Lessons learned

> Vulnerable young people and prevention

Over the past 12 years (1992–2004) – as part of a package of measures designed to reduce drug-related problems – the FOPH, in conjunction with national partners, has implemented a number of youth-oriented prevention programmes. The key milestones and findings are to be documented in a short series of publications.

> Prevention in sport (only in German and French)
> Prevention in youth care facilities (only in German and French)
> Prevention in youth work (only in German and French)
> **Vulnerable young people and prevention**
> Community prevention (only in German and French)

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> Preface

The major health and social problems associated with excessive alcohol consumption, smoking and drug use are well known, and the importance of prevention efforts among children and adolescents is widely acknowledged. This makes it all the more essential to provide sound scientific foundations for effective prevention.

To date, research on prevention has yielded a number of significant findings: for instance, we know today that *political measures* on the supply side (e.g. pricing policy, limiting substance accessibility, youth protection provisions, restrictions on consumption in public places) are relatively effective. The demand reduction approach of prevention – i.e. seeking to influence individual behaviour through *communication/educational measures* – is not always successful. This is partly attributable to the fact that young people do *not* constitute a homogeneous group; rather, they show substantial differences in vulnerability to drug use and other health-risk behaviours.

How can these findings be exploited in prevention practice? The aim of this publication is to offer some suggestions in this regard. Four groups of researchers were asked by the FOPH to investigate, from various perspectives, the question of what social and personal factors increase or reduce the risk of problem behaviours. Here, in a deliberately concise form, the key results of their studies are summarized, and recommendations are proposed for prevention.

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1 > Introduction

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Prevention and vulnerability

Prevention campaigns and projects designed to reduce risk behaviour among young people are often addressed to the *whole* population or to *entire* population groups, e.g. *all* young people. However, this approach fails to take account of the specific social situation and also of differences in individual vulnerability and risk factors. Young people whose risk behaviour is of an experimental and only occasional nature differ from those whose health and social development is seriously endangered by immoderate and persistent risk behaviour.
An understanding of this "low risk"/"high risk" distinction is important for the purposes of prevention practice. Over the past few years, four research teams have therefore been commissioned by the Federal Office of Public Health to study the question of vulnerability and the associated opportunities and pitfalls for prevention from a variety of perspectives. The final reports on this research are available in pdf format on the FOPH website.

- *Suris, J.-C. et al. Jeunes vulnérables en Suisse.* Faits et données. Institute of Social and Preventive Medicine (IUMSP), Lausanne, 2006.
  The original study is in two parts. The first part reviews the literature on the prevalence of risk behaviours in Switzerland and other countries, and presents a list of risk and protective factors for various types of risk behaviour. The second part consists of a secondary analysis of data from the Swiss Multicenter Adolescent Survey on Health (SMASH*), with the aim of defining different degrees of vulnerability among young people: what are the relevant characteristics and the prevalences of risk behaviours?

- *Brodbeck, J. et al. Wohlbefinden, Belastungen und Gesundheitsverhalten bei jungen Erwachsenen: Eine Längsschnitt-Studie. University Hospital of Psychiatry, Bern, 2006.*
  This longitudinal study, involving a sample of originally 3000 young people aged between 16 and 24 from the cities of Basel, Bern and Zurich, investigates the predictors and consequences of risk behaviours. Variations in risk behaviour are studied over a 2-year period – i.e. whether it decreases, increases or remains unchanged.

- *Bolognini, M. et al. La consommation de substances à l'adolescence : Problèmes associés, trajectoires individuelles, accès aux soins. Child and Adolescent Psychiatry Department (SUPEA), Lausanne, 2004.*
  In this longitudinal study carried out in French-speaking Switzerland, 102 drug users aged between 14 and 19 were followed up for 3 years. Comorbidity, individual careers and use of healthcare services are analysed.

*A cross-sectional survey on health and lifestyle among a representative national sample of adolescents aged 16–20, conducted in 2002.

- *Hüsler, G. et al. 1st study: supra-f: Ein Suchtpräventions- und Forschungsprogramm für gefährdete Jugendliche.* Centre for Rehabilitation and Health Psychology Research, University of Fribourg, 2006. *2nd study: Soziale Ausgangslage, Vulnerabilität und Substanzkonsum bei gefährdeten Jugendlichen.*
  The dependence prevention and research programme known as *supra-f* opens up a broad field for researchers. The first study investigates the effectiveness of the 12 *supra-f* youth programmes that have been providing support for young people at risk in a total of seven cantons since 1999.The second study compares the risk profile of around 3300 young people in three different settings – schools in the canton of Fribourg, *supra-f* programmes, and motivational semesters for young people not in training.

For the present publication, the four research teams were invited to summarize their studies and key findings in a highly compact form for a broader readership. Each of the contributions concludes with recommendations for prevention.
To date, greater attention has been paid to the association between vulnerability and risk behaviour – especially drug use – internationally than in Switzerland (e.g. US National Institute on Drug Abuse, UK Department of Health, European Monitoring Centre for Drugs and Drug Addiction, WHO Europe). The results presented here on the basis of Swiss data confirm the international findings.

Risk and protective factors

In recent years, researchers have identified various factors that influence the initiation and maintenance of risk behaviour: *risk factors* which increase, and *protective factors* which reduce the likelihood of risk behaviour. These factors can be divided into the following groups:

- individual disposition and social background
- personal factors
- family-related factors
- school-related factors
- social factors.

A successful approach to prevention will thus combine two strategies – reduction of risk factors and strengthening of protective factors, thereby increasing young people's resistance to the development of problem behaviour.
A finding of importance to prevention is that certain risk and protective factors are associated with more than one type of risk behaviour. Particular attention should be paid to risk factors that are in principle amenable to manipulation and influence several different undesirable behaviours:

- influence of "problematic" peers
- poor relationship with parents
- poor school performance
- early onset of risk behaviour

Among the protective factors, the following are to be emphasized:

- well-being
- good relationship with parents
- good school performance
- good relationship with school, or positive school climate

Consequences for prevention

The findings of research on risk and protective factors can be used to ensure that preventive measures are efficacious and cost-effective. Although distinct recommendations are presented in each of the four studies included in this publication, a general conclusion regarding prevention can be formulated here.
Prevention programmes addressed to young people at risk are best focused on influencing fundamental risk and protective factors that are relevant to more than one type of risk behaviour. These are primarily, as indicated above, relations with parents, the school climate, cognitive and emotional skills, and relations with peers.
An approach to prevention that is well embedded in the community and committed to the promotion of *youth health* is likely to be more successful and less costly than short-term one-off projects addressing single problems.

Identification of young people at risk

Different types of prevention can be distinguished on the basis of the target group in question (Institute of Medicine) (1). *Universal prevention* is aimed at the whole population or entire groups, making no allowance for different levels of risk. In contrast, *selective* and *indicated* prevention are aimed at groups and individuals with special risks or increased vulnerability. How should these at-risk groups and individuals be identified? How can the reliability of the selection process be assured while at the same time avoiding stigmatization?
Essentially, two approaches are available: systematic screening with the aid of standardized instruments, or early detection of young people at risk in schools, or through youth welfare offices, youth counselling services, physicians, juvenile justice authorities, employment centres, motivational semesters, etc. Experiences with these approaches are described in some of the reports included in this publication.

Definitions

Risk/protective factor: A *risk factor* is a characteristic of a young person or his/her environment that increases the likelihood of occurrence of health-risk behaviours.
A *protective factor* is a characteristic of a young person or his/her environment that reduces the likelihood of occurrence of health-risk behaviours. Protective factors can serve as a kind of *buffer* between increased vulnerability/risk factors and problematic behaviours.

Vulnerability: An individual disposition, determined by genetic, psychological and social factors, that makes the development of risk behaviours and mental disorders more likely. The obverse is known as resistance or **resilience.**

Prevention: The goal of prevention is to ward off the development of risk behaviours *(primary prevention)* or to reduce the adverse consequences thereof *(secondary prevention)*. Increasingly, different types of prevention are now distinguished, not by the time of application, but by the various *target groups:*

- *Universal* prevention is aimed at the whole population, making no allowance for different degrees of risk or vulnerability.
- *Selective* prevention is aimed at *defined groups* with increased vulnerability (e.g. young people in care or custody, children of drug-dependent parents).
- *Indicated* prevention is aimed at *individual identified* young *people* at increased risk (cf. the report on the *supra-f* programme).

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2 > Vulnerable youths in Switzerland. A review of the literature and a secondary analysis of the SMASH data

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Summary

Using the SMASH02* database, we defined a group of vulnerable adolescents. These young people differ from their peers with regard to personal, family and educational/social characteristics. In addition, they have higher prevalences of all the risk behaviours studied, and these rates increase with the degree of vulnerability. Although these young people would all benefit from a comprehensive approach – addressing personal, family-related and educational/social aspects – it appears that vulnerable female adolescents would benefit in particular from measures on the personal level (improvement of emotional well-being), while vulnerable male adolescents would benefit chiefly from educational/social interventions (improvement of relations with school).

*A cross-sectional survey on health and lifestyle among a representative national sample of adolescents aged 16–20, conducted in 2002.

Introduction

Many young people experience considerable difficulties in the course of their development as a result of various individual, family-related and environmental factors (1). These young people have problems in fulfilling their roles as adolescents and are socially, educationally and economically disadvantaged relative to their peers (2). The notion of vulnerability refers to the research and intervention perspectives oriented towards individuals at risk of developing adaptation problems (3).

Youth is a time for experimentation, even if the activities involve an element of risk (4). The term *risk behaviour* is used in reference to certain types of behaviour that have adverse effects on health, including drug use, sexual risk behaviour, recklessness, violent or suicidal acts, eating disorders and delinquency. The potential adverse consequences of these behaviours include unwanted pregnancies, sexually transmitted infections, severe disability and death (5).

Objective

The objectives of this study were twofold:

1. To define the characteristics of vulnerable adolescents.
2. To establish the prevalence of each type of risk behaviour in relation to the degree of vulnerability.

Population and methods

The data used for this study came from the Swiss Multicenter Adolescent Survey on Health 2002 (SMASH 2002) (6), a cross-sectional survey on health and lifestyle among adolescents aged 16–20, involving a representative national sample (n=7548) of students and apprentices from Switzerland's three language regions. Data was collected via an anonymous self-administered questionnaire (565 items) in the classroom setting.

