

Drug and Alcohol Prevention among Culturally Diverse Northern
Australian Adolescents:

An Investigation of a School Drug and Alcohol Prevention Program for
Year 8 Students

Nicki Gazis

A thesis submitted for the degree of Doctor of Philosophy at

The University of Queensland in February 2008

School of Medicine

Declaration by author

This thesis is composed of my original work, and contains no material previously published or written by another person except where due reference has been made in the text. I have clearly stated the contribution by others to jointly-authored works that I have included in my thesis.

I have clearly stated the contribution of others to my thesis as a whole, including statistical assistance, survey design, data analysis, significant technical procedures, professional editorial advice, and any other original research work used or reported in my thesis. The content of my thesis is the result of work I have carried out since the commencement of my research higher degree candidature and does not include a substantial part of work that has been submitted to qualify for the award of any other degree or diploma in any university or other tertiary institution. I have clearly stated which parts of my thesis, if any, have been submitted to qualify for another award.

I acknowledge that an electronic copy of my thesis must be lodged with the University Library and, subject to the General Award Rules of The University of Queensland, immediately made available for research and study in accordance with the *Copyright Act 1968*.

I acknowledge that copyright of all material contained in my thesis resides with the copyright holder(s) of that material.

Statement of Contributions to Jointly Authored Works Contained in the Thesis

“No jointly-authored works.”

Statement of Contributions by Others to the Thesis as a Whole

Associate Professor Robert Ho for his contribution to analysis and interpretation of data in Chapter 1

Associate Professor Jason Connor for his contribution to the analysis and interpretation of data and for critically reviewing the dissertation generally.

Statement of Parts of the Thesis Submitted to Qualify for the Award of Another Degree

“None.”

Published Works by the Author Incorporated into the Thesis

Gazis, N., Connor, J.P., & Ho, R. (2009). Cultural Identity and Peer Influence as Predictors of Substance Use Among Culturally Diverse Australian Adolescents. *Journal of Early Adolescence (in press)* - Incorporated as Chapter 1.

Additional Published Works by the Author Relevant to the Thesis but not Forming Part of it

“None.”

Acknowledgements

I would like to thank my advisor Associate Professor Jason Connor for his advice and support in the preparation and writing of this dissertation. I also wish to acknowledge Professor Graham Martin for his consultancy and Associate Professor Robert Ho for reviewing and providing valuable feedback on the statistical analyses. I am grateful to Associate Professor Alan Ralph from Teen Triple P and Ms Louise Gazis, a teacher of twenty years experience, for their interest and useful comments during the development of the Drug and Alcohol Prevention Program for Year 8.

I am deeply grateful to the Alcohol, Education and Rehabilitation Foundation for funding this project with a full time scholarship. Without their support it is unlikely that this research would have been completed in a timely manner.

Finally I would like to thank the teachers, students and other administrative staff from the schools participating in this project. I trust that this research has contributed positively towards better teaching practices and the prevention of drug and alcohol problems among these young people.

Abstract

This dissertation explored a number of themes associated with adolescent drug and alcohol prevention among culturally diverse Northern Australian adolescents. It was undertaken because important differences are often associated with specific cultural groups and local knowledge is often needed as a means of informing effective prevention programs. Five studies are presented, each, with its own hypotheses, results and conclusions that examine influences on the common dependent variable of adolescent substance use. In consultation with teachers a new universal school-based drug and alcohol prevention program was developed addressing the four most commonly used substances among Australian adolescents, namely alcohol, cigarettes, cannabis and inhalants. The program was predicated on the social influence and alcohol harm minimisation models and was successful in reducing alcohol initiation and increasing cannabis and inhalant refusal self-efficacy among non-initiates. Program delivery is

equally as important and program content and prevention programs utilising interactive teaching have been found to be more effective in preventing adolescent substance use than those delivered in a didactic or non-interactive style. The implementation evaluation found that teachers delivered less of the interactive program contents (49%) compared with the non-interactive components (84%). Quality of program delivery may have explained the limited efficacy of the school program to reduce cigarette use and to deter use among those who had already initiated substance use. Additionally three descriptive studies explored variables representing risk and protection for adolescent substance use. Key findings were that cultural identity was observed to be protective of both Indigenous and Non-Indigenous alcohol initiation but was associated with risk for Indigenous youth who had any number of drinking friends; that drinking parents had a strong direct effect on adolescent drinking independent of friends' use; and a lack of school connectedness was associated with increased adolescent smoking and drinking. This dissertation demonstrated that a school drug education program in its self cannot effectively prevent adolescent drug use. While improvements can be made to current teaching practices, school curricula need to be supplemented with multi-modal programs that aim to selectively reduce parental substance use and improve the school experience for all students.

Keywords

school drug and alcohol prevention, cultural differences, cultural identity, peer influence, parental substance use, school connectedness

Australian and New Zealand Standard Research Classifications (ANZSRC)

170103 Educational Psychology 50%, 111704 Community Child Health 30%, 111701 Aboriginal and Torres Strait Islander Health 20%

Contents

Title Page	1
Declaration by Author	2
Acknowledgements	4
Abstract	4
List of Figures	9
List of Tables	10
Abbreviations	13
General Introduction	14
Chapters	
1. Cultural Identity and Peer Influence as Predictors of Adolescent Substance Use	28
Abstract	29
Introduction	30
Method	35
Results	38
Discussion	54
References	60
2. Peer Normative Education and Alcohol Harm Minimisation in a Comprehensive School Drug Prevention Program: Program Evaluation of the Drug and Alcohol Prevention Program for Year 8	67
Abstract	68
Introduction	69
Method	76

Results	81
Discussion	89
References	93
3. Drug and Alcohol Prevention Program for Year 8: Curriculum	
Development and Implementation Evaluation	101
Abstract	102
Introduction	103
Method	108
Results	117
Discussion	124
References	131
4. Interrelationships of School, Parental and Peer Factors on	
Adolescent Substance Use	138
Abstract	139
Introduction	140
Method	143
Results	148
Discussion	156
References	163
5. Parental Use as a Moderator of Social Influence Risk Factors for	
Adolescent Substance Use	168
Abstract	169
Introduction	170

Method	174
Results	179
Discussion	188
References	192
6. General Discussion	200
7. Drug and Alcohol Prevention Program for Year 8: Teachers Manual and Student Guide	214
Module 1 - Why do people use drugs and alcohol?	216
Module 2 - Choosing your friends	228
Module 3 – Tobacco	254
Module 4 – Alcohol	267
Module 5 - Marijuana and Inhalants	289
Module 6 - Poster Assignment	307
Module 7 - Managing Anxiety	311
Module 8 - Managing Anger	325
Module 9 – Assertiveness	348
Module 10 - Communication Skills	352
Appendices	
a. Ethics Approval	364
b. Information Sheet/Consent Form	365
c. Questionnaire	367
d. Teacher Monitoring Sheet	384
e. Problem Solving	391

List of Figures

Chapter 1

- Figure 1: Measurement Model for Indigenous and Non-Indigenous Respondents 46

Chapter 2

- Figures 1 - 3: Graphs of Post-Test Drug Use Means for Three Risk Levels 84

- Figures 4 - 7: Graphs of Estimates of Peer Drug Norms at Pre and Post-Test for Program and Control Conditions 87

- Figures 8 - 11: Graphs of Drug Refusal Self-Efficacy at Pre and Post-Test for Program and Control Conditions 88

Chapter 4

- Figure 1: Percentage of Adolescents Using Substances by Sex, Culture and Family Structure 150

- Figure 2: Structural Equation Model of Adolescent Alcohol Use Pathways (N = 274) 152

Figure 3: Structural Equation Model of Adolescent Cigarette Use Pathways (N=274)	154
Figure 4: Structural Equation Model of Adolescent Cannabis Use Pathways (N = 274)	155
Chapter 5	
Figure 1: Structural Equation Model for Adult Alcohol Use as a Moderator of Adolescent Alcohol Use	185
Figure 2: Structural Equation Model for Adult Cigarette Use as a Moderator of Adolescent Cigarette Use	186
Figure 3: Structural Equation Model for Adult Cannabis Use as a Moderator of Adolescent Cannabis Use	187

List of Tables

Chapter 1	
Table 1: Observed and Expected Frequencies of Cultural Group Substance Use for Non-Indigenous Australians (n=119), Indigenous Australians (n=129) and Other Minorities (n=26).	39

Table 2: Correlations Between the 12-item Multigroup Ethnic Identity Measure (MEIM) and Adolescent Cigarette, Alcohol and Cannabis Use for Non-Indigenous Australians (<i>n</i> =119), Indigenous Australians (<i>n</i> =129) and Other Minorities (<i>n</i> =26)	41
Table 3: Factor Loadings of the Multigroup Ethnic Identity Measure (MEIM) Items for 274 Adolescents (43.4% Non-Indigenous Australians, 47.1% Indigenous Australians and 9.5% Other Minorities)	43
Table 4: Main Effects of MEIM Factors on Adolescent Cultural Group Substance Use	44
Table 5: Standardized Regression Weights, Residual Variances, and Explained Variances for the Two-Factor Measurement Variables	49
Table 6: Main Effects of MEIM and Friends' Substance Use on Adolescent Cultural Group Substance Use	51
Table 7: Interaction Effects of MEIM Factors and Friends' Substance Use on Adolescent Cultural Group Substance Use	53

Chapter 2

Table 1: Demographic Characteristics and Baseline Drug Use: Program and Control Groups	83
--	----

Table 2: Mean Drug Use Rates at Pre and Post-Test by School Condition and Interactions of Drug Use with Drug Refusal Self-Efficacy and Peer Normative Expectations (<i>n</i> =88)	85
Chapter 3	
Table 1: Proportions of Non-Interactive and Interactive Program Delivered by Teachers	122
Chapter 4	
Table 1: Summary of Latent Variable Construct Items Utilised in Structural Equation Models	147
Chapter 5	
Table 1: Spearman Correlation Coefficients of Adolescent Cigarette, Alcohol and Cannabis Use with Parents' and Friends' Substance Use and other Predictor Variables (<i>n</i> =274).	181
Table 2: Latent Variable Item Descriptions, Reliability Coefficients and Factor Loadings for Adolescent Substance Use	182

Abbreviations

AIHW	Australian Institute of Health and Welfare
ATSI	Aborigines and Torres Strait Islanders
DAPPY:8	Drug and Alcohol Prevention Program for Year 8
MEIM	Multigroup Ethnic Identity Measure
SEM	Structural Equation Model
SHAHRP	School Health and Alcohol Harm Reduction Project
CSAP	Centre for Substance Abuse Prevention

General Introduction

Early initiation of substance use is both a marker of a range of associated problems and a predictor of later misuse (Ellickson, Tucker, Klein & McGuigan, 2001; Jessor & Jessor, 1977; McCluskey, Krohn, Lizotte & Rodriguez, 2002; Orlando, Tucker, Ellickson & Klien, 2004). Prevention efforts that seek to discourage or delay adolescent drug and alcohol involvement have largely been the responsibility of schools. Universal programs or those aimed at all students irrespective of risk level have become popular because of their potential to reach all students and because individuals do not need to be selected for special treatment (Cuijpers, 2002; Tobler & Stratton, 1997). However most adolescents do not involve themselves with drugs and providing drug education runs the risk of overstating the problem and conveying the impression that drug use is widespread in this age group. Additionally universal programs have been criticised for producing minimal and inconsistent results (Gorman, 1996). Many focus on peer influence risk whereas epidemiological studies have identified numerous risk and protective factors for adolescent substance use (Hawkins, Catalano & Miller, 1992). This dissertation investigated a new universal prevention program targeting cigarettes, alcohol, cannabis and inhalants, the four most commonly used substances among Australian youth. The aim of the program was to provide relevant drug education to youth at different levels of risk for substance misuse. Additionally three descriptive studies identifying risk and protective factors associated with the personality, family, school and culture were undertaken in an effort to better inform a multimodal approach to adolescent drug prevention.

Cultural Identity and Peer Influence Risk

In preparation for the development of the Drug and Alcohol Prevention Program for Year 8 (DAPPY:8) a preliminary study was conducted investigating the relative effects of peer influence risk and cultural identity on adolescent drug use. More than half of the sample of Northern Australian adolescents participating in this study was constituted of diverse cultural minorities. Cultural identity refers to identification with and the acquisition of behaviours associated with one's culture (Phinney, 1992). It is generally a positive influence in adolescent development whereas early initiation of drug use is considered a health risk and rejected in most cultures (Tucker, Ellickson, Orlando, Martino & Klein, 2005). International studies of minority and native populations have found mixed results for the effect of cultural identity on adolescent substance use (Bankston & Zhou, 1997; Brady, 1992; Marsiglia, Kulis & Hecht, 2001) whereas peer influence is a consistent and powerful proximal risk (Hawkins, Catalano & Miller, 1992). One explanation for the lack of consistent findings in favour of the positive influence of cultural identity maybe that peer influence is acting as a confound (Oetting & Beauvais, 1992).

The Multi Ethnic Identity Measure (MEIM) explores two aspects of cultural identity namely *affirmation / belonging* described as a subjective sense of pride and belonging to one's culture and *exploration / participation* or the process of cultural exploration and participation (Phinney, 1992). Strong cultural identity as measured by the MEIM has been found to be associated with a number of areas of well being among culturally diverse North American adolescents (Roberts et al. 1999). In this study the two

factor structure of the MEIM was investigated for the two main cultural groups, Indigenous and Non-Indigenous youth, using factor analysis as a means of confirming that these were indeed two separate aspects of cultural identity and may potentially impact on substance use in different ways.

In addition to cultural identity, peer influence risk is a known risk factor for adolescent substance use. Peer influence risk was measured by students' perception of the number of substance using friends rather than actual use. While perception of use rather than actual use may be seen as an imprecise measure, perception of use has been found to correlate highly with adolescent drug use and is a preferred means of identifying risk in numerous studies (Hoffman, Monge, Chou & Valente, 2007; Juvonen, Martino, Ellickson & Longshore, 2007). The interactions between cultural identity and peer influence were then investigated across the cultures in a series of logistic regression analyses. The aim was to determine if strong cultural identity mitigated peer influence risk for the two main cultural groups.

DAPPY:8 Program Evaluation

The next two studies reported on the development, implementation and program evaluations of the DAPPY:8, a universal program predicated on the social influence (Cuijpers, 2002; Tobler et al, 2000) and alcohol harm minimisation models (Midford, 2006). The social influence model is premised on the idea that youth need to be taught resistance skills against peer drug offers and a key strategy is the provision of normative education. Adolescents are strongly influenced by what they think their friends are doing

and most tend to over estimate their peers' drug use (D'Amico, & McCarthy, 2006).

Normative education takes the pressure of young people to use drugs through the provision of accurate information demonstrating that most of their peers don't do drugs (Evans, 1976). However youth who are already using are unlikely to be persuaded by this strategy as their peer group is likely to include a number of drug using friends (Juvonen, Martino, Ellickson & Longshore, 2007). Alternatively alcohol harm minimisation is a more appropriate prevention model for this latter group because it assumes that young people will drink and offers strategies to prevent harmful behaviour associated with drinking (Midford & McBride, 1999). A key question in the provision of both educational models in the one program is compatibility. Will low risk youth be misled into believing that drinking is a widespread problem in their age group if they receive alcohol harm minimisation education?

A quasi-experimental longitudinal research design in which three schools were randomised into an experimental and an education as usual control condition was used to evaluate the DAPPY:8. The effect of the combined educational models on substance use was investigated in terms of three risk levels depending on students' self reported initial level of use across the four substances. Peer drug norms were defined as students' estimates of the proportion of their peers that they thought used drugs (Botvin, Griffin, Diaz and Ifill-Williams, 2001). In addition drug refusal self efficacy or the likelihood that one will say no to drug offers was included as an indication of future drug use behaviour (Engels, Hale, Noom, De Vries, 2005). Finally interactions between the three drug use risk levels with peer norms and drug refusal self efficacy were expected to demonstrate

the effect of the DAPPY:8 on these variable for students with different levels of drug experience. Generally it was expected that students in the low risk categories would be more influenced by normative education than those in the high risk group and that this would reduce drug use in the treatment group compared with use in the control group.

DAPPY:8 Curriculum Development and Implementation Evaluation

The development of the DAPPY:8 utilised a participatory action process during which teachers were consulted in an effort to reduce implementation problems and to ensure the age and cultural appropriateness of the program (Dickens & Watkins, 1999; Stoecker, 1999; Gosin, Dustman, Drapeau & Harthun, 2003). The dissemination of effective prevention programs has been associated with a drop in their efficacy to reduce adolescent drug use with teachers preferring to focus on the teaching of drug knowledge rather than on the development of social resistance skills (Tobler et al, 2000). The acquisition of social skills is a key aim of both the alcohol harm minimisation and the social influence models of drug prevention (Hansen & McNeal, 1999; McBride et al, 2004). The most effective means of teaching social resistance skills is when prevention programs are delivered in an interactive teaching mode. Interactive teaching aims to stimulate the participation of all students in class activities and encourages student interactions as a means of learning new social skills.

However interactive teaching mode can be challenging for teachers who may be used to a didactic teaching style or one that requires passive student participation. As part of the development of the DAPPY:8 teachers were asked to provide feedback on an

initial draft of the program as a means of over coming any potential implementation problems. It was anticipated that incorporating teacher feedback in the prevention program would foster a sense of ownership and generate ways in which the interactive components of the program could be more easily delivered. The implementation evaluation focused on the method of delivery of the DAPPY:8 and was determined from teacher self reports of the overall amount of program delivered and on the balance between the interactive components compared with the non-interactive components.

School, Peer, Parental and Personality Influences

Generally school based prevention programs that focus mainly on addressing peer influence risk do not consistently change adolescent substance use behaviour (Gorman, 1996). The fourth study reported on the extent to which the relationship between peer and adolescent drug use was associated with parental influences (Li, Pentz & Chou, 2002), school connectedness (Kumpfer & Turner, 1991) and deviant disposition (Kaplan, Martin & Robbins, 1984). Parents who do not use substances and positive school environments have the capacity to create resilience against adolescent drug use (Bahr, Hoffman & Yang, 2005; Rasmussen, Damsgaard, Holstein, Poulsen & Due, 2005). Similarly adolescents who have a secure sense of attachment to family and school are least likely to engage in deviant behaviours such as substance use (Jessor et al, 2003). The social influence and the harm minimisation models of adolescent drug prevention attempt to change the more proximal influence of peers. This is often at the neglect of more distal family and school influences.

In this study the risk factors of school connectedness, parental drug use, deviance, felt rejection, and peer substance use were investigated using structural equation modelling. It is generally held that the strongest proximal influence on adolescent drug use is that of peers and this variable was designated as a mediator (Hawkins, Catalano & Miller, 1992). Specifically it was hypothesised that the relationship between peer and adolescent substance use would be related to the combined level of adult substance use, school connectedness, deviant disposition and felt rejection. Separate models were constructed for each of the three substances and the results were reported both in terms of the direct and indirect effects of the five risk variables on adolescent substance

Parental Substance Use as a Moderator of Social Influence Risk

The final study examined more closely the prominent role of parental substance use investigated in the previous study and its effect on a number of social predictors of adolescent substance use. Of special interest was the extent to which parental substance use moderated the effects of drug refusal self-efficacy (Petraitis, Flay & Miller, 1995), peer normative expectations (D'Amico, & McCarthy, 2006) and expectancies (Scheier & Botvin, 1997). Positive expectancies or favourable attributes associated with drug use can be acquired through social influences and can lead to adolescent use. These three variables are typically addressed in interventions employed in many social influence prevention programs (Cuijpers, 2002) and the study aimed to identify the extent to which they are associated with parental substance use. The model also investigated the components of peer influence substance use that could be attributed to parental use through a comparison of the direct and indirect paths leading to adolescent use. Finally

deviance or the willingness of some adolescents to endorse deviant attitudes (Kaplan, Martin & Robbins, 1984) was studied for its association with adult substance use.

This dissertation set out to explore a number of themes associated with adolescent drug and alcohol prevention among culturally diverse Northern Australian adolescents. It was undertaken because important differences are often associated with specific cultural groups and local knowledge is often needed as a means of informing effective prevention programs. In consultation with teachers a new universal school drug prevention program based on the social influence and alcohol harm minimisation models was developed and implemented. Implementation problems were identified and quality and quantity of program delivery was evaluated. Additionally three descriptive studies explored variables representing risk and protection for adolescent substance use. These three studies explored the influence of cultural identity, parental and peer substance use, school connectedness and other social influence factors on adolescent drug use. They were undertaken because peer influence risk often dominates prevention efforts and these studies sought to identify influences originating in the domains of the family, the school, culture and the personality.

References

- Bankston, C.L., & Zhou, M. (1997). Valedictorians and delinquents: The bifurcation of Vietnamese American youth. *Deviant Behavior, 18*(4), 343-364.
- Brady, M. (1992). *Heavy metal: the social meaning of petrol sniffing in Australia*. Canberra: Aboriginal Studies Press.

- Bahr, S. J., Hoffmann, J. P., & Yang, X. (2005). Parental and peer influences on the risk of adolescent drug use. *Journal of Primary Prevention, 26*(6), 529-551.
- Botvin, G.J., Griffin, K.W., Diaz, T., & Ifill-Williams, M. (2001). Drug abuse prevention among minority adolescents: Posttest and one-year follow-up of a school-based preventive intervention. *Prevention Science, 2*(1), 2001, 1-13.
- Cuijpers, P. (2002). Effective ingredients of school-based prevention programs: A systematic review. *Addictive Behaviors, 27*, 1009-1023.
- D'Amico, E.J., & McCarthy, D.M. (2006). Escalation and initiation of younger adolescents' substance use: The impact of perceived peer use. *Journal of Adolescent Health 39*, 481-487.
- Dickens, L., & Watkins, K. (1999). Active research: Rethinking Lewin. *Management Learning, 30*, 127-140.
- Ellickson, P.L., Tucker, J.S., Klein, D.J., & McGuigan, K.A. (2001). Prospective risk factors for alcohol misuse in late adolescence. *Journal of Studies on Alcohol, 62*(6), 773-782.
- Engels, R.C.M.E., Hale, W.W.III., Noom, M., & De Vries, H. (2005). Self-efficacy and emotional adjustment as precursors of smoking in early adolescence. *Substance Use & Misuse 40*(12), 1883-1893.

Evans, R.I. (1976). Smoking in children: Developing a social psychological strategy of deterrence. *Preventive Medicine, 5*, 122-127.

Gorman, D.M. (1996). Etiological theories and the primary prevention of drug use. *Journal of Drug Issues, 26*(2), 505-520.

Gosin, M.N., Dustman, P.A., Drapeau, A.E., & Harthun, M.L. (2003). Participatory Action Research: creating an effective prevention curriculum for adolescents in the Southwestern US. *Health Education Research, 18*(3), 363-379.

Hansen, W.B., & McNeal, R.B. (1999). Drug education practice: results of an observational study. *Health Education Research, 14*(1), 85-97.

Hawkins, J.D., Catalano, R.F., & Miller, J.Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64-105.

Jessor, R., & Jessor, S.L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.

Jessor, R., Turbin, M.S., Costa, F.M., Dong, Q., Zhang, H., & Wang, C. (2003). Adolescent Problem Behavior in China and the United States: A Cross-National

- Study of Psychosocial Protective Factors. *Journal of Research on Adolescence*, 13(3), 329-360.
- Juvonen, J., Martino, S.C., Ellickson, P.L., & Longshore, D. (2007). "But Others do it!": Do misperceptions of schoolmate alcohol and marijuana use predict subsequent drug use among young adolescents? *Journal of Applied Social Psychology*, 7(4), 740-758
- Kandel, D. (1974). Inter- and intragenerational influences on adolescent marijuana use. *Journal of Social Issues*, 30, 107-135.
- Kaplan, H.B., Martin, S.S., & Robbins, C. (1984). Pathways to adolescent drug use: Self-derogation, peer influence, weakening of social controls, and early substance use. *Journal of Health and Social Behavior* 25(3), 270-289.
- Kumpfer, K.L., & Turner, C.W. (1990/1991). The social ecology model of adolescent substance use: implications for prevention. *The International Journal of the Addictions*, 25(4A), 435-463.
- Li, C., Pentz, M., & Chou, C. (2002). Parental substance use as a modifier of adolescent substance use risk. *Addiction*, 97(12), 1537-1550.

- Marsiglia, F.F., Kulis, S., & Hecht, M.L. (2001). Ethnic labels and ethnic identity as predictors of drug use among middle school students in the southwest. *Journal of Research on Adolescence, 11(1)*, 21-48.
- McCluskey, C.P., Krohn, M.D., Lizotte, A.J., & Rodriguez, M.L. (2002). Early substance use and school achievement: An examination of Latino, White, and African American youth. *Journal of Drug Issues, 32(3)*, 921-943.
- Midford, R. (2006). Looking to the future: Providing a basis for effective school drug education. In R. Midford & G. Munro (Eds.), *Drug education in schools: Searching for the silver bullet*. IP Communications: Melbourne.
- McBride, N., Farringdon, F., Midford, R., Meuleners, L., & Phillips, M. (2004). Harm minimization in school drug education: Final results of the School Health and Alcohol Harm Reduction Project (SHAHRP). *Addiction, 99*, 278-291.
- Midford, R., & McBride, N. (1999). Evaluation of a national school drug education program in Australia. *International Journal of Drug Policy, 10*, 177-193.
- Oetting, G.R., & Beauvais, F. (1991). Orthogonal cultural identification theory: The cultural identification of minority adolescents. *International Journal of the Addictions, 25(5-A-6-A)*, 655-685.

- Orlando, M., Tucker, J.S., Ellickson, P.L., & Klien, D.J. (2004). Developmental trajectories of cigarette smoking and their correlates from early adolescence to young adulthood. *Journal of Consulting and Clinical Psychology, 72*(3), 400-410.
- Petraitis, J., Flay, B.R., & Miller, T.Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychological Bulletin, 117*(1), 67-86.
- Phinney, J.S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7*(2), 156-176.
- Rasmussen, M., Damsgaard, M.T., Holstein, B.E., Poulsen, L.H., & Due, P. (2005). School connectedness and daily smoking among boys and girls; the influence of parental smoking norms. *European Journal of Public Health, 15*(6), 607-612.
- Roberts, R. E., Phinney, J.S., Masse, I.C., Chen, Y.R., Roberts, C.R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *Journal of Early Adolescence, 19*(3), 301-322.
- Scheier, L.M., & Botvin, G.J. (1997). Expectancies as the mediators of effects social influences and alcohol knowledge on adolescent alcohol use: A prospective analysis. *Psychology of Addictive Behaviors, 11*(1), 48-64.

Tobler, N.S., Roona, M.R., Ochshorn, P., Marshall, D.G., Streke, A.V., & Stackpole, K.M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention, 20(4)*, 275-336.

Tobler, N.S., & Stratton, H.H. (1997). Effectiveness of school-based drug prevention programs: A meta-analysis of the research. *Journal of Primary Prevention, 18(1)*, 71-128.

Tucker, J.S., Ellickson, P.L., Orlando, M., Martino, S.C., & Klein, D.J. (2005). Substance Use Trajectories From Early Adolescence to Emerging Adulthood: A Comparison of Smoking, Binge Drinking, and Marijuana Use. *Journal of Drug Issues, 35(2)*, 307-332.

Cultural Identity and Peer Influence as Predictors of Substance Use among
Culturally Diverse Australian Adolescents

Abstract

This study investigated cultural identity and peer influence on tobacco, alcohol and cannabis use in a culturally diverse sample of Northern Australian adolescents. Middle school students ($n = 274$) completed the Multigroup Ethnic Identity Measure (MEIM) and measures of their own and perceived friends' substance use. Higher scores on the full scale MEIM indicating stronger cultural identity were found to be independently protective of Indigenous and Non-Indigenous alcohol initiation. More friends using substances was associated with increased substance use risk for both cultural groups. A factor analysis of the MEIM identified a two factor structure, consisting of Affirmation/Belonging and Participation/Exploration. Few significant associations were found between the MEIM factors and cultural group substance use. Interactions between the MEIM factors and friends' substance use indicated the two factors acted in the same way and decreased Non-Indigenous alcohol initiation for up to four drinking friends, but were associated with risk for Indigenous alcohol initiation with any number of drinking friends.

Keywords: Ethnic identity, peer influence, adolescent substance use, cross cultural differences

Cultural Identity and Peer Influence as Predictors of Adolescent Substance Use

The contemporary history of Australia's Indigenous people has been characterized by attempts to revive traditional cultures. These efforts undertaken as a counter to forced assimilation and destruction of traditional ways of life underscore the importance that cultural heritage plays for an Indigenous sense of well-being. In some studies of North American minority adolescents pride in one's culture has been associated with positive health outcomes (Roberts, Phinney, Masse, Chen, Roberts & Romero, 1999), protection against drug and alcohol misuse (Kulis, Napoli & Marsiglia, 2002; Marsiglia, Kulis & Hecht, 2001) and delinquency (French, Kim & Pillado, 2006). However studies using alternative definitions of cultural identity have found identification with minority status to be associated with increased drug and alcohol use (Brady, 1992; Marsiglia et al. 2001; Oetting & Beauvais, 1992). The aims of this study were firstly to examine the effect of cultural identity on tobacco, alcohol and cannabis use among Indigenous and other Australian adolescents, utilizing a comprehensive measure of ethnic identity (Roberts et al. 1999). Secondly the level of risk or protection offered by cultural identification was explored among interactions with peer influence. Peer influence is a well documented risk factor for adolescent drug use (Hawkins, Catalano & Miller, 1992) and identifying confounding effects with cultural identity would have important implications for drug prevention.

Adolescence marks the psychological and social transition from childhood to emerging adulthood. It has typically been the developmental period targeted for

prevention efforts that seek to discourage or delay drug and alcohol involvement (Hawkins, Catalano & Miller, 1992). Early initiation of substance use is both a marker of a range of associated adolescent problems and a predictor of later misuse. Early onset cigarette smoking was a predictor of high levels of adult smoking (Orlando, Tucker, Ellickson & Klien, 2004) while early drinking predicted problem drinking five years later (Ellickson, Tucker, Klein & McGuigan, 2001). Early use of alcohol has been associated with problems with authority figures, use of other drugs and engaging in early sexual activity (Jessor & Jessor, 1977, Iacono, Malone and McGue, 2003). A study of multicultural groups in North America found alcohol and drug use in adolescence to be an independent influence in the failure to complete high school in White and African American males (McCluskey, Krohn, Lizotte & Rodriguez, 2002).

