Educational Career and Substance Use in Adolescence

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In modern, competitive societies the social organisation of «youth» implies both the chance and risk of (intergenerational) vertical social mobility. It is suggested that it is precisely this basic feature that to a considerable extent gives rise to substance use. In particular the paper aims at analysing the impact of the risk of educational downward mobility as well as some related characteristics. Using LISREL VI, it is shown that this type of educational career pattern, actual or anticipated, substantially contributes to the consumption of legal drugs. Weight is given to an extended analysis of the mode of action involved in the relationship between substance use and the career pattern as well as associated characteristics, respectively. As far as home is concerned, social conflict and associated feelings on the side of the adolescents turn out to be a major 'mechanism' through which the observable impact of educational downward mobility can be traced back. Integration into both the cultural system of «legalized» drug use and subcultural contexts as provided by social cliques is a further condition that strongly influences substance use among adolescents.

Introduction

The period of adolescence has the highest rates for substance use during the life span. Prevalence rates for consumption of legal as well as illegal drugs is highest among adolescents in comparison to people of older age groups (Abelson, Fishburne & Cisin, 1977; Kandel, 1980; Johnston, Bachman & O'Malley, 1982; Silbereisen & Kastner, 1985). Obviously, adolescence is a life phase that is very sensitive to substance use. This is one of the reasons that prevention and intervention programs have concentrated more and more on efforts during this segment of the life span. The consumption of legal drugs like alcohol and tobacco has to be considered a generally «normal» behaviour for youth; dealing with the socially offered spectrum of drugs is learned in adolescence (Schenk, 1982; Kandel, 1984).

The focus of studies on drug use has been directed increasingly towards the use of legal drugs such as alcohol and tobacco. In longitudinal studies, consumption of legal drugs has proven to be a good predictor for consumption of illegal drugs. The onset in illegal drug use mostly takes place following the consumption of legitimate drugs such as alcohol and tobacco (Jessor & Jessor, 1977; Kandel, 1983).

Available studies show age — graded variations in drug use patterns. This may be a hint as to differences due to social and ecological life conditions. Bachman, O'Malley and Johnston (1984) showed, for example, that rates of drug use decreased when individuals had moved into conventional roles such as entering the labor market or getting married. It can be assumed that social transitions, e.g., from school to occupation, from being single to being married, from working to becoming unemployed, may lead to an increased consumption of drugs (Pearlin & Radabaugh, 1976; Sieber & Angst, 1981). Because the present study deals with about 13-to 16-years-old adolescents exclusively attending (secondary) schools yet, the theoretical frame of reference recurs mainly to only one essential component of the overall-transition to adulthood, i.e., the educational (school-) career. Though at present only a limited range of this transition is represented in our sample, it seems nevertheless reasonable to us to approach the question of how status — related career — problems influence the amount of drug use.

To explain certain types of substance use we will among other things turn to parts of a conception of «youth» which to a large extent has come from a more extensive analysis of the «societal allocation» (Kreutz, 1974), i.e. the process, in the course of which the social positions and statuses in adult society are taken over by the younger generation. Thus, social--structural as well as socio-cultural factors in substance use are moved into the centre of discussion.

Youth as a status passage

The ideological image of modern, competitive societies is that different privileged social positions are filled according to a person's earned achievements, not ascriptively according to his/her social origins. What the individual is able to reach in life depends most on the level of education achieved. The overall future status of the child, however, may be first of all determined by its family of origin. In order for one's social position to be attained only on achievement criteria the ascriptive classification based on the status of the family into which the child has been born must be abolished (at least in the ideological sense).

The establishment of an autonomous phase of youth would serve to overcome this structural contradiction in modern society. A growing child, when entering the educational system, is put at the beginning of a social career, on which his/her parents have already made more or less progress. The child from then on is judged less according to its social origin than by the achievements it is able to attain during the passage to adulthood.

Developing children and adolescents are exposed to achievement-related role expectations which must be met if they are to attain a social position which corresponds to that of the family of origin. By this we do not claim that available positions are in reality allocated according to achievement criteria. Societal allocation of positions and statuses is much more decisively formed according to «cooptation» (Kreutz, 1974) or «sponsored mobility»; whether a person will gain a certain social position normally depends on the fact that he/she is accepted as a future holder of the position by those who have to decide about the applicant's adequacy. Yet achievement potential among other things may turn out to be a necessary condition for attaining a high social position. Very seldom, however, will achievement alone be sufficient at the same time.