Definitions of variables
Vulnerability: The concept of vulnerability was defined using a combination of variables – personal (emotional well-being), family-related (relations with parents) and educational (relations with school). In the literature, these three variables are associated with all types of risk behaviour (7), either as a risk factor (i.e., making the development of a risk behaviour more likely) or as a protective factor (preventing the risk behaviour). For each of these three variables, a four-point scale was used (values from 1 to 4). In each case, three categories were defined on the basis of the frequency distribution:

- Risk factor: values in the lowest 10% of the distribution (<10th percentile).
- Average: intermediate values, in the range between 10% and 90% of the distribution (10th to 90th percentile).
- Protective factor: values in the highest 10% of the distribution (>90th percentile).

Based on the number of risk factors (for each of the three variables), the study population was divided into three groups: none (reference category), 1 risk factor, and 2 or 3 risk factors – the group defined as vulnerable adolescents (Table 1).

Table 1: Distribution of risk factors among the study population, overall and by sex

	Overall		Female adolescents		Male adolescents	
No. of risk factors	N	%	N	%	N	%
0	5665	75,0	2648	72,4	3017	77,6
1	1403	18,6	725	19,8	678	17,4
2 or 3	480	6,4	285	7,8	195	5,0

Characteristics of vulnerable adolescents:
In order to identify the characteristics differentiating vulnerable adolescents from other young people, we analysed three types of variables – personal, family-related and educational/social (Table 2).

Risk behaviours: Nine types of risk behaviour were defined.

- Smoking: daily use of tobacco (one or more cigarettes per day).
- Alcohol abuse: three or more episodes of binge drinking within the past 30 days.
- Regular use of cannabis: nine or more joints smoked within the past 30 days.
- Use of other illegal substances: other illegal drugs used within the past 30 days.
- Sexual risk behaviour: at least two of the following four factors – history of pregnancy; non-use of condom during most recent sexual relations; four or more lifetime sexual partners; first experience before the age of 15.
- Suicide attempt: at least one suicide attempt within the past 12 months.
- Eating disorder (ED): daily binge eating and/or daily self-induced vomiting.
- Violent behaviour: at least one of the following acts within the past 12 months – attacking an adult; snatching or stealing a bag or mobile phone; carrying a weapon; using a weapon in a fight.
- Delinquency: at least one of the following acts within the past 12 months – vandalism; theft; fire-raising.

Results

1. Characteristics of vulnerable adolescents
With regard to personal variables, the majority of the distinctive characteristics of vulnerable adolescents are common to both sexes. Overall, these young people more frequently have a self-perception of poor health, are tired most of the time, are sedentary, of foreign nationality, with a negative body image, like taking risks, and have poor relations with their friends and a history of physical abuse. The female subjects are more likely to have a history of sexual abuse, while the male subjects more frequently live in an urban environment.

Table 2: Characteristics of vulnerable adolescents

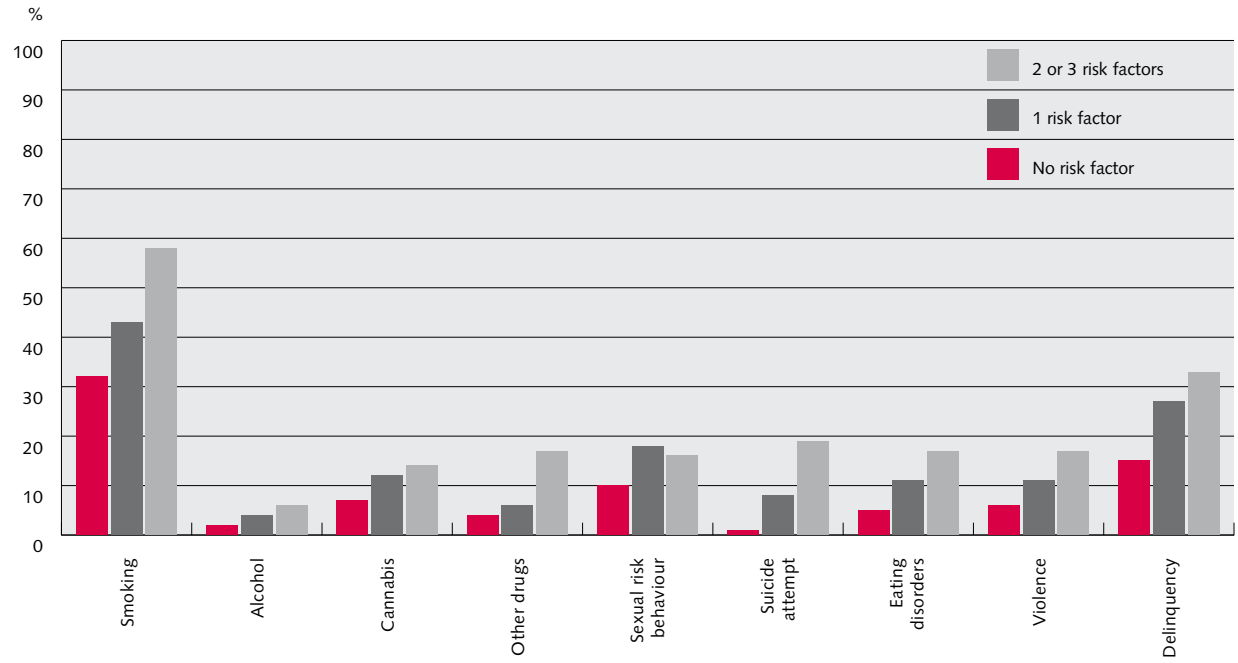
Vulnerable adolescents	Female	Male
Personal variables		
Age	—	—
Self-perception of poor health	■	■
Does not do any sport outside school	■	■
Foreign nationality	■	■
Lives in a city	—	■
Is tired most of the time	■	■
Negative body image	■	■
Early onset of puberty relative to peers	—	—
Likes risk-taking	■	■
Poor relations with friends	■	■
History of sexual abuse	■	—
History of physical abuse	■	■
Family-related variables		
Parents living apart	■	—
Low paternal educational level	■	—
Low maternal educational level	—	—
Afraid of being beaten by parents	■	■
Afraid of parents separating/divorcing	■	■
Educational/social variables		
Educational track: apprenticeship	■	—
Poor educational attainment	—	■
Does not believe he/she will complete studies	■	■
Does not believe he/she will subsequently find employment	■	■

With regard to family-related variables, vulnerable female adolescents differ from their peers in the frequency of parents living apart and low paternal educational level (compulsory schooling or less). Vulnerable adolescents of both sexes more frequently report a fear of being beaten by their parents or of parental separation. With regard to educational variables, vulnerable female adolescents are more likely to be apprentices, while male subjects more frequently have poor educational attainment. Vulnerable adolescents of both sexes do not believe that they will complete their studies or subsequently find employment (Table 2).

2. Prevalence of risk behaviours

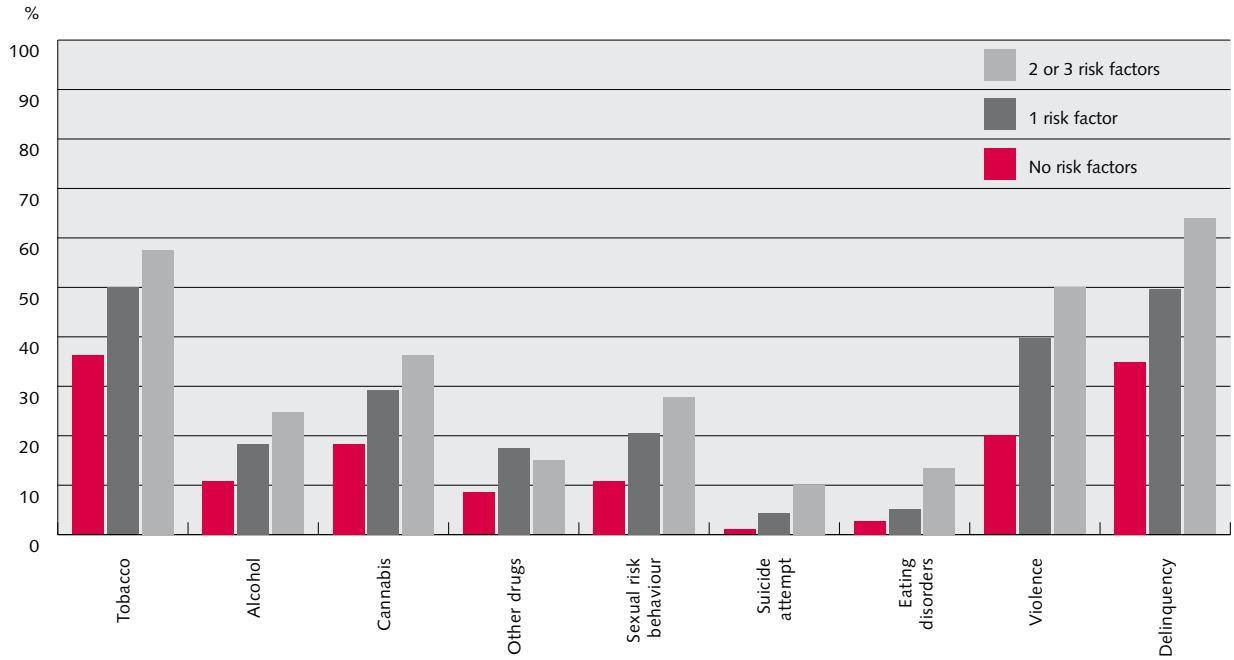
Among both sexes, vulnerable adolescents (i.e. those with two or three risk factors) show higher prevalences of all risk behaviours than adolescents with no risk factors, and the rates increase with the degree of vulnerability.
Thus, among vulnerable female adolescents, the prevalence of smoking, cannabis use, and violent or delinquent behaviour is about twice as high as in female subjects with no risk factors, and the prevalence is three-fold higher for alcohol abuse or eating disorders, four-fold higher for the use of other illegal drugs, and 19-fold higher for suicide attempts (Fig. 1).

Fig. 1: Prevalence of risk behaviours by degree of vulnerability in female subjects aged 16–20



Likewise, vulnerable male adolescents show two-fold higher prevalences of alcohol abuse, cannabis use, other illegal drug use, sexual risk behaviour, and violence or delinquency than male subjects with no risk factors. The prevalences are four and 20 times higher, respectively, for eating disorders and suicide attempts (Fig. 2).

Fig. 2: Prevalence of risk behaviours by degree of vulnerability in male subjects aged 16–20



Recommendations for practice

According to the definition of vulnerability used in this study (poor relations with parents, poor relations with school, lack of emotional well-being), one in 16 adolescents (6.4%) are vulnerable, with the prevalence being slightly higher among female (7.8%) than male subjects (5%). However, the fact that the results are based on a sample of young people within the education system – excluding those not pursuing any training (who are more likely to take risks (8)) – suggests that these estimates are conservative. A study involving all adolescents (not merely young people in education, who are to some extent integrated into the system) would most likely yield much higher rates of vulnerability. The relatively low prevalence found may also be partly attributable to our choice of a restrictive definition of risk factors (the lowest 10% for each of the scales).
Overall, vulnerable adolescents are worse off than others in the majority of domains analysed in this study. The characteristics identified provide pointers to subgroups of potentially vulnerable adolescents, which should be more closely investigated.