In comparison with Non-Indigenous Australians, Aboriginal and Torres Strait Islander people representing 2% of the population are more likely to report substance misuse (Australian Institute of Health and Welfare [AIHW], 2007). Indigenous people smoke at twice the rate of others; are more likely to drink at hazardous levels even though fewer report alcohol use; and are twice as likely to use illicit drugs. Of concern is the elevated risk of early onset and risky substance use to Indigenous adolescents within these populations given the overrepresentation of Indigenous role models who smoke and engage in risky alcohol-related behaviour. One of the consequences of alcohol misuse is the disturbingly high levels of reported alcohol-related family violence in remote and impoverished Aboriginal communities (Robertson, 2000; Stanely, Kovacs, Tomison & Cripps, 2002). Although a number of these communities now have in place strict alcohol

management plans, the problem continues in Australia's remote regions and images and descriptions of dysfunctional alcohol-devastated communities are regularly portrayed in the national media. While the Indigenous participants in this study are not from these remote communities and were recruited from high schools in rural, urban and predominately Non-Indigenous centres, it is not clear how the impact of these images may be affecting a young Indigenous person's sense of identity and their attitudes towards alcohol.

The literature from North America examining the effect of cultural and ethnic identity on substance use among colonized native, immigrant and minority populations supports a protective role but is characterized by differing definitions. In studies of Mexican Americans, other Latinos, American Indians, African Americans, non-Hispanic Whites, and other adolescents of mixed ethnic backgrounds, those with strong ethnic affiliation, attachment, and pride reported less substance use and stronger anti-drug norms (Kulis et al. 2002; Marsiglia, Kulis, Hecht & Sills 2004; Marsiglia et al. 2001). Among Native Hawaiians, strong ethnic pride was a protective factor against involvement in violence and early alcohol, marijuana and methamphetamine use (Austin, 2004). Immigrant Vietnamese youth who showed a preference for non-Vietnamese friends and a dislike of Vietnamese culture were more likely to be delinquent and use more drugs and alcohol, when compared with non-delinquents who were well integrated in their own culture (Bankston & Zhou, 1997). Ethnic identity mediated by family variables lessened drug use in African American youth (Brook, Balka, Brook, Win & Gursen, 1998). Cultural knowledge, active cultural participation, attachment and

identification with culture offset drug use risk in Puerto Rican youth (Brook, Whiteman, Balka, Win & Gursen, 1998). On the other hand African Americans, Mexican Americans and others of mixed ethnicity who viewed their behavior, speech and looks as being consistent with their cultural group reported higher drug use and exposure (Marsiglia et al. 2001). Similarly, culture as defined by participation in ceremonies and language spoken did not protect against petrol sniffing in Australian Aboriginal communities (Brady, 1992). In this study the prevalence of petrol sniffing was less common in communities that had a long association with the cattle industry and where young men were gainfully employed.

The mixed findings in identifying a consistently positive relationship between cultural or ethnic identity and anti-drug behavior may be associated with difficulties in definition and measurement. Participation in cultural practices and spoken language may not necessarily be synonymous with a sense of pride in one's culture or an attitude of self-empowerment that could counter feelings of victimization or poor self-esteem associated with minority group status (Oetting & Beauvais, 1991). The Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) was developed to better reflect subjective attitudes towards one's culture that may account for a higher level of protection against delinquency and drug use. Two constructs have been identified in the MEIM measuring *affirmation/belonging* and *exploration/participation*. The first of these constructs has been influenced by social identity theory (Tajfel & Turner, 1986) and reflects commitment, belonging, pride and good feelings towards one's ethnic group. By way of contrast to the subjective sense of belonging is that of exploration, meaning the

process by which one's group identity is discovered through active participation in behaviors, spoken language and other practices unique to the cultural group. In a diverse sample of young adolescents, high scores on the MEIM were positively associated with a range of measures of well-being including coping ability, mastery, self-esteem and optimism, and negatively related to loneliness and depression (Roberts et al. 1999). In addition the MEIM was designed to be administered to diverse groups hence facilitating the examination of ethnic identity as a general phenomenon.

In reviewing early studies of North American minority youth Oetting and Beauvais (1991) noted that the relationship between substance use and cultural identification was equivocal and complex when compared with other measures of well-being such as self-esteem and school adjustment. They hypothesized that peer influence was an important element in explaining findings that did not favour cultural identification as being protective of substance use. The literature identifying peer influence as a risk factor for adolescent use is now quite substantial (Bahr, Hoffmann & Yang, 2005; Bandura, 1999; Li, Pentz & Chou, 2002; Wood, Read, Mitchell, Brand, 2004). In this study perceived peer substance use has been included as a means of isolating and comparing the predictive capacity of this risk factor on adolescent substance use alongside that of cultural identification.

The aims of this study were to investigate the interrelationships of cultural identity and peer influence on adolescent substance use in a diverse Australian sample. Initially the MEIM items were examined for their associations with adolescent cultural

group cigarette, alcohol and cannabis use. The full scale MEIM was then investigated alongside friends' substance use for its individual effect on cultural group substance use. A factor analysis was conducted and the factor structure of the MEIM in the current sample was compared with the two factors previously reported by Roberts and his colleagues (1999). The MEIM factors were then examined for their main effects with cultural group substance use. Finally interactions between friends' substance use and the MEIM factors were explored for their associations with adolescent cultural group substance use. It was expected that high cultural identity as measured by the aspects of the MEIM would be associated with reduced adolescent substance use. In addition higher numbers of friends who used substances were expected to increase adolescent substance use.

Method

Participants and Procedure

This study was conducted in Cairns (Queensland, Australia) and its regional area. Queensland has one of Australia's highest Indigenous populations (27%) and 15.3% of people living in Cairns are Aborigines and Torres Strait Islanders (Australian Bureau of Statistics, 2001). The subjects were students from schools that were recruited for their high proportion of Indigenous students (23%-63%). The data presented are part of a larger data set taken from surveys of Year 8 and Year 9 students conducted over a two year period commencing in 2004 (See Questionnaire in Appendix C). The surveys were used in the development of the Drug and Alcohol Abuse Prevention Program for Year 8 Students a pilot program for the prevention of adolescent cigarette, alcohol and cannabis

use in Far North Queensland. Surveys were administered across five public high schools and active student and parent consent procedures were used. Students were given a form to take home to parents requesting their participation and explaining the purpose of the project. A condition of ethics approval was that participation required signatures from both parties. School administrative staff was employed to telephone parents in an effort to encourage the return of forms. Consenting students who were present on the days of the surveys ($n = 274$, 36% participation rate) completed questionnaires administered by the first author in classroom settings. Students were assured of confidentiality and given a \$2.00 food voucher for their participation.

Participants had a mean age of 13.62 years (SD 0.67 years) with 17% of the students aged under 13 years, 60% aged between 13 and 14 years and 23% aged over 14 years (range 12-16). Females constituted 55% of the sample. Participants were presented with 16 cultural labels and asked to select the one with which they most identified. The proportions of respondents were Australians (43%), followed by Aborigines and Torres Strait Islanders (32%), South East Asians and Pacific Islanders (15%) and other Minorities (10%).

Measures

Cultural label. Information from school enrolments was used to compile a list of fifteen of the most common cultural or ethnic labels as well as the category of “Other.” Some labels identified broad cultural categories such as Asian Australian and Middle Eastern Australian whereas others were more specific such as Aboriginal Australian,

Torres Strait Islander Australian and Anglo Australian. All cultural labels had the word Australian appended to avoid marginalizing any group. Participants could also choose to identify themselves merely as Australian without further reference to their cultural origin. For the purpose of subsequent analyses Australians have been designated Non-Indigenous Australians ($n=119$), Aborigines, Torres Strait Islanders, South East Asians and Pacific Islanders have been labelled Indigenous Australians ($n=129$), and all others were designated Other Minorities ($n = 26$).

Cultural identity. The 12-item revised Multigroup Ethnic Identity Measure (MEIM; Roberts et al.1999) was modified for local use by firstly replacing references to ethnicity with those of culture (Appendix C). In Australia the term “ethnic” refers mainly to immigrants to this country, whereas “culture” is widely used by indigenous as well as immigrant peoples. Secondly the wording of the MEIM was modified to reflect the local idiom and simplified in consideration for the high proportion of students from non-English speaking backgrounds. As an example “I am active in organizations or social groups that include mostly members of my own ethnic group” was changed to “I take part in social groups that include mostly people of my own culture.” All items were positively worded and participants were asked to rate their agreement or disagreement to the statements on a four-point Likert scale ranging from 1 = *strongly disagree* through to 4 = *strongly agree*. High scores represented strong cultural identity. In this sample the reliability as assessed by Cronbach’s alpha was .85.

Cigarette, alcohol and cannabis use. Frequency of cigarette, alcohol and cannabis consumption was measured using a nine-point scale. This measure was taken from Griffin, Botvin, Nichols and Doyle (2003). Participants were asked how often (if ever) they had smoked cigarettes, drank alcohol or smoked marijuana. The response categories were 1 = *Never*; 2 = *A few times but not in the last year*; 3 = *A few times a year*; 4 = *Once a month*; 5 = *A few times a month*; 6 = *Once a week*; 7 = *A few times a week*; 8 = *Once a day*; 9 = *More than once a day*.

Friends' cigarette, alcohol and cannabis use. The number of friends who used each of the three substances was determined from the question "How many of your friends a) *Smoke cigarettes*; b) *Drink alcohol*; c) *Smoke marijuana*. The response categories were 1 = *None*; 2 = *One*; 3 = *Two*; 4 = *Three or four*; 5 = *Five to seven*; 6 = *Eight to ten*; 7 = *More than ten*. This measure was taken from Li, Pentz and Chou (2002).

Results

Substance Use by Cultural Group

The percentages of adolescents reporting any use of alcohol were Non-Indigenous Australians (76%), Indigenous Australians (50%) and other Minorities (80%). The percentages reporting any use of cigarettes were Non-Indigenous Australians (33%), Indigenous Australians (39%) and other Minorities (35%). The percentages reporting any use of cannabis were Non-Indigenous Australians (20%), Indigenous Australians (12%) and Other Minorities (20%). Fewer Indigenous Australian adolescents reported using alcohol than did Non-Indigenous Australians and Other Minorities, $\chi^2(df=16, n=274) =$

Table 1: Observed and Expected Frequencies of Cultural Group Substance Use for Non-Indigenous Australians ($n=119$), Indigenous Australians ($n=129$) and Other Minorities ($n=26$).

	Never	Few but not last year	Few year	Once month	Few month	Once week	Few week	Once day	More once day	Total	
Non-Indigenous	<i>Cig</i>	80(78.6)	15(15.2)	11(11.3)	4(1.7)	2(2.6)	0(0.9)	4(3.5)	1(0.4)	2(4.8)	119
Indigenous	<i>Cig</i>	84(85.2)	16(16.5)	12(12.2)	0(1.9)	4(2.8)	2(0.9)	3(3.8)	0(0.5)	8(5.2)	129
Other Minorities	<i>Cig</i>	17(17.2)	4(3.3)	3(2.5)	0(0.4)	0(0.6)	0(0.2)	1(0.8)	0(0.1)	1(1.0)	26
Total		181	35	26	4	6	2	8	1	11	274
Non-Indigenous	<i>Alc</i>	29(42.6)	20(20.8)	31(27.8)	13(7.8)	14(10.9)	5(3.5)	6(4.8)	0(0.4)	1(0.4)	119
Indigenous	<i>Alc</i>	64(46.1)	22(22.6)	26(30.1)	4(8.5)	7(11.8)	2(3.8)	3(5.2)	1(0.5)	0(0.5)	129
Other Minority	<i>Alc</i>	5(9.3)	6(4.6)	7(6.1)	1(1.7)	4(2.4)	1(0.8)	2(1.0)	0(0.1)	0(0.1)	26
Total		124	48	112	18	23	8	11	1	1	274
Non-Indigenous	<i>Can</i>	95(99.8)	9(7.0)	5(3.9)	2(1.3)	2(2.6)	3(1.7)	2(1.3)	0(0.4)	1(0.9)	119
Indigenous	<i>Can</i>	114(108.2)	5(7.6)	4(4.3)	1(1.4)	1(2.8)	1(1.9)	1(1.4)	1(0.5)	1(0.9)	129
Other Minority	<i>Can</i>	20(21.0)	2(1.5)	0(0.8)	0(0.3)	3(0.5)	0(0.4)	0(0.3)	0(0.1)	0(0.2)	25
Total		229	16	9	3	6	4	3	1	2	274

Expected frequencies in brackets
Cig: Cigarettes; *Alc*: Alcohol; *Can*: Cannabis

30.968 $p < .05$. Table 1 reports the observed and expected frequencies of adolescent cultural group substance use.

Substance Use and Cultural Group MEIM Items

The first hypothesis was that lower substance use would be associated with higher cultural identity as measured by the MEIM items for the three cultural groups. Table 2 presents Spearman's correlation coefficients for the 12 MEIM items with each of the three measures of substance use across the three cultural groups. Spearman's rho was used because the dependant variable is an ordinal measure. The nine categories of the dependent variable measure were used for these analyses.

In general, mostly negative correlations between MEIM item scores and substance use, as well as a number of significant observations in the direction of the hypothesis, suggest cultural identity to some extent, to be protective of Non-Indigenous alcohol and cannabis use, Indigenous alcohol use and Other Minority cigarette use. A notable exception was Indigenous cigarette use. Mostly positive correlations with MEIM items and a significant observation for spending time to learn about one's culture indicated that cultural identity to an extent, was associated with higher Indigenous smoking. Alternatively having a clear sense of cultural background, participating in cultural practices and feeling good about one's culture were protective of Non-Indigenous alcohol and cannabis use. Pride in one's cultural group and participating in cultural practices were also protective of Other Minority cigarette smoking.

Table 2: Correlations Between the 12-item Multigroup Ethnic Identity Measure (MEIM) and Adolescent Cigarette, Alcohol and Cannabis Use for Non-Indigenous Australians ($n=119$), Indigenous Australians ($n=129$) and Other Minorities ($n=26$).

Item	Non-Indigenous			Indigenous			Other Minority		
	Cig ^a	Alc ^b	Can ^c	Cig	Alc	Can	Cig	Alc	Can
1. Spend time to learn	-.032	-.028	-.042	.194*	-.067	.074	-.476	-.140	-.424
2. Active in cultural organizations	.030	-.019	-.012	.165	-.078	.184	-.106	.091	.171
3. Clear sense of cultural background	-.037	-.258***	-.185*	.119	-.033	.098	-.194	-.069	-.333
4. Think about group membership	.089	.028	.018	.072	-.066	.070	-.271	.037	-.332
5. Happy to be a member	.042	-.112	-.047	.048	-.147	-.116	-.079	.047	.127
6. Sense of belonging to group	.060	-.038	-.082	.066	-.093	-.111	-.295	-.053	.032
7. Understand group membership	.048	-.088	-.218*	.090	-.024	-.011	-.283	.107	-.179
8. Talked to others about group	.001	.058	-.066	.048	-.085	-.044	-.314	.077	-.274
9. Pride in cultural group	-.030	-.094	-.123	.168	-.063	.033	-.421*	-.052	-.189
10. Participate in cultural practices	-.056	-.182*	-.184*	.118	-.054	.011	-.464*	.167	-.166
11. Strong attachment to group	-.061	.058	.142	-.049	-.143	-.020	-.201	.195	-.098
12. Feel good about culture	-.004	-.191*	-.252***	.097	-.034	-.043	.073	.205	.183

* $p < .05$, ** $p < .001$.

^aCig: Cigarettes; ^bAlc: Alcohol; ^cCan: Cannabis

Effect of Full Scale MEIM and Friends' Substance Use on Cultural Group Substance Use

The effect of the full scale MEIM and friends' substance use on cultural group substance use are reported in Table 3. Summed MEIM scores were entered together with number of substance using friends in each logistic regression analysis. As hypothesized increases in the number of substance using friends were associated with increases in Indigenous and Non-Indigenous adolescent use of all three substances. Alternatively strong scores on the MEIM were independently protective of alcohol initiation for Non-Indigenous (OR= -0.9: 95%CI=0.7-1.0) and Indigenous youth (OR= -0.9: 95%CI=0.8-0.9).

Exploratory Factor Analysis MEIM

An exploratory factor analysis of the MEIM items was conducted on the complete data set ($n = 274$). To examine the underlying factor structure of the MEIM, principal axis factoring (PAF) with oblique rotation was undertaken. Given the expectation of correlations between factors, an oblique rotation was indicated. A criterion of > 0.40 was used to define variables within factors (Thompson, 2004). A two factor solution was obtained reflecting the social identity and developmental components of cultural identity. The two factor solution closely resembled Roberts, et al. (1999) model with Factor 1 consisting of six items that are said to reflect affirmation, belonging and commitment (Eigenvalue = 4.89, variance explained = 40.49%) and Factor 2 consisting of six items reflecting cultural exploration and participation (Eigenvalue = 1.34, variance explained = 11.19%). The exception to Robert's study was that Item 3 loaded on Factor 2. Item 2 marginally fell below the .4 cut-off (Factor 1 .392, Factor 2 -.013), however given the

Table 3: Main Effects of MEIM and Friends' Substance Use on Adolescent Cultural Group Substance Use.

Predictor	Adolescent Substance Use					
	Cigarettes		Alcohol		Cannabis	
	OR ^a	95% CI ^b	OR	95% CI	OR	95% CI
Non Indigenous (<i>n</i> =119)						
Friends' Substance Use	1.8***	1.4-2.3	1.7***	1.3-2.3	1.8**	1.3-2.5
MEIM	1.0	0.9-1.1	-0.9**	0.7-1.0	-0.9	0.8-1.0
Indigenous (<i>n</i> =129)						
Friends' Substance Use	1.6***	1.2-2.1	1.4**	1.2-1.7	1.4*	1.0-2.0
MEIM	-1.0	0.9-1.1	-0.9**	0.8-0.9	-0.9	0.8-1.1
Other Minority (<i>n</i> =26)						
Friends' Substance Use	§ -	-	1.1	0.6-1.8	1.6	0.5-5.2
MEIM	§ -	-	-0.9	0.8-1.2	-0.6	0.2-1.9

¶ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

^aOR: odds ration. ^b95% CI: 95% confidence interval of odds ratio.

§ No estimates due to small cell numbers.

Substance Use: 0 = No use; 1 = Use.

Predictor variables entered into logistic regression analysis as a pair.

Table 4: Factor Loadings, Exploratory Factor Analysis of the Multigroup Ethnic Identity Measure (MEIM) Items for 274 Adolescents (43.4% Non-Indigenous Australians, 47.1% Indigenous Australians and 9.5% Other Minorities)

<i>Item</i>	<i>^aFactor 1</i>	<i>^bFactor 2</i>
9. Pride in cultural group	.748	.551
5. Happy to be a member	.711	.304
12. Feel good about culture	.689	.462
11. Strong attachment to group	.656	.554
6. Sense of belonging to group	.653	.468
7. Understand group membership	.631	.621
1. Spend time to learn	.304	.683
8. Talked to others about group	.372	.677
4. Think about group membership	.336	.600
3. Clear sense of cultural background	.404	.554
10. Participate in cultural practices	.443	.495
2. Active in cultural organizations	.227	.399

^aFactor 1: Items 5, 6, 7, 9, 11, 12, reflect affirmation / belonging

^bFactor 2: Items 1, 2, 3, 4, 8, 10, reflect exploration / participation

Items numbered as per Table 2.

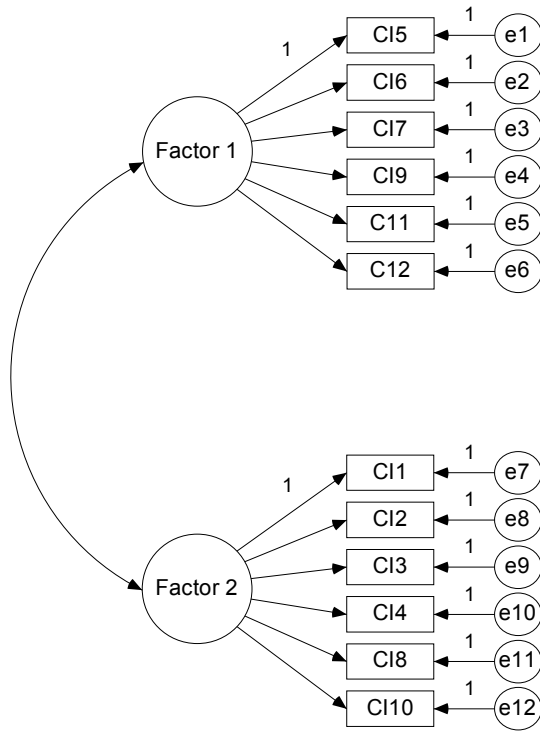
substantially higher loading on Factor 1 and the conceptual appropriateness of the Factor 1 cluster, the imposed criterion cut-off (.40) was relaxed for this item. Factor 1 was subsequently named *Affirmation/Belonging* and Factor 2 *Participation/Exploration*. Table 4 reports the factor loadings of the 12 items of the MEIM following PAF. There was a significant moderate correlation ($r = .62, p < .01$) between Factor 1 and Factor 2, representing overlapping but distinct constructs. Internal reliability for Factor 1 was .84 and Factor 2 was .74.

Multi-group Confirmatory Factor Analysis

Evaluation of the consistency of the measurement model across Indigenous and Non-Indigenous groups was undertaken using multi-group factor analysis (Arbuckle & Wothke, 1999). In this analysis Other Minority (n=26) student data were omitted due to factor analysis becoming unreliable with small group numbers (Tabachnick & Fidell, 2007). In order to test the reliability of the measurement model, it was necessary to verify that the 12 measurement variables written to reflect the two latent constructs did so in a statistically reliable manner. Figure 1 presents the measurement model (for Indigenous and Non-Indigenous respondents), with the two latent variables and their respective measurement indicators. For this model, all factor loadings were freed, items were allowed to load on only one factor, and the two factors were allowed to correlate.

Multi-group confirmatory factor analysis (CFA), via structural equation modeling, was employed to determine the consistency of the model across Indigenous and Non-Indigenous respondents. The following sequence of hypotheses was developed to

Figure 1: Measurement model for Indigenous and Non-Indigenous respondents



CI 1-12: MEIM Items 1-12

Factor 1: Affirmation / Belonging

Factor 2: Exploration / Participation

explore differences between the Indigenous and Non-indigenous measurement models:

(a) The models have the same form (i.e., the same pattern of fixed and free parameters);

(b) the factor loadings are identical (invariant) across groups. In determining the consistency of the model across these two groups, the model was first specified to have the same pattern of fixed and free parameters for Indigenous and Non-Indigenous respondents, but allowed these parameters to be estimated separately within each group.

Results indicated that this unconstrained model fitted the data well. Although the overall chi-square value was significant, $\chi^2(df=106, n=274) = 214.89, p < .001$, the incremental fit indices (Normed Fit Index – NFI, Incremental Fit Index – IFI, Tucker-Lewis Index – TLI, Comparative Fit Index – CFI) are close to 0.90 (range: 0.81 – 0.89). The Root Mean Square Error of Approximation (RMSEA) yielded a parsimony adjusted index of 0.06, with the 90% confidence interval being 0.05 to 0.07. These fit indices indicated that the model provided (1) a reasonable fit relative to a null or independence model, and (2) a good fit relative to the population co-variance matrix. Together, these indices support the hypothesized structure of the model posited for the Indigenous and Non-Indigenous respondents.

The preceding model specified the same pattern of fixed and free parameters for indigenous and non-indigenous respondents, but estimated these parameters separately within each group. The next series of analyses involved constraining the factor loadings to be invariant for these two groups. Results from the analysis indicated that this constrained model also fitted the data well. Although the overall chi-square was significant, $\chi^2(df=117, n=274) = 223.92, p < .001$, the incremental fit indices (NFI, IFI,

TLI, CFI) are close to 0.90 (range: 0.80 – 0.89). For this model, The RMSEA index was 0.06, with the 90% confidence interval being 0.05 to 0.07. Results of a chi-square difference test yielded no significant difference in fit between the unconstrained and constrained models, $\chi^2(df=11, n=274) = 9.03, p>.05$. This finding indicated that there were no significant differences in the items' factor loadings for Indigenous and Non-Indigenous respondents. This was confirmed by the calculation of critical ratios for pairwise differences among all factor loadings in the model. The critical ratio for a pair of estimates provides a test of the hypothesis that the two parameters are equal (Arbuckle & Wothke, 1999). The results showed no significant group differences for any of the factor loadings ($< \pm 1.96, p>.05$).

The standardized regression weights, residual and explained variances for the two-factor model (for Indigenous and Non-Indigenous respondents) are presented in Table 5. The standardized regression coefficients (factor loadings) for the measurement variables were all positive and significant by the critical ratio test, $p<.05$. Standardized loadings ranged from 0.53 to 0.78 ($M = 0.66$) for Indigenous respondents and from 0.29 to 0.75 ($M = 0.52$) for Non-Indigenous respondents. These values indicated that each measurement variable was adequately related to the latent variable it was hypothesized to measure. For the Indigenous respondents, the percentage of residual (unexplained) variances for the 12 measurement variables ranged from 39% (i.e., 61% of the variance explained) (Item 9) to 71% (i.e., 29% of the variance explained) (Item 2, Item 4). For the Non-Indigenous respondents, the percentage of residual (unexplained) variances for the

Table 5: Standardized Regression Weights, Residual Variances, and Explained Variances for the Two-Factor Measurement Variables

Parameter	Standardized Regression Weights		Residual Variances		Explained Variances	
	^a Indig	^b Non-Indig	Indig	Non-Indig	Indig	Non-Indig
<u>Factor 1</u> →						
Happy to be a member	0.58	0.61	0.66	0.63	0.34	0.37
Sense of belonging to group	0.69	0.63	0.52	0.60	0.48	0.40
Understand group membership	0.73	0.65	0.46	0.57	0.54	0.43
Pride in cultural group	0.78	0.75	0.39	0.44	0.61	0.56
Strong attachment to group	0.71	0.68	0.50	0.54	0.50	0.46
Feel good about culture	0.67	0.68	0.56	0.53	0.44	0.47
<u>Factor 2</u> →						
Spend time to learn	0.63	0.64	0.60	0.59	0.40	0.41
Active in cultural organizations	0.54	0.29	0.71	0.92	0.29	0.08
Clear sense of cultural background	0.56	0.63	0.69	0.61	0.31	0.39
Think about group membership	0.53	0.63	0.71	0.61	0.29	0.39
Talked to others about group	0.62	0.65	0.62	0.58	0.38	0.42
Participate in cultural practices	0.55	0.47	0.70	0.78	0.30	0.22

Factor 1: Affirmation / Belonging

Factor 2: Exploration / Participation

^aIndig: Indigenous

^bNon-Indig: Non-Indigenous

12 measurement variables ranged from 44% (i.e., 56% of the variance explained) (Item 9) to 92% (i.e., 8% of the variance explained) (Item 2).

Effect of MEIM Factors on Cultural Group Substance Use

The main effects of the MEIM factors on adolescent cultural group substance use were examined in logistic regression models (Table 6). The MEIM factors of *affirmation/belonging* and *exploration/participation* were each summed and entered as a pair into each analysis. Adolescent substance use was dichotomized into 0 = *No Use* and 1 = *Use* indicating either no use or any use of a substance respectively. The main effects of the MEIM factors were mostly not significant. The exception was Factor 1 signifying *affirmation/belonging* and was found to be protective of Non-Indigenous adolescent cannabis use (OR= -0.8: 95%CI=0.7-1.0). Marginal results were observed for Factor 2 signifying *participation/exploration* with reduced Non-Indigenous alcohol initiation (OR= -0.8: 95%CI=0.7-1.0) and reduced Other Minority cannabis initiation (OR= -0.5: 95%CI=0.2-1.1). However a marginal result associated with risk for *participation/exploration* was observed for Indigenous cigarette use (OR=1.2: 95%CI=1.0-1.2).

Interaction Effects between MEIM Factors and Friends' Substance Use

To test interactions between the MEIM factors and friends' substance use on adolescent use, logistic regression analyses for each substance and cultural group were conducted (Table 7). Adolescent substance use was dichotomized into 0 = *No Use* and 1 = *Use* indicating either no use or any use of a substance respectively. Three dummy

Table 6: Main Effects of MEIM Factors on Adolescent Cultural Group Substance Use.

Predictor	Adolescent Substance Use					
	Cigarettes		Alcohol		Cannabis	
	OR ^a	95% CI ^b	OR	95% CI	OR	95% CI
Non Indigenous (<i>n</i> =119)						
Factor 1	-1.0	0.8-1.2	-1.0	0.8-1.2	-0.8*	0.7-1.0
Factor 2	1.0	0.9-1.2	-0.8	0.7-1.0¶	1.0	0.8-1.3
Indigenous (<i>n</i> =129)						
Factor 1	-1.0	0.8-1.1	-0.9	0.8-1.1	-0.9	0.7-1.1
Factor 2	1.2¶	1.0-1.3	-0.9	0.8-1.1	1.2	0.9-1.5
Other Minority (<i>n</i> =26)						
Factor 1	-1.0	0.6-1.5	-0.9	0.8-1.1	1.4	0.8-2.5
Factor 2	-0.7	0.4-1.1	-0.9	0.8-1.1	-0.5¶	0.2-1.1

¶*p* < .10, **p* < .05, ***p* < .01, ****p* < .001.^aOR: odds ration. ^b95% CI: 95% confidence interval of odds ratio.

§ No estimates due to small cell numbers.

Substance Use: 0 = No use; 1 = Use.

Predictor variables entered into logistic regression analysis as a pair.

variables were created for friends' substance use to represent three categories (none, one to four friends and five to 10+ friends).

Among Non-Indigenous students high scores on both cultural identity factors were protective of alcohol use for those with no drinking friends and for those with as many as four friends. In this cultural group strong *affirmation/belonging* was associated with no cannabis use for those with no cannabis using friends. However cannabis users with up to four cannabis using friends also scored high on the *affirmation/belonging* factor.

Among Indigenous students both cultural factors were highly protective of alcohol use for non-drinkers with no drinking friends. However high scores on the MEIM factors were associated with risk of Indigenous alcohol initiation for any number of drinking friends. *Affirmation/belonging* was observed to be protective of cannabis initiation with no cannabis using friends. Among Other Minority students *exploration/participation* was associated with smoking risk for those with one to four smoking friends.