The above outlined ideological image corresponds to a social organization of youth that implies the chance of upward as well as the risk of downward mobility (across generations). It is precisely the possibility of such career patterns that can lead to fundamental insecurity during adolescence. «Status insecurity» (Kreutz, 1974) is a fundamental characteristic sign of the passage to adulthood. The adolescent is exposed to considerable social pressure to meet the achievement-oriented role expectations. However, the adolescent can decide against this role and refuse these achievement expectations, with long-term social costs.

Determinants of substance use

Social pressure, put upon the adolescent in order to make him/her conform to role expectations will favour different behaviours and different forms of reactions. Anomic and aggressive behaviour, as well as health complaints are two examples that we have analysed elsewhere (Engel, 1987; Hurrelmann, Engel, Holler & Nordlohne, 1988). In this paper we want to concentrate on substance use as a possible reaction to social pressure. This reaction can be expected especially if the successful transition through the status passage «youth» is (subjectively) at risk. It follows from our frame of reference that the movement from adolescence to adulthood will mainly imply social decline if the adolescent fails to meet the formal achievement-related expectations. An unsuccessful school career can be regarded as a central indicator for the high *risk of educational downward mobility*.

Data from the first wave of our panel study provide the opportunity to examine the school career pattern. However, we depend on retrospective indicators until subsequent waves (with the opportunity to conduct actual time-related comparisons) have been completed. We assume that the risk of educational downward mobility is present particularly when in the recent past the promotion to the next school class was in danger, if one or more classes had to be repeated, or poor school marks made necessary a downward change in schools.

Not only will actual experiences such as school failure predict certain behaviours, but so will the subjective anticipation of future events. Such an «event» would be the successful ending of school; this means movement out of school. Therefore, we assume that the anticipation *not* to complete school successfully indicates *unfavourable mobility chances* and these unfavourable mobility chances will be coupled with increased substance use.

Both concepts — risk of downward mobility and unfavourable mobility chances — directly apply to the allocation process in society and as such represent a variable anchored in the social structure (from the involved actor's point of view). «Youth» is also a social position to which specific role expectations are tied and in this sense a social status. To act according to the role expectations of «youth», indicates that a person is willing to face these expectations. As described above, these are mainly achievement-related expectations, and we assume that the pressure to do well can also contribute to substance use. Correspondingly, this perceived *pressure to meet school-related role expectations* will be included as an explicit variable in the following analysis.

We take it to be unlikely that these conditions — i.e. risk of educational downward mobility, unfavourable mobility chances, and perceived role pressure — that are enacted primarily by basic features of the social macro-system have *direct* effects on substance use. To presume this would mean neglecting the mediating function of the micro-systems into which the adolescent is socially integrated. Both the peer group and the family of origin deserve special attention.

Regarding the family of origin, *social conflict* (as operationalized below) will provide a partial explanation for substance use. According to our theoretical frame of reference, we expect parents (like adults in general) to perform the function of control and authority. From their side, sanctions and interventions are likely to rise if it becomes clear that the adolescent does not fulfil achievement — and status — related expectations. Social decline of the son or the daughter may endanger the status of the family of origin and this fact alone makes it plausible that corresponding interventions by the parents are to be expected. As a reaction to impending social decline in the generation line, social conflict can normally also be expected because failure at school provokes and threatens the moral authority of the parents — at least, if the parents are representatives of these role expectations. Therefore, it is not surprising that our three indicators of conflict (see below) constitute one factor within the frame of an exploratory factor analysis: They are typical and very common occasions in everyday life which ask for the parent's authority.

Social conflict will leave emotional «marks», and at the same time certain feelings will be an important catalysator concerning social conflict. In this context, emotions like anger and rage are to be expected as a reaction to social pressure and conflict.