- One of the characteristics of adolescence is the process of self-distancing from parents, towards friends, in pursuit of independence. It is therefore notable that vulnerable adolescents of both sexes have poor relationships with their friends. Given that our definition of vulnerability is based on poor relations with the family and school, these individuals have few (if any) sources of support.

- A history of abuse (solely physical in the case of male subjects) is also significant, underlining on the one hand the need for the victims to report (and be able to discuss) such acts and, on the other, the importance of the follow-up care that they should receive.

- With regard to the family, not living with both the biological father and mother contributes very little to vulnerability among female subjects and nothing whatsoever in male subjects. This result accords with findings described in the literature: relations with the family are more important than the family structure. Although the literature indicates that living in a single-parent family is a risk factor (9), it is also clear that the family environment is of crucial importance (10).

- It is important to note that vulnerable adolescents of both sexes are much more likely to have a fear of being beaten by their parents or experiencing parental separation. This finding underlines the importance of the relationship with parents, and shows that efforts should also be specifically targeted at young people faced with (verbal or physical) violence within the family.

- A low level of paternal (but not maternal) education, which may be used as an approximation of socio-economic status, is only significant among female adolescents. Overall, therefore, it would appear that socio-economic status does not have a major influence on vulnerability, which is equally prevalent in all social strata.

- No major differences are associated with the educational track, indicating that vulnerability affects both students and apprentices.

- Vulnerable adolescents of both sexes are much more likely not to believe that they will complete their studies or subsequently find employment. In this context, it is conceivable that vulnerable adolescents in education are frequently on the point of abandoning their studies and entering an even more serious cycle of vulnerability.

- Among both sexes, the prevalence of risk behaviours, together with the likelihood of their adoption, increases with the degree of vulnerability.

- Alcohol abuse, regular cannabis use, sexual risk behaviour, violence and delinquency are more common among vulnerable male than female adolescents. Suicide attempts are more frequent in female adolescents, while the prevalences of daily smoking, other illegal drug use and eating disorders are very similar for both sexes.

In practical terms, it is important to establish whether changes in the values of the vulnerability factors (for example, shifting from poor to average or excellent relations with parents) may have an influence on the adoption of risk behaviours by vulnerable adolescents.

The results of the analyses reported in *Jeunes vulnérables en Suisse: faits et données* (7) indicate that a change in the risk factors towards average or favourable values implies a reduction in the likelihood of risk behaviours being adopted by these young people.

Although vulnerable adolescents would clearly benefit from a comprehensive approach (i.e. interventions simultaneously addressing personal, family-related and educational/social aspects), different specific approaches are required for the two sexes.

- For vulnerable female adolescents, an improvement in the personal factor (emotional well-being) will most markedly reduce the likelihood of risk behaviours being adopted, especially in the areas of smoking and use of illegal drugs, sexual risk behaviour, suicide attempts, eating disorders and violent acts. An improvement in relations with parents will also play a role, albeit a less significant one. Finally, relations with school appear to be the least influential factor for female adolescents.

- For vulnerable male adolescents, relations with school are the most decisive factor, especially in the areas of alcohol abuse, cannabis use, sexual risk behaviour, eating disorders, violent acts and delinquency. The other two factors (relations with parents and emotional well-being) have a similar – less critical – influence.

According to this study, one in 16 adolescents in education or training is vulnerable. In absolute terms, this amounts to almost 17'000 adolescents in Switzerland. The results of the study represent a first step towards the identification of potentially vulnerable adolescents and should facilitate the establishment of prevention programmes.

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3 > Predictors of risk behaviour among young people : a follow-up after 2 years

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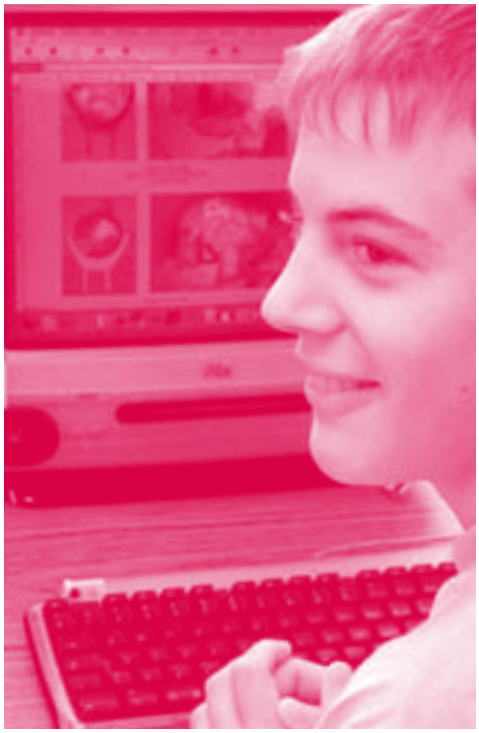
Summary

In 2003 and 2005, 2031 adolescents and young adults from the cities of Basel, Bern and Zurich took part in a telephone survey concerning stresses, personality aspects and risk behaviours. We investigated how these risk behaviours changed over a period of 2 years, and whether and how it could be predicted at baseline whose risk behaviour would subsequently be reduced, remain constant or be increased.

Background

Risk behaviours such as substance use, unprotected sexual contacts, or violence/theft generally first occur in adolescence and are frequently, but not always, discontinued in adulthood. For adolescents, the risks consist not only of acute or chronic threats to physical and mental health but also problematic personality development or problems with social integration. At the same time, risk behaviours may also be part of a normal process of development and part of a youth-specific lifestyle that is later abandoned as occupational and other responsibilities increase. The term "problem behaviour" is only used if the harmful elements predominate (1). For the development of targeted prevention measures, it is important to identify at an early stage individuals at increased risk for continued or escalating risk behaviour.
Various factors contribute to the development and to the differing courses of risk behaviours. Expectations concerning the effects of a given substance or behaviour, social learning processes within the peer group and family, social and family attachments, intrapersonal factors (such as personality characteristics or stress), and interactions between these various components have all been confirmed as factors influencing the development of risk behaviours (2). In the present study, the emphasis was placed on intrapersonal factors.



Objective

This longitudinal study of adolescents and young adults from the general population was designed to identify characteristics permitting early detection of people whose risk behaviour would continue or increase, and possible approaches to prevention for these groups. The question of who reduced or discontinued regular risk behaviour was also studied.

Sample and methods

In 2003, 2844 adolescents and young adults aged between 16 and 24 had participated in the first computer-assisted telephone survey. The subjects were randomly selected from the registers of residents in the cities of Basel, Bern and Zurich. The response rate was 71%. Two years later, 2031 of these respondents (i.e. once again 71%) took part in the follow-up survey. The interview guide included items relating to the frequency of and motives for substance use, sexual risk behaviour and violence/theft. The stress variables recorded were psychosocial stresses in various domains such as school/work, relations with parents or leisure, psychopathological conditions and critical life events. The survey also covered aspects of personality such as hedonism (i.e. the importance of indulgence and a pleasure-seeking lifestyle) and risk readiness (i.e. deliberate pursuit of risky situations).

Selected results

Prevalence of and changes in risk behaviours over a 2-year period
More than a third of the adolescents and young adults exhibited no risk behaviour. They reported no substance use, involvement in violence/theft or sexual risk behaviour either in the initial survey or 2 years later.
The prevalence of risk behaviours recorded in the first survey is shown in Table 1, and the changes occurring within the 2-year period are shown in Table 2. Almost half of the respondents had smoked at least once in the month before the survey. The majority of tobacco users smoked on a daily basis. Smoking was the risk behaviour that was most frequently increased and most rarely discontinued. Binge drinking at least once a month was also widespread (reported by around 23% of the women and 39% of the men). Binge drinkers were generally intoxicated once to three times a month, and increases in the frequency of binge drinking within the 2-year period tended to be rare. Binge drinking was discontinued or reduced by about half of the women and around a third of the men concerned.
Cannabis was used by 17% of the women and 29% of the men, generally either once a month or once to twice a week. Within the 2-year period, cannabis use was discontinued relatively frequently by occasional users, with frequency of use only remaining constant among daily users. Less than 2% of the respondents used other illegal substances, such as club drugs, cocaine or heroin.
In the year before the initial survey, 18% of the young women and 37% of the young men had engaged in violence and/or theft. Two

years later, about half of these subjects no longer reported deviant behaviour of this kind. Sexual risk behaviour in the year before the initial survey (i.e. unprotected intercourse with casual partners or new sexual contacts with a stable partner without mutual HIV testing) was reported by 7% of the respondents. About a third of these subjects developed a pattern of continued unprotected sexual contacts with new or casual partners, while two thirds no longer engaged in sexual risk behaviour.

Table 1: Prevalence of risk behaviours recorded in the initial survey conducted in 2003 (n=2023; 1075 women, 948 men)

	Women		Men	
	Percentage	**N**	**Percentage**	**N**
Tobacco use[1]	44	469	45	423
Cannabis use[1]	17	183	29	273
Binge drinking[1]	23	239	39	372
Violence/theft[2]	18	193	37	353
Sexual risk[2]	7	75	7	66

[1] At least once in the month before the survey
[2] At least once in the year before the survey

Table 2: Changes recorded in the follow-up survey conducted in 2005 (percentages and numbers of subjects are shown in each case)

	New risk behaviour[a]		Increase in occasional risk behaviour[b]		Reduction in or discontinuation of regular risk behaviour[b) c]	
	Women	**Men**	**Women**	**Men**	**Women**	**Men**
Tobacco use[1]	9% (96)	11% (105)	26% (63)	30% (57)	21% (62)	18% (51)
Cannabis use[1]	5% (53)	5% (50)	14% (25)	17% (40)	48% (15)	36% (40)
Binge drinking[1]	14% (143)	14% (136)	6% (15)	11% (42)	51% (122)	36% (132)
Violence/theft[2]	9% (93)	9% (96)	—	—	56% (108)	41% (144)
Sexual risk[2]	6% (60)	7% (67)	—	—	68% (50)	69% (45)

[1] At least once in the month before the survey
[2] At least once in the year before the survey
[a] Percentages based on the total sample
[b] Percentages based on the number of subjects reporting the relevant risk behaviour in the initial survey
[c] Including daily smoking and regular cannabis use (at least three times a week), as well as binge drinking, violence/theft and sexual risk behaviour at least once a year

Whether use of a substance was discontinued within 2 years depended largely on the frequency of use at baseline. The more frequently a substance was used at baseline, the more rarely it was discontinued. Discontinuation rates were also influenced by the type of substance. Tobacco was the substance most rarely discontinued: around 80% of the subjects who had smoked at baseline were still smoking 2 years later. Even 1–3x monthly smoking was highly likely to lead to daily tobacco use within 2 years. For around half of the women and about two thirds of the men, the frequency of binge drinking and cannabis use remained constant.

