Council of Europe, to work out proposals and measures to be taken, in order to face the problems of so-called "fitness doping". The extent of doping seems difficult to estimate. The uncertainty surrounding the numbers in various surveys that measure the extent is partly due to the sensitivity of the topic and partly due to the method of the type of surveys that measure extent [2-5]. In a survey on the connection between AAS (anabolic-androgenic steroids) and violence [6], various population studies were compared. Here, the extent varied from 0.8% to 5.7% in the populations studied. The last survey that measured the extent of doping conducted on a selection of youths in Norway established that 2.6% of the respondents stated that they dope themselves or have doped themselves [7].

Do the surveys that measure the extent of doping document that doping is a large problem? If we take a look at some numbers of drug abuse and eating disorders,we might be able to place the doping problem within a broader perspective. In Norway, we have annually reports about intoxicating SIRIUS

Corresponding Author: Jan Ove Tangen, professor, research fields: sport sociology, sport politics. E-mail: jan.o.tangen@hit.no.

(substance or drugs from the Norwegian Institute for Alcohol and Drug Research). In the period 2007-2009, there were 823 cases of death in Norway due to the use of narcotics and 162 of these deaths happened in Oslo. In the period 2007-2008, 11% of the youths aged 19-20 years stated that they had been using cannabis and 2.7% stated that they had been using amphetamines or similar drugs. In 2007, 93% of the youths aged 19-20 years had been drinking alcohol [8]. The Norwegian Institute of Public Health divides eating disorders into three categories: anorexia (0.3%), bulimia (2%) and BED (binge eating disorder) (3%). In total, in 2009, 50,000 Norwegian women were at all times supposedly suffering from an eating disorder.

However, there seem to be a consensus that the extent of doping as a social problem will increase [9, 10]. And so will the alleged problems of aggression, violence and criminal behaviour. It is known that AAS cause increased different forms of aggression [6, 11-15]. But, what is the connection to violence and criminal behaviour? The Norwegian Ministry of Justice appointed a specialist group that was to report on the status quo of research in that area [6]. Some studies argue that there is no causal link between the use of doping and criminal behaviour [6, 13].

The emergence of the global fitness culture and its focus on body shaping, health and "beauty" as a lifestyle, however, it may also explain why doping has become a social problem. Building identities through body shaping may lead some youths to experiment with doping. It is highly relevant to see doping in the context of a youth culture in which youths not only adopt or take over cultural impulses from popular culture, music and media, but also convert the impulses into meaningful practices in interaction with others where drug use is a possible option [10, 16-21, 23]. There are also studies that suggest a connection between body ideals and doping use the ideal body which seems to an international trend [10, 16, 20, 22, 24-26], interpreting it as meaningful behaviour in an identity project [27, 28]. And there are some studies that doping use are related to esoteric knowledge and exchange of experiences [16, 22].

As implied in the research above, much of the research tries to answer the question "Why". Why do exercising young people use performance enhancing drugs? To perform better, to have a better look, to get respect, to do as my friends do and so forth may be reasonable explanations as research have shown. However, the explanations of most quantitative researches based on bivariate statistical analysis. But there are reasons to believe that one factor or motive is not suffice to explain such a complex and stigmatized behaviour. More probably, there may be clusters of psychological and societal, more or less hidden, reasons behind such behaviour.

The important, but difficult question is how to proceed to reveal such clusters or hidden patters. The research is rather sparse with regards to multifactorial explanations; in particular in quantitative studies. Wichstrøm and Pedersen [29] used logistic regression analysis and found that the use of AAS corresponded with problem behaviour as marijuana involvement and aggressive-type conduct problems, and to some extent, with involvement in power sports and disordered eating. In order to investigate whether AAS use alters the risk of later emotional and behavioral problems, Wichstrøm [30] utilized multifactorial logistic regression. He could not establish such a relationship.

We decided to carry out a large quantitative study, with an extensive questionnaire and use exploratory factor analysis in order to identify possible factors. In earlier, preliminary publications from the project, bivariate statistical analysis was carried out in order to reveal possible significant correlations between doping use and other psychological and sociological variables [7, 31]. In this paper, we try to combine sets of variables in order to reveal hidden factors or patterns in the empirical data.