Table 7: Interaction Effects of MEIM Factors and Friends' Substance Use on Adolescent Cultural Group Substance Use

		Adolescent Substance Use					
		Cigarettes		Alcohol		Cannabis	
		OR ^a	95% CI ^b	OR	95% CI	OR	95% CI
Non Indigenous (n=119)							
Factor 1	None	-0.9	0.8-1.1	-0.8**	0.6-0.9	-0.7*	0.6-0.9
	1-4 friends	-1.0	0.8-1.1	-0.8*	0.7-1.0	0.8*	0.7-1.0
	5-10+ friends	1.1	0.8-1.2	0.8¶	0.7-1.0	-0.7	0.7-1.1
Factor 2	None	-1.0	0.8-1.2	-0.8**	0.6-0.9	-0.8¶	0.6-1.0
	1-4 friends	1.0	0.8-1.2	-0.8*	0.6-1.0	-0.9	0.7-1.1
	5-10+ friends	1.2	1.0-1.4	0.9¶	0.7-1.0	1.0	0.8-1.3
Indigenous (n=129)							
Factor 1	None	-0.3	0.0- .	-0.8**	0.7-0.9	-0.7*	0.5-1.0
	1-4 friends	-0.9	0.8-1.1	0.8*	1.7-1.0	-0.8	0.6-1.1
	5-10+ friends	-1.0	0.8-1.1	0.8*	0.7-1.0	-0.8	0.7-1.0
Factor 2	None	-0.2	0.0- .	-0.8**	0.7-0.9	-0.8	0.6-1.1
	1-4 friends	0.9	0.8-1.1	0.8*	0.7-1.0	-1.0	0.8-1.2
	5-10+ friends	1.0	0.8-1.2	0.8*	0.7-1.0	-1.0	0.8-1.2
Other Minorities (n=26)							
Factor 1	None	-0.1	0.0- .	1.2	0.0- .	-0.2	0.0- .
	1-4 friends	-0.3	0.1-1.4	-0.4	0.1-2.4	-0.8	0.4-1.4
	5-10+ friends	-0.3	0.1-1.3	-0.5	0.1-2.0	-0.8	0.4-1.6
Factor 2	None	-0.1	0.0- .	3.0	0.0- .	-0.1	0.0- .
	1-4 friends	0.5*	0.2-1.0	-0.7	0.4-1.4	-0.4	0.1-1.5
	5-10+ friends	0.5	0.3-1.0	-0.9	0.5-1.5	-0.5	0.2-1.4

For each cultural identity factor the three categories of friends substance use were entered together into logistic regression analyses

¶ $p < .10$, * $p < .05$, ** $p < .01$.

^aOR: odds ration. ^b95% CI: 95% confidence interval of odds ratio.

Discussion

This study utilized the Multigroup Ethnic Identity Measure to investigate the effect of cultural identity on adolescent substance use in a diverse Australian sample. Few MEIM items were significantly associated with cultural group substance use and most of these were for Non-Indigenous Australians. Items reflecting positive feelings, knowledge and participation in one's culture were found to be protective of Non-Indigenous alcohol and cannabis use and Other Minority cigarette use. Contrary to the direction of the hypothesis, spending time to learn about one's culture was associated with risk for Indigenous adolescent smoking. These findings support an earlier observation by Oetting and Beauvais (1991) that there is no simple link between recreational drug use and cultural identification. In order to further explore these results three additional lines of inquiry were undertaken. First the MEIM was investigated alongside peer substance use for its relative association with cultural group substance use. Second the MEIM factors were explored for their individual direct effects on adolescent cultural group substance use. Finally the interactions between the MEIM factors and peer substance use were tested.

Cultural identity is generally a positive influence in adolescent development whereas early initiation of drug use is considered a health risk and rejected in most cultures. In instances where cultural identity has been positively associated with adolescent drug use, one explanation may be peer influence risk (Oetting & Beauvais, 1991). A comparison of the relative influences of cultural identity with the effect of substance using peers confirmed the dominant role of the latter as a risk for all three

substances for both Indigenous and Non-Indigenous youth (Bahr, Hoffmann & Yang, 2005; Wood, Read, Mitchell & Brand, 2004). However strong cultural identity was independently protective of alcohol initiation for both cultural groups. One reason for this outcome may have to do with the prominent role that alcohol plays in Australian culture. Alcohol is more widely used than cannabis and tobacco and images of alcohol abuse among both Indigenous and Non-Indigenous Australians are more visible in the media and in public life than similar images for the other two substances. In a study of African American and other minority students Marsiglia and colleagues (2001) found strong ethnic pride to be protective of drug use. These authors commented that minority students are often exposed to negative stereotypes of their ethnic groups' drug use and that abstainers may be rejecting these stereotypes while embracing strong identification with their ethnicity. Australian adolescent abstainers with strong cultural identity may be rejecting alcohol use for similar reasons. Another explanation may be that these young abstainers had a greater exposure to positive adult role models and that this may have accounted for both higher levels of cultural identity and the greater resistance against peer influence to use alcohol.

The two factor structure of the MEIM remained robust in this population and appeared to reflect the theoretical underpinnings of social identity formation and development (Roberts et al. 1999). Although the two MEIM factors demonstrated sufficient divergent validity to represent different constructs, individually they were not strongly or consistently associated with adolescent substance use. The exception was *affirmation/belonging* with higher levels being associated with Non-Indigenous

abstinence from cannabis use. The strength of Non-Indigenous cultural identity is unusual as studies of North American youth have found ethnic identity not to be as salient for dominant group status as it is for minorities (Roberts et al. 1999). Generally Australians of European origins hold dominant group status and represent this country's largest cultural group. However in many of the schools surveyed the numbers of Non-Indigenous students were proportionally smaller when compared with population estimates in the larger community. Similarly White minority students in a predominantly Hispanic community who were strongly attached to their culture reported less drug use and stronger anti-drug norms (Marsiglia et al. 2004). Under circumstances where dominant members do not constitute a majority, they may think about their cultural identity more and hence have a greater need for positive affirmation and belonging. They are also less likely to engage in minority activities such as the use of an illegal substance. In the present study Non-Indigenous students who reported never using cannabis had strong feelings of national pride and a sense of belonging to their culture.

The effect of peer influence on cultural identity was further examined by testing interactions between the cultural identity factors and the number of substance using friends. The majority of interactions found were for Indigenous and Non-Indigenous alcohol use and the two cultural identity factors appeared to act in similar ways for both cultural groups. Adolescent abstainers of both cultures who reported no drinking friends also had the highest levels of cultural identity. However the effect of associating with substance using friends differed across the two cultures. Among Non-Indigenous youth high cultural identity was protective of alcohol initiation for up to four drinking friends.

Alternatively Indigenous youth with any number of drinking friends were more susceptible to alcohol initiation even with high cultural identity. One explanation for this result may have to do with differences in cultural values between the two groups. Indigenous youth who have been raised with a strong sense of community may be more conforming and therefore more susceptible to peer pressure to use. On the other hand Anglo-Australian youth with cultural values that emphasize independence may be more resilient to peer influences than their Indigenous counterparts. Differences in cultural values and modeling of group behavior may also go some way to explaining the differences in substance use patterns between Indigenous and Non-Indigenous peoples. National drug surveys have found that more Indigenous adults describe themselves as alcohol abstainers when compared with other Australians (21% vs. 16%). On the other hand when Indigenous people do use substances they are more likely to misuse alcohol and have higher rates of tobacco and marijuana use when compared with others (AIHW, 2007).

However differences in cultural values do not explain why Non-Indigenous youth with high *affirmation/belonging* and one to four cannabis using friends were more likely to be cannabis users. Similarly Other Minority youth with strong *participation/exploration* and one to four smoking friends were also more likely to be cigarette smokers. Another confounding factor working against the protective influence of cultural identity that needs further exploration is the effect of parental approval and use of substances (Engels, Vitaro, Den Exter Blokland, de Kemp & Scholte, 2004; Li, Pentz & Chou, 2002). Kandel (1996) has argued that the relative influence of peers on

adolescent drug use has been overestimated and that of parents underestimated with parents contributing toward peer selection. Cultural identity in youth may be formed in the same way and further research would be required to identify how parental influences may be interacting with peer influence and impacting on substance use and cultural identity.

Limitations: This study has a number of limitations and results need to be interpreted with caution. Firstly participating schools were selected for their high proportion of Indigenous students. Generally Indigenous people constitute a minority in this country and the reports of cultural identity may be different for social settings with different cultural mixes. Additionally a selection bias may have affected the results. Ethics requirements heavily restricted participating students to those who had active parental consent. Passive parental and active student consent would have increased sample size and reduced self-selection bias. Secondly the cross-sectional design prohibits any causal inferences. It is possible for example that previous drug use may have affected the selection of friends as has been reported by Hoffmann and Su (1998) and not the other way round. Thirdly all results have been derived from self-report data and adolescents tend to overestimate their friends' drug use (Aseltine, 1995). However perceptions of friends' drug use represent perceived social norms for drug use and are better predictors of adolescent use than actual use (Ajzen & Fishbein, 2000; Scheier & Botvin, 1997).

Conclusions: Despite these limitations the findings identifying peer influence risk factors among Australian adolescents of diverse cultures have implications for drug prevention in this country. In recent years the responsibility of prevention has largely been undertaken by schools with numerous programs of proven efficacy in reducing early substance use now available (Tobler, Roona, Ochshorn, Marshall, Streke & Stackpole, 2000). Many of these programs are based on the social influence model and include strategies for resisting peer pressure to use substances. The results would suggest that although peer influence is a common risk factor for both cultural groups, Indigenous youth with strong cultural identity may be more vulnerable to peer influence risk than their Non-Indigenous counterparts. Currently Indigenous people are burdened with the highest level of disease due to drug misuse in this country (AIHW, 2007). In addition to a generic drug prevention curriculum, Indigenous youth may benefit from strategies to help them distinguish between positive and negative cultural messages associated with peer influence risk to drink alcohol.

This study investigated associations between the MEIM and substance use in a culturally diverse Australian adolescent sample. Strong cultural identity as measured by the full scale MEIM was found to be protective of Non-Indigenous and Indigenous alcohol initiation. Additionally high scores on the MEIM factor of *affirmation/belonging* were associated with Non-Indigenous cannabis abstinence. Interactions between the MEIM factors and friends' substance use found higher cultural identity to be protective of Non-Indigenous alcohol initiation for up to four drinking friends. However among Indigenous adolescents high cultural identity was associated with risk for alcohol

initiation for any number of drinking friends. The results were interpreted as having implications for Indigenous and Non-Indigenous drug prevention in this country.

Acknowledgement

The first author would like to thank the Alcohol Education and Rehabilitation Foundation (Australian) for awarding a scholarship to fund this study. We would also like to thank the two anonymous reviewers whose thoughtful comments contributed to the final version of the manuscript.

References

- Ajzen, I., & Fishbein, M. (2000). The prediction of behavior from attitudinal and normative variables. In E.T. Higgins & A.W. Kruglanski (Eds.), *Motivational science: Social and personality perspectives. Key reading in social psychology*. New York: Psychology Press.
- Arbuckle, J.L., & Wothke, W. (1999). *Amos 4.0 User's guide*. Chicago: Smallwaters Corporation .
- Aseltine, R.H. (1995). A reconsideration of parental and peer influences on adolescent deviance. *Journal of Health and Social Behavior*, *36*(2), 103-121.
- Austin, A.A., (2004). Alcohol, tobacco, other drug use, and violent behavior among native Hawaiians: Ethnic pride and resilience. *Substance Use & Misuse*, *39*(5), 721-746.

Australian Bureau of Statistics (2001). *Population Distribution Aboriginal and Torres Strait Islander Australians*. ABS Cat. No.4705.0. Canberra: Commonwealth of Australia.

Australian Institute of Health and Welfare (2007). *Statistics on drug use in Australia 2006*. AIHW Cat. No. PHE 80. Canberra: AIHW (Drug Statistics Series No.18).

Bahr, S. J., Hoffmann, J. P., & Yang, X. (2005). Parental and peer influences on the risk of adolescent drug use. *Journal of Primary Prevention, 26*(6), 529-551.

Bandura, A. (1999). A sociocognitive analysis of substance abuse: An agentic perspective. *Psychological Science, 10*, 214-217.

Bankston, C.L., & Zhou, M. (1997). Valedictorians and delinquents: The bifurcation of Vietnamese American youth. *Deviant Behavior, 18*(4), 343-364.

Brady, M. (1992). *Heavy metal: the social meaning of petrol sniffing in Australia*. Canberra: Aboriginal Studies Press.

Brook, J. S., Balka, E.B., Brook, D. W., Win, P., & Gursen, M. D. (1998). Drug use among African Americans: Ethnic identity as a protective factor. *Psychological Reports, 83*(3), 1427-1446.

Brook, J. S., Whiteman, M., Balka, E. B., Win, P., & Gursen, M. D. (1998). Drug use among Puerto Ricans: Ethnic identity as a protective factor. *Hispanic Journal of Behavioral Sciences, 20*(2), 241-254.

- Ellickson, P.L., Tucker, J.S., Klein, D.J., & McGuigan, K.A. (2001). Prospective risk factors for alcohol misuse in late adolescence. *Journal of Studies on Alcohol*, *62*(6), 773-782.
- Engels, R.C.M.E., Vitaro, F., Den Exter Blokland, E., de Kemp, R., & Scholte, R.H.J. (2004). Influence and selection processes in friendships and adolescent smoking behavior: The role of parental smoking. *Journal of Adolescence*, *27*(5), 531-544.
- French, S.E., Kim, T.E., & Pillado, O. (2006). Ethnic identity, social group membership, and youth violence. In N.G. Guerra & E.P. Smith (Eds.), *Preventing youth violence in a multicultural society*. Washington, DC: American Psychological Association,
- Griffin, K.W., Botvin, G. J., Nichols, T.R., & Doyle, M. M. (2003). Effectiveness of a universal drug abuse prevention approach for youth at high risk for substance use initiation. *Preventive Medicine*, *36*(1), 1-7.
- Hawkins, J.D., Catalano, R.F., & Miller, J.Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin*, *112*(1), 64-105.
- Hoffmann, J.P., & Su, S.S. (1998). Parental substance use disorder, mediating variables and adolescent drug use: A non-recursive model. *Addiction*, *93*(9), 1351-1364.

- Iacono, W.G., Malone, S.M., & McGue, M. (2003). Substance use disorders, externalizing psychopathology, and P300 event-related potential amplitude. *International Journal of Psychophysiology, 48*(2), 147-178.
- Jessor, R., & Jessor, S.L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Kandel, D.B., (1996). The parental and peer contexts of adolescent deviance: An algebra of interpersonal influences. *Journal of Drug Issues, 26*(2), 289-315.
- Kulis, S., Napoli, M., & Marsiglia, F.F. (2002). Ethnic pride, biculturalism, and drug use norms of urban American Indian adolescents. *Social Work Research, 26*(2), 101-112.
- Li, C., Pentz, M., & Chou, C. (2002). Parental substance use as a modifier of adolescent substance use risk. *Addiction, 97*(12), 1537-1550.
- Marsiglia, F.F., Kulis, S., & Hecht, M.L. (2001). Ethnic labels and ethnic identity as predictors of drug use among middle school students in the southwest. *Journal of Research on Adolescence, 11*(1), 21-48.
- Marsiglia, F.F., Kulis, S., Hecht, M.L., & Sills, S. (2004). Ethnicity and ethnic identity as predictors of drug norms and drug use among preadolescents in the US southwest. *Substance Use & Misuse, 39*(7), 1061-1094.

- Maxwell, K.A. (2002). Friends: The role of peer influence across adolescent risk behaviors. *Journal of Youth and Adolescence, 31*(4), 267-277.
- McCluskey, C.P., Krohn, M.D., Lizotte, A.J., & Rodriguez, M.L. (2002). Early substance use and school achievement: An examination of Latino, White, and African American youth. *Journal of Drug Issues, 32*(3), 921-943.
- Oetting, G.R., & Beauvais, F. (1991). Orthogonal cultural identification theory: The cultural identification of minority adolescents. *International Journal of the Addictions, 25*(5-A-6-A), 655-685.
- Orlando, M., Tucker, J.S., Ellickson, P.L., & Klien, D.J. (2004). Developmental trajectories of cigarette smoking and their correlates from early adolescence to young adulthood. *Journal of Consulting and Clinical Psychology, 72*(3), 400-410.
- Phinney, J.S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7*(2), 156-176.
- Roberts, R. E., Phinney, J.S., Marse, I.C., Chen, Y.R., Roberts, C.R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *Journal of Early Adolescence, 19*(3), 301-322.
- Robertson, B. (2000). *The Aboriginal and Torres Strait Islander women's task force on violence report*. Department of Aboriginal and Torres Strait Islander Policy Development: Queensland Government Report.

Scheier, L.M., & Botvin, G.J. (1997). Expectancies as mediators of the effects of social influences and alcohol knowledge on adolescent alcohol use: A prospective analysis. *Psychology of Addictive Behaviors, 11(1)*, 48-64.

Stanely, J., Kovacs, K., Tomison, A., & Cripps, K. (2002). *Child abuse and family violence in Aboriginal communities: Exploring child sexual abuse in Western Australia*. National Child Protection Clearing House: Australian Institute of Family Studies.

Tabachnick, B.G., & Fidell, L.S. (2007). *Using Multivariate Statistics, 5th Ed.* Boston: Allyn & Bacon.

Tajfel, H., & Turner, J. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations*. Chicago: Nelson-Hall.

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts*. Washington: American Psychological Association.

Tobler, N.S., Roona, M.R., Ochshorn, P., Marshall, D.G., Streke, A.V., & Stackpole, K.M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention, 20(4)*, 275-336.

Wood, M.D., Read, J.P., Mitchell, R.E., Brand, N.H. (2004). Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors, 18(1)*, 19-30.

Peer Normative Education and Alcohol Harm Minimisation in a
Comprehensive School Drug Prevention Program:
Program Evaluation of the DAPPY:8

Abstract

This chapter reports on the program evaluation of the Drug and Alcohol Prevention Program for Year 8 (DAPPY:8). The DAPPY:8 was a pilot project of a comprehensive school drug prevention program predicated on the social influence and alcohol harm minimisation models. The program was developed for culturally diverse Northern Australian adolescents and consisted of 10 modules of approximately 50 minutes duration delivered weekly in classroom settings by teachers. The aim was to delay initiation and reduce adolescent alcohol, cigarette, cannabis and inhalant use. A quasi experimental longitudinal research design was used to randomize three schools to either an experimental (DAPPY:8) or control condition. The initial sample involved 127 Year 8 students (M=13.5yrs) and the retention rate was 69% over a three month period. The measures were frequency of cigarette, alcohol, cannabis and inhalant use; drink drunk behaviour; drug refusal self-efficacy; and estimates of peer drug norms. Compared with their counterparts a higher number of students who received the DAPPY:8 remained non-drinkers. Additionally cannabis and inhalant abstainers in the program group reported stronger refusal self-efficacy. Intervention students' estimates of peer norms decreased for cigarettes, cannabis and inhalants but had no discernable effect on drug use. A non-significant increase in alcohol peer norms may have been due to alcohol harm minimisation education. However no adverse effects on drinking or alcohol refusal were observed.

**Peer Normative Education and Alcohol Harm Minimisation in a Comprehensive
School Drug Prevention Program:
Program Evaluation of the DAPPY:8**

Vulnerable adolescents at risk of substance abuse and dependence are those characterised by early onset drug use that is both a predictor of later misuse and a marker of a range of associated problems (Hawkins, Catalano & Miller, 1992; Donovan & Jessor, 1985). In an effort to prevent or delay drug use universal school-based prevention programs are typically delivered to all students irrespective of their level of risk (Centre for Substance Abuse Prevention [CSAP], 2002). However at risk youth constitute a minority and most Australian adolescents between the age of 12 and 15 years do not use drugs (Australian Institute of Health and Welfare [AIHW], 2006). The challenge for school program designers is to meet the needs of a high risk minority (Griffin, Botvin, Nicols & Doyle, 2003) as well as educating the majority that drug use is not normative for their age group (Graham, Marks & Hansen, 1991). The present study investigated the efficacy of a new universal drug and alcohol prevention program that included normative education for the four most frequently used substances by adolescents (cigarettes, alcohol, cannabis and inhalants) along with alcohol harm minimisation messages.

The transition from early adolescence to young adulthood is marked by a sharp escalation in substance use with most prevention programs seeking to arrest this escalation before experimentation develops into regular patterns of abuse and dependence. In 2005 alcohol use in the last month among 12-15 years olds increased

from 34% to 68% among 16-17 year olds with use in the last week increasing from 22% to 47% respectively. Among 12-15 year olds, 7% described themselves as current smokers with the rate increasing to 17% for those aged 16-17 years. The most frequently used illicit drugs for 12-15 year olds were cannabis and inhalants with 6% and 9% respectively reporting use in the last month with the rate for cannabis doubling to 12% for 16-17 year olds but falling to 3% for inhalants (AIHW, 2006).

A number of literature reviews examining the efficacy of school prevention curricula found that programs based on the “social influence” model had the best chance of reducing adolescent substance use (Cuijpers, 2002; Dusenbury & Lake, 1995; Tobler & Stratton, 1997). This model aims to “inoculate” young people against the social influences to use drugs and has demonstrated better results in reducing adolescent substance use than drug education alone or the giving of information about the hazardous consequences of drug use. The model identifies different sources of pressure to use drugs and distinguishes between active pressure or explicit drug offers and passive pressure or social modelling and the over estimation of friends’ drug use (Graham, Marks & Hansen, 1991). Strategies to combat these pressures include refusal skills training for drug offers and normative education that corrects misconceptions about the prevalence and acceptability of drugs among young people. A comparison of the relative efficacy of these two components found normative education to be superior in reducing drug use behavior than just teaching adolescents how to say no to drugs (Hansen & Graham, 1991). Normative education has also been demonstrated to be successful in reducing alcohol consumption, the most widely substance among young people (Hansen, 1993).

Correcting the belief that drug use is widespread among young people as a prevention strategy may have its limitations. Normative education may be less effective for high risk youth as they are unlikely to be persuaded that most of their peers don't use. Peer influence or the number of friends who use drugs (Jessor et al 2003; Kandel, 1985; Unger et al, 2002) and estimates of peer usage (D'Amico, & McCarthy, 2006; Scheier & Botvin, 1997; Unger, Rohrbach, Howard-Pitney, Ritt-Olson, & Mouttapa, 2001; Morrison et al, 2002) are well established predictors of adolescent drug use. However estimates of peer norms and the number of friends who use are not independent of each other and the proximal influence of smoking friends was found to influence adolescent estimates of smoking prevalence (Unger & Rohrbach, 2002). Similarly perceived prevalence of peer use of alcohol and marijuana predicted adolescent use of the same substance but the effect disappeared once prior level of use and proximal peer usage were taken into account (Juvonen, Martino, Ellickson & Longshore, 2007). In addition adolescents who smoke are just as likely to actively select other smoking friends as they are to be influenced by peers (Hoffman, Monge Chou & Valente, 2007).

In comparison with American prevention programs that promote abstinence or delayed initiation, a number of recent Australian initiatives have been developed on a harm minimisation premise (Midford, 2006; Midford & McBride, 1999). Harm minimisation refers to any policy or program that aims to reduce harm associated with drug use. Typically it is compared with a "zero-tolerance" approach where the primary goal is reduction in drug use *per se*. In their definition of harm reduction Lenton and

Single (1998) had in mind a certain type of dependent drug user when they stated that “...it gives priority to the more immediate and practical goal of reducing harm for users who cannot be expected to stop using at the present time (p.4).” However the harm reduction model has also been incorporated into a school based prevention intervention for minimising harm associated with alcohol use commencing with adolescents in Year 8 (School Health and Alcohol Harm Reduction Project [SHAHRP], McBride, Farrington, Midford, Meuleners, & Phillips, 2004).

SHAHRP’s (McBride et al, 2004) aim was to minimise harmful behaviours associated with teenage alcohol abuse. The measures included total alcohol consumption, risky consumption and alcohol related harm such as verbal or physical abuse, sexual harassment, impact on school performance and trouble with police and parents. Risky consumption was defined as for adult standards. At the commencement of the program 79% of Year 8 students reported either no alcohol consumption or having had a sip or taste while at the 32 month follow up the percentage had reduced to 47 %. At the final follow up the program appeared to have been successful at reducing alcohol related harm with program students reporting 22% less harm than those in the comparison group. The program had the greatest impact on reducing alcohol consumption among a minority of students during the earlier phases but results converged by the final follow up. Similarly risky alcohol consumption was less among program students during the earlier phases. In the final follow up risky consumption had converged to a still significant 4.2% less in the program group than in the comparison group. However given that this measure was based

on adult standards, the authors failed to address how this statistical difference may have translated into an adolescent health benefit.

As a legal substance alcohol is used widely and drinking responsibly may even be considered a socially desirable skill. There is also merit in trying to reduce alcohol associated harm among underage drinkers. However responsible drinking guidelines for adolescent alcohol use have never been defined as they have for adults (World Health Organization, 2000) and in the absence of this information inferring that any level of alcohol use for this age group may carry a reduced level of harm may be misleading. There is an increasing body of literature warning against early onset use during adolescence as this age group is more vulnerable to the negative effects of drugs than are adults. Binge drinking as infrequently as once a month was associated with increased risk of lower college graduation, deviancy and substance use problems at 23 years compared with abstaining or using at lower levels (Tucker, Ellickson, Orlando, Martino, & Klein, 2005). In a large longitudinal study 40% of individuals who commenced drinking under the age of 14 years developed lifetime alcohol dependence compared with 10% who started drinking when they were 20 years or older (Grant & Dawson, 1997). The brain structure associated with memory, the hippocampus was found to be of smaller volume among subjects with early onset alcohol use disorder and correlated positively with age of initiation and negatively with duration of the disorder (DeBellis et al, 2000). Additionally early use of alcohol was found to be independently predictive of smaller hippocampal volume in a group of otherwise healthy adult male recreational users (Yücel et al, 2006).

The argument against advocating harm minimisation as a prevention strategy for other drugs is less equivocal and more compelling. High levels of smoking in adults have been traced to early onset smoking in adolescence in all but the lightest users or those who quit early (Orlando, Tucker, Ellickson & Klein, 2004). Adolescents who smoked marijuana one or two times a year were at increased risk of lower college graduation, deviancy and substance use problems at age 23 years when compared with those who abstained or used at lower levels (Tucker et al, 2005). The risk of cannabis dependence increased with decreased age of initiation and was associated with educational underachievement and psychosis (Hall, 2006). Early use of cannabis by otherwise healthy adult male recreational users was independently predictive of larger amygdala volumes, the brain structure associated with mood regulation (Yücel et al, 2006). Inhalant use among young people has been associated with “sudden sniffing death” and neurological damage (Lubman, Hides & Yücel, 2006).

This study investigated a new universal prevention program incorporating a social influence model with an emphasis on normative education for the four most commonly used substances by Australian adolescents (cigarettes, alcohol, cannabis and inhalants). In addition the program included alcohol harm minimisation messages for those youth who had commenced drinking and who were deemed to be at risk of subsequent abuse and dependence. The evidence reviewed in this study would suggest that adolescent substance use needs to be avoided and that harmful effects associated with early use be clearly articulated to young people. However given the availability and social

acceptability of alcohol, and the social risk factors influencing early initiation among a minority, the program has adopted a pragmatic stance and included alcohol harm minimisation messages. Normative education and alcohol harm minimisation are theoretical approaches to prevention aimed at students with different risk levels. Therefore the program will be assessed in terms of level of risk as defined by frequency of substance use for a) abstainers, b) low or infrequent users or those having used a substance a few times and c) high or regular users defined or those using monthly or more. It is expected that in comparison with a drug education as usual control group, the prevention program will prevent or reduce substance use in the two lowest risk groups and to a lesser extent in the high risk group.

The direct effects of estimates of peer drug use norms for each substance will be examined along with interactions across the three drug use frequencies. It is expected that normative education will be more relevant and will therefore decrease estimates of peer drug use for those in the two lowest risk groups. Of special interest will be to determine if the inclusion of alcohol harm minimisation messages has any adverse effect on estimates of peer alcohol use and frequency of drinking among abstainers and infrequent users.

Finally the program evaluation will include measures of drug refusal self-efficacy and interactions with drug use frequency. Drug refusal self-efficacy is a measure of how likely a young person is to refuse drug offers. Efficacy toward negative peer influence has been associated with lower engagement in delinquent conduct and substance use (Caprara, et al, 1998), low self efficacy has been related to early initiation of smoking

among adolescents (Engels, Hale, Noom, De Vries, 2005), and high self efficacy and refusal assertiveness was predictive of less drinking among 12 year olds two years later (Epstein, Griffin, & Botvin, 2000). Drug use is often opportunistic and the short duration of this study may not have allowed sufficient time to capture any program effects had drug behaviour alone been assessed. Alternatively drug refusal self-efficacy may be seen as an indication of how a young person may respond to future drug offers. The program will be assessed alongside a drug education as usual control group.

Method

Sample

The study was conducted during second semester 2005. An initial sample of 127 Year 8 students (36% participation rate) from three State High Schools in North Queensland provided data at the pre-test. The retention rate at the post-test three months later was 69% (n=88). Students completing both surveys had a mean age of 13.5 years (SD=4.8), 55% were female and 78% lived in two parent families. Aborigines and Torres Strait Islanders constituted 25% of the sample and 11% were other Indigenous people from South East Asia and the Pacific Islands. An ethics committee from The University of Queensland reviewed the research protocol and survey participation required written active parental and student consent (Appendix A). As a means of increasing the survey participation rate school administrative staff was employed to ring families and encourage the return of consent forms (Appendix B). Participating students were rewarded with food vouchers redeemable at the school canteens.

Design

The pilot program was evaluated using a quasi-experimental school block design with pre and post-testing. The program consisted of ten modules that were delivered weekly and the post test was conducted 12 weeks after the pre-test. Initially five schools were approached at the commencement of 2005 for their willingness to participate in the study. Two schools were excluded either because student participation in the program would have been voluntary or because combined classes meant that program delivery would have included both Year 8 and Year 9 students. Of the remaining three schools, the largest one was assigned to one group and the two smaller schools were assigned to a second group as a means of achieving similar group sizes. The groups were then randomly assigned into an experimental or control condition with the larger school receiving the program and the two smaller schools implementing their own drug education curriculum. A discussion with teachers implementing drug education in the control schools found that they were mainly delivering knowledge based curriculum.

Prevention Program

DAPPY:8 was based on the social influence model for cigarettes, cannabis and inhalants and contained harm minimisation messages for alcohol. The program consisted of ten modules of approximately 50 minutes duration designed to be delivered in an interactive mode during normal class periods. The four main sections of the curriculum were a) normative education, values, knowledge, b) resistance skills, c) life-skills training and d) alcohol harm minimisation. Normative education consisted of providing survey feedback to students of peer use of substances over the last month. The interactive

delivery method utilised class discussion, demonstrations, role plays, behavioural rehearsal and a homework assignment in which students were asked to interview a smoker. Teachers were provided with a Teachers Manual and all students were given a Student Workbook. The Student Workbooks were in colour and illustrated with cartoon characters. Key points were summarised in each module. Puzzles, crosswords and other activities could be completed individually or collectively as a class. (Details of the development and content of the DAPPY:8 may be found in chapter 3).