Predictors of initiation, intensification or discontinuation of risk behaviours

Who develops new risk behaviours?

Men who started smoking exhibited greater psychopathology and had more critical life events than men who remained non-smokers. In women, initiation of smoking was associated with greater hedonism, but not with stress. The converse was true for the initiation of cannabis use: while psychosocial stress was a risk factor in women, the initiation of cannabis use was associated with greater hedonism, but not with stress, in men. A risk factor for the initiation of binge drinking in men was greater hedonism. New involvement in violence or theft was associated with an increase in critical life events and – especially in women – with additional psychological stress, but not with a more hedonistic lifestyle. Risk factors for new sexual risk behaviour were lower motivation to practise safer sex, more frequent intoxication (in women) and cannabis use (in men). In general, existing substance use was shown to be a risk factor for the development of additional risk behaviours.

Fig. 1: Summary of predictors for the initiation of new risk behaviour, an increase in occasional risk behaviour, or the reduction or discontinuation of regular risk behaviour

	Tobacco		Cannabis		Binge drinking		Violence/ theft		Sexual risk	
Initiation of new risk behaviour	**W**	**M**	**W**	**M**	**W**	**M**	**W**	**M**	**W**	**M**
Stress		+	+				+	+		
Hedonism	+			+		+				
Risk readiness										
Increase in risk behaviour										
Stress	+	+	+		[a]	[a]	[a]	[a]	[a]	[a]
Hedonism	+	+								
Risk readiness	+		+							
Reduction/discontinuation of risk behaviour										
Stress	–					–	–	–		
Hedonism	–	–			–	–	–	–	–	–
Risk readiness	–			–			–	–	–	–

W = women, M = men
+ positive association, – negative association
[a] Since more-than-monthly binge drinking was rare and violence/theft and sexual risk behaviour were only recorded for the year preceding each of the surveys, no calculations could be performed for increases (grey shading)

Who increases occasional substance use?
Increases in occasional tobacco use were associated not only with greater psychopathology but also with a more hedonistic personality and a pleasure-seeking lifestyle. Women whose tobacco use increased also showed a greater risk readiness than female occasional smokers whose consumption remained stable. The men in this category were younger and showed greater cannabis use. In the case of occasional cannabis use, the pattern was different, with clear gender-specific differences: women whose occasional cannabis use became more frequent within the 2-year period were subject to greater stress at baseline in all the domains covered by the survey than female occasional users whose consumption remained stable. They also showed greater risk readiness than those women whose cannabis use did not increase. In men, increases in occasional cannabis use were not associated with stress, hedonism or risk readiness. As there was virtually no increase in binge drinking over the 2-year period, no conclusions could be drawn concerning subjects with more frequent binge drinking.

Who reduces regular substance use or other risk behaviours?
Cessation or reduction of daily smoking was associated with improved general health behaviour: subjects who paid greater attention to a healthy diet, sufficient exercise and adequate sleep and avoided stressful situations tended to be more successful in giving up smoking. A less hedonistic attitude was also a predictor of smoking reduction or cessation. Men and women were more likely

to give up daily smoking if they smoked for social reasons. In addition, female daily smokers who ceased or reduced their tobacco use showed less psychopathology and less risk readiness than women who continued to smoke on a daily basis.
On the basis of the characteristics surveyed, a reduction in regular cannabis use was more difficult to predict than a reduction in smoking. Men who reduced their cannabis use showed less risk readiness, while women paid less attention to recreation, relaxation and sufficient sleep. Individual exposure to stress had no influence on whether subjects reduced their cannabis use.
Young adults exhibiting less hedonism at baseline were more likely to discontinue binge drinking within the 2-year period. In addition, gender-specific differences were observed: a tendency to give up binge drinking was associated with less psychosocial stress and lower cannabis use in men, and with lower tobacco use at baseline in women.
Subjects reporting less stress at baseline were more likely to discontinue deviant behaviour within the 2-year period. This was more evident, across a wider spectrum of stresses, in women than in men. In contrast to the development of deviant behaviour, personality aspects or lifestyle were implicated in its continuation or discontinuation: subjects who no longer engaged in violence or theft were less hedonistic and showed less risk readiness. Conversely, those subjects whose deviant behaviour continued exhibited a more hedonistic and risk-taking lifestyle. Subjects who showed less hedonism and risk readiness were more likely to discontinue sexual risk behaviour. This tendency was also influenced by cannabis use: cannabis users were less likely to discontinue sexual risk behaviour.

Recommendations for prevention and interventions

According to the problem behaviour theory proposed by Jessor and Jessor (3), different risk behaviours have common causes, such as difficult psychosocial conditions or an underlying personality structure. However, it has also been shown by other studies that different risk behaviours have different causes. Our results suggest that at least certain factors influencing development and course are specific to the various risk behaviours and are also gender-specific. In addition to the common causal factors, therefore, preventive measures should – in targeted efforts – take account of the specific factors influencing individual risk behaviours.

Priority of smoking prevention: Alongside alcohol, tobacco was the most widely used substance. However, while alcohol was generally consumed once to three times a month, tobacco was usually smoked on a daily basis. Smoking was also more rarely discontinued. Universal preventive measures may focus on coping behaviour among men and address pleasure-seeking lifestyles among women. Preventive measures that should reduce the development of dependence in occasional smokers involve the communication of emotion regulation or coping strategies that improve the management of stress or distress, and modification of the association of smoking with a pleasure-seeking lifestyle.

Universal cannabis prevention in the context of general health promotion and substance abuse prevention: Occasional use of cannabis was discontinued within the 2-year period by the majority of young adults. Cannabis use was frequently associated with smoking and alcohol use or, among men, occurred in combination with smoking, binge drinking and violence/theft. These findings suggest that cannabis prevention should be incorporated into general measures to promote health and prevent substance abuse; they argue against universal preventive measures focusing exclusively on cannabis.

Selective prevention for female cannabis users subject to stress: Clear gender-specific differences were observed in the intensification of occasional cannabis use: women subject to emotional and psychosocial stress increased their cannabis use significantly more frequently than those with lower stress levels. Female occasional users subject to stress should be specifically targeted by selective or indicated prevention efforts. Here, too, such measures may focus on improving the ability to cope with emotional and psychosocial stresses.

Prevention of binge drinking: Around 30% of the young adults had been intoxicated at least once in the month before the surveys. In view of the relatively high risks to physical health associated with acute intoxication – e.g. owing to accidents or alcohol poisoning – greater attention should be paid to binge drinking in preventive measures.

Violence prevention for young adults following critical life events: A major need for prevention exists with regard to violence/theft. New involvement in violence/theft was the type of risk behaviour most clearly associated with severe stress and critical life events. Support programmes offering adolescents and young adults help in coping with difficult life events, such as the death of someone close, can also contribute to the prevention of violent behaviour or theft. However, measures aimed at reducing violence and theft should also address the more hedonistic and risk-taking lifestyle.

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4 > Substance use in adolescence: associated problems, individual careers and use of health care services

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Summary

The study was designed to evaluate substance use in a longitudinal manner, in order to identify the interacting factors involved in its initiation and subsequent development. An additional aim was to identify the care services used by adolescents since the onset of substance use. Altogether, 102 adolescents aged 14–19 were enrolled and followed up for three years. The results show that substance use is not a disorder in itself; instead, it is part of a complex, multidimensional problem with which adolescents are confronted. Substance use increases or decreases in parallel with the growth or abatement of problems in other domains (social, relational, family-related and psychological). This implies that, rather than being focused on substances, prevention efforts should address the other life domains that are significant in adolescence. With regard to the utilization of care services, the findings show that the numerous actors' interventions need to be better coordinated if vulnerable adolescents are to be effectively helped, particularly in the area of substance use.

Introduction

Little research is available on the development of substance use over time in the general population. According to the few studies that have been concerned with this question, cannabis use is associated with age: it increases during adolescence, peaks towards the age of 20 and subsequently declines sharply. All the cohorts studied to date have exhibited a maturation process of this kind (1–5). More specifically, the period involving the greatest risk for the initiation of smoking or alcohol or cannabis use most frequently ends at the age of 20. The periods of heaviest use lie between the ages of 19 and 21 for alcohol, and 19 and 22 for cannabis (3). The factors contributing significantly to the persistence of cannabis use in adulthood appear to correspond to those implicated in the initiation of use in adolescence – a low educational level, multiple substance use and delinquent behaviour. Peer use and the family's attitudes to the substances concerned are not, however, associated with continued use, with attitudes towards cannabis use only influencing the initiation of use. According to Wills et al. (6), adolescents with persistent substance use were characterized by higher life stress, less parental support, greater parental substance use, more frequent deviance-prone attitudes, non-adaptive coping strategies and greater affiliation with a peer group of substance users.

Objectives

The aim of the study, carried out in the canton of Vaud, was to gain a better understanding of the circumstances in which use is initiated during adolescence and becomes problematic in certain, but not in other, individuals. The study sought to evaluate the relationship between the extent of substance use and adolescent development in various domains – physical and mental health status, school or vocational activities, family and social relations, etc. The second objective was to evaluate the care services utilized by adolescent substance users. The results presented thus concern a specific population group, i.e. adolescents who regularly use psychoactive substances, most frequently cannabis.

Population and methods

The adolescents included in the study sample met the following criteria: aged between 14 and 19, and regular users of one or more psychoactive substances at least once a week for the previous 3 months. Most of the 102 adolescents enrolled came from the canton of Vaud and the Lake Geneva region. A total of 74.5% were of Swiss nationality, a proportion comparable to that observed in the overall population of Vaud canton. The ratio of male to female subjects was 65 to 35, which corresponds to the proportions existing in the population of substance users. More than half came from the middle class, with a small proportion from the upper class (10%). The adolescents were followed up for a period of 3 years.

Data were collected via a series of three semi-structured individual interviews conducted by psychologists, each lasting approximately 2 hours. The interviews were performed with the aid of the Adolescent Drug Abuse Diagnosis (ADAD) questionnaire (7, 8). With this instrument, seven different areas of the adolescent's life can be assessed – medical, school, social, family, psychological, legal, drug use and alcohol use. The difficulties listed in these domains represent risk or vulnerability factors, such as physical health problems, failure at school, social isolation, relational problems, depression or anxiety, and problems with the criminal justice system.