2. Methods

To get a large sample of youths—representative on

a national level—to answer a large questionnaire, is quite expensive and cumbersome to carry out. A distribution of the questionnaire by post would most likely result in low response rate. To get email addresses to a representative sample of youth seemed almost impossible with respect to approval from the authorities. We ended up handing out a questionnaire to youths attending an examination for military services.

In Norway, conscription and the duty to turn up for examination for men liable for military service apply to all men after reaching 18 years of age. For women, the examination for military service is voluntary but necessary if they want to do national military service. Conscription and the duty to enlist also apply to foreign citizens who are resident in Norway. In Norway, there are six units for classification, in this report called "sites of examination for military service", namely Oslo, Hamar, Trondheim, Kristiansand, Harstad and Bergen. Due to the fact that women just voluntary met at the conscription give us reasons to believe that they are not representative for Norwegian women of this age. This is important to remember when we study the differences between the sexes or gender as an explanatory factor.

The questionnaire was handed out answered on paper at the various sites of examination for military service. Participating in the survey was voluntary and at some of the sites of examination for military service very few wanted to participate. There was made agreements with the officers in charge to hand out the questionnaire after the common introduction of the day and to collect them properly afterwards. The officers should also register the numbers of those denied participating in the study. This way of handing out and collecting the questionnaire may represent a methodological problem. It could be situations at the site with regards time, facilities, the way the instructions given and so forth, which we are not informed about. That may explain the low response rate (Table 1).

However, the possibility of making more precise statistical analysis is good, despite the low response rate; since more than 5000 youth give their answers. That is a larger sample than most of other studies base their analysis on. It makes it easier to generalize our findings to the Norwegian population.

Due to the obligation to turn up to this conscription, there are few groups of 18-19 years old Norwegian youths that are not represented in this sample. We consider that the sample of men in the survey is representative for Norwegian men who are obliged to turn up for examination for military service. It is also reasonable to assert that the sample of women is representative for the group of women who voluntarily participate in the examination for military service. They may be more concerned about exercise and to have a fit body, and may be more at risk to use performance enhancing substances, legal as well as illegal, than young women in general. The comparisons we make with regards to the gender variable must be interpreted against this background. It is not possible to regard any possible differences between men and women in our material as applicable to the general population of Norwegian men and women in these age groups.

The questionnaire consists of 64 questions, giving 402 variables. Running a complete exploratory factor analysis with all the variables included, is not practical possible nor theoretical reasonable. Due to the construction of the questionnaire, some closed responses were not checked off. This makes the statistical package we use SPSS to stop the analysis. In addition, some questions were posed with regards to other research

Table 1 Attendance and answered questionnaires sorted according to gender.

	Attendance (N)	Attendance (%)	Answered questionnaires (N)	Answered questionnaires (%)
Men	8,817	87.1	4,464	50.6
Women	1,301	12.9	838	64.4
In total	10,118	100.0	5,331	52.7

questions than doping use, and were considered not relevant to include in the analysis.

Therefore, we choose the strategy of using the variables that showed—in the preliminary bivariate (Barland and Tangen 2010)—statistical significant differences between those who use drugs and those who do not. The amount of variables was then reduced to 66, still a large number. Some of these variables are heavily related, in the sense that they were alternative answers to the same question. We thought that using that variable among those closely related that showed the largest Z-values—as a representative of the other related variables—we may reduce the number of variables considerably. We ended up using 17 variables in a first run of factor analysis. But we also made second run of factor analysis, using also the variables with second largest Z-test. Now the number of variables was 27. This was done because we wished to see if the patterns or factors were confirmed or changed.

3. Results

Due to the complexity of the doping issue, and the many variables that may influence the use and not use of doping, we may expect low values on explained variance and correlations among variables. And that is what we found.