Procedure

Consent to implement the program and the evaluation surveys was obtained from Education Queensland District Offices, school principals and Parent and Teacher Associations from each school. Six classes of Year 8 students ($n=139$) in the treatment condition received the program as part of the compulsory unit of Physical Health and Education but only those with active parental and student consent completed pre and post-testing. Five teachers implemented the program after an initial half day information session conducted by the author. The information session consisted of a description of the program and the interactive processes by which it was to be delivered. An emphasis was placed on the normative education component. Surveys were administered by the author during normal classroom periods. Participating students were informed of the purpose of the survey and encouraged to answer the questions truthfully. Anonymity of information was achieved by removing student names from survey forms before beginning. Tracking was achieved through student generated nicknames.

Measures

Demographics: A number of survey items assessed age, gender, ethnicity and family structure. Ethnicity was determined from a list of ethnic labels from which students could choose which best described themselves. Family structure was assessed from seven options listing various combinations of family living arrangements (Appendix C: Sections 1-2).

Cigarette, alcohol, cannabis and inhalant use. Frequency of cigarette, cannabis and inhalant use was measured using a nine-point scale (Appendix C: Section 3). Alcohol was measured in terms of alcohol frequency and frequency of drinking until drunk: termed *drink drunk*. Participants were asked five questions as to how often (if ever) they had smoked cigarettes, drank alcohol, been drunk, smoked cannabis or used inhalants. The response categories were 1 = *Never*; 2 = *A few times but not in the last year*; 3 = *A few times a year*; 4 = *Once a month*; 5 = *A few times a month*; 6 = *Once a week*; 7 = *A few times a week*; 8 = *Once a day*; 9 = *More than once a day*. This set of measures and those for peer normative expectations and drug refusal self-efficacy were adapted from Botvin, Griffin, Diaz and Ifill-Williams (2001).

Peer Normative Expectations. Four questions assessed students' estimates of perceived prevalence of peers' cigarettes, alcohol, cannabis and inhalants use (Appendix C: Section 3.2). The response categories for each drug were 1 = *None*; 2 = *Less than half*; 3 = *About half*; 4 = *More than half*; 5 = *All or almost all*.

Drug Refusal Self-Efficacy. Four questions assessed the likelihood that students would say “no” to offers of cigarettes, alcohol, cannabis or inhalants (Appendix C: Section 3.4). The response categories for each drug were 1 = *Definitely would*; 2 = *Probably would*; 3 = *Not sure*; 4 = *Probably would not*; 5 = *Definitely would not*.

Data Analysis

Data were analysed using SPSS 14.0 general linear models (GLM) repeated measures and chi-square tests. Baseline comparisons of the five drug measures for those retained and those lost at the post-test were undertaken using chi-square tests (data were recoded into 1=never used; 2=used few times but not in last year; 3=few a year; 4=monthly or more). Baseline equivalence for any use of the four substances or experience of drunkenness (dichotomized as 0=never used and 1=any use) were analysed using chi-square tests for the treatment and control conditions. The demographics of age, gender, family structure and ethnicity were similarly analysed using all categories of each of the nominal measures.

Data were then prepared for repeated measures testing by collapsing the nine point ordinal measures into three dichotomous dummy variables for each of the five drug use measures similar to procedures used by Botvin and his colleagues (1995). The three risk levels were for *never* (never used substance), *a few times* (used a few times over a period of a year or more) and *monthly* (regular monthly use or more). Program effects were analysed using GLM repeated measures with pre and post-test measures of substance use by school condition. GLM repeated measures were also used to determine

program effects for drug refusal self-efficacy and peer normative expectations.

Interactions of these two variables with drug use were also calculated using repeated measures over the three risk levels for each substance.

Results

Baseline Equivalence

The baseline characteristics and drug use of students who participated in the pre-test and post-test are presented in Table 1. Significantly more Indigenous students constituted the intervention group (50%) compared with those in the control group (21%) $\chi^2=7.745$, 1df, $p<.01$. There were no other significant differences between treatment and control variables. The most frequently used substance was alcohol with 52% of students reporting some use, followed by 18% for cigarettes, 5% for cannabis and 7% for inhalants. There were no significant differences found for the five drug measures among those retained and those lost at the post-test (Cigarettes: $\chi^2=3.103$, 9df, $p>.05$; Alcohol: $\chi^2=7.936$, 9df, $p>.05$; Drink Drunk: $\chi^2=0.477$, 9df, $p>.05$; Cannabis: $\chi^2=0.252$, 9df, $p>.05$; Inhalants: $\chi^2=4.217$, 9df, $p>.05$).

Post-Test Drug Use

The bar graphs in Figure 1-3 display post-test means (proportions of students expressed as a number between zero and one fulfilling the category description) for the program and control groups. Figure 1 represents those reporting *never* having used a substance, Figure 2 represents those reporting having used *a few times* over a year or

more and Figure 3 represents those reporting regular use on a *monthly* basis or more. A visual inspection of these graphs shows that the largest group of respondents was for those who had never used a substance and the most frequently used substance was alcohol. A few students reported using cigarettes and alcohol on a monthly basis at the post-test but none reported regular cannabis or inhalant use or frequent drunken behaviour. Positive program effects can be observed among DAPPY:8 recipients who had *never* used alcohol and among those reporting using alcohol *a few times*.

The drug use means across the three risk levels at pre and post-tests for the intervention and control groups are reported in Table 2. The drug use means in Table 2 represent proportions of students expressed as a decimal number between zero and one. Overall only one significant program effect was observed for alcohol abstainers. The difference between baseline and post-test means was significantly *smaller* for students abstaining from using alcohol in the program group than in the control condition ($F = 4.045, 1df, p < .05$). This meant that *fewer* alcohol abstainers in the intervention group commenced drinking alcohol during the course of the study (7% vs. 9%). A trend was observed for infrequent alcohol use in that there was no difference between baseline and post-test means for the program group whereas an *increase* was found for the control group ($F = 3.020, 1df, p < .10$).

Table 1: Demographic Characteristics and Baseline Drug Use:

Program and Control Groups§

Characteristics	<i>Program</i> (n=46)	<i>Control</i> (n=42)	<i>Combined</i> (n=88)
Females	57	55	56
Indigenous±	50*	21	36
Two-parent family	74	81	78
Age (years)	13.25	13.25	13.25
Any use of:			
Cigarettes	17	19	18
Alcohol	44	62	52
Drink Drunk	4	5	5
Cannabis	2	7	5
Inhalants	4	10	7

* $p < .05$

§Data are percentages

±Aborigines, Torres Strait Islanders, Pacific Islanders and SE Asians

Figures 1 - 3: Graphs of Post-Test Drug Use Means for Three Risk Levels

Fig.1 Never

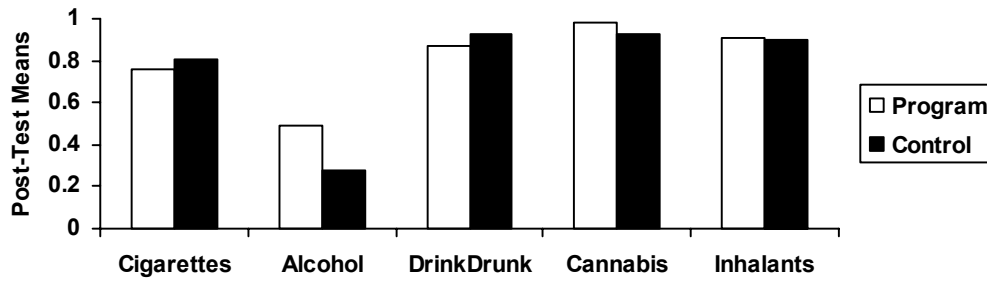


Fig.2 A Few Times

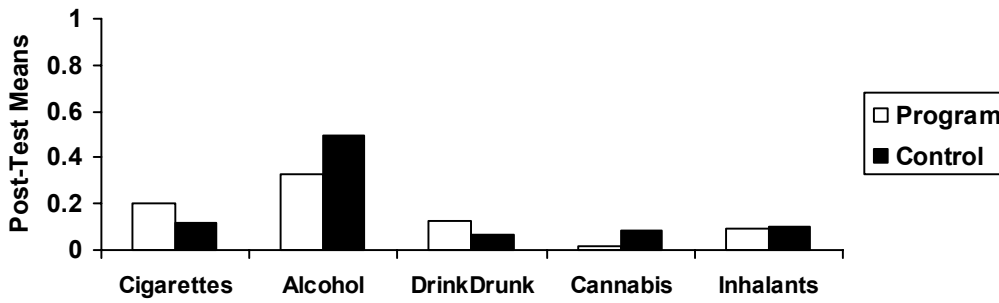


Fig.3 Monthly

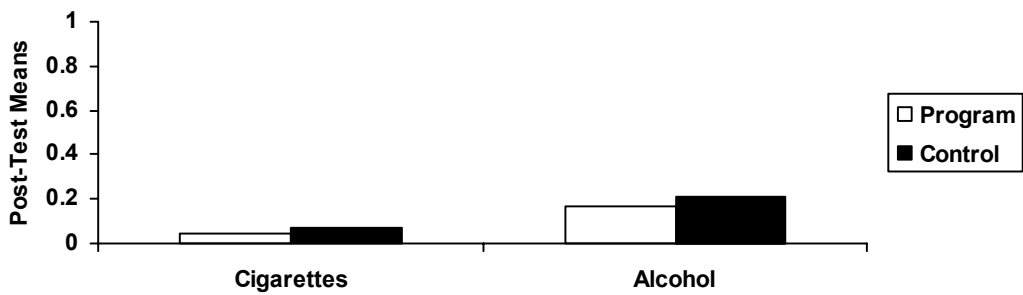


Table 2: Mean Drug Use Rates at Pre and Post-Test by School Condition and Interactions of Drug Use with Drug Refusal Self-Efficacy and Peer Normative Expectations ($n=88$)

Variable	Drug Use Means			Program Effects			Program Effect Interactions						
	Time 1			Time 2			Drug Refusal			Peer Norms			
	Program	Control	Program	Control	Program	Control	df	F	df	F	df	F	
<i>Cigarettes</i>													
Never	.83	.81	.76	.81	.81	.81	1	.037	1	.878	1	1.313	
Few Times	.17	.14	.20	.12	.12	.12	1	.536	1	1.088	1	1.942	
Monthly	.00	.05	.04	.07	.07	.07	1	1.045	1	.438	1	.861	
<i>Alcohol</i>													
Never	.57	.38	.50	.29	.29	.29	1	4.045*	1	.798	1	.053	
Few Times	.33	.45	.33	.50	.50	.50	1	3.020¶	1	.472	1	2.278	
Monthly	.11	.17	.17	.21	.21	.21	1	.585	1	.089	1	.884	
<i>DrinkDrunk</i>													
Never	.96	.95	.87	.93	.93	.93	1	.299	1	.075	1	.972	
Few Times	.04	.02	.13	.07	.07	.07	1	.720	1	.002	1	.303	
Monthly	.00	.02	.00	.00	.00	.00	1	1.096	-	-	-	-	
<i>Cannabis</i>													
Never	.98	.93	.96	.90	.90	.90	1	1.168	1	7.365**	1	.613	
Few Times	.02	.05	.02	.08	.08	.08	1	1.566	1	2.992¶	1	.140	
Monthly	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Inhalants</i>													
Never	.96	.90	.91	.90	.90	.90	1	.287	1	5.042*	1	2.467	
Few Times	.04	.07	.09	.10	.10	.10	1	.118	1	2.739	1	3.005¶	
Monthly	.00	.02	.00	.00	.00	.00	1	1.096	1	-	1	-	

¶ $p<.10$, * $p<.05$, ** $p<.01$

Note: The means represent proportions of students expressed as a decimal number between 0 and 1.

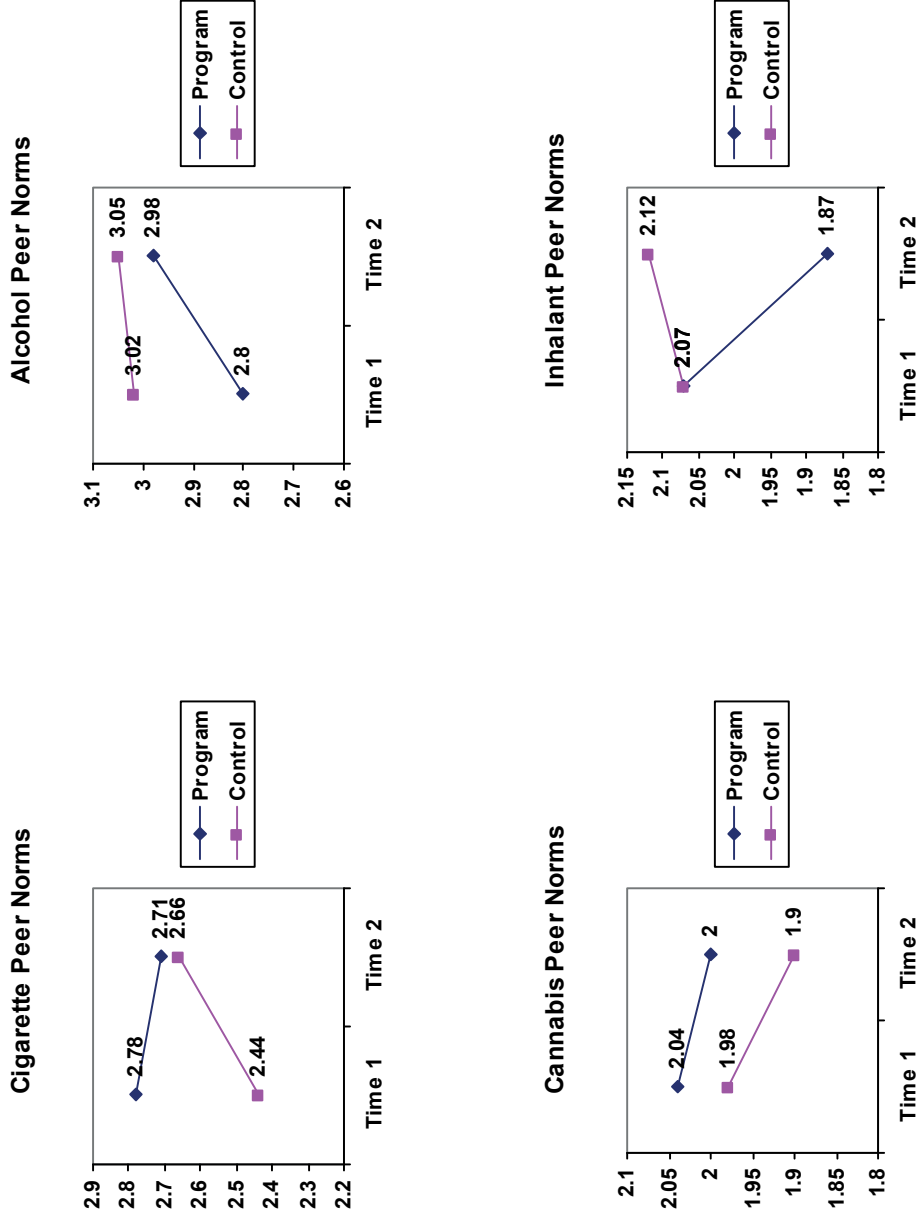
Peer Norms

Figures 4 - 7 are graphs representing peer normative expectations for the program and control groups at pre and post-tests across the four substances. *Lower* figures represent *lower* estimates of peer drug use. A visual inspection of these graphs indicates that peer norms for the program group decreased at the post-test for cigarettes, cannabis and inhalants, whereas those for the controls increased. However program peer norms for alcohol increased by a larger amount than the increase observed for the controls. None of these differences were statistically significant.

Drug Refusal

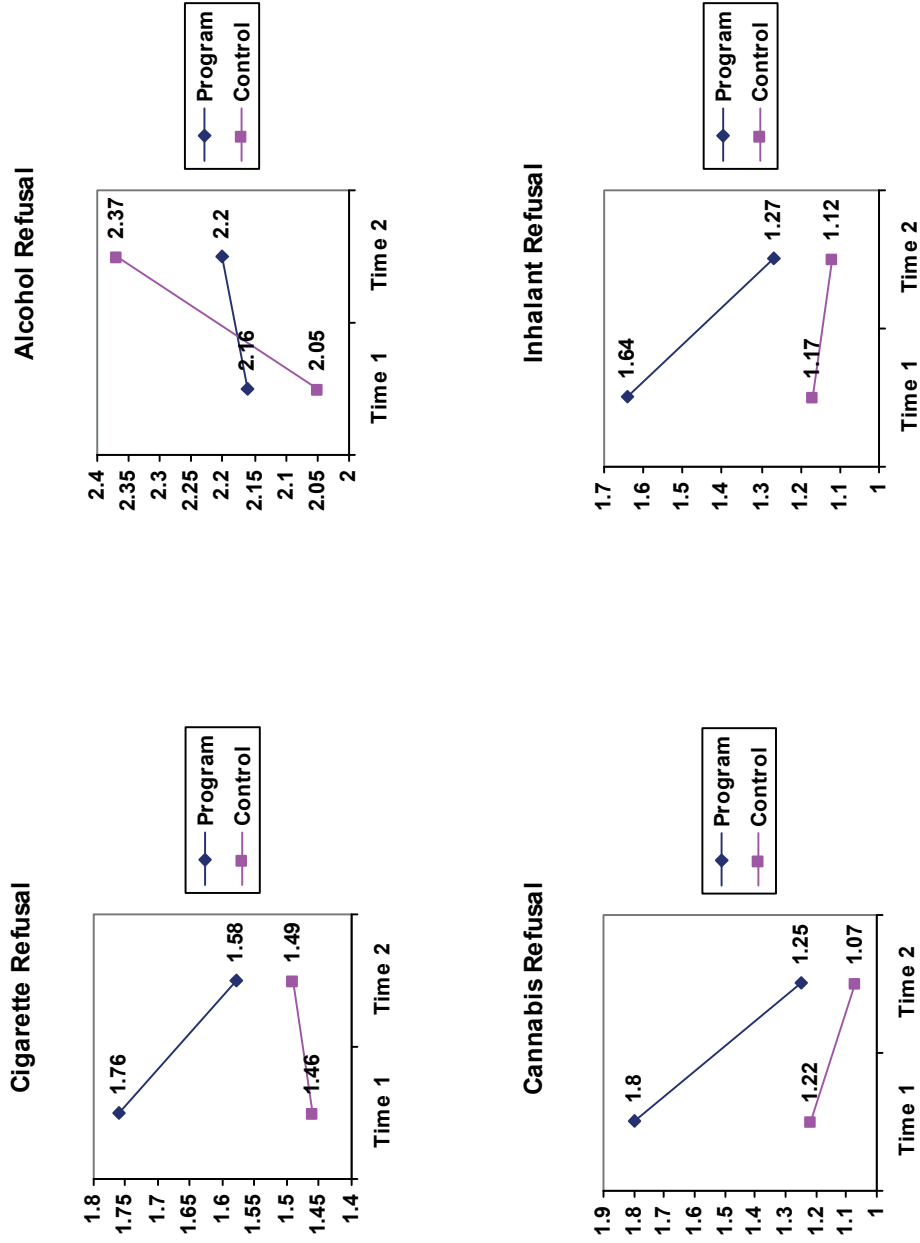
Figures 8 -11 represent graphs of drug refusal self-efficacy for the program and control groups at the pre and post-tests for the four substances. *Lower* numbers represent *increased* drug refusal self-efficacy. A visual inspection of these graphs indicates that drug refusal self-efficacy increased among program recipients for cigarette, cannabis and inhalant use compared with smaller increases for cannabis and inhalant use and a decrease for cigarette use among the controls. Alcohol refusal efficacy for the program group decreased while the decrease for the controls was of a larger magnitude. Compared with the control group significant increases were found for cannabis ($F = 5.188, 1df, p < .05$) and inhalant ($F = 4.004, 1df, p < .05$) refusal self-efficacy in the program group.

Figures 4 - 7: Graphs of Estimates of Peer Drug Norms at Pre and Post-Test for Program and Control Conditions



Note: Lower numbers represent lower peer estimates

Figures 8 - 11: Graphs of Drug Refusal Self-Efficacy at Pre and Post-Test for Program and Control Conditions



Note: Lower numbers represent stronger drug refusal self-efficacy.

Interactions of Drug Use with Peer Norms and Drug Refusal

Interactions between drug use with drug refusal efficacy and peer normative expectations for program and control participants are presented in the last four columns of Table 2. A highly significant interaction and a trend approaching significance were observed for cannabis abstainers ($F = 7.365$, 1df, $p < .001$) and infrequent users ($F = 2.992$, 1df, $p < .10$) with refusal self-efficacy. This meant that program abstainers and infrequent users were more likely to refuse future cannabis offers than the controls. Similarly a significant interaction for inhalant abstainers ($F = 5.042$, 1df, $p < .05$) meant that these program recipients were also more likely to report stronger inhalant refusal self-efficacy. Changes in normative expectations did not consistently contribute significantly toward drug behaviour change with only interaction trend observed for infrequent inhalant users ($F = 3.005$, 1df, $p < .10$) in that program recipients were more likely to report lower estimates of inhalant use among their peers. An absence of student reports of regular drunken behaviour, cannabis and inhalant use at the post-test meant no interaction effects could be calculated for these risk levels.

Discussion

The current study investigated a new drug and alcohol prevention program based on the social influence model that aimed to delay initiation or reduce use of the four most frequently used substances by Australian adolescents. A key feature of the program was the inclusion of alcohol harm minimisation messages alongside normative education of peer drug use. The results indicated that DAPPY:8 recipients were more likely to remain non-drinkers in comparison with a drug education as usual control group. Drug refusal

self-efficacy is an indication of future responses to drug offers and in comparison with their counterparts low risk program students were significantly more likely to refuse offers of cannabis and inhalants. As hypothesized reductions in peer estimates of cigarette, cannabis and inhalant use were observed among those in receipt of normative education but these changes did not significantly affect drug use behavior. Peer estimates of alcohol use increased among program recipients and may have been due to the inclusion of the harm minimisation messages. However the increase in alcohol peer estimates was not significant and did not adversely affect alcohol refusal self-efficacy or drinking.

More adolescent non-drinkers refrained from initiating alcohol use during the course of the current study than did those in receipt of drug education as usual. This result is consistent with findings from SHAHRP (McBride et al, 2004), an alcohol harm minimisation program during which intervention students were more likely to remain non-drinkers than their comparison counterparts. An argument in favour of normative education is that it takes the pressure off young people to conform to the behaviour of their peers (Hansen & Graham, 1991). Alcohol harm minimisation has the potential to be counterproductive because it may increase perceptions of the acceptability and prevalence of alcohol and hence increase the pressure to use. The findings of the present study would suggest that although harm minimisation messages may well have increased alcohol peer norms in the program group this did not necessarily translate into increases in drinking among those at lowest risk. One reason maybe that program students made a distinction between the behaviour of their immediate peers and those in the broader

community. Results from the class drug surveys would have demonstrated peer use of alcohol to be minimal and it was this finding that influenced student behaviour rather than perceptions of alcohol use among youth in general. Another reason for the low rate of alcohol use among program students may have had to do with the inclusion of both prevention models in the one program. Program students may have been better informed with a broader perspective of alcohol issues than their counterparts and this may have placed them in a better position to confidently abstain.

Gorman (1996) has criticised school-based social skills training programs because evaluation studies have demonstrated that they do not consistently reduce adolescent drug use. The present study was not an exception. Although normative education of peer smoking has successfully been used to prevent adolescent smoking (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995; Evans, 1976) reductions in cigarette peer norms in the present study did not produce a reduction in smoking. On the other hand reductions in peer norms for cannabis and inhalants were accompanied by stronger refusal self-efficacy among those at lowest risk. Inhalants have been associated with sudden sniffing death among young people and supply-reduction strategies are not easy to implement given the legitimate uses of volatile substances (Stothard, 2006). The present study has demonstrated to some extent that inhalant prevention can be accomplished with normative education and information on the consequences of inhalant use.

This study has a number of limitations. The ethics requirement that survey participants have written parental consent reduced the number of program recipients who

could potentially have provided data for the evaluation and meant that those who were evaluated may not necessarily be representative of all program recipients. The low participation rate also meant that some categories of high risk drug use could not be investigated due to small sample size. The evaluation data consisted of student self reports of drug use and no confirmatory biological samples were collected. Student self reports may be subject to error due to either over or under estimation of their drug use. However under circumstances where students are assured of anonymity as was the case in the present study these errors can be reduced (Winchester, 1996). Variance due to intraclass correlations occurring at the school and grade levels was not included in the analysis. The sample size of the present study was not large enough to be free of bias if these modifications were made and results need to be interpreted with caution (Murray & Hannan, 1990). An important limitation of this study was that not all of the program was delivered by teachers as intended by the author. Additionally group process or whether teachers used interactive teaching mode can impact on program efficacy to reduce adolescent drug use (Tobler et al, 2000). This subject is discussed more fully in Chapter 2 that deals with the program's implementation evaluation. Finally the drug education programs of the two schools in the control group were not thoroughly investigated and it is possible that similarities may have been present across intervention and control programs that may have affected the outcome.

Within the limitations of this study the following conclusions are drawn. Support was found for a prevention program predicated on the alcohol harm minimisation and social influence models to reduce adolescent alcohol initiation among those at lowest

risk. This would suggest that although alcohol harm minimisation messages may well have increased peer normative expectations, this did not influence abstainers to initiate drinking. Positive program effects were also found for cannabis and inhalant refusal self-efficacy among those at lowest risk and may have been due to changes in peer normative expectations. Observed reductions in cigarette peer norms did not translate into a reduction in smoking among program recipients. Improvements to the DAPPY:8 may require closer adherence to strategies used in programs that have been successful in preventing adolescent smoking. Finally the present study attempted to highlight the need for a comprehensive drug and alcohol prevention program that is not substance specific and is capable of meeting the needs of those at different risk levels. The program's positive effects were mainly found among the low risk majority and the small sample size prevented any conclusion been drawn about regular users who constituted the minority. Further research with a larger sample size and a modified DAPPY:8 may be useful in determining if the program is capable of affecting the drug behaviour of those at highest risk.

References

Australian Institute of Health and Welfare (2007). Statistics on drug use in Australia in 2006. Drug Statistics Series No. 18. Cat. no. PHE 80. Canberra, AIHW.

Botvin, G.J., Baker, E., Dusenbury, L., Botvin, E., & Diaz, T. (1995). Long-term follow-up results of a randomised drug abuse prevention trail in a white middle-class population. *Journal of the American Medical Association*, 273, 1106-1112.

- Botvin, G.J., Griffin, K.W., Diaz, T., & Ifill-Williams, M. (2001). Drug abuse prevention among minority adolescents: Posttest and one-year follow-up of a school-based preventive intervention. *Prevention Science, 2*(1), 2001, 1-13.
- Caprara, G. V., Scabini, E., Barbaranelli, C., Pastorelli, C., Regalia, C., & Bandura, A., (1998). Impact of adolescents' perceived self-regulatory efficacy on familial communication and antisocial conduct. *European Psychologist Vol 3*(2), 125-132.
- Centre for Substance Abuse Prevention (2002). *Science Based Prevention Programs and Principles, 2002*. Rockville MD: US Department of Health and Human Services.
- Cuijpers, P. (2002). Effective ingredients of school-based prevention programs: A systematic review. *Addictive Behaviors, 27*, 1009-1023.
- D'Amico, E.J., & McCarthy, D.M. (2006). Escalation and initiation of younger adolescents' substance use: The impact of perceived peer use. *Journal of Adolescent Health 39*, 481-487.
- De Bellis, M.D., Clark, D.B., Beers, S.R., Soloff, P.H., Boring, A.M., Hall, J., Kersh, A., & Keshavan, M.S. (2000). Hippocampal volume in adolescent-onset alcohol use disorders. *The American Journal of Psychiatry, 157*(5), 737-744.

- Donovan, J.E., & Jessor, R. (1985). Structure of problem behavior in adolescence and young adulthood. *Journal of Consulting and Clinical Psychology, 53*(6), 890-904.
- Dusenbury, L. & Falco, M. (1995). Eleven components of effective drug abuse prevention curricula. *Journal of School Health, 65*, 420-425.
- Engels, R.C.M.E., Hale, W.W.III., Noom, M., & De Vries, H. (2005). Self-efficacy and emotional adjustment as precursors of smoking in early adolescence. *Substance Use & Misuse 40*(12), 1883-1893.
- Epstein, J., Griffin, K. W., & Botvin, G. J. (2000). Role of general and specific competence skills in protecting inner-city adolescents from alcohol use. *Journal of Studies on Alcohol 61*(3), 379-386
- Evans, R.I. (1976). Smoking in children: Developing a social psychological strategy of deterrence. *Preventive Medicine, 5*, 122-127.
- Gorman, D.M. (1996). Etiological theories and the primary prevention of drug use. *Journal of Drug Issues, 26*(2), 505-520.
- Graham, J.W., Marks, G., & Hansen, W.B. (1991). Social influence processes affecting adolescent substance use. *Journal of Applied Psychology, 76*(2), 291-298.

- Grant, B.F., & Dawson, D.A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*, 103-110.
- Griffin, K.W., Botvin, G.J., Nicols, T.R., & Doyle, M.M. (2003). Effectiveness of a universal drug abuse prevention approach for youth at high risk for substance use initiation. *Preventive Medicine, 36*(1), 1-7.
- Hall, W.D. (2006). Cannabis use and the mental health of young people. *Australian and New Zealand Journal of Psychiatry, 40*(2), 105-113.
- Hansen, W.B. (1993). School based alcohol prevention programs. *Alcohol Health and Research World, 17*, 54-60.
- Hansen, W.B., & Graham, J.W. (1991). Preventing alcohol, marijuana and cigarette use among adolescents. Peer pressure resistance training versus establishing conservative norms. *Preventive Medicine, 20*, 414-430.
- Hawkins, J.D., Catalano, R.F., & Miller, J.Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64-105.