Risk of downward mobility, unfavourable mobility chances, and role pressure are variables anchored in the social structure. In addition, substance use seems to be a result of socio-cultural integration. Mass media and publicity has resulted in a culture of legal drug consumption. This culture will dominate the adolescent's behaviour to the extent that he/she is able to adopt the appropriate social roles, of which the conspicuous consumption of drugs is one essential component. Correspondingly we expect substance use to rise with age in the population of 13-16 years-olds studied, while statistically controlling for the remaining variables described in this section. However, it would not be enough to consider only the broad cultural system. Being integrated in specific subcultural contexts may also contribute to increased substance use. In particular if the adolescents have joined together in «cliques», which are a close association of peer group members, we expect increased substance use.

Taken together $k = 8$ concepts with their (if viewed symmetrically) $k(k-1)/2 = 28$ possible (theoretical) interrelations guide our empirical test. As outlined above, we want to concentrate on the question of how (school-) career-related and sociocultural conditions work with respect to substance use, and we deal mainly with the question of whether social conflict and its emotional side have any value when trying to explain substance use.

In accordance with this goal, it is possible to include the career-related and sociocultural variables into an analysis as «exogeneous» variables. This implies disregarding possible (nonrecursive) reactions upon these variables as well as refraining from estimating explicit effects within this subset of exogeneous concepts. Surely in an analysis of details accentuated a little differently, and going somewhat further than in the present model, both unfavourable mobility chances and felt role pressure could be conceived of as a (partial) function of risk of downward mobility; clique integration could be understood as a function of all, or some, of these career-related variables (in the present case all observed (inter-)correlations are, as expected, positive).

Summarizing, we assume that the consumption of legal drugs is influenced directly or indirectly through risk of downward mobility, unfavourable mobility chances, perceived role pressure, integration in social cliques, and age.

Method

Sample

The data are from the first wave of our longitudinal youth survey conducted in the late autumn of 1986, by means of a self-administered standardized questionnaire. The population is defined as students in seventh and ninth grades in the main types of secondary schools: secondary vocational school; intermediate secondary school; grammar school, and comprehensive school. Based on a proportionally stratified cluster-sampling device, samples were drawn independently within three geographical regions (statistical areas) of the state North-Rhine-Westfalia, where each of these regions represents one type of socio-ecological area according to the official returns. The total sample size amounts to $N = 1717$.

Data analysis

A path analytic design with the above-described concepts involved as latent variables seemed to be most suitable for obtaining unconfounded and disattenuated estimates regarding our assumptions. First of all, a recursive structural equation model combined with the pertinent measurement models for the x- and y-indicators was set up and estimated by means of LISREL VI (Jöreskog & Sörbom, 1986; Jagodzinski, 1986). It turned out that both the structural equation part and the measurement part of this overall model could be improved by means of setting some very weak paths equal to zero, while removing such restrictions from other parts of the model. Based on a strategy allowing for nonrecursive relationships

among the η-variables and some type of correlated measurement errors only (see Graff & Schmidt, 1982 for a generalizing strategy), a substantially improved goodness-of-fit was attained, and as can be seen in figure 1, the final model is very close to the structure of effects as expected by the above theoretical assumptions.

Most of our indicators are ordinal scales. It therefore seemed appropriate to avoid computing ordinary product-moment correlations. Instead of this, the estimation of effects was based on a matrix of polychoric/polyserial correlations. As recommended (Jöreskog & Sörbom, 1986: IV.1-3) for the analysis of nonnormally distributed ordinal-scale indicators, this matrix of polychoric/polyserial correlations was then analyzed by the method of unweighted least squares (ULS). The corresponding maximum-likelihood-(ML)-solutions were taken into account only for comparison purposes. Chi^2- and/or t-values (in the case of ML) are not regarded as valid, given the skewed distributions involved. Hence, no conclusions were drawn from those figures (Jöreskog & Sörbom, 1986: IV.1; Jagodzinski, 1981, 180). As expected, the final ULS-solution attained a better fit than the corresponding ML-solution, while at the same time both types of estimation procedures did not yield substantially differing estimates of effect.

All indicators of the exogeneous concepts were included in the analysis as fixed-x-variables, thereby assuming a fixed one-to-one relation between the theoretical concept and observed indicator. In such a case, the x-indicators may even be coded dummy variables (Jöreskog & Sörbom, 1986: IV.2). Taken together, two of the x-indicators (risk of downward mobility, clique integration) were dichotomous 1/0-coded variables, two x-indicators (age, role pressure) were treated as metric scales, while all remaining x- and y-indicators were ordinal scales. This represents a data analysis situation for which the above-described LISREL-design is appropriate. The measures are described now in more detail.