In Table 2, we see that the variable "I weigh the food and check out the fat content" has the largest communalities among the variables; which means it explains almost 60% of the variance. Next comes "I do not feel ashamed for my body" and "I use performance enhancing drugs to have a nicer body"; explaining almost 58%, and so forth.

In Table 3, it shows that five factors have an eigenvalue above 1. That means that these five factors are the most significant hidden patters behind the drug use. In total, they explain just above 43% of the variance (yellow colour). Factor 1 explains almost 13% alone (blue colour).

When rotated, the variance explained is reduced to above 10% for factor 1, while the other factors' explanatory power is increased (grey colour).

Fig. 1 shows a plot, the scree plot, a graphic image of the eigenvalue of each factor extracted. The point of interest here is where the curve flattens out. This happens between two and six. Notice that the eigenvalue of factor 6 drops below one.

Table 2 Communalities.

Variables	Initial	Extraction
Gender	1,000	558
Having fun with friends	1,000	501
I weigh the food and check out the fat content	1,000	596
Foreign dietary supplements give better effect than Norwegian products	1,000	395
I have used marihuana during the last 12 months	1,000	402
Doping tablets are more dangerous than injections	1,000	396
I use/have used doping	1,000	416
I could have used doping if a nice body was guaranteed	1,000	414
You can get hold of doping together with a friend	1,000	336
The ideal male body is lean with muscles	1,000	373
I experience expectations of having an ideal body from my friends	1,000	281
I do not feel ashamed about my body	1,000	578
I use performance enhancing drugs to have a nicer body	1,000	578
I have had help from the child care	1,000	492
I have been exposed to physical violence being in town	1,000	262
I get a kick out of using physical violence	1,000	248
I have been convicted several times	1,000	505

Extraction method: principal component analysis.

Table 3 Total variance explained.

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of Variance	Cumulatie (%)	Total	% of Variance	Cumulative (%)	Total	% of Variance	Cumulative (%)
1	2,204	12,966	12,966	2,204	12,966	12,966	1,799	10,581	10,581
2	1,477	8,687	21,654	1,477	8,687	21,654	1,631	9,591	20,172
3	1,324	7,788	29,442	1,324	7,788	29,442	1,460	8,591	28,763
4	1,233	7,255	36,697	1,233	7,255	36,697	1,267	7,453	36,216
5	1,092	6,425	43,122	1,092	6,425	43,122	1,174	6,906	43,122
6	979	5,762	48,883						
7	952	5,602	54,485						
8	939	5,521	60,006						
9	875	5,145	65,151						
10	857	5,042	70,194						
11	808	4,751	74,945						
12	777	4,571	79,516						
13	754	4,438	83,954						
14	743	4,372	88,326						
15	717	4,216	92,542						
16	636	3,740	96,282						
17	632	3,718	100,000						

Extraction method: principal component analysis.