- Hoffman, B.R., Monge, P.R., Chou, C., & Valente, T.W. (2007). Perceived peer influence and peer selection on adolescent smoking. *Addictive Behaviors, 32*(8), 1546-1554.
- Jessor, R., Turbin, M.S., Costa, F.M., Dong, Q., Zhang, H., & Wang, C. (2003). Adolescent Problem Behavior in China and the United States: A Cross-National Study of Psychosocial Protective Factors. *Journal of Research on Adolescence, 13*(3), 329-360.
- Juvonen, J., Martino, S.C., Ellickson, P.L., & Longshore, D. (2007). "But Others do it!": Do misperceptions of schoolmate alcohol and marijuana use predict subsequent drug use among young adolescents? *Journal of Applied Social Psychology, 7*(4), 740-758
- Kandel, D.B. (1985). On processes of peer influence in adolescent drug use: A developmental perspective. *Advances in Alcohol and Substance Use, 4*, 139-163.
- Lenton, S., & Single, E. (1998). The definition of harm reduction. *Drug and Alcohol Review, 17*, 213-220.
- Lubman, D.I., Hides, L., & Yücel, M. (2006). Inhalant misuse in youth: Time for a coordinated response. *The Medical journal of Australia, 185*(6), 327-330.

- McBride, N., Farrington, F., Midford, R., Meuleners, L., & Phillips, M. (2004). Harm minimisation in school drug education: Final results of the School Health and Alcohol Harm Reduction Project (SHAHRP). *Addiction, 99*, 278-291.
- Midford, R. (2006). Looking to the future: Providing a basis for effective school drug education. In R. Midford & G. Munro (Eds.), *Drug education in schools: Searching for the silver bullet*. IP Communications: Melbourne.
- Midford, R., & McBride, N. (1999). Evaluation of a national school drug education program in Australia. *International Journal of Drug Policy, 10*, 177-193.
- Morrison, D.M., Mar, C.M., Wells, E.A., Rogers, Gillmore, M., Hoppe, M.J., Wilsdon, A., Murowchick, E., & Archibald, M.E. (2002). The theory of reasoned action as a model of children's health behavior. *Journal of Applied Social Psychology, 32(11)*, 2266-2295.
- Murray, D.M., & Hannan, P.J. (1990). Planning for the appropriate analysis in school-based drug-use prevention studies. *Journal of Consulting and Clinical Psychology, 58(4)* 458-468.
- Orlando, M., Tucker, J.S., Ellickson, P.L., & Klein, D.J. (2004). Developmental trajectories of cigarette smoking and their correlates from early adolescence to young adulthood. *Journal of Consulting and Clinical Psychology, 72*, 400-410.

Scheier, L.M., & Botvin, G.J. (1997). Expectancies as the mediators of effects social influences and alcohol knowledge on adolescent alcohol use: A prospective analysis. *Psychology of Addictive Behaviors, 11(1)*, 48-64.

SPSS Inc. (2005). AMOS 6.0 User's Guide. Chicago, USA.

Stothard, B. (2006). Developing a national program: What's in the mix and shy? In R. Midford & G. Munro (Eds.), *Drug education in schools: Searching for the silver bullet*. IP Communications: Melbourne.

Tobler, N.S., Roona, M.R., Ochshorn, P., Marshall, D.G., Streke, A.V., & Stackpole, K.M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention, 20(4)*, 275-336.

Tobler, N.S., & Stratton, H.H. (1997). Effectiveness of school-based drug prevention programs: A meta-analysis of the research. *Journal of Primary Prevention, 18(1)*, 71-128.

Treatment Protocol Project (2000). *Management of mental disorders* (3rd ed.). World Health Organization Collaborating Centre for Mental Health and Substance Abuse.

Tucker, J.S., Ellickson, P.L., Orlando, M., Martino, S.C., & Klein, D.J. (2005). Substance Use Trajectories From Early Adolescence to Emerging Adulthood: A Comparison of Smoking, Binge Drinking, and Marijuana Use. *Journal of Drug Issues, 35*(2), 307-332.

Unger, J.B., & Rohrbach, L.A. (2002). Why do adolescents overestimate their peers' smoking prevalence? Correlates of prevalence estimates among California 8th-grade students. *Journal of Youth and Adolescence, 31*(2), Apr 2002,147-153.

Unger, J.B., Rohrbach, L.A., Howard-Pitney, B., Ritt-Olson, A., & Mouttapa, M. (2001). Peer influences and susceptibility to smoking among Californian adolescents. *Substance Use & Misuse 36*(5), 551-571.

Unger, J.B., Yan, L., Shakib, S., Rohrbach, L.A., Chen, X., Qian, G., Chou, C., Jianguo, S., Azen, S., Zheng, H., & Johnson, C. A. (2002). Peer influences and access to cigarettes as correlates of adolescent smoking: A cross-cultural comparison of Wuhan, China and California. *Preventive Medicine: An International Journal Devoted to Practice and Theory, 34*(4), 476-484.

Yücel, M., Lubman, D.I., Velakoulis, D., Wong, M.T.H., Wood, S.J., Condello, A., Brewer, W.J., & Pantelis, C. (2006). Structural brain correlates of alcohol and cannabis use in recreational users. *Acta Neuropsychiatrica, 18*(5), 226-229.

Drug and Alcohol Prevention Program for Year 8:
Curriculum Development and Implementation Evaluation

Abstract

This study reports on the curriculum development and implementation evaluation of the Drug and Alcohol Prevention Program for Year 8 (DAPPY:8). Research into school drug education has demonstrated that teachers often fail to achieve implementation fidelity of effective programs resulting in a loss of efficacy to reduce adolescent drug use. DAPPY:8 combined a teacher consultation process with researcher knowledge of drug prevention principles to overcome implementation difficulties and to develop a program suited to the needs of culturally diverse Northern Australian students. A key implementation parameter was quality of program delivery or the extent to which interactive teaching mode was used. Teacher self-reports indicated that less than half of the interactive activities (49%) were implemented compared with the non-interactive activities (84%). The discussion focuses on overcoming implementation difficulties with reference to teacher training, teacher characteristics, program characteristics and organisational characteristics required to deliver effective school drug prevention.

Drug and Alcohol Prevention Program for Year 8:
Curriculum Development and Implementation Evaluation

In a meta-analysis of school drug prevention programs Tobler and her colleagues (2000) identified group process as an essential element in effective prevention. Programs incorporating an *interactive* delivery mode were found to be superior in reducing adolescent substance use than *non-interactive* programs. Interactive delivery mode is designed to stimulate the participation of all students in class activities and encourages student interactions as a means of learning new social skills. Interactive teaching has been closely associated with the social influence model of drug prevention which posits that young people are influenced to use drugs by their peers and effective prevention requires the acquisition of resistance skills (Botvin, 2000a; Cuijpers, 2002; Dusenbury & Falco, 1995). More recently interactive teaching has been incorporated into a harm minimisation prevention model that teaches students to minimise harmful behaviors associated with alcohol use (McBride, Farrington, Midford, Meuleners & Phillips, 2004). This paper reports on the development and implementation evaluation of a new interactive drug and alcohol prevention program for Year 8 students. Interactive teaching mode can be more challenging to deliver than more traditional methods and this study investigated the extent to which this was accomplished in the implementation of the program.

Universal school based drug prevention or programs delivered to all students irrespective of their risk level have undergone a series of changes from when they were first implemented in the early 1960s. Initially prevention consisted of information about

the consequences of drug use delivered in a didactic teaching mode. Information giving then gave way to an affective approach that focused on the underlying factors thought to be causing drug use such as values, self esteem and decision making. Although evaluations of universal affective programs have demonstrated an impact on the underlying factors, they have not demonstrated reductions in drug use itself (Botvin, 1995; Gorman, 1996).

Early models of prevention have since been superseded by the social influence model in North America and in Australia with a harm minimisation approach (Midford, 2006). Since the early 1980s the social influence model derived from social learning theory (Bandura, 1977) has dominated the literature. Two versions of this model are resistance skills training (Ellickson & Bell, 1990; Dielman, Shope, Leech, & Butchart, 1989) and social skills training (Botvin et al, 1992; Pentz, 1989). Both focus on teaching skills to resist peer pressure to use drugs but social skills training also includes “life skills” such as communication, mood management, assertiveness training, problem solving and goal setting. Alternatively the harm minimisation model is based on the assumption that some young people will use drugs and that prevention requires the acquisition of skills to minimise harmful drug related behaviours. One application focusing specifically on alcohol has demonstrated efficacy in reducing risky consumption and harmful behaviour associated with drinking (McBride et al, 2004).

The complement of skills training models is interactive learning process. Interactive group processes aim to foster participation of all group members and

encourage peer bonding through exchange of ideas and participation in activities designed to facilitate skills acquisition (Cahill, Murphy & Kane, 2005; Cuijpers, 2002). This mode is best suited to enhancing interpersonal competence against the risk factor of peer influence to use drugs. Peer pressure to use drugs can be both direct and indirect (Graham, Marks & Hansen, 1991). Direct offers to use drugs are dealt with by practising refusal skills that teach students how to say no to drugs while maintaining secure relations within their peer group. Young people are also influenced by perceptions of what their peers may be doing and tend to over estimate peer drug use (Fishbein, 1979). Feedback from surveys of actual peer drug use can correct misconceptions and reduce the likelihood of drug initiation (Evans, 1976). Alternatively prevention based solely on the consequences of drug use or affective programs seeking to change individual personal values and attitudes focus on individual intrapersonal factors and are typical of non-interactive teaching methods. The comparative success of the interactive programs is thought to be because they are more developmentally appropriate for young people who are more interested in peer relations than in changing personal values and attitudes (Tobler et al, 2000).

Effective prevention is dependent on implementation fidelity. Fidelity refers to the ability of teachers to deliver the program as the researchers intended. The broad dissemination of interactive programs has posed a challenge for teachers and has seen a drop in efficacy to reduce adolescent drug use (Botvin, Baker, Dusenbury, Botvin & Diaz, 1995; Tobler et al, 2000). In an observational study of the normative practices of drug prevention teachers, nearly half of the education provided focused on the provision

of knowledge and alternative methods of proven programmatic effectiveness were relatively ignored (Hansen & McNeal, 1999). Furthermore teachers showed a poor understanding of the principles and methods, other than knowledge of effective drug prevention. In a review of implementation studies of school drug prevention programs, most teachers did not cover everything in the curriculum, were likely to teach less over time and training alone was not sufficient to ensure effective implementation (Dusenbury, Brannigan, Falcon & Hansen, 2003).

Education Queensland recognises a responsibility to the community to provide drug and alcohol education for students and encourages schools to develop their own programs based on a set of guidelines (Cahill, Murphy & Kane, 2005). The guidelines include the provision of normative education, accurate and relevant drug information, an interactive delivery mode and enhancing student capacity to deal with drug use in a variety of contexts. Interactive delivery mode is described as "...activities that actively engage and involve the participants. They need to be mixing, thinking, talking and enjoying themselves..." (p13). While locally developed programs may be better adapted to local needs than generic programs, one review of such programs in the US found that few had been systematically evaluated, were characterized by low teacher training and used few resources outside of the school (Bosworth, 1998). The purpose of the present project was to link an academic research project with teacher/school participation as a means of developing an effective prevention curriculum that would minimise implementation problems and be better suited to local needs.

This paper reports on the curriculum development and implementation evaluation of the Drug and Alcohol Prevention Program for Year 8 (DAPPY:8). DAPPY:8 is a pilot project of a new interactive prevention program developed by the author in consultation with teachers. It was created for culturally diverse Northern Australian youth. Based mainly on the social skills and alcohol harm minimisation models it addresses the four most commonly used substances by Australian youth namely cigarettes, alcohol, cannabis and inhalants (Australian Institute of Health and Welfare [AIHW], 2006). The project's aim was to combine a community consultation process with researcher knowledge of drug prevention to develop a local program that could be successfully implemented. Collaborative models have been used to overcome implementation problems of quality programs in the corporate sphere and in the area of social science (Dickens & Watkins, 1999; Stoecker, 1999). The collaborative model used to guide this research was adapted from methodology used to create the Keepin' it REAL curriculum (Gosin, Dustman, Drapeau & Harthun, 2003). The Keepin' it REAL program was developed to suit the needs of primarily Latino youth in the South-western US. Teacher and student knowledge of local culture was incorporated into a prevention curriculum in which the researcher created lessons based on sound theoretical foundations and the teachers and students contributed to lesson modifications, suggestions for supplementary materials and in the production of an instructional video. In the present study the researcher developed the program and teachers were asked to provide feedback that contributed to modifications to the initial draft and to the implementation evaluation.

The implementation evaluation of DAPPY:8 was based on parameters identified by Dusenbury and her colleagues (2003) as defining elements in effective prevention. First the amount of program delivered or dose has been found to impact on program efficacy in reducing drug use (Botvin, Baker, Dusenbury, Botvin & Diaz, 1995). Second the quality of delivery has to do with the extent to which interactive teaching methods are used in program delivery. The DAPPY:8 utilised both non- interactive and interactive delivery modes and quality of delivery was defined as the extent to which teachers used a balance of these two teaching styles. Both parameters were evaluated through teacher self reports. Additional verbal and written information was gathered from teachers providing the program before and after its delivery and observations were conducted by the researcher of a number of classes. This information was used to assess additional parameters to do with teacher, program and organisational characteristics.

Method

The DAPPY:8 project began with a series of initial interviews with teachers and principals from seven State High Schools in Cairns and its surrounding districts. The purpose of the interviews was to invite participation in a new drug and alcohol prevention program and to inquire about the schools' prevention curricula. The school personnel interviewed had developed their own programs by selecting activities and other resources such as videos from a number of commercially available programs. In addition staff from the area's local health services was occasionally invited to conduct drug and alcohol information sessions. None of the interviewed schools had had their programs evaluated for efficacy in reducing adolescent drug use. Three schools consented to participate in the

DAPPY:8 project. One school with an enrolment of 139 Year 8 students was randomly allocated to the treatment condition and contributed to the development and implementation evaluation of the DAPPY:8. Two additional schools were assigned to the control condition and received their usual school program. (The program evaluation can be found in chapter 2 and is based data from 88 students present at the pre- and post-tests who had both parental and their own written consent).

Curriculum Development

The curriculum development began with the researcher compiling a draft of the DAPPY:8. The lessons drew on activities and formats used in quality commercial programs such as LifeSkills Training (Botvin, 2000b), Project Alert (Ellickson, Miller, Robyn, Wildflower & Zellman, 2004), Keepin' It REAL (Drug Resistant Strategies [DRS], 1999) and The Anger Coping Program (Larson & Lochman, 2002). Cigarette and alcohol poster advertisements were downloaded from educational websites specialising in critical reviews of drug advertising in the media. The selection of content was guided by a number of reviews identifying effective components in adolescent drug prevention curriculum (Botvin, 2000a; Cuijpers 2002; Dusenbury & Falco, 1995; Hansen, 1993; Hawkins, Catalano & Miller, 1992; Tobler et al, 2000). Draft copies of a Teachers Manual and Student Workbook were submitted to three of the Physical Education teachers who were to present the program for their feedback. Teachers were asked to comment on a) development of concepts and skills, b) age and cultural appropriateness of the lessons c) suitability of the interactive components d) and presentation and format of materials. The following feedback was integrated into the final program.

Simplification of Presentation - Teachers Manual The presentation of the Teachers Manual was thought not to be easily accessible. Background information about the lessons needed to be clearly separated from the instructions. The modifications included step by step instructions set out in point form and printed in a large font with background information reduced to a minimum and in a smaller lighter font.

Simplification of Presentation – Student Workbook The school community was comprised of numerous cultures with the dominant minorities being Aborigines and Torres Strait Islanders as well as South East Asians and Pacific Islanders. Within these cultures there were a number of clan groups and different languages spoken. Students from these groups often spoke English as a second language. In this environment teachers' recommendations were to keep the English language of the Student Workbook as simple as possible and to minimise the amount of information contained on any one page. To ensure an easily accessible and attractive presentation the Student Workbook was illustrated with numerous cartoon figures and presented in colour. Due to the diversity there was no attempt to convey culturally specific messages.

Questions to Guide Advertising Critiques The general guidelines on how to critically analyse cigarette and alcohol advertising did not contain sufficient information and teachers requested more explicit instructions. A series of supplementary questions were developed for each poster advertisement as a means of assisting teachers in stimulating class discussion (see DAPPY:8 curriculum below).

Questions to Guide Problem Solving A series of supplementary questions were also included for the problem solving sections. There was a tendency for teachers to want to arrive at a “correct” answer to the dilemmas presented in these exercises. Hence additional instructions were included to emphasis the problem solving process and the importance of students expressing a range of different opinions (See Appendix E).

Inclusion of Individual Student Activities Concern was expressed about the number of interactive activities included in the draft. Teachers felt that small group work such as preparation of a role play could lead to off task behaviour if students were not closely supervised. They requested more individual pen and paper tasks or “hands on” activities as a means of reducing class disruptions and avoiding disciplinary action. To this end the drug and alcohol quizzes and crossword puzzles were developed and designed to be used at any point during the program as a settling strategy.

DAPPY:8 Curriculum

The DAPPY:8 curriculum consisted of 10 Modules of approximately 50 minutes duration designed to be implemented by teachers to Year 8 students on a weekly basis in normal classroom settings. The four main sections of the curriculum were a) normative education, values, knowledge, b) resistance skills, c) life-skills training and d) alcohol harm minimisation.

Normative Education, Values, Knowledge

Adolescent drug use has been found to be influenced by numerous risk factors with some being more readily modifiable than others (Hawkins, Catalano & Miller, 1992). Perceptions of the social acceptability and prevalence of peer drug use are recognised risks for adolescent drug use (Graham, Marks & Hansen, 1991). As part of the social influence approach Hansen (1993) has cited beliefs about the social acceptability of drugs, personal commitment, values, and consequence of drug use as being among the most effective drug prevention strategies.

Normative Education Perceptions of the prevalence of peer drug use can be modified through feedback from surveys of actual peer use. In this exercise students are asked to make a guess of the proportion of peer use of alcohol, cigarettes, cannabis and inhalants over the last month. An anonymous class survey of drug use is then conducted and the results are given to students for comparison (Ellickson et al, 2004).

Values and Commitment In the first and second modules students are asked to identify what is important in their lives and the value of having good friends. They are then asked to discuss reasons for and against drug use and to consider if drugs have any place within their personal value systems. Similarly in the fourth module after discussing the consequences of drinking too much they are asked to identify their own reasons for drinking safely.

Drug and Alcohol Knowledge The preventative value of drug knowledge is enhanced when delivered within the context of the social influence model (Hansen, 1993). Information of the consequences of drug and alcohol use has been integrated into an interactive game (DRS, 1999). Small groups of students are given Monopoly money

with which they can bet on the correct answers to multiple choice questions. While long term consequences of drug use are included emphasis is placed on short term consequences as young people do not relate well to the health problems of older people (Botvin, 2000b). In an interactive exercise to increase knowledge of cigarette dependence, students are asked to interview a cigarette smoker. This is an original exercise in which students are given scripted questions as a means of identifying the difficulty many smokers experience in trying to quit.

Resistance Skills

Young people with low refusal self-efficacy are highly susceptible to peer influence to use drugs (Caprara, et al, 1998; Engels, Hale, Noom, De Vries, 2005; Epstein, Griffin, & Botvin, 2000). Resistance skills strategies include both refusal skills and resistance to advertising pressure in the media (Botvin, 2000a). Although included in many programs resistance skills have not been found to be as highly correlated with drug use prevention as normative education (Cuijpers, 2002; Hansen & Graham, 1991). Refusal skills have been included in this curriculum because they have been shown to be effective with a small subgroup of youth who are highly susceptible to peer drug offers (Dielman, Kloska, Leech, Schulenberg, & Shope, 1992). Refusal skills are most “teachable” and relevant to seventh and eighth grade students and have less effect for younger or older adolescents (Wynn, Schulenberg, Kloska & Laetz, 1997).

Refusal Skills Students are introduced to the concepts of indirect and direct pressure to use drugs. Indirect pressure or desire to conform is addressed through a number of problem solving exercises. Direct pressure or skills to refuse direct offers are

taught utilising problem solving, teacher demonstration, rehearsal and role plays. The object is to teach students how to confidently refuse drug offers while feeling secure within their peer group (Botvin, 2000b; Ellickson et al, 2004; DRS, 1999).

Analysing Advertising A series of tobacco and alcohol advertisements are presented to students and through teacher guided discussions they are asked to identify a) the target group, b) the advertising message, c) the underlying message, d) the techniques used to sell the message and e) some arguments against the underlying message. Additionally students are asked to work in pairs to create either an anti-smoking or a drink safe poster utilising the slogans, visual images and techniques of the commercial drug advertisers.

Life-Skills Training

There is some evidence that adding life-skills training to a social influence program may strengthen drug prevention effects (Cuijpers, 2002; Tobler et al, 2000). Social learning theory (Bandura, 1977) and problem behaviour theory (Jessor & Jessor, 1977) suggest that poor personal and social skills are likely to increase an adolescent's susceptibility to problem behaviour and drug use (Botvin, 2000a). Hence encouraging students to form positive social bonds with peers may be an alternative strategy to refusal skills training (Hawkins, Catalano & Miller, 1992). The social skills in the DAPPY:8 have been adapted from LifeSkills Training (Botvin, 2000b) with additional anger management activities from the Anger Coping Program (Larson & Lochman, 2002). Aggressive boys who had participated in the Anger Coping Program were found to have

lower rates of marijuana, alcohol and other drug use at the three year follow-up when compared to their no treatment counterparts (Lochman, 1992).

Peer Bonding Peer bonding exercises asked students to identify positive qualities in themselves and in their friends and emphasised the value of being able to pay and receive compliments.

Anxiety Management The goal was to assist students to identify the symptoms of anxiety, situations that provoke anxiety and to introduce them to controlled breathing and the cognitive technique of mental rehearsal as management strategies. Additionally they practise relaxation through a teacher led guided fantasy.

Anger Management Anger as a feeling requiring a response is distinguished from angry behaviour. Students are taught strategies for managing anger and the difference between out of control and in control behaviour. They can then practise these strategies in a card memory game that requires them to focus attention on memorising cards under mild amounts of provocation from other students (Larson & Lochman, 2002).

Assertiveness Students are taught the difference between passive, assertive and aggressive responses to conflict situations. Drug refusal skills have been included as a specific example of an assertive response. Students are presented with a number of scenarios in which drug use is portrayed as interfering with either social relations or academic aspirations. In small groups they are asked to problem solve an assertive response and devise a role play demonstrating how they would handle the situation.

Communication/Social Skills In the final module students are introduced to a number of listening and speaking skills to help them overcome shyness and to initiate

social conversations. The module ends with the simulation of a party scene in which students practise opening, sustaining and closing conversations with different class mates.

Alcohol Harm Minimisation

The wide spread availability and social acceptance of alcohol led to the inclusion of harm minimisation messages addressing unsafe behaviours and drinking practices. Students are given information on the social and physiological consequences of excessive drinking and asked how many of them disapprove of people drinking too much. Information on the consequences of drinking alcohol formed the basis of the crossword puzzle and was further discussed in alcohol advertising analysis.

Implementation Evaluation

DAPPY:8 was incorporated into the Physical Health and Education subject and alternated with periods of outdoor sports. The researcher conducted an initial half day information session for teachers with two additional hours on separate occasions after the program commenced to address any implementation problems. The implementation evaluation was mainly conducted through teacher self-reports. Teachers were given a check list of the DAPPY:8 activities and asked to tick off the segments completed. In addition they were asked to add their comments to the end of each module. Generally teachers did not feel comfortable about being observed delivering the classes and permission was only granted to the researcher on three occasions to act as an observer. The quality of program delivery was determined from the extent to which the interactive program components were completed.

Interactive Classification The DAPPY:8 consisted of lessons utilising a range of delivery methods that were classified in to two main groups. Tobler and Stratton (1997) described four group processes ranging from the least interactive and most highly structured termed Group A to the most interactive and least structured termed Group D. Group A is a didactic lecture style of information giving to a passive audience. Group B is typical of the non-interactive prevention programs and more participatory. It allows for teacher led discussions but few exchanges between peers. Group C is the mode most frequently used by interactive prevention programs taught to adolescents. Still highly structured and teacher led it is characterised by small group activities and optimally aims for participation of all students with learning being dependent on peer interactions Finally Group D is the least structured and most interactive. It is more suited for older adolescents and along with Group A was not used in this evaluation.

Results

The program was delivered to Year 8 students (n= 139) by five teachers in one Cairns school during second semester 2005. Students were given a list of cultural labels and asked to nominate the one with which they most identified (Appendix C: Section 2). The cultural groups of students in receipt of the DAPPY:8 were Australians (43.9%), Aborigines and Torres Strait Islanders (30.3%), Pacific Islanders and South East Asians (21.2%) and other minorities (4.5%). (Additional student characteristics can be found in Chapter 2). Some classes were delivered by student teachers on placement under the supervision of a senior teacher. Teachers agreed to complete as much of the curriculum

as possible, the program checklist and provided data for the implementation evaluation (Appendix D). Table 1 lists the Module components, the type of lesson, classification of components as either non-interactive (B) or interactive (C) and the proportion of teachers completing each component. Thirty components were classified as non-interactive and had an 84% implementation rate. Twenty-four components were interactive and had a 49% implementation rate. Overall 69% of the program was implemented.

Post Implementation Feedback

Student Workbook Teachers reported that the Student Workbook was generally well received by the students and worked well to complement the lessons. One teacher said she preferred to work from the Student Workbook rather than the Teachers Manual because the format was easier to follow. Suggestions were made for extra blank pages at the end of each module for a workspace and to record additional activities. Students enjoyed the crosswords and word puzzles and suggestions were for more of this type of “hands on” activity.

Quality of Delivery The capacity of teachers to deliver the interactive components depended to some extent on whether the students were engaged. However some teachers were able to complete more of the interactive activities than others. Generally teachers felt that the modules required a lot of discussion and less written or “hands on” work. Consequently as one teacher reported “kids lost it a bit.” Another teacher wrote “too much talking/discussion and not enough hands on.” Role plays presented the greatest challenge as some students enjoyed doing these more than others. The least demanding of

the interactive activities were the Drug Use Surveys and these were completed by all classes. However the Refusal Skills exercise which required small group work was attempted by less than half of the classes. One class completed the “Interview with a Smoker” and found the exercise to be beneficial. Another teacher reported that the reason that “Giving and Receiving Compliments” was not done was that it would have taken too much time to re-arrange the seats.

Teacher Improvisation The teachers did not adhere rigidly to the DAPPY:8 curriculum and complemented the modules with their own resources. These resources tended to be in the form of videos or activity handouts from other programs that covered the same topic. The selection of additional material was not of an interactive nature. The need for the additional resources was because the teachers thought the DAPPY:8 was too interactive and they were not prepared to implement all of its activities. However most of the interactive activities were attempted by at least one class and activity selection appeared to be based on the preference of individual teachers.

Observer Report

Teacher Interpretation Teachers were encouraged to interpret the lessons and some good examples were observed of teachers introducing their own ideas to complement the main points of lessons. Where this was done student engagement was high.

Teacher Characteristics Support for the program varied among the teachers with the more senior teachers expressing the greatest reluctance to implement some of the interactive components. Alternatively the younger teachers and one of the student teachers showed the greatest interest, were more willing to engage with the researcher and reported a greater enthusiasm to use an interactive teaching mode.

Seating Arrangement Teachers were given an option of arranging class seating in a circle with a space in the middle to facilitate interactive activities. In the three classes that were observed this was not done and teacher led discussions such as problem solving were conducted with all desks facing the teacher who stood at the front of the class. Consequently most of the exchanges were between teacher and students and the seating arrangement did not encourage between student interactions.

Discipline A key impediment to teachers completing the Modules as intended by the researcher was disruptive students. While in a minority their behaviour affected the whole class and the disciplinary measures used such as threats to send the student/s to the principal did little to deter them. The individual “hands on” activities such as the word puzzles and crosswords did have the effect of settling some of this disruptive behaviour and avoided harsher discipline. To an extent the discipline problems observed were the consequence of alternating the in-class program with outdoor sport as part of Physical Health and Education and conducting the classes in the afternoon. These problems were most evident at the commencement of the semester when students’ mistaken expectations

of spending the period outdoors were met with the compulsory scheduling of an indoor class.

Table 1: Proportions of Non-Interactive and Interactive Program Delivered by Teachers

	Lesson		Lesson	
	B	C	B	C
<i>Module 1-Peer Bonding</i>				
<i>Module 3-Tobacco</i>				
What's important in my life...	Values	.8	Tobacco Survey Results	Normative Education
Why do people use drugs...	Normative Education	1.0	Cigarettes/Young People	Drug Advertising
What's not so good about drugs	Normative Education	1.0	Advertising Critique	Drug Advertising
Giving and receiving compliments	Peer Bonding	0	Quiz - Tobacco	Knowledge
Good things ...about friends	Peer Bonding	1.0	Interview with Smoker	Knowledge
What are good things about me	Peer Bonding	.8		
<i>Module 2-Peer Pressure</i>				
<i>Module 4-Alcohol</i>				
Drug Use Survey	Normative Education	1.0	Alcohol Survey Results	Normative Education
Why have good friends	Values	.8	Is Alcohol a Problem?	Harm Minimisation
Peer Pressure and Drug Use	Refusal Skills	1.0	How much is too much?	Commitment
Making Decisions and Peers	Refusal Skills	.8	Alcohol Dependence?	Harm Minimisation
Role Play	Refusal Skills	.6	Alcohol Advertising	Drug Advertising
Proportion of Peer Drug Use	Normative Education	.8		

	Lesson		Lesson		B	C
	B	C	B	C	B	C
<i>Module 5-Inhalants/Cannabis</i>						
	<i>Module 8-Anger</i>					
Cannabis/Inhalant Survey	Normative Education	1.0	Definition of Anger	Anger Management	1.0	
Interview with Smoker	Communication	.2	Emotion/Behaviour	Anger Management	.6	
Quiz – Cannabis/Inhalants	Knowledge	.6	Anger Thermometer	Anger Management	.6	
			In Control Tips	Anger Management	1.0	
<i>Module 6- Poster</i>						
Poster Assignment	Communication	.2	Memory Game	Anger Management	.4	
			“Cool Down”	Peer Bonding	.2	
			Unfair Treatment	Anger Management	.4	
<i>Module 7-Anxiety</i>						
	<i>Mod 9-Assertiveness</i>					
Signs of Anxiety	Anxiety Management	1.0	Definition	Assertiveness	1.0	
Anxious Situations	Anxiety Management	1.0	Responses/Conflict	Assertiveness	.6	
Coping	Anxiety Management	1.0	Difficult Situations	Assertiveness	.6	
Breathing Exercises	Anxiety Management	1.0	Standing up for Self	Assertiveness	1.0	
Mental Rehearsal	Anxiety Management	.6	Not Standing for Self	Assertiveness	1.0	
Guided Fantasy	Anxiety Management	.4	Conflict Situation	Assertiveness	.6	
			Modelling Assert	Assertiveness	.4	
			Refusal Skills	Refusal Skills	.4	

	Lesson	B	C
<i>Module 10-Communication Skills</i>			
Listening Skills	Communication		.4
Assertive Speaking	Assertiveness		.4
Practice in Easy Situations	Social Skills		.4
Mental Rehearsal	Social Skills		0
Activity-Opening Line	Social Skills		.2
Teacher Demonstration	Social Skills		.2
Practicing Conversation Skills	Social Skills		0
Implementation Rates		.84	.49

B = Non-Interactive; C = Interactive

Discussion

The DAPPY:8 pilot project was undertaken with the goal of merging academic research with the expertise of teachers in an effort to develop a theory driven drug and alcohol prevention program that would minimise implementation problems and be relevant to the local student community. The experiment identified divergent goals between the program developers and the program facilitators. On the one hand teachers held class management as their primary goal while the researcher goal was to adhere to evidence based principles of drug prevention. Interactive teaching has been demonstrated to be an effective drug prevention strategy (Tobler et al, 2000). However a number of teachers in this study viewed this teaching style as having a greater propensity for class disruption and off-task behaviour and performed fewer of the interactive tasks in favour of more passive non-interactive activities.

