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The development and evaluation of a model of drug education for adolescents

Jeffrey Wragg
University of Wollongong

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**THE DEVELOPMENT AND EVALUATION OF A MODEL OF
DRUG EDUCATION FOR ADOLESCENTS.**

**A thesis submitted in fulfilment of the
requirements for the award of the degree**

Doctor of Philosophy

from

The University of Wollongong

by

Jeffrey Wragg, B.A., M.A.(Hons).

Department of Psychology

1992

University of Wollongong

Candidate's Certificate

I certify that the thesis entitled **The Development and Evaluation of a Model of Drug Education for Adolescents**, and submitted for the degree of Doctor of Philosophy, is the result of my own research, except where otherwise acknowledged, and that this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed

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In particular I wish to acknowledge the support and assistance from my Wife, **Jan Wragg**, who has worked tirelessly and without complaint in the typing and setting out of this work. Without her encouragement and help this project would not have been possible.

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ABSTRACT

The recognition that drug related problems have major economic, social and personal costs has led to the emergence of prevention as an important issue. In comparison to supply reduction and treatment approaches drug education appears to hold the most promise, but this promise had been slow to materialise. Many drug education programs used in Australian schools, at the time this study was being planned in 1982, did not appear to be based on a clear philosophy or theoretical rationale. Nor was there any adequate evaluation of these programs. Although a few positive signs regarding what might offer the promise of success had begun to emerge in the literature, most programs failed to show clear evidence of adequate theoretical development and appropriate evaluation methodology. The current research emerged from such a background in 1982. The purpose of this study has been to develop and evaluate a drug education program based on an adequately developed theoretical model.

The model developed in this research has been derived from an analysis of the literature on adolescent drug use, drug education, and the nature of adolescent development. The characteristics of adolescence, in combination with a number of environmental and personal factors, appear to predispose some adolescents to a stage of increased susceptibility to harmful influences. In order to explain why there are individual differences regarding susceptibility to drug use a number of drug use theories and research studies investigating factors correlated with adolescent drug use were examined.

An analysis of the literature concerned with the causes of drug use suggested that at least four loosely defined theoretical groupings can be identified. The four categories include a biogenetic or drug effect group, a psychological group, a socialisation or social learning theory group and finally a psychosocial group. The social-learning and psychosocial theories have, more adequately, attempted to examine the nature of adolescent drug use and the interaction of a number of variables believed to be causally related to adolescent drug use. These theories have attempted to incorporate social, psychological and developmental perspectives into complex, but unified models. They appear to offer the most appropriate theoretical base from which models of drug education can be developed. In order to bridge the gap between aetiological research and program construction a number of the most relevant and important variables that account for a significant proportion of the variance, were examined as part of a model building process. The model of drug education developed in this research also integrated educational principles that could assist in the translation of a conceptual framework to a school based drug education program.

A number of hypotheses were developed in order to evaluate the effectiveness of the intervention program developed from a psychosocial developmental influences model. A pre and post test intervention and non-intervention group longitudinal design was used to test the ability of the program to change attitudes to drug use and drug use behaviour. A total of 619 students from a total of seven primary schools participated. Four schools were randomly assigned to an intervention condition (n=362), and the remaining three schools were given no intervention (n=257).

A self report questionnaire was designed and used to obtain data at pre and post test stages as well as for the longitudinal follow up stage (from Grade 7 to Grade 10). Approximately 71% of the original sample had data available for 5 out of a total of 6 data collection points. A smaller sample of 239 subjects (longitudinal sample) provided data at all 6 collection points. Analyses were conducted with both the longitudinal sample and the larger cross-sectional sample of students who had completed questionnaires at any of the data collection points.

A comparison of intervention and non intervention attitudes to drug use indicated that after intervention significant differences emerged. Path analysis was used to examine the nature of the relationship between attitudes and drug use prior to, during, and following the onset of drug use. A noticeable pattern of changes appeared to occur just prior to the onset of drug use or at the grade where drug use actually commenced. These changes underline the importance of stabilising attitudes in order to minimise the chances of drug use occurring.

Drug use behaviour was examined for five groups of drugs; alcohol, tobacco, analgesics, marijuana and a range of illegal or non-prescribed substances (e.g., heroin, inhalants). Three categories of use were examined, these being incidence, frequency and amount used. Results indicated that for alcohol, tobacco and marijuana use significant drug taking differences between intervention and non intervention groups emerged. No significant differences appeared to exist for the use of analgesics. Although a number of statistically

significant differences were found with regard to the use of illegal or non prescribed substances a consistent pattern across all grades failed to emerge. Intervention group subjects reported significantly greater ability to resist peer influences to take drugs and also a delayed age of onset for drug use.

Additional analyses examined the association between involvement in sports and hobbies, socio-economic status, gender and drug use. Gender and socio-economic status appeared to play a minor role in determining drug use. Significant relationships were found in relation to drug use and participation in certain sports and hobbies. Rugby football players and surfers appeared to be linked to significantly greater levels of drug use whilst joggers or tennis players showed reduced levels. It has been argued that providing adolescents with 'alternatives' could reduce the levels of drug use, but these results suggest that a 'naive' interpretation of an alternatives to drug use theory cannot be supported.

At the conclusion of this study evidence has been provided to suggest that a psychosocial developmental influences model of drug education can not only change attitudes and drug use behaviour, but also sustain these changes over a considerable period of time. Methodological constraints such as loss of information and small sample size, due to attrition, limit the possible range of generalisation from this study. Nevertheless comment can be made regarding the theoretical framework on which the psychosocial developmental influences model has been based. The use of peer leaders, peer group commitment procedures and teacher and parent involvement appears to be of value in the development, promotion and maintenance of a

perceived normative environment that opposes health injurious drug use. Principles derived from persuasive communications and psychosocial inoculations theory, as well as the theory of reasoned action, have all been placed with a social learning theory context in which positive peer pressure has been utilised and negative peer pressure to use drugs opposed. Further research is needed to determine which particular elements within the aetiological framework and implementation structure underpinning the psychological developmental influences model can provide the most useful and economical combination of program elements. The findings of the present research add impetus, however, to a sparse but developing body of literature which suggests that a school based psychosocial development influences model has the potential to decrease adolescent drug use.

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Table 1	Use of Tobacco and Analgesics by Intervention and Non-Intervention Group Subjects at Pretest in Grade 6
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Table 3	Levels of Monthly and Weekly Tobacco Use for all Subjects and Grade Levels for Complete Group (Cross-Sectional Analysis)
Table 4	Monthly Frequency of Analgesic Use and Number of Tablets Taken Last Week for all Subjects at all Grade Levels

APPENDIX 5

Table 1	Percentage of Subjects for All Groups and Grade Levels Who Have Ever Used Marijuana
Table 2	Levels of Yearly and Monthly Marijuana Use for All Subjects and Grade Levels
Table 3	Grade by Grade Comparisons of Marijuana Use for Intervention and Non-Intervention Group Subjects (Cross-Sectional Group) (Mann-Whitney U test, z scores)
Table 4	Percentage of Subjects for All Groups and Grade Levels Who have Ever Used Inhalents, Hallucinogenics and Opiates
Table 5	Grade by Grade Comparisons for Experimental and Control Group Subjects on the Use of Inhalents, Hallucinogenics and Opiates (Cross-Sectional Group)
Table 6	A Comparison Regarding the Age at Which Intervention and Non-Intervention Group Subjects Commence Use of Alcohol, Tobacco and Marijuana

APPENDIX 6

Path Analysis of non-drug users