Results

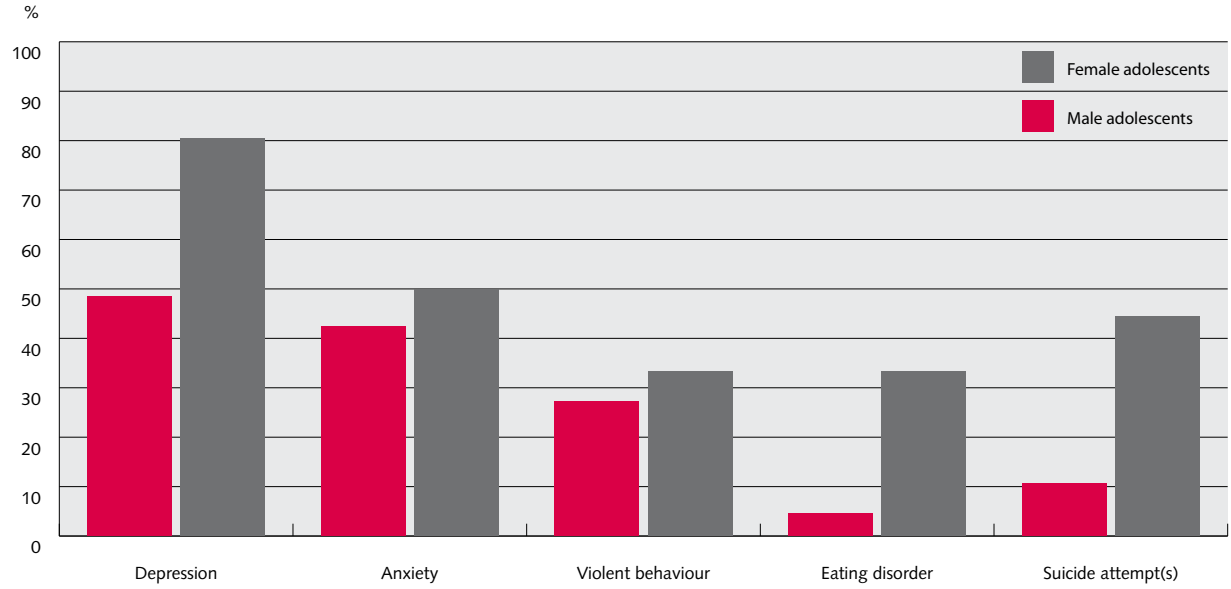
Substances used
In the majority of cases, substance use began between the ages of 12 and 15, generally in the following order: tobacco, alcohol and cannabis. For all substances except cannabis, use was initiated earlier on average by girls. The substances used most frequently were cannabis, tobacco and alcohol, and hallucinogens. All the adolescents participating in the study had used cannabis at least once in their lifetime, which was not the case for the other drugs (35% for ecstasy, 30% for cocaine and 20% for heroin).

Main problems associated with substance use
The evaluation of the various aspects of the adolescents' lives shows that substance use generally does not appear in an isolated fashion, but is accompanied by problems in other domains. The areas most frequently concerned are the family, psychological and emotional problems, and school career. The greater the adolescents' use of substances, and high doses, the greater the severity of problems in the other domains (9).
Problems at school: The adolescent substance users faced significant problems at school. Almost two thirds had repeated at least one school year, one in five had been expelled from school, and half of the adolescents had been suspended from classes on one or more occasions. Adolescents with higher levels of use did not report a higher rate of school failure or exclusion than those with lower levels of use. However, they reported being less motivated to study, more frequently experiencing boredom at school, and having a greater tendency to truant.
Family-related problems: The quality of relationships between the adolescents and their parents varied with the extent of substance use. The adolescents with the highest levels of use reported more family conflicts and difficulties in communicating with their parents. They also more frequently complained that their parents interfered excessively in their private lives or sought to exercise undue control. Relations with the father appeared to be more problematic, especially for the male adolescents. Contrary to what might be expected, the adolescents with higher levels of use did not come

more frequently from families in which the parents were separated or divorced. However, adolescent substance users did report more drug- or alcohol-related problems or psychological problems in a family member. Almost 43% of the female subjects described the occurrence of family conflicts as "very frequent", which was only the case for 30% of the male subjects. The latter reported a better relationship with their mother than with their father. Of the female subjects, 53% had been physically abused by a member of their immediate family. In nine out of ten cases, the female adolescents reported that they had been beaten on several occasions by one or both of their parents. Sexual abuse accounted for only one case in ten. Among the male subjects, the proportion was much lower: 19% of them reported having experienced physical abuse in their lifetime.

Psychological problems: The psychological problem most frequently associated with substance use was depression: 60% of the adolescents reported having experienced in their lifetime at least one period of severe depression lasting at least a week. This was especially true of female subjects, 80% of whom reported an episode of this kind. Female adolescents were also more frequently affected by episodes of anxiety (reported by one in two). In addition, suicide attempts were found to have been more frequent among female than male adolescents. Almost 45% of the female subjects had attempted suicide on one or more occasions. Eating disorders (anorexia or bulimia) were likewise more frequent among the female subjects. The results also show that the extent of substance use is associated with the severity of psychological or emotional disturbances: the adolescents with high levels of use had more frequently experienced episodes of depression or anxiety, as well as behavioural problems. Eating disorders and suicide attempts were also more frequently reported (cf. Fig. 1).

Fig. 1: Psychological disturbances associated with substance use, by sex



Different patterns of substance use over time

Of the 102 adolescents enrolled at the start of the study, 85 were followed up for three years. On the basis of comparisons between the first and third interviews, they were assigned to four groups according to the pattern of substance use over time: (a) a group of 15 adolescents whose use increased ; (b) a group of 30 adolescents whose use remained stable, but at a high level ; (c) a group of 18 adolescents whose use remained stable, but at a low level ; and (d) a group of 22 adolescents whose use decreased. Substance use generally develops in parallel with the problems experienced in all the relevant life domains.

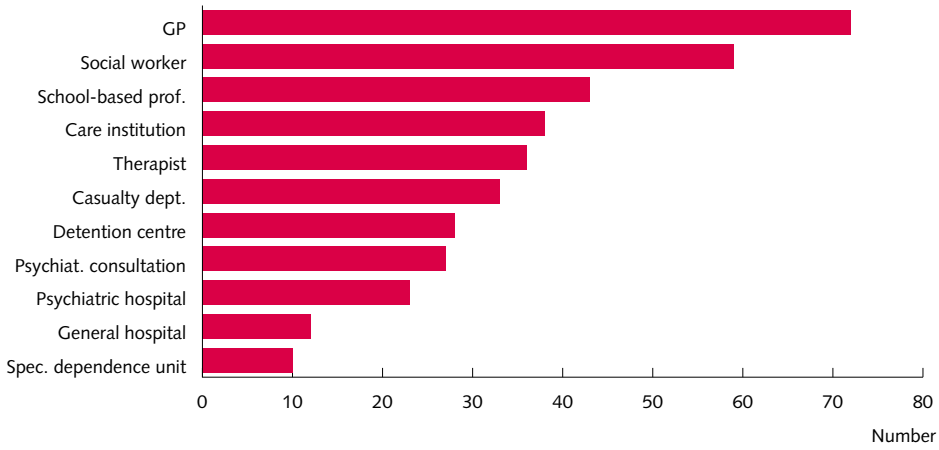
It is notable that, whatever the level of substance use at the time of the initial interview, all the adolescents reported relatively few *medical problems,* although many had consulted their GP. The adolescents whose substance use decreased or remained at a low level tended to experience a similar reduction in their medical problems. In contrast, medical problems appeared to intensify over time for those groups of adolescents whose substance use increased or continued at a high level. For all the groups apart from that with increasing substance use, *school-related problems* appeared to be stable, or even slightly reduced. The group of adolescents whose substance use increased was most seriously affected by problems at school. *Social problems* were most marked in the groups with a high level of substance use at the time of the initial interview. These problems tended to persist, except in the case of those adolescents whose use decreased and who experienced an improvement in their social relations. Whatever the level of substance use at the time of the initial interview, all the adolescents tended to have significant *family-related problems.* However, favourable development of substance use over time was accompanied by a decrease in problems of this kind. Only the group

of adolescents with increasing substance use experienced a slight increase in family-related problems over time. All the groups, apart from that with a low level of substance use, showed significant psychological problems at the time of the initial interview. However, favourable development of substance use appeared to be accompanied by a decrease in the *psychological problems.* For the groups whose substance use remained at a high level, no improvement was apparent in this domain. In general, the *legal problems* associated with a high level of substance use remained significant but stable. A marked reduction in legal problems was, however, observed for the group whose substance use decreased.

Use of health care services by adolescent substance users

The question of the adolescents' utilization of the network of support and care services is of particular interest insofar as early detection of risk behaviour can help to prevent a deterioration of the situation and possible long-term sequelae. It needs to be recognized that the majority of the young people in the study professed to be not at all worried or preoccupied by their substance use, even though it was at a relatively high level. Among those adolescents whose substance use would require treatment, the majority denied that they needed any help in this area. Data were collected on the adolescents' contacts with the various professionals and establishments responsible for health care or case management from the onset of regular substance use. The investigation was carried out systematically for each type of contact (medical, social, educational, etc.). The results relate to the initial interview (cf. Fig. 2).

Fig. 2: Number of adolescents who had had at least one contact with a care professional or establishment at the time of the initial interview (n=102)



The number of contacts varied from one adolescent to another, with contacts being more frequent for the female than the male subjects. In addition, among the female adolescents, the number of contacts was associated with the severity of the medical, school-related, psychological or legal problems, which was not the case for the male subjects. The number of contacts was not associated either with the extent of substance use or with the age at the onset of use. The most frequent types of contacts were with GPs and social workers in a community setting, followed by school-based professionals and care institutions. Psychiatric establishments were rarely used, and still less units specializing in substance abuse.

Main conclusions

Among adolescents who use substances regularly, the frequency of use varies according to the individual substance: most users smoke cigarettes and cannabis on a daily basis, while alcohol tends to be consumed in a binge pattern at weekends.
The development of substance use over time varies from one individual to another: the adolescents whose use remains at a low level generally exhibit fewer problems in their life, and in particular have markedly fewer psychological problems than the others. Conversely, those with a high or increasing level of substance use have more problems, and their situation is more likely to deteriorate in every domain.
With regard to the utilization of care services, the physician is the professional consulted by the majority of adolescents since the onset of substance use. Raising the topic of substance use in the course of a medical consultation would make it possible to identify this type of risk behaviour and offer appropriate support.
Denial of any possible problems associated with substance use appears to be particularly widespread. The majority of the adolescents in the study claimed that they did not require help and were not concerned about their substance use, although it was at a relatively high level. Even if certain adolescents admit that their substance use is problematic, they are not necessarily prepared to accept help from a third party.