The overall amount or dose of the program delivered was 69%. Botvin and his colleagues (1995) found that the capacity of LifeSkills Training to curtail adolescent drug use was greatly reduced when less than 60% of the program was delivered. In the present study some teachers were able to deliver a greater proportion of the program because they were able to complete more of the interactive tasks. Consequently a smaller proportion of the interactive program content (49%) was implemented compared with the non-interactive component (84%). This discussion focuses mainly on how implementation difficulties may be resolved with reference to a number of elements identified by Dusenbury and her colleagues (2003) as key to successful program implementation.

Teacher Training The teachers in this study did not have sufficient training and knowledge of evidence based drug and alcohol prevention to distinguish between which components of the program were more essential than others. Their choices to modify the program were based more on a need to manage their classes in a particular style rather than on informed selection of proven strategies. Compliance with the Drug Use Surveys was high because the relatively simple procedures for changing normative expectations posed few implementation challenges. However less than half of the teachers reported implementing Refusal Skills. This drug prevention strategy, proven to be effective for a subgroup of vulnerable youth, can only be taught effectively if students are given the opportunity to rehearse and practise these skills before they are likely to be confronted with real drug offers. Teachers need to be exposed to training that includes interactive

class techniques in order to develop a level of confidence to enable them to implement this teaching style in their own class rooms.

Program Differentiation Teacher improvisation can be a two edged sword in that it can be used to make programs more effective by adapting them to local needs but alternatively non-adherence can diminish the program's capacity to reduce drug use (Dusenbury et al, 2003). Teacher improvisation in the present study often led to important interactive activities being replaced by non-interactive or passive exercises with little drug prevention value. For example the requests to include more "hands on" or individual pen and paper exercises such as crossword puzzles were only partly driven by class management requirements. Underlying these requests was the supposition that prevention was solely to do with drug and alcohol knowledge. Knowledge in itself has little preventative value without an understanding of the social influences that are driving adolescent drug use (Hansen, 1993). Under circumstances where teachers are free to devise their own curriculum and do so by selecting from a range of different resources, program differentiation is important in guiding this selection of activities. Program differentiation is different from training to implement specific commercial programs. It requires knowledge of the different theoretical approaches in the prevention literature and their key strategies. This knowledge needs to include an awareness of the content as well as the method of delivery of effective prevention.

Teacher Characteristics Teachers' attitude towards a program can determine the extent to which it is supported or maintained. (Parcel et al, 1995). In the current study

teachers had little incentive to forego their autonomy in program selection and to implement new practices. Remuneration in the form of stipends and professional development points may be one means of creating enthusiasm for a research project (Gosin et al, 2003) but cannot ensure that the project will be maintained once the research is completed. The reluctance to change established practices was more evident in the senior teachers who may have been responsible for the established curriculum and less evident in the new teachers. One study of new teachers found that they were better trained, had more confidence in delivering interactive activities, were more enthusiastic and were more likely to adhere to a new prevention program (Rohrbach Graham & Hansen, 1993). Other teacher characteristics contributing to program fidelity have been found to be confidence and animation in program delivery, while authoritarian teaching style has been associated with low fidelity (Sobol et al, 1989).

Program Characteristics Programs that are easy to follow are more likely to succeed than programs with complex presentations that require coordination of many elements (Dusenbury et al, 2003). The format of the DAPPY:8 was influenced by a review of a number of high quality commercial programs and teachers had an opportunity to provide feedback before and after program implementation. The feedback resulted in a simplification of the format and additional materials were made available such as individual pen and paper activities and multiple choice answers as a means of guiding class discussions. Generally the presentation of the Student Workbook was well received and suited to the needs of culturally diverse students. However some teachers reported a preference to work from the Student Workbook rather than from the Teachers Manual.

This presented an implementation problem in that the Student Workbook did not contain the instructions for the interactive activities. One solution to this problem may be to present the program as a Student Workbook with detailed step by step instructions included for the interactive tasks. This may also encourage student participation by allowing them to prepare for these tasks by collecting the required materials and by having a written reference for the lessons.

Organisational Support Organisational elements that may impact on program fidelity are quality of leadership, school culture, staff morale, principal and administrative support (Dusenbury et al, 2003). However it is not known to what extent these elements may contribute to successful program implementation. In the present study two organisational elements may have contributed to the quality of teacher training and the excessive focus on class management. First the subject of Physical Health and Education did not have a standardised curriculum and neither was there any institutional requirement for students to acquire a competency level. In the absence of such a structure there would have been little guidance or leadership of teachers to shape their professional development in the area of drug prevention. Second the school community was such that it contained a high number of under achieving students who were also presenting with management problems. This combined with the scheduling of the program to alternate with outdoor sport meant that teachers were challenged in managing their classes and contributed to a lower program completion rate. Generally teachers are held responsible for class management. However problems with the school environment and class

discipline also need to be addressed at the organisational level with consistent, effective measures and programs in place that minimise disruption and facilitate learning.

Limitations This study has a number of limitations. The conclusions reached in this discussion are based on teacher self reports and researcher observation of three classes and may not represent teachers generally. Additionally two other aspects of program fidelity were not included in this implementation evaluation (Dusenbury et al, 2003). Adherence refers to whether a program has been delivered as written and has met the key objectives. Hansen and McNeal have argued that adherence is best measured by observation rather than through teacher self-report (1999). In their review of the normative practices of teachers, discrepancies were found between teacher self reports of adherence and reports of observers trained to understand drug prevention. They concluded that this was because teachers were insufficiently trained in drug prevention principles. Observations in the current study were limited to three sessions delivered in non-interactive style and this limitation prevented a more thorough assessment of program adherence.

Participant responsiveness refers to how students responded to the program and was not directly assessed (Dusenbury et al, 2003). Participant responsiveness measures can include respect for student opinions, participation in class discussion, recommendation of program to friends and the extent to which students discuss the program with their parents. In their feedback teachers made reference to a lack of student engagement in choosing not to implement or discontinue some aspects of the program.

However without consistent observational data the disengagement may have been attributed to quality of delivery and teacher characteristics.

Conclusions This study found evidence that the predominantly non-interactive teaching style used by some of the teachers who facilitated the DAPPY:8 pilot project was not suited to the delivery of effective drug prevention. Although the evidence was largely based on small sample size and teacher self-reports nevertheless the conclusion is consistent with Hansen and McNeal's observational findings of the normative practices of teachers in the United States (1999). In the latter study the authors' recommended that a radical transformation of approaches to teaching was needed if drug prevention was to improve. The recommendations of this study are that school administrative decisions to provide drug prevention need to be informed by evidence based principles and teachers need to be supported with the provision of training in interactive methods and knowledge of effective drug prevention. To this end, newly trained teachers with an animated teaching style may be more suited to running interactive drug prevention classes than older teachers used to didactic teaching. Administration also needs to address the issue of class discipline. Effective programs are needed for students with conduct problems if they are to benefit from the school experience and to prevent disruption to classes. Finally program implementation is equally as important as theory and content in drug prevention. While this study did not fully succeed in overcoming implementation problems, the consultation process did identify and made recommendations to address a number of problems confronting effective school based drug prevention in a local culturally diverse community.

References

- Australian Institute of Health and Welfare (2007). Statistics on drug use in Australia in 2006. Drug Statistics Series No. 18. Cat. no. PHE 80. Canberra, AIHW.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bosworth, K. (1998). Assessment of drug abuse prevention at the local level. *Journal of Drug Education, 28*, 307-325.
- Botvin, G.J., Dusenbury, L., Baker, E., James-Ortiz, S., Botvin, E., & Kerner, J. (1992). Smoking prevention among urban minority youth: Assessing effects of outcome and mediating variables. *Health Psychology, 11*, 290-299.
- Botvin, G.J., Baker, E., Dusenbury, L., Botvin, E., & Diaz, T. (1995). Long-term follow-up results of a randomised drug abuse prevention trial in a white middle-class population. *Journal of the American Medical Association, 273*, 1106-1112.
- Botvin, G.J. (2000a). Preventing drug abuse in schools. Social and competence enhancement approaches targeting individual-level etiological factors. *Addictive Behaviors, 25*(6), 887-897.
- Botvin, G.J., (2000b). *LifeSkills Training: Promoting Health and Personal Development*.

Princeton, NJ: Princeton Health Press Inc.

Botvin, G.J. (1995). Drug abuse prevention in school settings. In G.J. Botvin, S. Schinke & M.A. Orlandi (Eds.), *Drug abuse prevention with multiethnic youth*. London: Sage Publications.

Cahill, H., Murphy, B., & Kane, C. (2005). L.E.A.D. *Leading education about drugs: Student participatory approaches*. Canberra: Department of Education, Science and Training.

Caprara, G. V., Scabini, E., Barbaranelli, C., Pastorelli, C., Regalia, C., & Bandura, A. (1998). Impact of adolescents' perceived self-regulatory efficacy on familial communication and antisocial conduct. *European Psychologist, 3*(2), 125-132.

Cuijpers, P. (2002). Effective ingredients of school-based prevention programs: A systematic review. *Addictive Behaviors, 27*, 1009-1023.

Dickens, L., & Watkins, K. (1999). Active research: Rethinking Lewin. *Management Learning, 30*, 127-140.

Dielman, T.E., Shope, J.T., Leech, S.L., & Butchart, A.T. (1989). Differential effectiveness of an elementary school-based alcohol misuse prevention program. *Journal of School Health, 59*, 255-263.

Dielman, T.E. Kloska, D.D. Leech, S.L. Schulenberg, J.E. & Shope, J.T. (1992).

Susceptibility to peer pressure as an explanatory variable for the differential effectiveness of an alcohol misuse prevention program in elementary schools.

Journal of School Health, 62(6), 233-237.

Drug Resistant Strategies Curriculum (1999). School of Social Work, Arizona State University, Tempe, Arizona.

Dusenbury, L., Brannigan, R., Falcon, M., & Hansen, W.B., (2003). A review of research on fidelity of implementation: Implications for drug abuse prevention in school settings. *Health Education Research, 18(2), 237-256.*

Dusenbury, L. & Falco, M. (1995). Eleven components of effective drug abuse prevention curricula. *Journal of School Health, 65, 420-425.*

Ellickson, P.L., & Bell, R.M. (1990). Drug prevention in junior high: A multi-site longitudinal test. *Science, 247, 1299-1305.*

Ellickson, P.L., Miller, L., Robyn, A., Wildflower, L.Z., & Zellman, G.L. (2004). *Project Alert: A drug prevention program for middle grades.* BEST Foundation.

Engels, R.C.M.E., Hale, W.W.III., Noom, M., & De Vries, H. (2005). Self-efficacy and emotional adjustment as precursors of smoking in early adolescence. *Substance Use & Misuse, 40*(12), 1883-1893.

Epstein, J., Griffin, K. W., & Botvin, G. J. (2000). Role of general and specific competence skills in protecting inner-city adolescents from alcohol use. *Journal of Studies on Alcohol, 61*(3), 379-386

Evans, R.I. (1976). Smoking in children: Developing a social psychological strategy of deterrence. *Preventive Medicine, 5*, 122-127.

Fishbein, M. (1979). A theory of reasoned action: Some applications and implications. *Nebraska Symposium on Motivation, 27*, 1979, 65-116.

Gorman, D.M. (1996). Etiological theories and the primary prevention of drug use. *Journal of Drug Issues, 26*(2), 505-520.

Gosin, M.N., Dustman, P.A., Drapeau, A.E., & Harthun, M.L. (2003). Participatory Action Research: creating an effective prevention curriculum for adolescents in the Southwestern US. *Health Education Research, 18*(3), 363-379.

Graham, J.W., Marks, G., & Hansen, W.B. (1991). Social influence processes affecting adolescent substance use. *Journal of Applied Psychology, 76*(2), 291-298.

- Hansen, W.B., & McNeal, R.B. (1999). Drug education practice: results of an observational study. *Health Education Research, 14*(1), 85-97.
- Hansen, W.B. (1993). School based alcohol prevention programs. *Alcohol Health and Research World, 17*, 54-60.
- Hansen, W.B., & Graham, J.W. (1991). Preventing alcohol, marijuana and cigarette use among adolescents. Peer pressure resistance training versus establishing conservative norms. *Preventive Medicine, 20*, 414-430.
- Hawkins, J.D., Catalano, R.F., & Miller, J.Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64-105.
- Jessor, R., & Jessor, S.L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Larson, J., & Lochman, J.E. (2002). *Helping schoolchildren cope with anger: A cognitive-behavioral intervention*. New York: Guilford Press.

Lochman, J.E. (1992). Cognitive-behavioral interventions with aggressive boys: Three year follow-up and preventive effects. *Journal of Consulting and Clinical Psychology, 60*, 426-432.

McBride, N., Farrington, F., Midford, R., Meuleners, L., & Phillips, M. (2004). Harm minimization in school drug education: Final results of the School Health and Alcohol Harm Reduction Project (SHAHRP). *Addiction, 99*, 278-291.

Midford, R. (2006). Looking to the future: Providing a basis for effective school drug education. In R. Midford & G. Munro (Eds.), *Drug education in schools: Searching for the silver bullet*. Melbourne: IP Communications.

Parcel, G. S., O'Hara-Tompkins, N. M., Harrist, R. B., Basen-Engquist, K. M., McCormick, L. K., Gottlieb, N. H., & Eriksen, M. P. (1995). Diffusion of an effective tobacco prevention program: II. Evaluation of the adoption phase. *Health Education Research, 10*, 297-307.

Pentz, M.A., Dwyer, J.H., MacKinnon, D.P., Flay, B.R., Hansen, W.B., Wang, E.Y.I., & Johnson, C.A. (1989). A multicomunity trial for primary prevention of adolescent drug abuse: Effects on drug use prevalence. *Journal of the American Medical Association, 261*, 3259-3266.

- Rohrbach, L. A., Graham, J. W. and Hansen, W. B. (1993). Diffusion of a school-based substance abuse prevention program: predictors of program implementation. *Preventive Medicine, 22*, 237–260.
- Sobol, D. F., Rohrbach, L. A., Dent, C. W., Gleason, L., Brannon, B. R., Johnson, C. A. and Flay, B. R. (1989). The integrity of smoking prevention curriculum delivery. *Health Education Research, 4*, 59–67.
- Stoecker, R. (1999). Are academics irrelevant? *American Behavioral Scientist, 42*, 840-854.
- Tobler, N.S., Roona, M.R., Ochshorn, P., Marshall, D.G., Streke, A.V., & Stackpole, K.M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention, 20(4)*, 275-336.
- Tobler, N.S., & Stratton, H.H. (1997). Effectiveness of school-based drug prevention programs: A meta-analysis of the research. *Journal of Primary Prevention, 18(1)*, 71-128.
- Wynn, S.R., Schulenberg, J., Kloska, D.D., & Laetz, V.B. (1997). The mediating influence of refusal skills in preventing adolescent alcohol misuse. *Journal of School Health, 67(9)*, 390-395.

Interrelationships of School, Parental and Peer Factors with Adolescent
Substance Use

Abstract

Peer influences to use substances are a well recognised risk for adolescent drug use. Alternatively school and parental factors have the capacity to increase resilience against peer influences and population specific knowledge of these relationships is needed to design effective local prevention programs. This study investigated the extent to which the relationship between peer and adolescent drug use was associated with parental drug use, school connectedness and deviant disposition for alcohol, cigarette and cannabis use among Northern Australian adolescents. Middle school students ($n = 274$) of diverse cultural backgrounds from five public high schools completed measures of frequency of their own cigarette, alcohol and cannabis use, perceived parental drug use, perceived peer drug use, school connectedness and deviant disposition. The results of structural equation modelling found that the strength of the relationship between peer and adolescent drug use was related to the level of adult drug use and deviant attitudes for all three substances. The direct effect of adult alcohol use on adolescent drinking was stronger than that of peer alcohol use. Additionally school connectedness was directly associated with adolescent drinking and smoking. These results suggest that prevention efforts for Northern Australian adolescents need to extend beyond the classroom and aim to reduce adult drug use and improve adolescent experience of school.

Interrelationships of School, Parental and Peer Factors with Adolescent Substance Use

Peer influences on adolescent substance use are well documented and programs based on the social influence model have featured prominently in the prevention literature (Cuijpers, 2002; Tobler & Stratton, 1997). Peer drug use, peer modelling, peers making drugs available and peer social support are powerful proximal influences in the final steps leading to substance use (Jessor et al, 2003; Kandel, 1984; Krohn & Akers, 1997; Moon, Hecht, Jackson & Spellars, 1999; Unger et al, 2002). However there are other known risk factors affecting adolescent drug use and their relation to peer influence needs to be clarified in specific populations (Hawkins, Catalano & Miller, 1992). The present study investigated relationships between parental substance use, school connectedness (Kumpfer & Turner, 1991) and predisposition to deviance (Kaplan, 1980) with peer and adolescent substance use in a culturally diverse Australian sample. Cross-cultural studies investigating factors associated with adolescent substance use have found important differences and local knowledge is needed as a means of designing effective multimodal prevention strategies (Jessor et al, 2003; Moon, Hecht, Jackson & Spellars, 1999; Unger et al, 2002).

Studies comparing peer and parental influences on adolescent drug have generally found the effect of peers to be the stronger (Bahr, Hoffman & Yang, 2005; Jessor et al, 2003; Kandel, 1974; Li, Pentz & Chou, 2002). However a number of studies have demonstrated that parental modelling can act to increase adolescent resilience

against peer influence to use drugs. Parents were found to moderate adolescent use in that non-using parents acted as a buffer against friends' influence to use substances (Li, Pentz & Chou, 2002). When parents smoked they still contributed to teen smoking even if they practised good family management (Hill, Hawkins, Catalano, Abbott & Guo, 2005). Adult use significantly influenced adolescent substance use directly and indirectly through peers while the effect of adult monitoring and attachment to parents though significant was relatively small (Bahr, Hoffman & Yang, 2005).

In addition to family influences the school environment can serve to protect adolescents against substance use. The social ecology model holds that school climate impacts on adolescent substance use through school connectedness and selection of peers (Kumpfer & Turner, 1991). As a psychological construct school connectedness has been found to be protective of adolescent substance use (Blum & Ireland, 2004; Dornbusch, Erickson, Laird & Wong, 2001; Rasmussen, Damsgaard, Holstein, Poulsen & Due, 2005; Resnick et al, 1997) and has mediated a range of risk and protective factors from family, school, peers and neighbourhood on tobacco, alcohol and marijuana use (Sale, Sambrano & Springer, 2003; Wang, Matthew, Bellamy & James, 2005). School connectedness in turn has been associated with positive school climates that included satisfaction with classes and school cohesion (Loukas, Suzuki & Horton, 2006), opportunities for meaningful input into school policy (Whitlock, 2006), positive classroom management and tolerant disciplinary policies (McNeely, Nonnemaker & Blum, 2002). In a large study directly linking school factors with substance use, student smoking was less likely

to increase in schools with higher levels of teacher discipline and faculty involvement (Novak & Clayton, 2001).

In common with the social learning and the social ecology models self-derogation theory holds that youth who have weak ties to school and family will fail to internalise conventional social values and be more prone to the influence of deviant peers (Kaplan, 1980). Self-derogation theory is defined in intrapersonal terms and proposes that felt rejection by valued others creates low self esteem and emotional distress that motivate the young person to reject normative values and seek self-enhancing relations among deviant peers. In the final stages of this model peer influence is seen to exert a direct effect on substance use through the modelled behaviour and support of peers and through occasions for drug use being made available. Deviant disposition or a willingness to identify with and endorse the values of deviant drug using sub-cultures includes constructs identifying both deviant attitudes and felt rejection from family and school (Kaplan, Martin & Robbins, 1984). Recent support for this theory was reported in a longitudinal study that found increases in self esteem among delinquent adolescent boys (Mason, 2001). Among immigrant adolescent populations, deviant disposition related negatively to family variables (Vega et al, 1993) and acted as a mediator between low family attachment and alcohol involvement (Gil, Wagner & Vega, 2000).

In this study, school connectedness, perceived adult drug use and deviant disposition as defined by self-derogation theory were investigated along with perceived peer drug use for their association with adolescent cigarette, alcohol and cannabis use. An

increase in the number of substance using friends was expected to be associated with increases in adolescent drug use for all three substances (Bahr, Hoffman & Yang, 2005; Jessor et al, 2003; Li, Pentz & Chou, 2002). In addition a higher number of adults using substances, lower school connectedness and higher deviant disposition were expected to be associated with a higher number of substance using friends. Specifically it was hypothesized that the extent of the relationship between peer substance use and adolescent use would be related to the combined level of adult substance use, school connectedness and deviant disposition.

Method

Participants and Procedure

The data presented were part of a larger data set taken from anonymous surveys of Year 8 and Year 9 students living in Cairns (Queensland, Australia) and its regional area between 2004 and 2006. The surveys were administered across five public high schools (See Questionnaire in Appendix C). A total of 274 students (36% participation rate) completed questionnaires in classroom settings. A University of Queensland Ethics Committee approved the research protocol and participation required written parental and student consent (Appendix A).

Participants had a mean age of 13.62 years (SD 0.67 years) with 17% of the students aged under 13 years, 60% aged 13 to 14 years and 23% aged over 14 years (range 12-16). Females constituted 55% of the sample. The largest cultural group were respondents who identified as Australians (43%), followed by Aborigines and Torres

Strait Islanders (32%), South East Asians and Pacific Islanders (15%) and other Minorities (10%). Most students lived with both birth parents (55%), followed by those living with a single parent (16.8%), those living with a birth parent and a step parent (13.2%) and those living in another arrangement (15%).

Measures

Cigarette, alcohol and cannabis use. Frequency of cigarette, alcohol and cannabis consumption was measured using a nine-point scale (Botvin, Griffin, Diaz & Iffil-Williams, 2001). Participants were asked how often (if ever) they had smoked cigarettes, drank alcohol or smoked marijuana (Appendix C: Section 3). The response categories were 1 = *Never*; 2 = *A few times but not in the last year*; 3 = *A few times a year*; 4 = *Once a month*; 5 = *A few times a month*; 6 = *Once a week*; 7 = *A few times a week*; 8 = *Once a day*; 9 = *More than once a day*.

School Connectedness. Five items derived from the 18-item Psychological Sense of School Membership Scale (Goodenow, 1993) were selected on the basis of their content validity and used to measure school connectedness (Appendix C: Section 4). The items selected reflect students' perceptions of level of teacher support and interest, felt pride and belonging to their school, and felt rejection by teachers and school (see Table 1). Respondents could choose from five categories ranging from 1 = *Not at all true* to 5 = *Completely true*.

Deviance and Felt Rejection. The measures of deviant disposition were derived from Kaplan's self-derogation theory (Kaplan, Martin & Robbins, 1984). Seven items taken from (Gil, Wagner & Vega, 2000) and based on Kaplan's original questionnaire were used to measure two aspects of deviant disposition (Appendix C: Section 6.2). Exploratory factor analysis confirmed two factors within these seven items termed *deviance* and *felt rejection* that improved the fit of the structural equation models (see below). *Deviance* (5 items) represented the willingness of the young person to endorse the benefits of breaking rules and *felt rejection* (2 items) reflected perceived rejection from family and school. The response categories ranged from 1 = *Strongly Disagree* to 5 = *Strongly Agree*.

Peer Drug Use. Associations with using and non-using friends have been found to account for significant amounts of variance in adolescent drug use (Akers, Krohn, Lanza-Kaduce & Radosevich, 1979). Peer drug use was determined from the number of friends who used each of the three substances and was derived from the question "How many of your friends a) *Smoke cigarettes*; b) *Drink alcohol*; c) *Smoke marijuana* (Appendix C: Section 5.1). The response categories were 1 = *None*; 2 = *One*; 3 = *Two*; 4 = *Three or four*; 5 = *Five to seven*; 6 = *Eight to ten*; 7 = *More than ten*. This and the following measure for adult substance use have been taken from Li, Pentz and Chou (2000).

Adult cigarette, alcohol and cannabis use. Adult use of cigarettes, alcohol and cannabis was determined from responses to the questions "How many parents or adults

who look after you: a) *Smoked cigarettes in the past month*; b) *Drank alcohol in the past month*; c) *Smoked marijuana in the past month* (Appendix C: Section 6.3). The response categories were 1 = *None*; 2 = *One*; 3 = *Two*.

Data Analysis

Model Description. The structural equation modelling procedures were conducted using Amos 6 (SPSS, 2005). A 2-step procedure using maximum likelihood estimations was used firstly to conduct a confirmatory factor analysis and secondly to test the structural path model. The observed variables were adult use, peer drug use and adolescent alcohol, tobacco and cannabis use respectively. Latent variables of school connectedness, deviance and felt rejection were constructed from multiple indicators (detailed in Method) and are reported in Table 1 along with their corresponding questionnaire items and reliability coefficients (Cronbach's α). Structural models for each substance tested a) indirect paths connecting the exogenous variables of adult drug use, school connectedness, deviant attitudes and felt rejection with adolescent drug use through peer drug use and b) direct paths connecting the exogenous variables with adolescent drug use.

Model Fit Test. A number of measures were used to assess goodness of fit of the data to the hypothesized models: a) the model's Chi-Square value where a non-significant value supports good model fit; b) the ratio of the chi-square value to its degrees of freedom where values below 3 represent good fit; c) The Incremental Fit Index (IFI) and the Comparative Fit Index (CFI) where values above .90 are considered acceptable; d) the

Table 1
Summary of Latent Variable Construct Items Utilised in Structural Equation
Models

Construct Item	Questionnaire Item
Numbers	
Deviance ($\alpha = .63$)	
1	It's OK to sneak into a movie or football game without paying.
2	It's important to pay for all things taken from a shop.
3	It's important to try and follow rules and obey the law.
4	I don't care about other peoples feelings.
5	The kids who mess around with the law are better off than those who always follow the law.
School Connectedness ($\alpha = .67$)	
6	Teachers here respect me.
7	People here know I can do good work.
8	I wish I were in a different school
9	Teachers here are not interested in people like me
10	I feel proud of belonging to my school.
Felt Rejection ($\alpha = .59$)	
11	I would like to quit school as soon as possible
12	I would like to leave home

Root Mean Square Error of Approximation (RMSEA) where values below .06 are best; e) Hoelter's critical N where N represents the minimum sample size at either the .05 or the .01 significance levels for the chi-square model to be accepted (Ho 2006; Kline, 1998).

Results

Substance Use

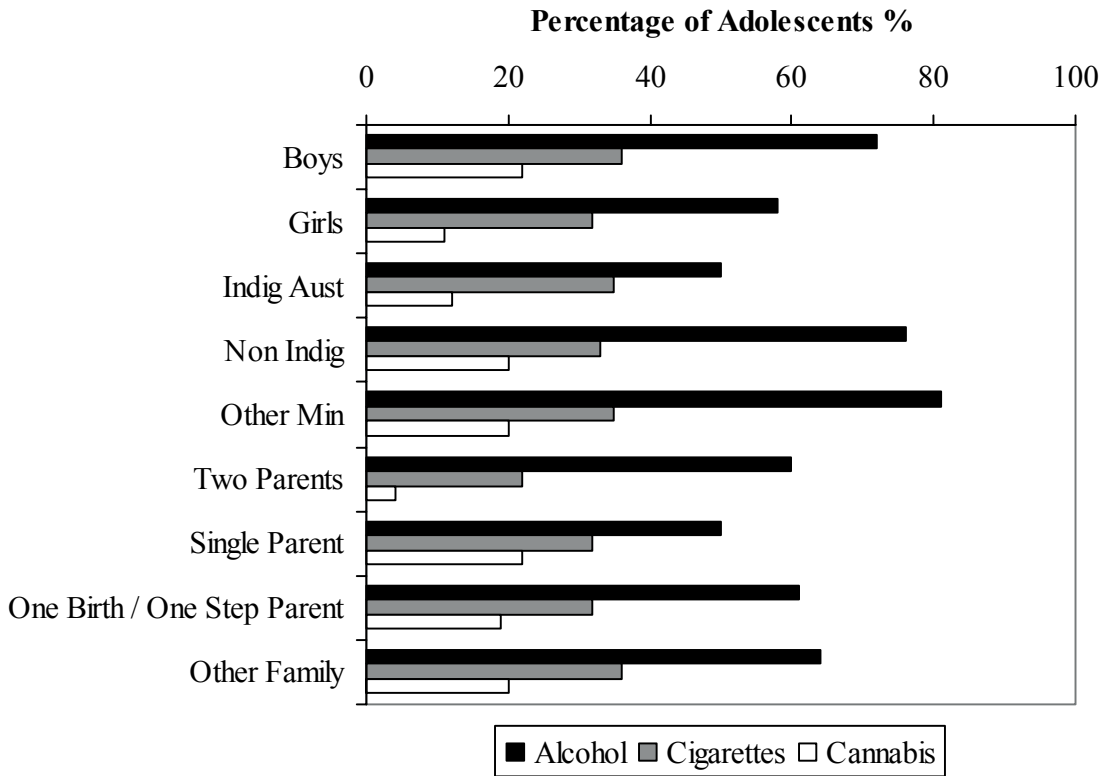
Figure 1 presents the percentage of participants who reported having ever used any of the three substances as a function of sex, culture and family structure. For this analysis each of the substance use variables was dichotomised into those participants who had ever used a substance and those who had not. The most frequently used substance was alcohol (64%) followed by cigarettes (34%) and cannabis (16%). A significantly higher number of boys reported having drunk alcohol when compared with girls, χ^2 (df=1) = 5.264, $p < .05$. Indigenous Australians reported significantly less alcohol use than the other two cultures, χ^2 (df=2) = 20.587, $p < .001$. Significantly fewer girls reported having smoked cannabis when compared with boys, χ^2 (df=1) = 6.866, $p < .01$. Students living with both their birth parents were significantly less likely to have smoked cannabis when compared with those living in other family arrangements, χ^2 (df=3) = 10.328, $p < .001$.