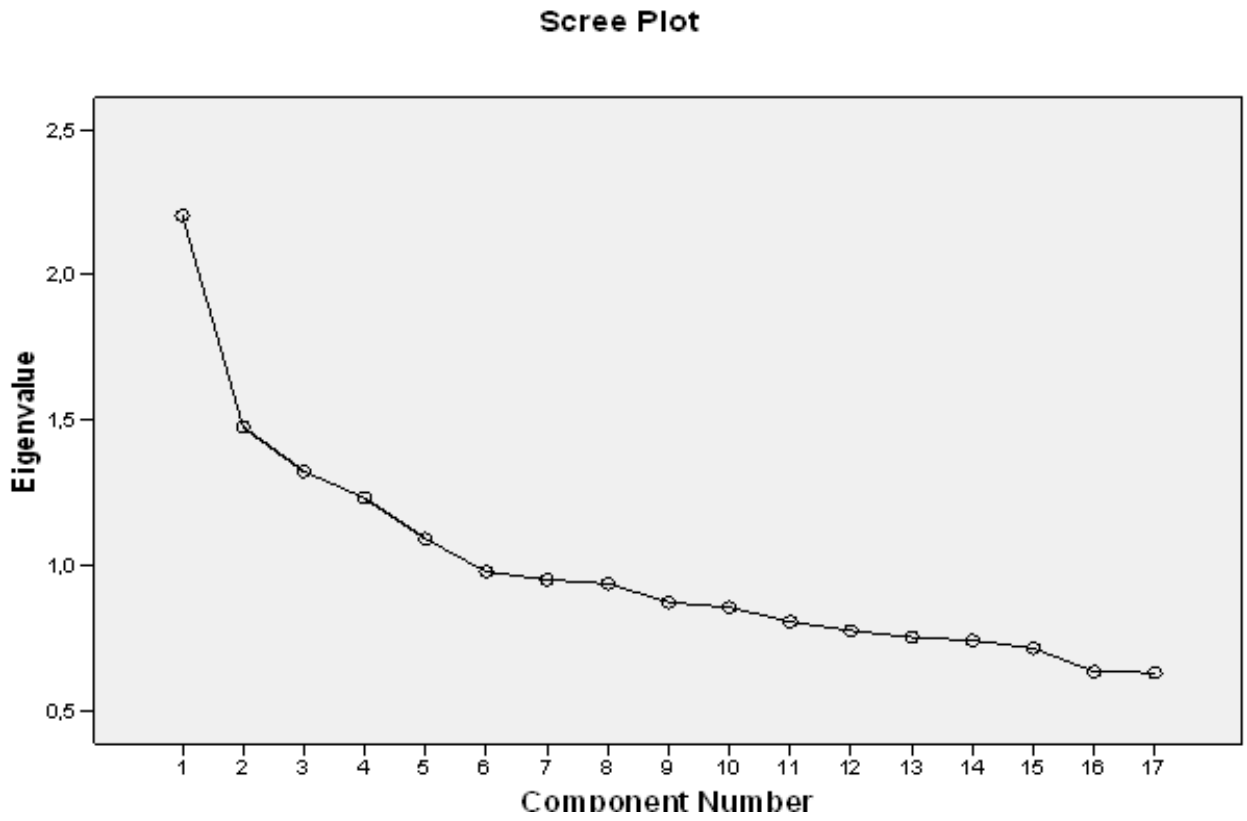

Fig. 1 Scree plot.

Table 4 Rotated Component Matrix(a).

Variables	Component				
	1 "The troubled and troublesome"	2 "Expectation and knowledge"	3 "Caught up with the body"	4 "The not ashamed male"	5 "The lonely doper"
Gender	-0.042	0.061	-0.087	0.735	0.076
Having fun with friends	0.142	-0.119	-0.016	-0.035	0.682
I weigh the food and check out the fat content	0.035	-0.197	0.745	0.022	0.017
Foreign dietary supplements give better effect than Norwegian products	0.034	0.607	-0.122	0.059	0.085
I have used marihuana during the last 12 months	-0.468	0.094	0.084	0.072	0.402
Doping tablets are more dangerous than injections	-,125	0.504	-0.211	0.110	0.264
I use/have used doping	-0.433	0.172	-0.072	-0.006	0.440
I could have used doping if a nice body was guaranteed	-0.049	0.329	0.448	-0.027	0.320
You can get hold of doping together with a friend	0.157	-0.549	-0.086	-0.044	-0.007
The ideal male body is lean with muscles	0.036	0.515	0.202	-0.024	-0.254
I experience expectations of having an ideal body from my friends	0.039	-0.450	0.070	0.253	0.085
I do not feel ashamed about my body	-0.047	0.081	-0.072	-0..747	0.080
I use performance enhancing drugs to have a nicer body	0.121	0.031	0.740	0.006	-0.118
I have had help from the child care	0.644	0.040	0.049	0.100	0.253
I have been exposed to physical violence being in town	0.397	-0.157	-0.066	-0.262	0.080
I get a kick out of using physical violence	0.485	-0.045	0.067	0.036	-0.076
I have been convicted several times	-0.705	0.089	-0.082	0.015	0.023

Extraction method: principal component analysis;

Rotation method: varimax with Kaiser Normalization—a rotation converged in 6 iterations.