Recommendations for practice

What conclusions can be drawn from the findings of this research? Three main directions may be envisaged:

a) With regard to *screening* and detection of the substance use problem, an instrument such as the ADAD appears to be particularly suitable (10, 11). Its application is to be recommended for identifying the problem of substance use within a global context, thereby facilitating the targeting of management measures.

b) With regard to *prevention,* the results of the study underline the need for an approach focusing in particular on the psychological, social and family-related aspects that are significant predictors of escalating substance use in adolescence. Thus, when substance abuse is detected, it would appear to be essential to investigate systematically the social context, the family history and the associated psychological problems, especially the depressive disorders that frequently affect adolescent substances misusers (12, 13).

c) With regard to *management,* research has shown that the professionals involved in the medical/social/educational network operate in an isolated, uncoordinated manner. On the basis of these findings, an original experiment has been launched, aimed at networking the various professionals in order to meet the needs of adolescent substance users more effectively (14). The trial in question is entitled DEPART (screening, evaluation and support for adolescent substance users) – a pilot management project for both adolescents and their families. This project, developed by five medico-social institutions in the Lausanne region, seeks to improve detection, support and management for adolescents with problematic substance use, by strengthening medico-social links and the long-term coherence of the follow-up measures offered (15). The initial results of these efforts to strengthen the links of the existing network, rather than creating new management structures, seem promising, which has encouraged the initiators of the trial to extend and expand the project.

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5 > Effects of a prevention programme for young people at risk: experiences with *supra-f*

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Summary

supra-f is a substance abuse prevention and research initiative comprising local prevention programmes for young people at risk in seven Swiss cantons. "Risk" is not primarily taken to mean risk of substance abuse, but risk of social disintegration in educational and vocational terms. The evaluation of the programmes indicates that, in particular, young people who are at risk of failing to gain a school-leaving qualification or to enter vocational life show positive changes in mood, external behaviour and, in some cases, substance use.

Background

The *supra-f* programme launched by the FOPH at the end of the 1990s represented the first sustained investment in the previously neglected area of secondary prevention. The aim was to evaluate community-level early-intervention approaches for the segment of young people at risk. The cantons and communes involved were given a binding framework, which nonetheless allowed for highly differentiated individual projects. While the accommodation of regional needs certainly posed difficulties for the accompanying research programme, it was essential to the longer-term success of *supra-f*. Although federal support was terminated at the end of 2003, all 12 prevention programmes are still running.

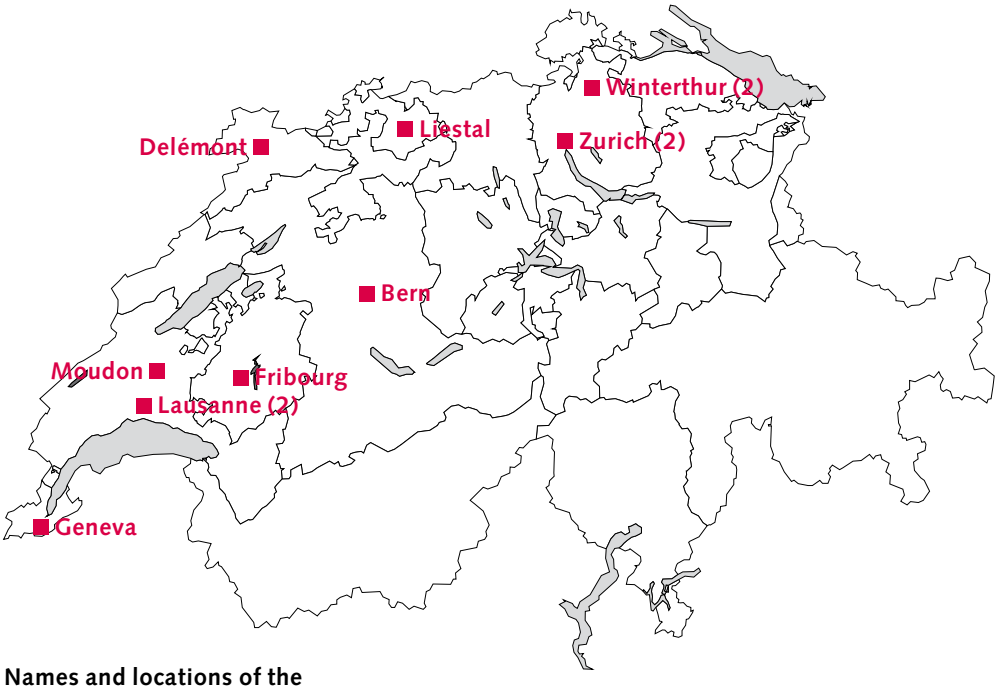
Objective

The *supra-f* research programme was required to assess the feasibility and effectiveness of the interventions, using scientific methods. The underlying concern was to raise awareness of questions of effectiveness among policymakers and practitioners. In view of the scarcity of resources, and growing and legitimate doubts as to the benefits of certain primary prevention efforts, prevention programmes are soon likely to face increasing pressure to justify their existence. Given the wide variety of prevention options available, policymakers will wish to distinguish more readily between effective and ineffective programmes.

The *supra-f* programmes

The 12 *supra-f* programmes are distributed throughout Switzerland (Fig. 1). They operate during the day, from Monday to Friday, offering a large number of social and educational support measures. Several programmes also offer students expelled from school as "unmanageable" the chance to obtain a standard school-leaving qualification. The programmes differ in the services provided and in the degree of structuring involved, including the amount of time made available to the young people by the programme (Fig. 2).

Fig. 1: supra-f programmes *in Switzerland*



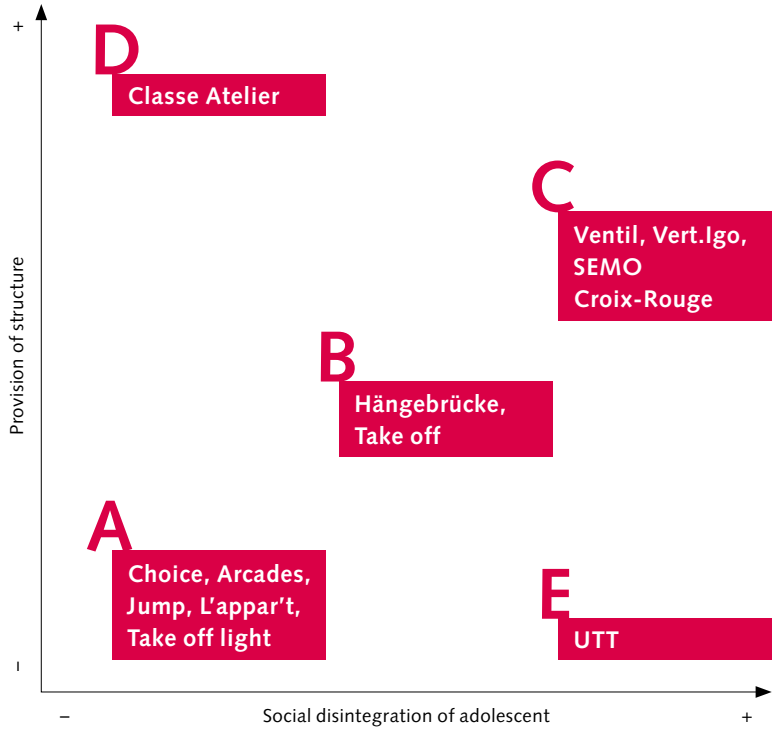
Names and locations of the 12 supra-f programmes:
Winterthur: Jumpina & Jump
Zurich: Ventil & Vert.Igo
Liestal: Take off
Delémont: Classe Atélier
Bern: Hängebrücke
Fribourg: Choice
Moudon: Arcades
Lausanne: L'Appar't & UTT
Geneva: SEMO Croix-Rouge

Methods

To permit comparison of the different structures of the *supra-f* projects, the so-called *Action Plan* was developed (1) – an instrument allowing data to be collected on the various activities and the time required in each case. This instrument is used by all the *supra-f* programmes to record project-related activities. In this way, the different patterns of intervention can be described. The Action Plan defines higher- and lower-level categories. The higher-level categories comprise the following: counselling activities, school/apprenticeship activities, project work and leisure activities. Counselling activities include, for example, individual counselling, which can cover any topics and be scheduled or unscheduled (including telephone counselling). School and vocational activities may consist of individual and group tuition in facilities provided by the programme, school lessons and coaching with specific objectives (e.g. language courses for school leavers). Project work includes

limited-term assignments in municipal or private institutions, internal workshop activities and refurbishment work. Leisure activities include camps and time spent in *supra-f* facilities without a specific programme. *supra-f* programmes can be compared with regard to their structure, content and intensity. The young people may be classified by characteristics such as gender, age, social conditions (nationality, family structure, etc.) and problem areas. As regards outcomes, these programmes are expected to have positive effects on the adolescents' mood and behaviour. "Mood" covers mood fluctuations, depression and anxiety, etc., and behavioural aspects include substance use, delinquency and school/vocational integration.

Fig. 2: Classification of programmes along the axes of social disintegration and structure-giving measures



The programmes of type A offer adolescents 4–5 hours a week, while the type B programmes provide 18 or more hours of care per client. The latter programmes offer a wider range of activities at a higher intensity and have a more elaborate infrastructure than type A programmes. For example, they have training and work facilities and can accept contract work. This enables them to work with more poorly integrated adolescents, such as "time-out" students and apprenticeship drop-outs. The type C programmes are very similar to the type B programmes. The main differences are that they provide an even greater level of care, and that the adolescents generally

exhibit a high degree of disintegration. The type *D and E programmes* are prototypes. The type *D programme* is a Year 9 school class working with adolescents who have both behavioural problems and difficulties at school. The type *E programme* provides assistance with vocational integration for older adolescents. The programmes can look after 15–20 adolescents at a time for around six months. Most of the clients are referred by their school, and some by the youth justice or other authorities. Enrolment in the programme requires the consent of the adolescent and his/her parents. Most of the *supra-f* programmes are run by an existing youth welfare institution.