Measurement Model

A confirmatory factor analysis was conducted to determine if measures selected to represent the model's latent variables clustered together in a conceptually meaningful

and statistically reliable manner. In this study the three latent variables were measured by five observed variables for *deviance*, five for *school connectedness* and two for *felt rejection*. The chi-square goodness-of-fit value for the measurement model was found to be non-significant and indicated a good fit of model to data, $\chi^2 (df=59) = 66.059, p > .05$. This is supported by the baseline comparison fit indices of CFI = .95 and IFI = .92 and the RMSEA = .04.

Figure 1: Percentage of Adolescents Using Substances by Sex, Culture and Family Structure



Sex: Boys; Girls.

Culture: Indigenous Australians; Non-Indigenous Australians; Other Minorities.

Family Structure: Living with Two Parents; Single Parent; One Birth Parent and One Step Parent; Other Family Arrangement.

Structural Models

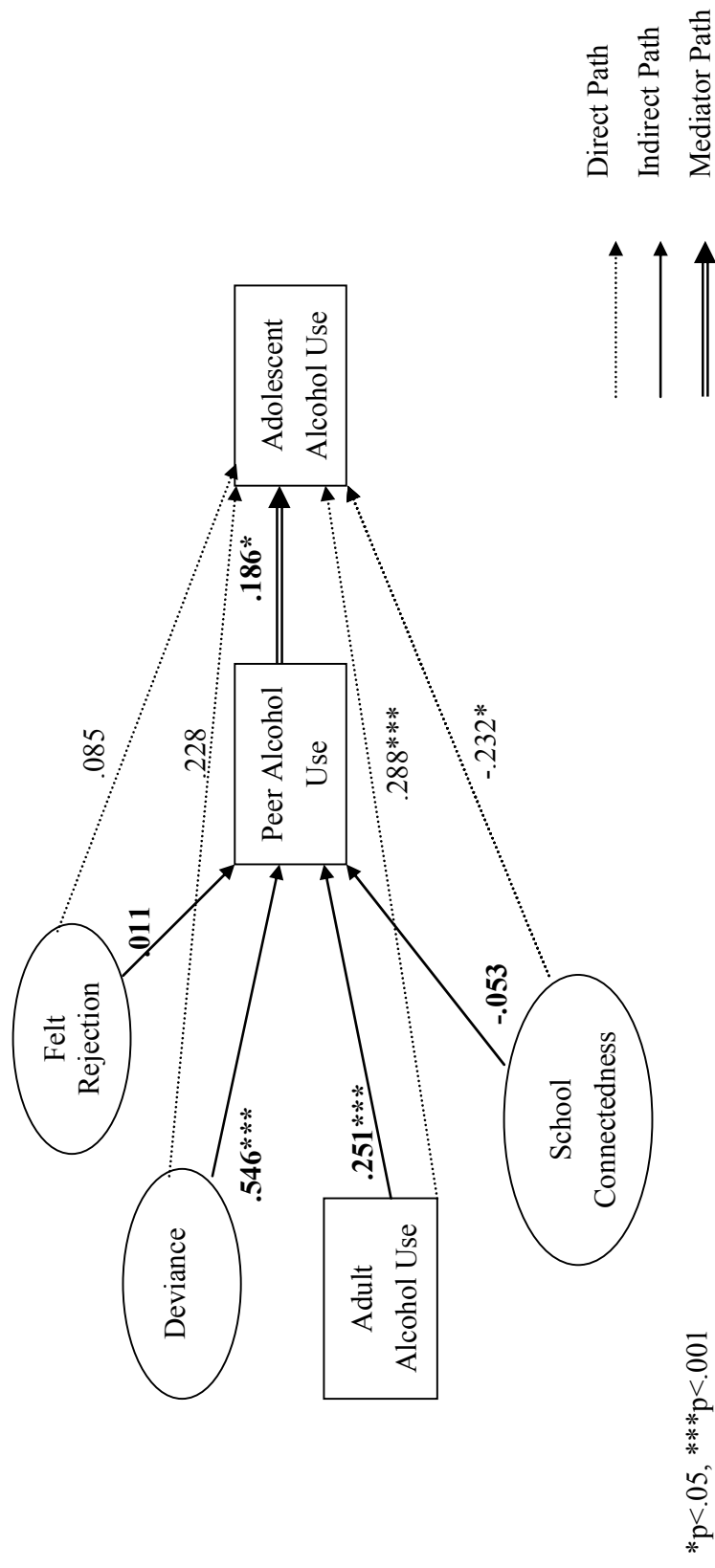
Alcohol. The chi-square goodness-of-fit value for the adolescent alcohol use model (Figure 2) was found to be significant, $\chi^2 (df=76) = 109.91, p < .01$. Although a

significant chi-square value would indicate a poor fit between model and data, significant values are usually associated with large sample sizes (> 200). Other fit indices indicated that this model was a good fit to the data; the chi-square/df ratio was below 2 ($\chi^2/df = 1.45$); the baseline comparison fit indices of CFI and IFI were .93 and indicated that the posited model represented approximately 93% improvement over the independence model; the RMSEA value of .04 showed that the model's error of approximation to the population covariance matrix was small. The Hoelter index is computed if chi-squared is statistically significant. At $\alpha = .01$, the sample size needed to be at least 270. This indicated a good fit of model to data.

The standardized regression weights or path coefficients in the model represent both magnitude and direction. The strongest significant direct effects on adolescent alcohol use were for adult alcohol use (Beta = .288, $p < .001$), followed by a lack of school connectedness (Beta = -.232, $p < .05$) and peer drug use (Beta = .186, $p < .05$). Peer alcohol use was the sole path linking the four exogenous variables with adolescent alcohol use. Significant indirect effects were found for deviance (Beta = .546, $p < .001$) and adult alcohol use (Beta = .251, $p < .001$). The posited model accounted for 34% of variance (R^2) in alcohol use.

Figure 2: Structural Equation Model of Adolescent Alcohol

Use Pathways (N = 274)



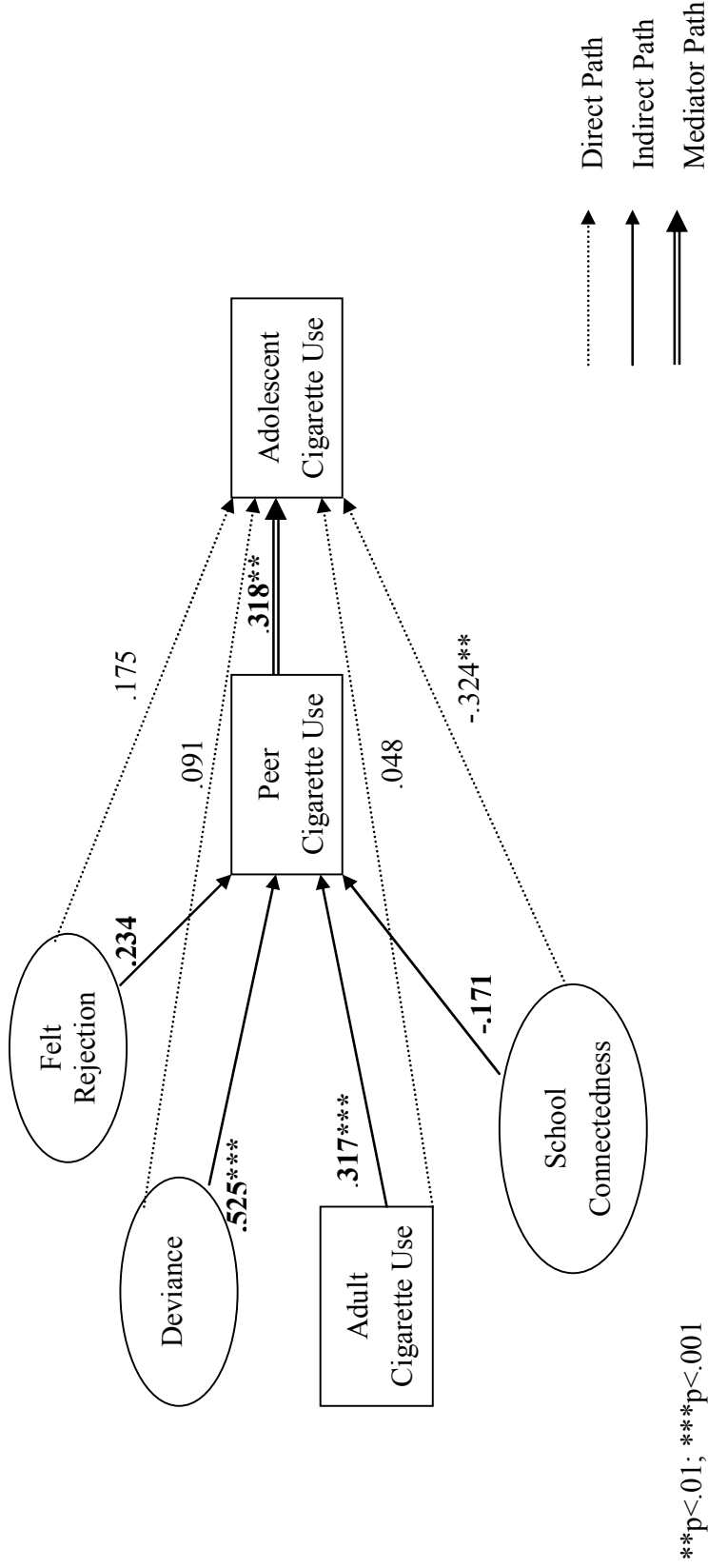
* $p < .05$, ** $p < .001$

Note: Numbers are Standardised Regression Weights. Squares represent observed variables and ellipses latent variables.

Cigarettes. The structural model for adolescent cigarette use is presented in Figure 3. Chi-square goodness-of-fit values was found to be significant, χ^2 (df=76) = 101.19, $p < .05$). However other indices indicated that this model was a good fit to the data: the chi-square/df ratio was 1.33; IFI = .95; CFI = .94; RMSEA = .04; at $\alpha = .05$, Hoelter's N = 265. The strongest significant direct effects on adolescent cigarette use were for a lack of school connectedness (Beta = -.324, $p < .01$) followed by peer influence (Beta = .318, $p < .01$). Peer cigarette use mediated all four exogenous variables with adolescent smoking. Significant indirect effects were found for deviance (Beta = .525, $p < .001$) and adult cigarette use (Beta = .317, $p < .001$). The model accounted for 41% variance (R^2) in cigarette use.

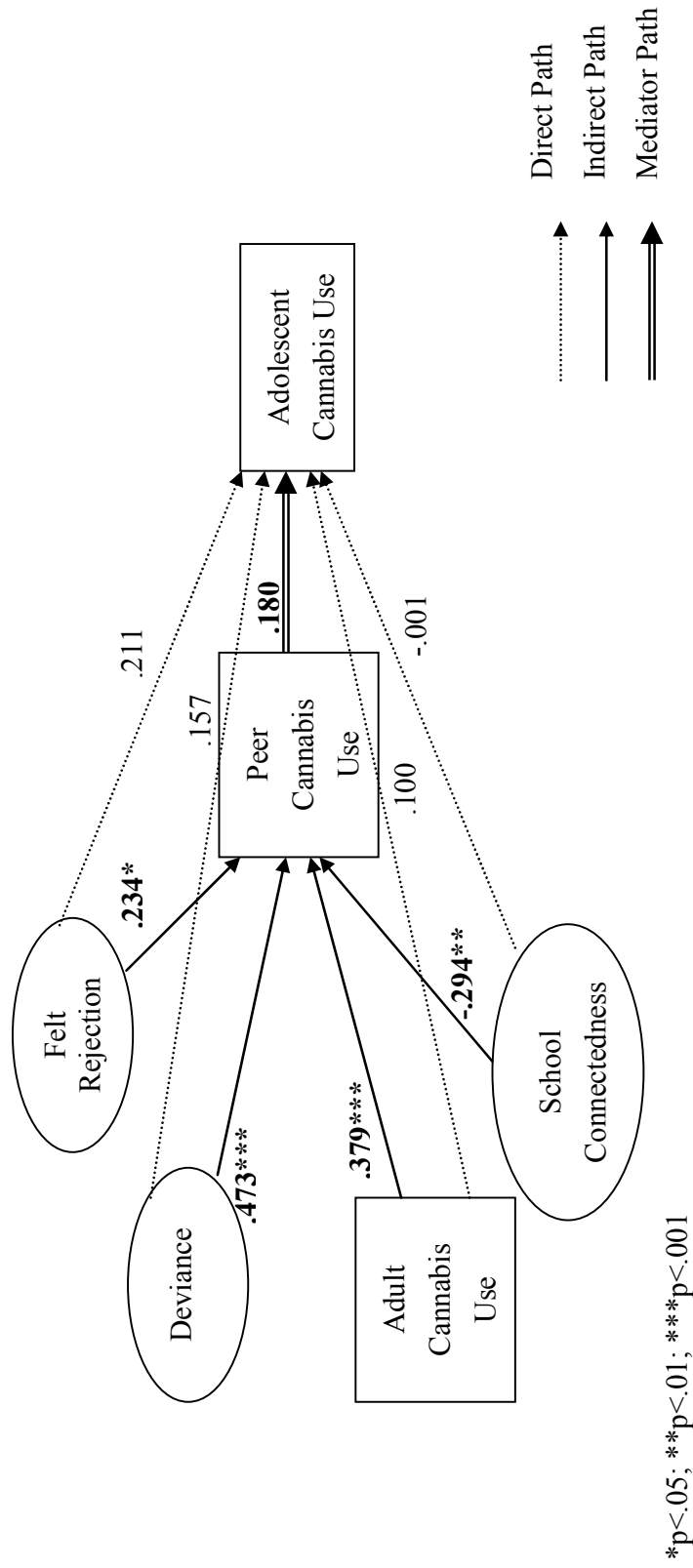
Cannabis. The structural model for adolescent cannabis use is presented in Figure 4. The chi-square goodness-of-fit value for the model was found to be significant, χ^2 (df=76) = 110.07, $p < .01$. However other indices indicated a good fit of model to data: chi-square/df ratio was 1.45; IFI = .93; CFI = .93, RMSEA = .04; at $\alpha = .01$ Hoelter's N = 269. Peer cannabis use was found to mediate the four exogenous variables with adolescent cannabis use. However the direct effect of peer influence on cannabis use was not significant (Beta = .180, $p > .05$). All four exogenous variables were found to have significant indirect effects on adolescent use with the strongest being for deviance (Beta = .473, $p < .001$), followed by adult cannabis use (Beta = .379, $p < .001$), lack of school connectedness (Beta = -.294, $p < .01$) and felt rejection (Beta = .234, $p < .05$). The model accounted for 56% of the variance (R^2) in adolescent cannabis use.

Figure 3: SEM Model of Adolescent Cigarette Use Pathways (N=274)



Note: Numbers are Standardised Regression Weights. Squares represent observed variables and ellipses represent latent variables.

Figure 4: SEM Model of Adolescent Cannabis Use Pathways (N = 274)



Discussion

In this study variables from the domains of the family, school and the personality were compared with peer and adolescent drug use in a sample of culturally diverse Australian adolescents. The results were that the strength of the relationship between perceived peer drug use and adolescent drug use varied according to the combined level of perceived adult drug use, school connectedness and deviant attitudes for alcohol, cigarette and cannabis use. Additionally a direct association was found between adult alcohol use and adolescent drinking which would suggest that a significant component of adolescent drinking is independent of peer influence and related to adult drinking. Direct associations were also found for school connectedness with adolescent cigarette and alcohol use.

Adolescents with substance using parents were more likely to have higher numbers of substance using friends and to use substances. The association of parental drug use with the number of drug using friends has a number of explanations. First Kandel (1996) has proposed that adolescents choose their friends on the basis of similarity and parents who use drugs establish a prior identification with substance use in the home. Studies comparing peer influence with peer selection have found both processes to have an effect on adolescent substance use (Hoffman, Monge, Chou & Valente, 2007; Jaccard, Blanto & Dodge, 2005). Secondly Li and colleagues (2000) found that adolescents with non-using parents had higher refusal self-efficacy and were more likely to refuse substance offers from friends. In this instance the effect of peer influence was mitigated through the protective influence of non-using parents. A third

possibility is that adolescent substance use and drug using friends were influencing the perception of adult drug use and the cross sectional nature of this study cannot rule this out. However longitudinal studies with different populations have confirmed the prior effect of parental use on friends' drug use and adolescent use (Chassin, Curran, Hussong & Colder, 1996; Li, Pentz & Chou, 2002). The direction of these relationships would need to be determined for Australian adolescents.

In this population peer alcohol use, though significant was not as strongly associated with adolescent drinking as adult alcohol use. Previous studies comparing peer with adult drug use on adolescent use have found peer drug use to be the stronger of the two (Bahr, Hoffman & Yang, 2005; Jessor et al, 2003; Kandel, 1974; Li, Pentz & Chou, 2002). This result highlights the importance of local knowledge in drug use trends as a means of informing effective prevention strategies.

Deviant attitudes were related to peer and adolescent drug use for all three substances. Deviant attitudes were not associated with felt rejection for alcohol and cigarette use as predicted by self-derogation theory. Previous studies with immigrant populations where the two constructs were combined found deviant disposition to be related to low family attachment (Gil, Wagner & Vega, 2000; Vega et al, 1993). Nonconformity or an unwillingness to abide by the rules may characterise some youth more than others and make them more prone to early substance use. However deviant disposition may also be the result of affiliating with substance using friends. In either

case the results suggest that deviant attitudes with or without felt rejection are a strong marker of substance use risk.

School connectedness was strongly associated with adolescent alcohol and cigarette use independent of the number of friends who used. School connectedness has been associated with school climate and lower rates of student smoking have been found in schools with higher teacher discipline and faculty involvement (Novak & Clayton, 2001). However it may also be the case that student drinking and smoking were leading to disengagement from school and the temporal ordering of these effects would need to be clarified.

The relationships of school connectedness, adult cannabis use, felt rejection and deviant attitudes with adolescent cannabis use were all associated with peer cannabis use and no direct effects were found independent of peer use. As an illegal substance cannabis is not as freely available as alcohol and cigarettes and the results would suggest the importance of friends who were possibly acting to make the drug available and to model its use. The cannabis model was the only one with a significant effect from felt rejection on number of cannabis using friends. In other words youth who felt rejected from home and school were also more likely to associate with friends who used cannabis. However the reciprocal relation is also possible in that counter culture values may have contributed to the deviant attitudes, felt rejection and lack of school connectedness in these adolescents.

Limitations: The limitations of this study are firstly that causality of the relationships between the variables cannot be inferred due to the cross-sectional design and the reciprocal nature of these associations has been addressed in this discussion. Secondly the dependent drug use variables were based on student self reports and previous research has demonstrated that students tend to underreport rather than over report their own drug use (Single, Kandel & Johnson, 1975). As a means of reducing self report error students were assured of the anonymity of their responses by the use of deidentifiable questionnaires. Thirdly student reports were used in measures of peer and adult drug use and correlations would be needed of actual peer and adult substance use behaviour. However perceptions of peer drug use are a well established source of passive peer pressure and contribute to adolescent drug use risk along with more direct or overt offers of substance use (Graham, Marks & Hansen, 1991). Additionally Gray and Steinberg (1999) have argued that perceptions of adult behaviour are as important to adolescent development as their actual behavior and that parental reports may not necessarily be more accurate than those of their children. Fourthly study participation was subject to parental consent and results may be subject to selection bias. Finally, the low reliability coefficients for deviant attitudes and felt rejection were partly due to the creation of two constructs with fewer items in each. Further refinement of these variables for Australian adolescents is required as the combined reliability for felt rejection and deviant attitudes was .61 and lower than results previously reported for North American youth (Gil, Wagner & Vega, 2000).

Conclusions: Despite the limitations of this study the following conclusions are drawn. Adolescents who perceived their parents to use drugs were more likely to associate with drug using friends and to use drugs than those whose parents did not use drugs. In the case of alcohol, parental drinking was related to adolescent drinking and independent of friends' use. Furthermore school connectedness was related to adolescent drinking and smoking but the temporal ordering of these associations would need to be determined. Finally most prevention in this country is undertaken as part of school curriculum. These results to some extent would suggest that these efforts need to extend beyond the classroom and include interventions to address parental substance use and to improve adolescent experience of school.

References

- Akers, R.L., Krohn, M.D., Lanza-Kaduce, L., & Radosevich, M. (1979). Social learning and deviant behavior: A specific test of a general theory. *American Sociological Review, 44*(4), 636-655.
- Bahr, S. J., Hoffmann, J. P., & Yang, X. (2005). Parental and peer influences on the risk of adolescent drug use. *Journal of Primary Prevention, 26*(6), 529-551.
- Blum, R., & Ireland, M. (2004). Reducing risk, increasing protective factors: Findings from the Caribbean Youth Health Survey. *Journal of Adolescent Health, 35*(6), 493-500.

Botvin, G.J., Griffin, K.W., Diaz, T., & Iffil-Williams, M. (2001). Drug abuse prevention among minority adolescents: Posttest and one year follow-up of a school-based preventive intervention. *Prevention Science, (2)1*, 1-13.

Chassin, L., Curran, P. J., Hussong, A.M., & Colder, C.R. (1996). The relation of parent alcoholism to adolescent substance use: A longitudinal follow-up study. *Journal of Abnormal Psychology, 105(1)*, pp. 70-80.

Cuijpers, P. (2002). Effective ingredients of school-based prevention programs: A systematic review. *Addictive Behaviors, 27*, 1009-1023.

Dornbusch, S.M., Erickson, K.G., Laird, J., & Wong, C.A. (2001). The relation of family and school attachment to adolescent deviance in diverse groups and communities. *Journal of Adolescent Research, 16(4)*, 39-422.

Gil, A., Wagner, E.F., & Vega, W. A. (2000). Acculturation, familism and alcohol use among Latino adolescent males: Longitudinal relations. *Journal of Community Psychology. 28(4)*, 443-458.

Goodenow, C. (1993). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence, 13(1)*, 21-43.

- Graham, J.W., Marks, G., & Hansen, W.B. (1991). Social influence processes affecting adolescent substance use. *Journal of Applied Psychology, 76*(2), 291-298.
- Gray, M. R., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage & the Family, 61*(3), 574-587.
- Hawkins, J.D., Catalano, R.F., & Miller, J.Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64-105.
- Hill, K.G., Hawkins, J.D., Catalano, R.F., Abbott, R.D., & Guo, J. (2005). Family influences on the risk of daily smoking initiation. *Journal of Adolescent Health, 37*(3), 202-210.
- Ho, R. (2006) *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*. Chapman & Hall/CRC Boca Raton, Florida.
- Hoffman, B.R., Monge, P.R., Chou, C., & Valente, T.W. (2007). Perceived peer influence and peer selection on adolescent smoking. *Addictive Behaviors, 32*(8), 1546-1554.
- Jaccard, J., Blanton, H., & Dodge, T. (2005). Peer influences on risk behavior: An analysis of the effects of a close friend. *Developmental Psychology, 41*, 135-147.

- Jessor, R., Turbin, M.S., Costa, F.M., Dong, Q., Zhang, H., & Wang, C. (2003). Adolescent Problem Behavior in China and the United States: A Cross-National Study of Psychosocial Protective Factors. *Journal of Research on Adolescence*, *13*(3), 329-360.
- Kandel, D. (1974). Inter- and intragenerational influences on adolescent marijuana use. *Journal of Social Issues*, *30*, 107-135.
- Kandel, D. (1996). The parental and peer contexts of adolescent deviance: An algebra of interpersonal influences. *Journal of Drug Issues*, *26*, 289-315.
- Kandel, D.B. (1984). Drug and drinking behavior among youth. *Annual Review of Sociology* *6*, 235-285.
- Kaplan, H.B. (1980). *Deviant Behavior in Defense of Self*. New York: Academic Press.
- Kaplan, H.B., Martin, S.S., & Robbins, C. (1984). Pathways to adolescent drug use: Self-derogation, peer influence, weakening of social controls, and early substance use. *Journal of Health and Social Behavior* *25*(3), 270-289.
- Kline, R.B. (1998). *Principles and practice of structural equation modelling*. New York: Guildford Press.

- Krohn, M.D., & Akers, R.L. (1997). An alternative view of the labelling versus psychiatric perspectives on societal reaction to mental illness. *Social Forces*, 56, 341-361.
- Kumpfer, K.L., & Turner, C.W. (1990/1991). The social ecology model of adolescent substance use: implications for prevention. *The International Journal of the Addictions*, 25(4A), 435-463.
- Li, C., Pentz, M., & Chou, C. (2002). Parental substance use as a modifier of adolescent substance use risk. *Addiction*, 97(12), 1537-1550.
- Loukas, A., Suzuki, R., & Horton, K.D. (2006). Examining school connectedness as a mediator of school climate. *Journal of Research on Adolescence*, 16(3), 491-502.
- Mason, W.A. (2001). Self-esteem and delinquency revisited (again): A test of Kaplan's self-derogation theory of delinquency using latent growth curve modeling. *Journal of Youth and Adolescence*, 30, 83-102.
- McNeely, C.A., Nonnemaker, J.M., & Blum, R.W. (2002). Promoting school connectedness: evidence from the National Longitudinal Study of Adolescent Health. *The Journal of School Health*, 72(4), 138-46.

- Moon, D.G., Hecht, M.L., Jackson, K.M., & Spellers, R.E. (1999). Ethnic and gender differences and similarities in adolescent drug use and refusals of drug offers. *Substance Use and Misuse, 34*, 1059-1083.
- Novak, S.P., & Clayton, R.R. (2001). The influence of school environment and self-regulation on transitions between stages of cigarette smoking: A multilevel analysis. *Health Psychology, 20*, 196-207.
- Rasmussen, M., Damsgaard, M.T., Holstein, B.E., Poulsen, L.H., & Due, P. (2005). School connectedness and daily smoking among boys and girls; the influence of parental smoking norms. *European Journal of Public Health, 15*(6), 607-612.
- Resnick, M.D., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.M., et al (1997). Protecting adolescents from Harm. Findings from the National Longitudinal Study of Adolescent Health. *The Journal of the American Medical Association, 278*(10), 823-832.
- Sale, E., Sambrano, S., Springer, J.F., & Turner, C.W. (2003). Risk, protection and substance use in adolescents: A multi-site model. *Journal of Drug Education, 33*(1), 91-105.
- Single, E., Kandel, D., & Johnson, B.D. (1975). The reliability and validity of drug use responses in a large scale longitudinal survey. *Journal of Drug Issues, 5*, 426-443.

SPSS Inc. (2005). AMOS 6.0 User's Guide. Chicago, USA.

Tobler, N.S., & Stratton, H.H. (1997). Effectiveness of school-based drug prevention programs: A meta-analysis of the research. *The Journal of Primary Prevention*, *18(1)*, 71-128.

Unger, J.B., Yan, L., Shakib, S., Rohrbach, L.A., Chen, X., Qian, G., Chou, C., Jianguo, S., Azen, S., Zheng, H., & Johnson, C. A. (2002). Peer influences and access to cigarettes as correlates of adolescent smoking: A cross-cultural comparison of Wuhan, China and California. *Preventive Medicine: An International Journal Devoted to Practice and Theory*, *34(4)*, 476-484.

Vega, W., Gil, A. G., Warheit, G. J., Zimmerman, R. S., et al (1993). Acculturation and delinquent behavior among Cuban American adolescents: Toward an empirical model. *American Journal of Community Psychology*. *21(1)*, 113-125.

Wang, M.Q., Matthew R.F., Bellamy, N. & James, S. (2005). A structural model of substance use pathways among minority youth. *American Journal of Health Behavior*, *29(6)*, 531-541

Whitlock, J.L. (2006). Youth perceptions of life at school: Contextual correlates of school connectedness in adolescence. *Applied Developmental Science, 10(1)*, 13-29.

Parental Use as a Moderator of Social Influence Risk Factors for Adolescent
Substance Use.

Abstract

This study utilised structural equation modelling to investigate the moderator effect of parental substance use on the relationships between a number of social influence risk factors and adolescent alcohol, cigarette and cannabis use. Northern Australian middle school students ($n=274$) of diverse cultures completed self-report questionnaires measuring perceived parents' and friends' substance use, refusal self-efficacy, normative expectations, outcome expectancies, deviance and their own use. The results were that friends' substance use was more strongly correlated with adolescent use of the same substance than parents' use. However the structural models fitted the data well and friends' use was significantly associated with parents' use for all three substances. The alcohol model provided the strongest evidence for a moderator effect with parental drinking observed to be significantly related to adolescent refusal self-efficacy and deviance. However a portion of alcohol refusal self-efficacy and peer norms remained independent of parental use. Cigarette refusal self-efficacy, peer norms and expectancies had direct paths to adolescent smoking. Cannabis refusal self-efficacy was independent of parental use and direct and indirect paths were observed for expectancies. In conclusion parental substance use was consistently associated with the number of substance using friends for all three substances and is best addressed through selective programs targeting parental use. The remaining social influence variables were largely independent of parental use and are best treated as individual risks within the context of a social influence program.

Parental Use as a Moderator of Social Influence Risk Factors for Adolescent Substance Use.

Studies comparing the relative risk of parental substance use with that of peers on adolescent use have consistently found the latter to exert the stronger effect (Bricker et al, 2006; Kandel, 1973; Flay et al, 1994; Li, Pentz & Chou, 2002). The most effective school prevention programs have been based on the social influence model and have utilised these findings in an effort to build individual resilience against peer pressure to use drugs (Tobler et al, 2000). However family influences precede peer influences and a number of studies have reported the indirect effects of parental substance use on peer substance use (Bahr, Hoffmann & Yang, 2005; Engels, Vitaro, Den Exter Blokland, de Kemp & Scholte, 2004; Flay et al., 1994; Li, Pentz & Chou, 2002). Further clarification is needed as to the extent to which parental use may also be affecting other peer and social influence risk factors associated with adolescent use. Such information would have an impact on the content of school prevention programs and facilitate more effective interventions at the family level.