The most interesting question is: what makes up these factors. Based on the correlations between the single variable and the factors, we have identified and termed the factors as shown in Table 4. As you will see, we have used the rotated component matrix since it is said to give a pattern of loading that is easier to interpret than the original correlations matrix. Please disregard the minuses and plusses before the correlations. This is due to different successions of the closed responses in the different variables. High correlations—pluss or minus—indicate which variables make up the different factors. It is the variables "I have been convicted several times", "I have had help from the child care", "I get a kick out of using physical violence", "I have used marihuana during the last 12 months" and "I use/have used doping" that show the largest correlations with factor 1 (red colour). We termed that factor "The troubled and troublesome".

The second factor show reasonably high correlations with variables as "Foreign dietary supplements give better effect than Norwegian products", "You can get hold of doping together with a friend", "The ideal male body is lean with muscles", "Doping tablets are more dangerous than injections", and "I experience expectations of having an ideal body from my friends". This indicates that experiencing expectations and having somewhat esoteric knowledge are related. We have termed this factor "Expectation and knowledge".

Factor 3 indicates a rather strong preoccupation with body appearance and nutrition. As you see in the table, the variables "I weigh the food and check out the fat content", "I use performance enhancing drugs to have a nicer body", and "I could have used doping if a nice body was guaranteed". This factor is termed "Caught up with the body".

The fourth factor correlates with only two variables "Gender" and "I do not feel ashamed about my body". Since it was mostly men who ticked off on the last answer, therefore, we named it "The not ashamed

male".

The last factor shows correlations to the variables "Having fun with friends", "I use/have used doping", and "I have used marihuana during the last 12 months". At first glance, this seems to indicate a factor where using drugs, both doping and marihuana, is related to having fun with friends. This could be interpreted as that some doping users value social relationships. A closer look reveals the opposite. Most of those who have ticked off "I use/have used doping" and "I have used marihuana" also have checked off that having fun with friends "is not important at all". In other words, this fifth factor indicates a "lonely doper", and is termed accordingly.

Our second run with 27 variables both confirmed and revised some of the above findings. This time, nine factors have an eigenvalue above one and are included in the analysis. Almost 53% of the variance is explained. When we look closer into the factors, "The troubled and troublesome" still appears as factor 1 (Table 5). Now, however, a new factor 2, popped up. This could be termed "The innocent", since it correlates rather highly with the variables "has never been exposed to physical violence" and "has never used tobacco/snuff". You could say that these two factors make up the two sides of the same coin. The factor "Caught up with the body" kept its rank as factor 3. A new factor 4 emerged with correlations to the variables "I could use doping if it was necessary to win in my sport", "I have used marihuana during the last 12 months" and "I use/have used doping". This factor could be termed "The Lombardian performer" after the legendary American coach Vince Lombardi's maxim "Winning isn't everything, it's the only thing". Factor 5 indicates a weaker factor of "Esoteric knowledge" while factor 6 seems to be another knowledge factor, but this time about "Dietary supplement knowledge". The last three factors are more difficult to comprehend, but is seems to be related to "I do not experience expectations", "Having fun with my friends" and "Gender".

4. Discussion

At this stage of the research, we have not come across other studies using exploratory factor analysis to explain doping among youths. Our results indicate that the hidden patterns or factors behind doping use among youth seem to be related to troublesome lives in general, being in social milieus where esoteric knowledge is shared, and concerns about how one's own body looks like with regards to the ideal body. Our results also indicate that the urge to win in sports still is an explanation of the use of doping. On the other hand, factors like self-acceptance and social networks of friends and family seem to be a protection against drug use.

This seems to be in accord with other bivariate analysis on this topic. The use of AAS was found to increase different forms of aggression [6, 11-15]. These studies do not, however, connect the use of aggression to the life of troubled and troublesome individuals in general as our exploratory factor analysis led us to see. There are also indications in our results that those individuals, who have doping experiences, both use violence and are prone to others' violence [7]. May be these findings also indicate that troublesome persons with troublesome lives may be an expression of sensation seeking and marginalized and isolated young people? Further studies may look into this.