η-concepts and related y-variables. 1) Feelings of anger and rage (η_1). We included two observed indicators to measure this concept. The indicators come from a list of twenty-seven standardized feelings. The questions were: «What are you like at the moment? How often do you feel...»; this was followed by a list of feelings and for every feeling, by a scale consisting of the categories (codes): often (4), sometimes (3), seldom (2), never (1). An exploratory factor analysis yielded six factors, in which the two feelings rage (y_1) and anger (y_2) constituted a factor of their own. Here these two indicators are included separately.

2) Social conflict at home (η_2). The operational base of this concept is a question concerning disagreements in the home. The question asked about six potential cases of conflict and whether they had been the cause of disagreements in the home during the past three months [scale: often (4), sometimes (3), seldom (2), never (1)]. An exploratory factor analysis of these six scales uncovered two factors, from which the three scales, which constitute the first factor, are included in the following analysis as separate indicators. These causes of conflict are: «school performances» (y_3), «untidiness» (y_4), and «not wanting to help at home» (y_5).

3) Substance use (η_3). This theoretical concept is measured by questions asking about the consumption of the legal drugs alcoholic beverages and tobacco. Separately, we asked for the consumption of a) alcoholic beverages with low alcohol content, such as wine, champagne, and beer (y_6), b) alcoholic beverages with high alcohol content such as brandy, spirits, and liquor (y_7), and c) cigarettes (y_8). For each of these substances the responses were: had never been consumed yet (1), been only tried (2), consumed sometimes (3), or regularly (4).

ξ-concepts and related x-indicators (one-to-one-correspondence). 1) Risk of educational downward mobility (ξ_1). The fundamental principle of this concept is an index which records if during the past time spent at school at least one of the following events occurred: (a) being moved up to a higher class was at risk; (b) one or more classes at school had to be repeated; and (c) school had to be changed because of bad marks. This indicator (which is really an index in its own right) takes on the value 1 if at least one of the above mentioned events took place, otherwise 0.

2) Unfavourable mobility chances (ξ_2). This concept deals with the subjective «probability» of a future event, which has to occur in order to have a good chance for further educational an career attainments. We asked: «How sure or unsure are you of getting the educational qualification you want?» Response scale were: very sure (1), quite sure (2), not clear (3), quite unsure (4), absolute unsure (5).

3) Role pressure (ξ_3). This concept is operationalized by means of asking for perceived presssure due to educational demands. Students rated, on a scale from 0 «pressure equal to none» up to 10 «pressure very strong», their response to the question: «With respect to what is expected of you at school, how much of an effect does it have on you?»

4) Clique integration (ξ_4). Clique integration was measured by asking about the organization of free time activities. The indicator measures whether the subject is involved in free time activities within a clique. We asked «Which of the following associations or organizations do you join during your free time?» The list included six types of organizations. The last possible answer was: «I don't join any organizations or associations, but spent my free time within a clique (1=yes, 0=no).

5) Age (ξ_5). Age is measured with a straightforward question concerning the adolescent's age.

Results

The estimates yielded by the final model (figure 1) largely confirm the theoretical assumptions that were put forth. As indicated by the estimated paths, all career-related and socio-cultural concepts work in one way or another as expected.

Thus, social conflict at home turns out to be a central «mechanism» by means of which risk of downward mobility, unfavourable mobility chances, and perceived role pressure contribute to the consumption of legal drugs. Out of these career-related variables, role pressure works also through the emotional component (e.g., anger and rage) often associated with social conflict and perceived social pressure. Only risk of downward mobility shows a direct effect on substance use. This observed structure of effects means that social conflict offers a strong, but only partial explanation for the mode of action of risk of downward mobility on substance use.