Social background

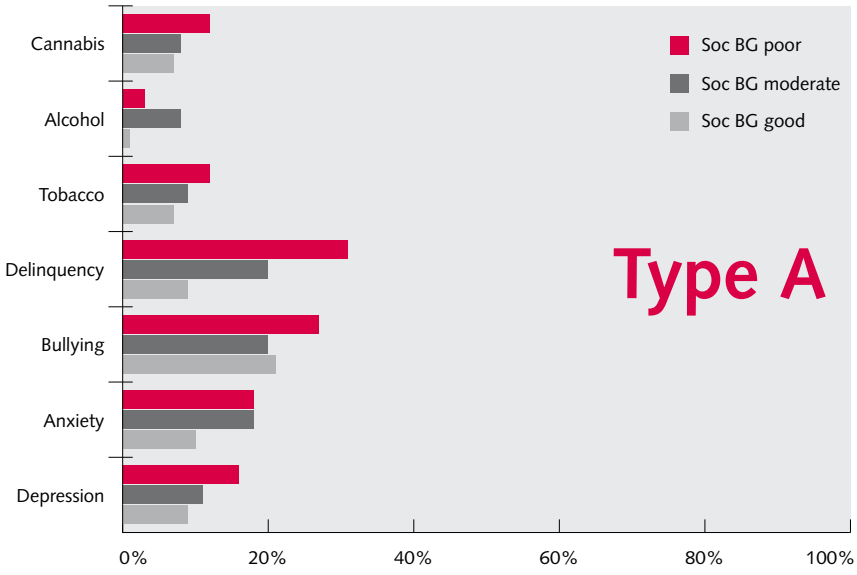
The social background of an adolescent (family, school career, time spent in care) affects the overall risk: in the presence of risk factors (substance use, external behavioural problems, poor mood), adolescents may be protected by a favourable social background. The social background would be described as favourable if the parents live together and the adolescent's school career does not involve any major difficulties. In contrast, adolescents with the same risk factors whose social background is, in addition, problematic are at considerable risk as regards their further development.
This finding underlines the importance of *selective* prevention, i.e. the targeting of prevention at those population groups that especially require it.

Results

The effects of the *supra-f* programmes are broken down by social background (good, moderate, poor) and type of intervention (cf. Figs. 3–8). Results are presented for two mood parameters (depression, anxiety), two external behaviours (bullying, delinquency) and three types of substance use (tobacco, alcohol, cannabis). The variables were operationalized as follows: depression (2), a 15-item four-point scale; anxiety (3), a 20-item four-point scale (STAI); bullying (4), a 4-item four-point scale; delinquency (5), a 13-item scale (yes/no answer format); tobacco (6), a single-item six-point scale; alcohol (6), a 5-item five-point scale; cannabis (6), a single-item five-point scale. The time frame for all substance use variables was "within the last 30 days" (cf. also (7), (8)). The results are based on the measurements carried out at the follow-up about a year after completion of the programme in question.

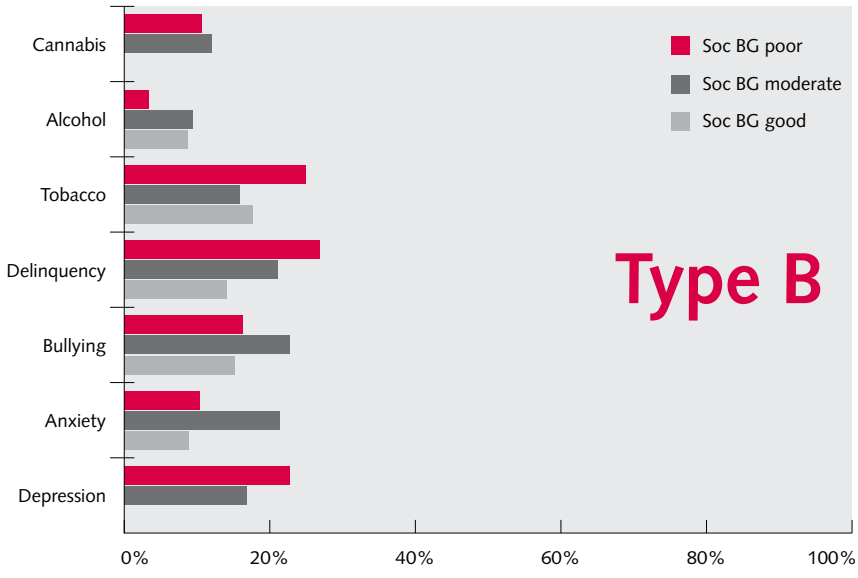
In the type *A programmes* (Fig. 3), only slight changes were observed in relation to depression and anxiety. The changes noted for bullying and delinquency were somewhat larger (improvements in >20% of cases), but for substance use they were again only modest. What is significant, however, is the fact that adolescents with a poor social background generally showed the highest rates of improvement.

*Fig. 3: Percentage of adolescents in type **A programmes** showing improvements 1 year after programme completion*



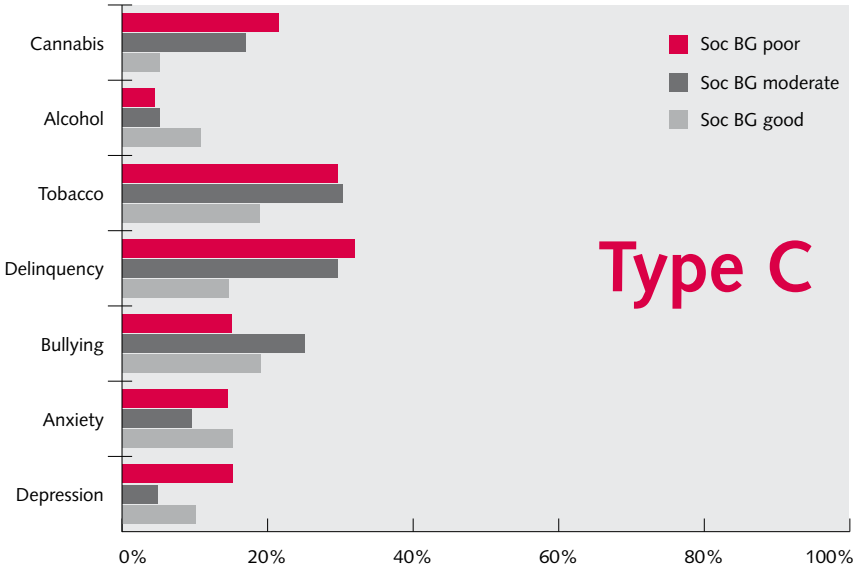
In the type B programmes (Fig. 4), changes in relation to mood were modest (<20%), but the effects were more marked for external behaviours. With regard to substance use, only the improvements in smoking deserve mention. Here, too, it is striking that rates of improvement were higher for adolescents with a moderate or poor social background.

*Fig. 4: Percentage of adolescents in type **B programmes** showing improvements 1 year after programme completion*



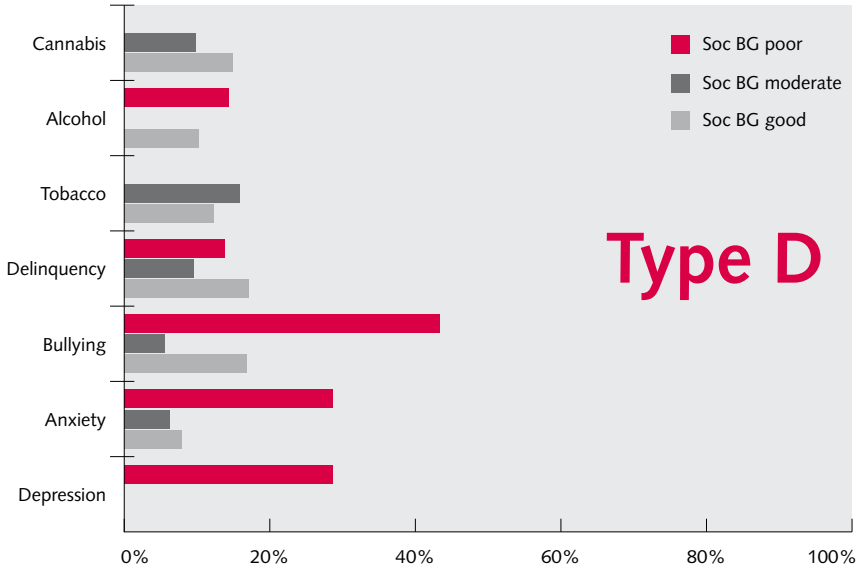
The rates of improvement observed in the type *C programmes* (Fig. 5) were low for mood, somewhat better (>20%) for external behaviours, and considerable for substance use (particularly smoking and cannabis use). Once again, adolescents with a moderate or poor social background benefited to a greater extent.

*Fig. 5: Percentage of adolescents in type **C programmes** showing improvements 1 year after programme completion*



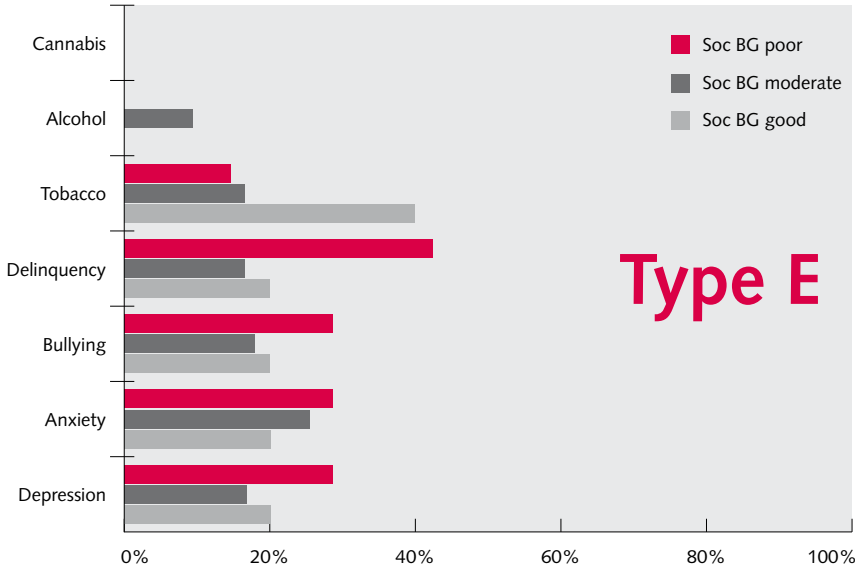
The effects of the type *D programme* (Fig. 6) were most marked in adolescents with a poor social background.