Our findings also seem to be similar to Wichstrøm and Pedersen [29]. They used logistic regression analysis and found that the use of AAS corresponded with problem behaviour as marijuana involvement and aggressive-type conduct problems, and to some extent, with involvement in power sports and disordered eating. The connection to power sports may correspond to our findings that some individual use any means in order to win in sport (factor 4 in "Results"), i.e., having what is similar to a Lombardian ethic that characterize those who use drugs in competitive sport [32].

Table 5 Rotated Component Matrix(a).

	Component								
	1 "The troubled and troublesome"	2 "The innocent"	3 "Caught up with the body"	4 "The Lombardian performer"	5 "Esoteric knowledge"	6 "Dietary supplement knowledge"	7 "Not experiencing expectations"	8 "The social guy"	9 "Gender"
Gender	0.015	0.170	-0.125	0.012	0.027	-0.009	0.011	0.061	0.710
Having fun with friends	-0.058	-0.091	-0.056	0.051	0.036	-0.003	0.016	0.800	-0.039
I weight the food and check out the fat content	-0.020	0.024	0.748	0.113	-0.079	-0.084	0.026	0.010	0.079
Foreign dietary supplements give better effect than Norwegian products	-0.001	0.092	-0.121	0.058	0.164	0.673	-0.019	0.054	-0.034
I have used marihuana during the last 12 months	0.278	0.153	-0.142	0.408	0.084	-0.057	-0.104	0.126	0.116
Doping tablets are more dangerous than injections	0.007	0.012	-0.142	0.116	0.688	0.251	-0.028	0.038	0.091
I use/have used doping	0.289	0.025	-0.273	0.368	0.229	-0.114	-0.194	0.023	0.090
I could have used doping if a nice body was guaranteed	-0.058	0.060	0.131	0.750	0.060	0.118	0.025	-0.018	-0.074
You can get hold of doping together with a friend	0.068	-0.384	-0.024	-0.068	-0.293	-0.212	0.133	0.084	0.105
The ideal male body is lean with muscles	0.074	0.004	0.114	0.056	-0.111	0.511	-0.240	-0.106	0.003
I do not experience expectations of having an ideal body from my friends	-0.018	0.007	0.025	0.014	-0.028	-0.107	0.796	0.029	0.089
I do not feel ashamed about my body	0.001	0.056	-0.174	0.070	-0.054	-0.015	-0.066	0.019	-0.748
I use performance enhancing drugs to have a nicer body	-0.063	0.009	0.664	0.102	-0.106	0.185	-0.025	-0.033	0.045
I have had help from the child care	-0.627	-0.089	-0.099	0.151	-0.188	-0.017	0.007	-0.008	0.166
I have been exposed to physical violence being in town	-0.061	-0.780	0.038	-0.028	-0.019	-0.020	-0.012	-0.015	-0.057
I get a kick out of using physical violence	-0.246	-0.131	0.086	-0.035	-0.368	0.176	0.052	0.060	0.047
I have been convicted several times	0.760	0.077	-0.092	0.019	0.040	0.073	-0.003	0.033	0.014
It is important to have a good relationships to the family	0.078	0.097	0.073	-0.014	-0.021	0.022	-0.050	0.786	0.081
I use dietary supplements regularly	-0.060	-0.153	0.643	-0.016	-0.016	-0.321	0.038	0.055	-0.125
It is legal to take dietary supplements with me from abroad	0.032	0.023	-0.049	0.017	0.156	0.646	0.075	0.051	0.028
I have not used tobacco/snuff the last 12 month	0.260	0.474	-0.021	0.043	0.063	-0.022	-0.057	-0.112	0.100
Anavar is an anabolic steroid	0.003	-0.034	-0.109	0.084	0.702	0.217	-0.073	0.027	0.132
I could use doping if it was necessary to win in my sport	-0.058	-0.016	0.195	0.782	0.016	0.080	0.029	-0.007	-0.057
I do not experience any expectations with regards to my body	0.014	-0.105	0.017	-0.035	-0.078	0.009	0.770	-0.069	-0.015
I have been in contact with detached (youth) worker	-0.310	-0.183	-0.149	0.129	-0.447	0.180	-0.081	-0.034	0.217
I have never experienced physical violence	0.093	0.809	-0.029	0.029	-0.015	0.060	-0.027	0.122	0.013
I have got several fines	0.694	0.088	-0.104	0.113	-0.064	0.061	0.024	-0.018	0.126

Extraction method: principal component analysis.