It turns out that having close peer-relationships clearly supports the consumption of alcoholic beverages and cigarettes. This may be due to a sociocultural setting often associated with integration in cliques that provides both the opportunity and motivation of performing the very social roles, of which the conspicuous consumption of drugs is a part. Drug use would then to a certain extent be due to a social climate that is susceptible to both influences of society's broad cultural system (e.g., as offered and/or reinforced by mass media and publicity) and a value system, according to which social status in the peer-community can be achieved through conspicuous behaviour deviating from what is mainly expected by representatives of adult society (e.g., parents, teachers); a point of view that takes into account that clique integration per se can be regarded as resulting from the exposure to the risk of failing to meet the achievement-related role expectations in the status passage to adulthood (Kreutz, 1974).

The last effect to be mentioned here refers to age. In part, this effect may be due to the continously proceeding integration into society's cultural system. This, of course, is not a strict empirical argument, but only a heuristical interpretation compatible with the data.

As shown by the model in figure 1, a substantial portion of the variation of the endogeneous concepts can be explained. In detail, the squared multiple correlations amount to .23 for η_1 (feelings of anger and rage), to .34 for η_2 (social conflict at home), and to .53 for η_3 (substance use), while the model itself attains a moderately good fit (goodness-of-fit

Figure 1
Déterminants de l'usage de la drogue. Une application du modèle LISREL
(solution standard)
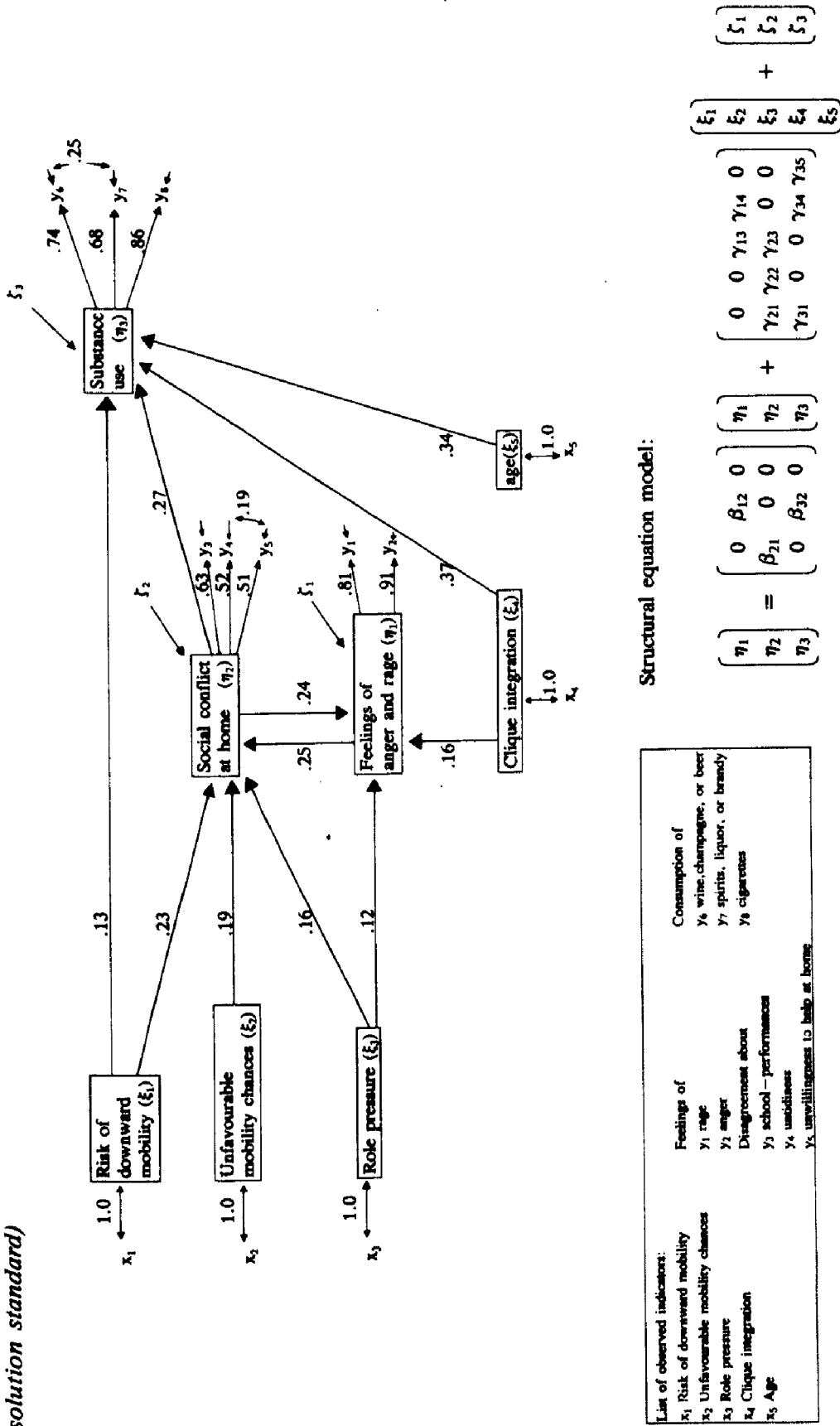
For each η-concept, one λ_y was fixed by scaling, respectively.