*Fig. 6: Percentage of adolescents in the type **D programme** showing improvements 1 year after programme completion*



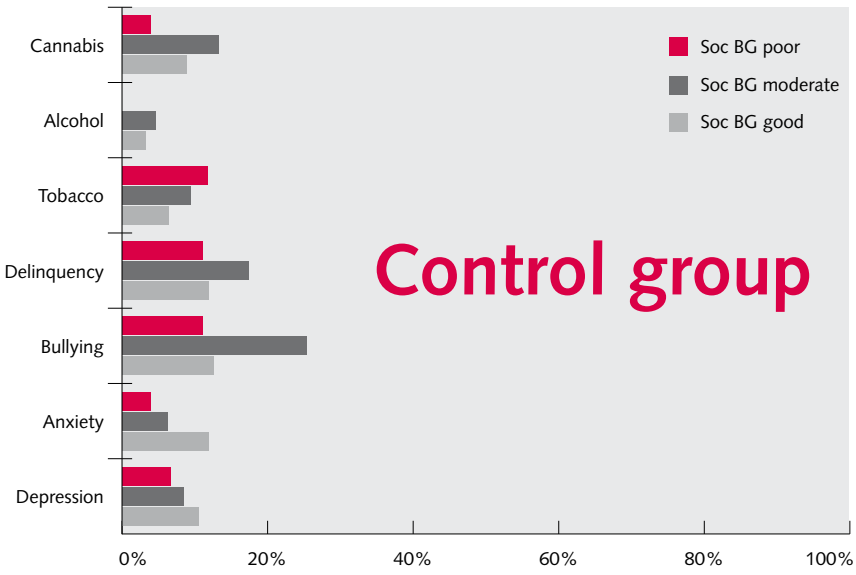
In the type E programme (Fig. 7), rates of improvement were moderate (>20%) compared with all the other programmes for mood parameters and for external behaviours. A marked decline was observed in smoking ; however, no improvements were seen in cannabis use.

*Fig. 7: Percentage of adolescents in the type **E programme** showing improvements 1 year after programme completion*



It may be concluded that (a) the programmes show different rates of improvement and (b) in practically all the programmes adolescents with a poor social background benefit from the intervention to a markedly greater extent than those with a moderate or good social background. As the content of the programmes leads indirectly to selection of clients, the proportions of adolescents with a good, moderate or poor social background vary from one programme to another. For this reason, improvements cannot be achieved to the same extent in all types of programme.
The changes seen in the control group – adolescents who did not undergo any *supra-f* interventions – are shown in Fig. 8. In this group, the rates of improvement were markedly lower than in the intervention group. In addition, the rates of improvement were lower for control group adolescents with a poor social background than for those with a more favourable social background.

*Fig. 8: Percentage of adolescents in the **control group** showing improvements 1 year after programme completion*



Conclusions

The programmes of types A to E meet varying needs among adolescents and communities. Type *A programmes* offer assistance for adolescents who are still integrated into the school system to ensure that this integration is maintained. They thus alleviate the burden on schools and families. *Programmes* of types *B and C* are designed to facilitate vocational integration for adolescents who have already left school but are not yet in employment or training. The type *D programme* combines two aspects: for adolescents who have not yet left school and who also exhibit substantial behavioural problems, it is designed to facilitate the transition to vocational life. The type *E programme* offers assistance in entering vocational life for school leavers who are still well integrated socially. It has been shown repeatedly that adolescents with a poor social background benefit from the programmes to an above-average extent.

Recommendations for prevention

The findings of the *supra-f* research programme suggest how communal and cantonal prevention efforts can be designed for young people at risk. Measures that provide a structure for adolescents who frequently lack stability appear to be of fundamental importance. The degree of *structuring* and the intensity of psychosocial interventions provided by the programme should be based on the extent to which the adolescents are at risk. A characterization of the adolescents in terms of their social integration, social background, and internal and external problems is therefore highly recommended.

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6 > Social background, vulnerability and substance use: an assessment tool

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Summary

In secondary prevention, consistent application of assessment methods remains relatively unusual. The multidimensional assessment tool proposed here can determine the degree of risk in relation to populations and at the individual level. Multidimensional assessment is based on a combination of four parameters: social background, internal and external problems, and substance use. Social background and mood impairments are linked to a certain extent. Thus, adolescents with a poor social background are more likely to exhibit mood impairments. However, gender is also a contributory factor, with girls being more robust than boys in the face of changes in their social situation. In general, social background is a good predictor of substance use, and especially cannabis use. The poorer the social background, the higher the substance use.

Background

The multidimensional assessment tool was developed against the background of the *supra-f* study (cf. report in this publication). As risk behaviour is not uniformly distributed among all young people, it is necessary to identify those young people who are in fact at risk. Adolescents with given sociodemographic or psychological characteristics exhibit risk behaviour to a greater or lesser extent – a fact that is neglected in primary prevention. However, secondary prevention is not currently in a position to identify with any reliability those adolescents who carry a large proportion of the risks.

Objective

The aim of multidimensional assessment is to detect and describe the distribution of various patterns of risk factors among a population of young people. The availability of this tool should make it possible, at an early stage, to develop appropriate measures for at-risk adolescents and young adults.

Methods and population

It is widely acknowledged that risks or vulnerabilities can be represented along several dimensions. Thus, structural risks can be distinguished from personal risks. Personal risks can be further differentiated with regard to various psychologically relevant parameters.
Multidimensional assessment incorporates four parameters:
Social background covers the following life domains: parents or family (living without mother or father, parents separated or divorced, mother or father unknown or deceased); school (number of changes of school, number of school years repeated) or vocation (dropped out of apprenticeship); living conditions (number of moves, time spent in care/custody/psychiatric treatment).

Internal symptoms relate to depressive mood, anxiety and suicidality.

External behaviour comprises five different areas: aggressive/antisocial behaviour, social problems, attention deficits and hyperactivity. In addition, delinquency is covered by a further questionnaire.

Substance use: The main substances considered are alcohol, cannabis and tobacco. For each substance, the following questions are asked: use (yes/no); if yes, since when (lifetime prevalence); and use in the last 30 days. In addition, a list of other, less frequently used, substances is presented.

Fig. 1: Model used to estimate degree of risk

Social background	Internal symptoms	External symptoms	Substance use	Global risk
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3

The four above-mentioned parameters can then be combined into a measure that (a) permits a conclusion to be drawn concerning the overall degree of risk (1=no, 2=moderate, 3=considerable risk) and (b) indicates the risk in relation to a given parameter. Young people who do not follow the linear course of school, vocational training and employment with career planning, but encounter obstacles in their path through life – determined by their psychological make-up or problematic environment (usually a combination of the two) – have greater difficulty in finding a place within society. For this reason, risk assessment needs to be addressed to those young people who are heading for school or vocational disintegration. Accordingly, suitable candidates for a trial run are clients from the 12 *supra-f* programmes designed for young people with varying risk characteristics, and young people enrolled in motivational semesters (bridging programmes for school leavers without an apprenticeship). To check external and internal validity, data from surveys conducted in schools can be used, or data can be compared with the representative surveys carried out by the Swiss Institute for the Prevention of Alcohol and other Drug-related Problems (SFA) (1), or the Swiss Multicenter Adolescent Survey on Health (SMASH) (2) and the European School Survey Project on Alcohol and Other Drugs (ESPAD) (3).

Results

Data collection: Surveys of young people in the above-mentioned settings have been carried out continuously since September 2004. The total population surveyed comprises some 3300 young people from the 12 *supra-f* programmes, from selected motivational semesters sponsored by the State Secretariat for Economic Affairs (seco) (4), and from schools in the canton of Fribourg.

Data analysis: In the data analysis, the focus is on the risks, or the young people's psychosocial vulnerability – mood, behavioural problems and substance use. The model shown in Fig. 1 provides the basis for the data analysis, which covers the following aspects: social background, mood impairment and substance use. As is apparent from Table 1, the majority of the school population sample falls into the category "good social background", as expected, with correspondingly lower rates for the other populations. No gender differences are found between the sexes.

Table 1: Social background, by population (school, supra-f, motivational semester) and gender

	Soc BG	School	*supra-f* 11–15	*supra-f* 16–20	Motivational semester
Male	good	161 (54%)	195 (45%)	175 (36%)	232 (31%)
	moderate	108 (36%)	147 (35%)	156 (32%)	260 (35%)
	poor	30 (10%)	83 (20%)	152 (32%)	252 (34%)
Female	good	149 (52%)	87 (50%)	101 (36%)	248 (39%)
	moderate	112 (40%)	53 (31%)	87 (32%)	208 (32%)
	poor	22 (8%)	33 (19%)	87 (32%)	185 (29%)
Total		582	598	758	1385
Missing		0	32	82	2

Soc BG = Social background

Mood impairments are determined on the basis of depression and anxiety measures, with gender- and age-related thresholds being taken into account in each case. Table 2 shows that, once again, the school sample and the 11- to 15-year-old *supra-f* clients have the lowest rates of mood impairment. As expected, the rate of mood impairment is higher among females than males.

Table 2: Mood impairment, by population (school, supra-f, motivational semester) and gender

	Mood impairment	School	*supra-f* 11–15	*supra-f* 16–20	Motivational semester
Male	without	250 (85%)	333 (76%)	356 (69%)	459 (63%)
	with	43 (15%)	107 (24%)	158 (31%)	265 (37%)
Female	without	210 (75%)	111 (62%)	160 (52%)	380 (60%)
	with	70 (25%)	68 (38%)	150 (48%)	255 (40%)
Total		573	619	824	1359
Missing		9	12	16	28

Tobacco use

The next step consists of an investigation of the association between social background and substance use. Social background is associated with tobacco use in the last 30 days. Young people with a poor social background show the highest rates of tobacco use in each case, irrespective of the sample considered. Smoking rates are markedly lower for young people with a good social background than for those with a poor social background (school: 14% vs. 38%; *supra-f* 11- to 15-year-olds: 44% vs. 61%; *supra-f* 16- to 20-year-olds: 66% vs. 81%; motivational semester: 49% vs. 65%).

Alcohol use

The statistics concerning alcohol use in the last 30 days confirm the trend already observed in the case of smoking. The rate of alcohol use is lower for young people with a good social background than for those with a poor social background (school: 50% vs. 76%; *supra-f* 11- to 15-year-olds: 59% vs. 74%; *supra-f* 16- to 20-year-olds: 74% vs. 80%; motivational semester: 60% vs. 75%).

Cannabis use

In the case of cannabis use, a marked difference is also seen between young people with a good and those with a poor social background (school: 10% vs. 36%; *supra-f* 11- to 15-year-olds: 23% vs. 49%; *supra-f* 16- to 20-year-olds: 46% vs. 63%; motivational semester: 24% vs. 42%).

Recommendations for prevention

Not all young people are equally affected by a given problem. It is increasingly evident that only certain children and adolescents exhibit mood impairments, increased substance use or violence to a significant extent. The precursors of these disorders are described in developmental psychopathology, with the key concepts being vulnerability and resilience. *Vulnerability* refers to the factors that make young people susceptible to risks. *Resilience* encompasses the factors that promote resistance, enabling individuals to overcome adverse circumstances. It is therefore advisable to focus preventive efforts on those groups of young people that are *in fact* at risk of developing a serious problem behaviour. The multidimensional assessment tool presented here permits differentiation of the risks faced by young people and should therefore be widely used in secondary prevention.

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