Rotation method: varimax with kaiser normalization—a rotation converged in 8 iterations.

The sharing of esoteric knowledge we found to be a distinctive trait and hidden factor behind doping, confirm other studies findings that doping use are related to esoteric knowledge and exchange of experiences; a knowledge to be found in particular social settings or milieus where training and exercise take place [16, 22]. Social settings and milieus in turn imply community and fellowship. Our findings, however, indicate that the use of performance enhancing drugs is related to isolation, which we termed "the lonely doper". One could however, be lonely, but still be a part of a social setting where doping could be recommended and distributed [16]. As such drugs could be a 'ticket' into community. More research is needed.

It has to be emphasised that quantitative studies like the current study, are not able to establish which variables come first and which come second. For example, with regards to aggression and the use of AAS, aggression is a reaction often used by troubled and troublesome individuals to solve problems. But it is not possible to say whether the use of doping leads to troubled lives or vice versa. Studies like this can only establish statistical correlations, not causal [14]. Therefore, neither in ours nor others research, it is not possible to clarify whether use of doping leads to criminal behaviour or vice versa [33]. Either can we say that experiencing societal expectations of having an ideal body may lead to a search for esoteric knowledge or the other way round. Only a more qualitative study, either retrospective or prospective, can reveal such causal relationships.

Our findings corresponds strongly to findings that connect the use of drugs to building identities—even troubled identities—through body shaping; in particular to have an societal defined ideal body [10, 16, 18-23]. Some studies interpret this as meaningful behaviour in an identity project—a "Project Perfect" [27, 28, 31]. All the factors that come up through the exploratory factor analysis suggest that search for and building identity for some is connected to the use of doping.

Using the exploratory factor analysis indicates that what explains doping is the identity process young people struggle with; i.e., about how identity is formed and re-formed, and in which the body is a medium in these processes. Therefore, it is reasonable to ask: Is the modern body culture really 'only' a traditional identity project? And is it such that we have to understand this project as an individual strategy to achieve that which society promotes as important and significant?

Using Robert Merton's theories on anomie and deviance [34], we may see doping as a means to establish and maintain relations in the context of youth culture. Doping is not the main problem, doping is an expression of a problem. The problem is a societal defined or constructed ideal of the body that makes doping a possibility. Doping is on its own premises a rational action in a given context. If we see the problem of doping in such a connection, it resembles other problems as eating disorders, intoxication and some forms of crime.

Doping may also be understood as an expression of masculinity in crisis. Perhaps future research may have the opportunity to conduct broader analyses by opening up for seeing the identity and masculinity-perspective in a wider context? There may be reasons to engage in research on the formation of identity that is not about creating an identity, but about the ability to create connections among several elements of identity so that it may appear as a unified I-identity [35].

Such interpretations do not make the problem of doping easier, but the problem may be researched and understood in light of a broader specialist approach.

5. Conclusions

What our study may indicate is that doping use can be interpreted within a social context where troubled youths struggle with their lives, making sense of demands and expectations, using the "tools" they find

fitting, and make their choices meaningful and functional. In other words, doping has something to do with muscles, self-presentation and meaning trying to build identities in a world where the body is the main symbol of value and morality. These seem to be the hidden factors behind the use of doping among 18-19 years old Norwegians.

This indicates that the use of performance enhancing drugs may be an important part in building identities and making meanings out of daily living among youths that have a troubled and somewhat isolated life. If this is the case, the public and governmental struggle against doping seems more difficult, more demanding, and more expensive in order to be successful. It seems not enough to forbid the use of doping and criminalize the user as some governments do.

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