Figure 1
Determinants of substance use: A LISREL application
(standardised solution)

index GFI = .989; adj. GFI = .979; root mean square residual RMR = .038). All these figures indicate a better fit than the respective figures in the preceding model with no correlations among measurement errors estimated as free parameters. Furthermore, no substantial improvement could be attained by additionally removing zero-restrictions[1].

Discussion

The findings provide evidence for the assumption that the consumption of legal drugs can be conceived of to a considerable extent as a consequence of conditions arising out of the «transitory» nature of youth. Though at present no actual longitudinal comparisons are possible to make, the findings show that an unfavourable (real or anticipated) educational career pattern seems to seriously influence the substance use of adolescents. This may be taken as an instance of the effect of conditions that are anchored in the social structure but transmitted through the micro-systems of which the adolescent is a part. The clique is one such micro-system. The family of origin also plays a central part. One important mechanism, through which this latter micro-system operates is social conflict due to both the threatened moral authority of the parents and the threatened social status of the family of origin (the latter arising out of the risk of not reproducing the family status in case the adolescent fails to pass through the educational system successfully. A further understanding of the operation of these micro-systems is provided by the emotional component. Feelings associated with a social situation of conflict and pressure turned out to be an essential tie in the sequence of processes leading finally to substance use.

To explain (at least partially) substance use, this behaviour should be traced back to social macro- and micro-conditions as well as intrapersonal mediators. The findings suggest that it is both the independent effects of social, cultural, and personal integration as well as the complex interplay among such factors that substantially contribute to the consumption of legal drugs. When taking the cross-sectional nature of our data into account, these findings remain somewhat tentative. However, the subsequent waves of our longitudinal survey offer further opportunities for a more rigorous empirical test of the assumptions involved.

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[1] We observed only one actual candidate. This was the direct effect of unfavourable mobility chances on substance use, which turned out to be slight, but negative (—.13) when additionally estimated as a free parameter. However, the inclusion of this estimate implies an observed increase in the remaining and expected effects risk of downward mobility and unfavourable mobility chances have on substance use, in this way counterbalancing the negative evidence introduced. Hence, no other conclusion would have to be drawn from such an extended model.

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Trajectoire scolaire et consommation de substances nocives chez les adolescents

Dans nos sociétés compétitives modernes, la jeunesse est confrontée aux chances et aux risques de la mobilité sociale verticale. Selon les auteurs c'est cette caractéristique de l'organisation sociale du monde des jeunes qui, pour une grande part, suscite le recours aux substances nocives. En particulier, dans cet article, on analyse l'impact du risque entraîné par une carrière scolaire défavorable et d'autres caractéristiques associées. A l'aide du modèle d'analyse LISREL VI, on montre que ce type de trajectoire scolaire, réelle ou anticipée, contribue notablement à susciter l'usage de drogues légales. En ce qui concerne l'expérience familiale, les conflits vécus et les sentiments qu'ils engendrent chez l'adolescent font partie du mécanisme déclenché par la détérioration du statut scolaire. L'intégration au système culturel de l'intoxication légale et l'appartenance aux sub-cultures que constituent certains groupes sociaux s'ajoutent aux conditions qui influencent le recours à la drogue chez l'adolescent.

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Current theme of research:

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Most relevant publications in the field of Educational Psychology:

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Current theme of research:

Psychosocial aspects of psychosomatic disorders and school-related problems in adolescence.