The purpose of this research is to investigate the impact of perceived parental substance use on friends' substance use along with a number of related adolescent substance use risk factors. In reporting the effects of parental substance use, previous research has mainly focused on the number of substance using peers with whom the young person may be associating. This study extends this research by including four other risk factors associated with peer influence namely outcome expectancies, refusal

self-efficacy, deviant disposition and normative expectations. These variables represent constructs from three different theoretical orientations and their direct and indirect effects on adolescent alcohol, cigarette and cannabis use will be examined.

Bandura's social learning theory (1986) proposes that adolescent beliefs and behaviours about drugs are shaped by influential role models such as parents and friends. Favourable beliefs about drugs or outcome expectancies are formed when observing parents relaxing with a glass of wine or friends having fun smoking marijuana. Such observations in turn give rise to beliefs about self-efficacy to engage in or to refuse the behaviour, called refusal self-efficacy (Petraitis, Flay & Miller, 1995). A consistent body of evidence exists supporting both parental (Andrews et al, 1993; Brook, Brook, Arencibia-Mireles, Richter, Whiteman, 2001; Hill, Hawkins, Catalano, Abbott & Guo, 2005, Peterson et al, 2006) and peer role model influences (Botvin et al, 1993; Brook, Brook, Arencibia-Mireles, Richter, Whiteman, 2001; Hawkins, Catalano & Miller, 1992; Trost, Langan, & Kellar-Guenther, 1999) on adolescent substance use. Consistent with the premise that it is influential others that model behaviour Andrew, Hops and Duncan (1997) found that adolescents only model parental drug use when a good relationship is present and not when the relationship is poor. Similarly close friends were mainly responsible for contributing to adolescent smoking and alcohol initiation and escalation (Urberg, Degirmencioglu, & Pilgrim, 1997).

Social learning theory assumes that attitudes and behavior are learnt through a process akin to social osmosis and a key criticism is that it does not explain why some

adolescents choose to associate with substance using peers and others do not (Petraitis, Flay & Miller, 1995). However findings identifying the indirect effect of parental substance use on peer substance use would suggest that observational learning in the family home may be acting to influence the choice of friends (Bahr, Hoffmann & Yang, 2005; Engels, et al, 2004; Flay et al., 1994; Li, Pentz & Chou, 2002). A question arises as to the extent to which the modelled behavior of parents may be exerting a distal effect on other known risk factors proposed by social learning theory. Low refusal self-efficacy (Caprara, et al, 1998; Engels, Hale, Noom, De Vries, 2005; Epstein, Griffin, & Botvin, 2000) and holding favourable attitudes (Epstein et al, 1995) or expectancies (Scheier & Botvin, 1997) have been found to increase adolescent drug use. Refusal self-efficacy has a contextual component in that young people find it difficult to resist drug offers when these are made by close friends or siblings (Trost, Langan, & Kellar-Guenther, 1999). On the other hand having a close supportive relationship with parents where young people can communicate openly about their problems can be protective by strengthening drug refusal efficacy (Caprara, et al, 1998). However close relationships with substance using parents can also encourage similar behavior in youth and Andrew, Hops and Duncan (1997) have cautioned about assuming that good relationships with a parent are always protective.

The theory of reasoned action proposes that individuals make choices to use substances based on a cost benefit analysis of the situation and these choices are affected by the desire to conform to the behaviour of others (Ajzen & Fishbein, 1980). Normative expectations or the perception of prevalence of peer substance use, irrespective of the

accuracy of the estimate have been found to impact on adolescent use (D'Amico, & McCarthy, 2006; Scheier & Botvin, 1997; Unger, Rohrbach, Howard-Pitney, Ritt-Olson, & Mouttapa, 2001; Morrison et al, 2002). Youth tend to overestimate prevalence and providing feedback of actual rates of peer use was found to be effective in reducing adolescent smoking (Evans et al, 1978). On a national level the desire to engage in socially approved behaviour contributed towards a decline in teenage marijuana and cocaine use and was attributed to increases in perceived risk and disapproval rather than availability (Bachman, Johnston & O'Malley, 1990).

Finally control theory proposes that individuals who have weak conventional bonds to socialising agents such as family, school and religion will be more willing to engage in deviant behavior (Hirsch, 1969). Deviance has been described as a syndrome and youth who are socially non-conforming, prone to delinquency, care little about schoolwork or pursuit of a career are also more likely to engage in substance use (Donovan & Jessor, 1985; Jessor & Jessor, 1977; Kaplan, Martin & Robbins, 1984; Sussman, Pokhrel, Ashmore & Brown, 2007). At least two shortcomings arise when deviance is used to explain adolescent substance use. One is the assumption that substance use is undesirable and non-normative by conventional standards (Jessor & Jessor, 1977). While this view may apply to cannabis, an illegal substance in this country and in use by a minority, the same cannot be said about alcohol. In one survey 80% of Australians reported consuming alcohol in the past 12 months while as many as 24% were drinking to risky levels at least once a month (Australian Institute of Health and Welfare [AIHW], 2005). A second problem is that attachment does not adequately

explain the effect of parental substance use on adolescent use which is better accounted for by social learning rather than social control theory (Bahr, Hoffmann & Yang, 2005).

The purpose of this study was to examine the extent to which parents' substance use was associated with adolescent use through a number of social influence risk factors. Initially adolescent use of alcohol, cigarettes and cannabis were investigated for their individual strength of association with parents' and peers' substance use along with measures of refusal self-efficacy, outcome expectancies, normative expectations and deviance. It was expected that an increase in adult substance use would be associated with an increase in adolescent substance use. The proximal effect of higher numbers of substance using peers was expected to exert a stronger influence on adolescent use than parental use. Increases in outcome expectancies, normative expectations and deviance were expected to be associated with increased adolescent substance use but stronger refusal self-efficacy was expected to be lower use. Finally structural equation modelling was used to test relationships assuming a moderator effect of parents' substance use on adolescent use. It was expected that the net effect of peer substance use, normative expectations, refusal self-efficacy, outcome expectancies and deviance on adolescent substance use would vary according to the level of parental substance use.

Method

Participants and Procedure

The data presented are from a larger data set compiled from surveys of Year 8 and Year 9 students conducted in Cairns (Queensland, Australia) and its regional area over a

two year period commencing in 2004 (See Questionnaire in Appendix C). A total of 274 students across five public high schools with parental and self consent completed questionnaires in classroom settings (Appendix B). Participants had a mean age of 13.62 years (SD 0.67 years) with 17% of the students aged under 13 years, 60% aged between 13 and 14 years and 23% aged over 14 years (range 12-16). Females constituted 55% of the sample. The largest cultural group were respondents who identified as Australians (43%), followed by Aborigines and Torres Strait Islanders (32%), South East Asians and Pacific Islanders (15%) and other Minorities (10%). Most students lived with both birth parents (55%), followed by those living with a single parent (16.8%), those living with a birth parent and a step parent (13.2%) and those living in another arrangement (15%).

Measures

Cigarette, alcohol and cannabis use. Frequencies of adolescent cigarette, alcohol and cannabis consumption were measured using nine-point Likert scales (Appendix C: Section 3). These measures were adapted from Griffin, Botvin, Nichols and Doyle (2003). Participants were asked how often (if ever) they had smoked cigarettes, drank alcohol or smoked marijuana. The response categories for each substance were 1 = *Never*; 2 = *A few times but not in the last year*; 3 = *A few times a year*; 4 = *Once a month*; 5 = *A few times a month*; 6 = *Once a week*; 7 = *A few times a week*; 8 = *Once a day*; 9 = *More than once a day*.

Peer Norms. Peer normative expectations were assessed on five point Likert scales that asked participants how many people their age did they think drank alcohol,

smoked cigarettes or marijuana (Appendix C: Section 3.2). The response categories for each substance were 1 = *None*; 2 = *Less than half*; 3 = *About half*; 4 = *More than half*; 5 = *All or almost all*. These measures and those for *Expectancies* and *Refusal Efficacy* have been adapted from Botvin, Griffin, Diaz and Ifill-Williams (2001).

Expectancies. Favourable attitudes towards alcohol, cigarettes and cannabis were measured by four parallel items for each substance inquiring if participants believed use a) made “kids more grown-up” b) made “you look cool” c) helped “kids have more friends” and d) allowed “you to have more fun.” The five response categories for each substance ranged from 1 = *Strongly disagree* to 5 = *Strongly agree* (Appendix C: Section 3.6).

Refusal Efficacy. The likelihood that participants would refuse drug offers were assessed by inquiring if they would say “no” if someone were to get them to smoke a cigarette, drink alcohol or smoke cannabis (Appendix C: Section 3.4). The five response categories range from 1 = *Definitely would* to 5 = *Definitely would not*.

Deviance. Five items adapted from Gil, Wagner and Vega (2000) and derived from Kaplan’s self-derogation theory (Kaplan, Martin & Robbins, 1984) were used to assess deviant attitudes (Appendix C: Section 6.2). Kaplan’s theory proposes that youth who feel themselves to be rejected by valued others such as peers, parents and teachers are more likely to choose affiliations with deviant friends and to endorse contra normative patterns of behavior as a means of enhancing their own self worth. The five

items expressed as statements represent the willingness of the young person to endorse the benefits of breaking rules (see Table 2 below). Participants were asked for their level of agreement or disagreement on a five point Likert scale. The response categories ranged from 1 = *Strongly Disagree* to 5 = *Strongly Agree*.

Friends' Alcohol, Cigarette and Cannabis Use. Associations with using and non-using friends have been found to account for significant amounts of variance in adolescent drug use (Akers, 1977; Kaplan, Martin & Robbins, 1984). Friends' use of substances was determined from the number of friends who used each of the three substances and was derived from the question "How many of your friends a) *Smoke cigarettes*; b) *Drink alcohol*; c) *Smoke marijuana* (Appendix C: Section 5.1). The response categories were 1 = *None*; 2 = *One*; 3 = *Two*; 4 = *Three or four*; 5 = *Five to seven*; 6 = *Eight to ten*; 7 = *More than ten*. This measure and the following one for adult substance use have been adapted from Li, Pentz and Chou (2002).

Adult Cigarette, Alcohol, and Cannabis Use. Parental use of cigarettes, alcohol and cannabis was determined from responses to the questions "How many parents or adults who look after you: a) *Smoked cigarettes in the past month*; b) *Drank alcohol in the past month*; c) *Smoked marijuana in the past month*. The response categories were 1 = *None*; 2 = *One*; 3 = *Two* (Appendix C: Section 6.3).

Data Analysis

Chi-square tests and Spearman product-moment correlations were conducted to investigate differences in demographic characteristics and substance related variables with adolescent substance use. In preparation for structural equation modelling, exploratory factor analysis determined the construct validity and statistical reliability of the latent variable measures. Parallel measurement models for the three substances were then constructed using Amos 6 (SPSS). A 2-step procedure using maximum likelihood estimations was used to firstly conduct confirmatory factor analyses and secondly to test the structural path models.

Model Fit Test. A number of measures were used to assess goodness of fit of the data to the hypothesized models: a) the model's Chi-Square value where a non-significant value supports good model fit; b) the ratio of the chi-square value to its degrees of freedom where values below 3 represent good fit; c) The Incremental Fit Index (IFI), the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) where values above .90 are considered good; d) the Root Mean Square Error of Approximation (RMSEA) with its 90% confidence interval where values below .05 are best and less than .08 are adequate; e) and PCLOSE that tests the RMSEA against the null hypothesis and where non-significant values above .05 represent good model fit (Ho, 2006).

Results

Substance Use

The proportion of students who reported having ever used a substance was 64% for alcohol, 34% for cigarettes and 16% for cannabis. A significantly higher number of males reported having either drunk alcohol (χ^2 (df = 1) = 5.439, $p < .05$) or smoked cannabis (χ^2 (df = 1) = 6.866, $p < .05$) when compared with females. Students over the age of 14 years were significantly more likely to have ever tried either cigarettes (χ^2 (df = 2) = 10.091, $p < .01$), alcohol (χ^2 (df = 2) = 6.487, $p < .05$) or cannabis (χ^2 (df = 2) = 7.924, $p < .05$) than those in the under 14 year age groups. Students living with both birth parents were significantly less likely to have smoked cannabis (χ^2 (df = 3) = 16.904, $p < .001$) when compared with those living under different family arrangements. Indigenous Australians reported significantly less alcohol use than either Non-Indigenous Australians or Other Minorities (χ^2 (df = 2) = 20.587, $p < .001$). Table 1 reports Spearman correlation coefficients for parents' and friends' substance use as well as other predictor variables for adolescent cigarette, alcohol and cannabis use. Although the two main predictor variables were significantly associated with all three substances, the influence of friends' substance use was consistently stronger than parental substances use on adolescent use.

Measurement Models

An exploratory factor analysis (EFA) was conducted on the latent variables of each of the alcohol, cigarette and cannabis models to determine if the constituting measures clustered together in a conceptually meaningful and statistically reliable manner. In this study the two latent variables were measured by five observed variables

for *deviance* and four substance specific *expectancy* variables. To examine the underlying factor structure of these latent variables, exploratory principal axis factoring with oblique rotation was undertaken. A criterion of > 0.40 was used to define variables within factors (Thompson, 2004). Table 2 reports the results of the EFA for each of the substances along with the latent variable item descriptions and reliability coefficients. Factor 1 clearly represents *expectancies* and Factor 2 *deviance* for all three substances.

Confirmatory factor analyses were then conducted on the measurement models for each of the three substances using structural equation modelling. Measurement error in the models was reduced when Items 2 and 3 from the deviance questions were allowed to covary. Missing data occurred at random and were imputed with expectation-maximization using AMOS 6 procedures. The fit indices for the three models were:

Alcohol: χ^2 (df = 25) = 33.550, $p > .05$; CFI = .984; IFI = .985; TLI = .972;

RMSEA = .035, range of .000 to .064 (90% C.I.); PCLOSE = .778.

Cigarettes: χ^2 (df = 25) = 24.866, $p > .05$; CFI = 1.000, IFI = 1.000, TLI = 1.001;

RMSEA = .000, range of .000 to .961 (90% C.I.); PCLOSE = .961.

Cannabis: χ^2 (df = 25) = 42.648, $p < .05$; $\chi^2/df = 1.706$; CFI = .967, IFI = .968,

TLI = .941; RMSEA = .051; range of .022 to .076 (90% C.I.); PCLOSE = .452.

Table 1 Spearman Correlation Coefficients of Adolescent Cigarette, Alcohol and Cannabis Use with Parents' and Friends' Substance Use and other Predictor Variables ($n=274$).

	<i>Cigarettes</i>	<i>Alcohol</i>	<i>Cannabis</i>
Friends' Substance Use	.534**	.544**	.459**
Parents' Substance Use	.199**	.299**	.181**
Refusal Efficacy	.563**	.550**	.410**
Peer Norms	.298**	.380**	.290**
Expectancies	.212**	.328**	.242**
Deviance	.259**	.237**	.157*
Sex ^a	-.054	-.236**	-.166**
Age ^b	.190**	.156*	.172**
Family Structure ^c	.162*	.006	.238**
Culture ^d	.024	-.170**	-.072

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed).

^a Sex: 1 = Male; 2 = Female

^b Age: 1 = <13yrs; 2 = 13-14yrs; 3 = >14years

^c Family Structure: 1 = Living with two birth parents; 2 = Living with one birth and one step parent; 3 = Living with single parent; 4 = Living in other family arrangement

^d Culture: 1 = Non-Indigenous Australian; 2 = Indigenous Australian; 3 = Other Minority

Table 2: Latent Variable Item Descriptions, Reliability Coefficients and Factor Loadings for Adolescent Substance Use

<i>Item Description</i>	<i>Adolescent Substance Use</i>											
	Alcohol			Cigarettes			Cannabis					
	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 1</i>	<i>Factor 2</i>				
Deviance ($\alpha = .625$)												
1. It is OK to sneak into a movie or football game without paying	.276	.536	.177	.528	.165	.538						
2. It is important to pay for all things taken from a shop	.134	.479	.160	.473	.218	.480						
3. It is important to try and follow rules and obey the law	.316	.693	.223	.692	.282	.706						
4. I don't care about other people's feelings	.133	.424	.084	.444	.118	.419						
5. The kids who mess around with law are better off than those who always follow the law	.131	.377	.148	.386	.136	.375						
Expectancies												
Alcohol($\alpha = .813$); Cigarettes($\alpha = .776$); Cannabis($\alpha = .795$)												
1. More grown up	.596	.196	.702	.317	.739	.303						
2. More friends	.769	.252	.596	.212	.682	.361						
3. Look more cool	.857	.336	.751	.230	.727	.232						
4. Have more fun	.712	.322	.743	.129	.771	.182						
	<i>Eigenvalue</i>		2.416		1.637		2.100		1.543		2.321	
	<i>Variance</i>		29%		10%		25%		12%		28%	
											11%	

Note: Factor 1 represents *expectancies* and Factor 2 represents *deviance*

The chi-square goodness-of-fit value for the alcohol and cigarette measurement models were found to be non-significant and along with supporting fit indices represented a good fit of models to data. The chi-square goodness-of-fit value for the cannabis measurement model was significant. However the chi-square to degrees of freedom ratio was less than 2 and indicated a good fit as did other fit indices. These results provide sound support for the construct validity of the measurement models as the basis of the structural models.

Structural Models

Figure 1, 2 and 3 represent the structural equation models for adult substance use as a moderator of adolescent alcohol, cigarette and cannabis use. Fit indices for the models are displayed in the top right hand corners. The cigarette model had a non-significant chi-square goodness-of-fit value and along with supporting indices represented a good fit of model to data. The alcohol and cannabis models' chi-square values were significant and would indicate a poor fit. However this is not unusual in large samples (>200) and other fit indices would indicate a good fit of models to data. The paths of the models with their standardized regression weights represent both direction and magnitude and a summary for each model is provided below.

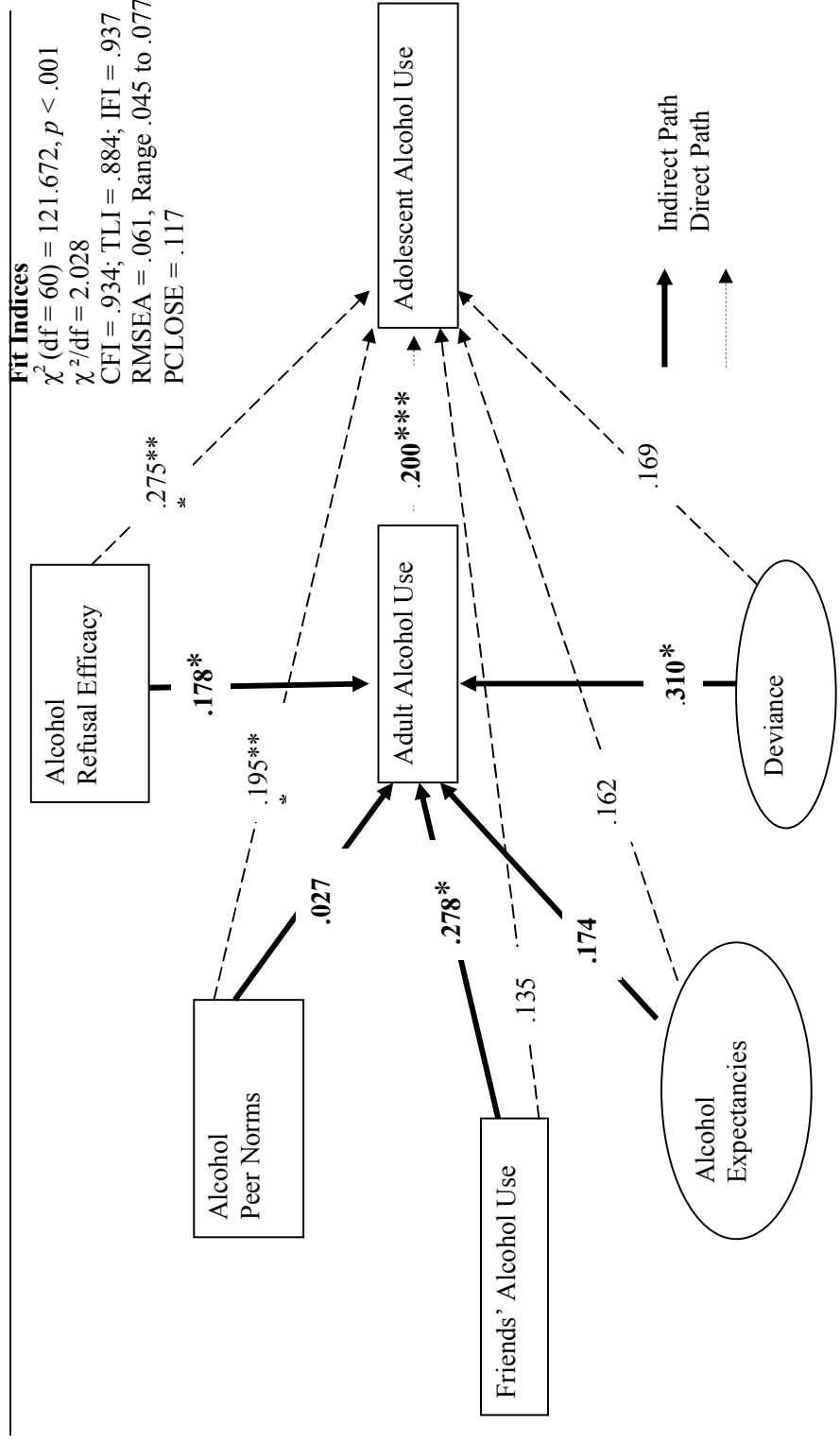
Alcohol: The predictors of adolescent alcohol use in this model accounted for 44.9% of the variance (R^2). Significant indirect effects were found for friends' substance use (Beta = .278, $p < .05$), deviance (Beta = .310, $p < .05$) and refusal efficacy (Beta =

.178, $p < .05$), and represented the portion of the effect of these variables on adolescent use influenced by parental alcohol use. Significant direct paths were observed for peer alcohol norms (Beta = .195, $p < .001$) and refusal efficacy (Beta = .275, $p < .001$), and indicated the magnitudes independent of parental alcohol use. Alcohol expectancies were modified by adult use, but this effect was not significant.

Cigarettes. The predictor variables in the model accounted for 39% of the variance (R^2). A significant indirect effect was found for friends' cigarette use (Beta = .348, $p < .001$) representing the amount of this variable modified by parental cigarette use. Significant direct effects were observed for friends' use (Beta = .274, $p < .001$), refusal efficacy (Beta = .300, $p < .001$) and peer norms (Beta = .153, $p < .01$) and indicated the portions of these three variables that remained independent of parental use. A small indirect effect for deviance was observed but this was not significant.

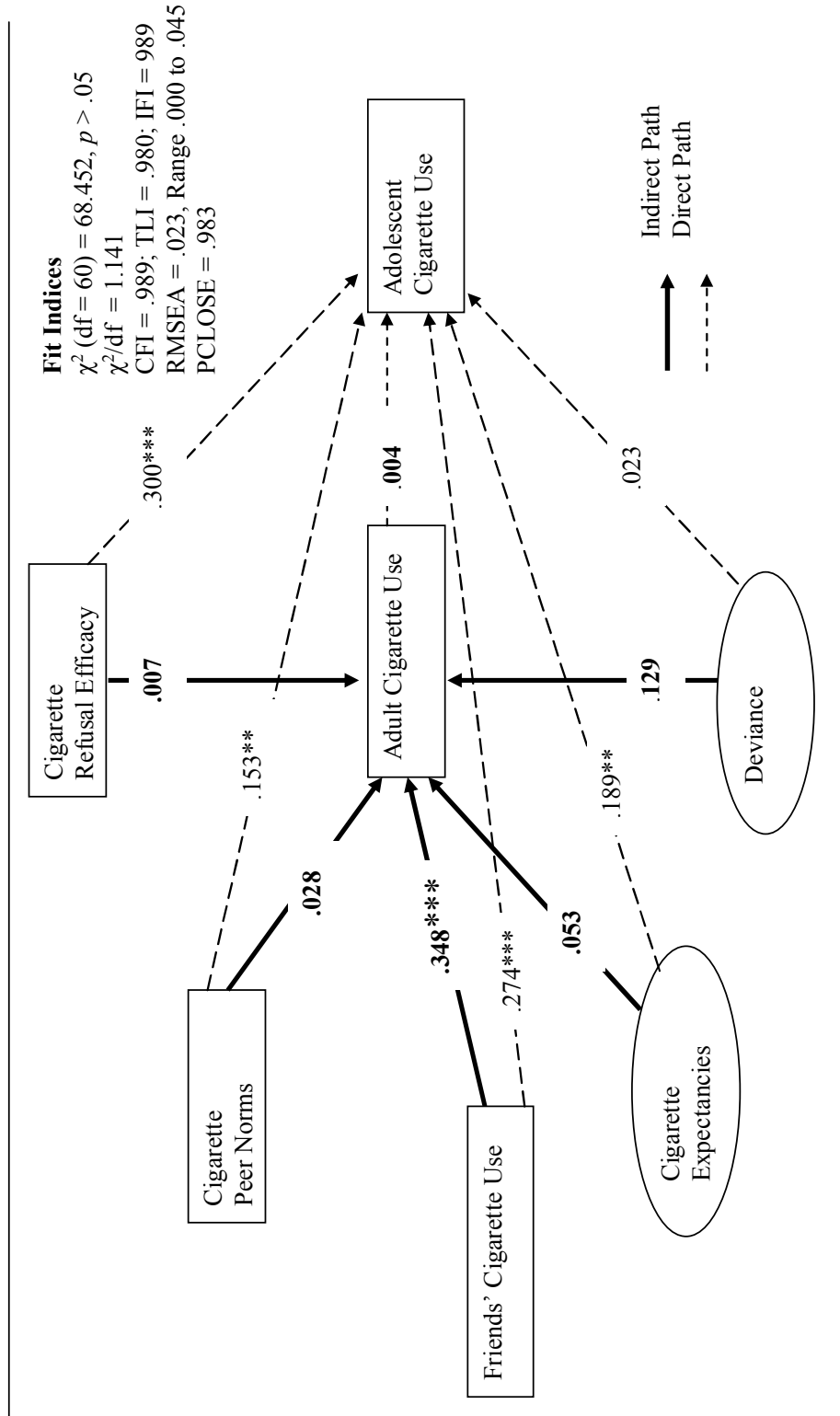
Cannabis. The predictor variables accounted for 34% of the variance. Significant indirect effects were found for friends' cannabis use (Beta = .514, $p < .001$) and expectancies (Beta = .174, $p < .05$) indicating the extent to which these variables were moderated by parental cannabis use. Significant direct effects were observed for friends' use (Beta = .249, $p < .001$), expectancies (Beta = .162, $p < .05$) and refusal efficacy (Beta = .206, $p < .001$) and represented effects on adolescent cannabis use independent of parental use. Deviance was modified by parental use but this effect was not significant.

Figure 1 Structural Equation Model for Adult Alcohol Use as a Moderator of Adolescent Alcohol Use



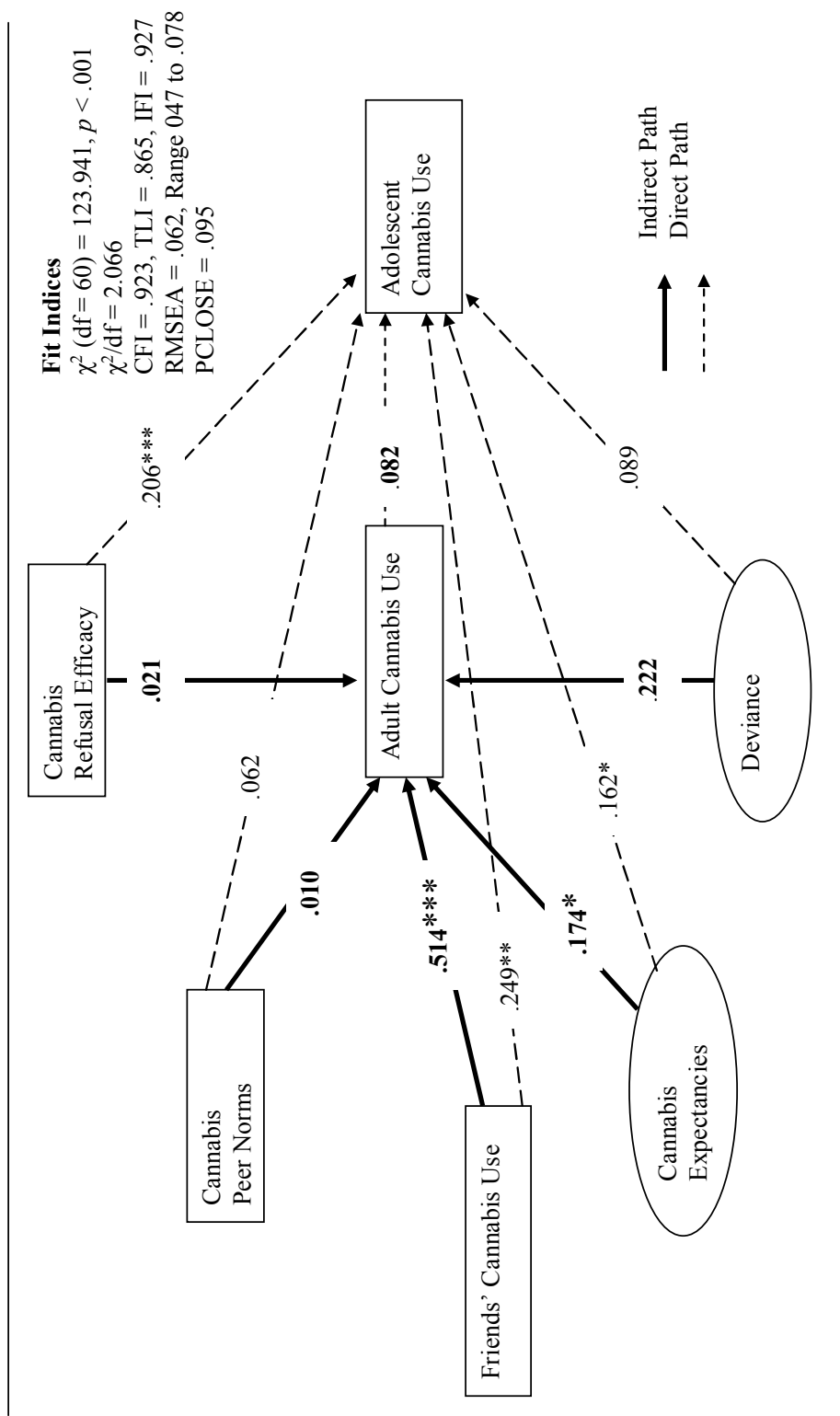
* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 2 Structural Equation Model for Adult Cigarette Use as a Moderator of Adolescent Cigarette Use



* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 3 Structural Equation Model for Adult Cannabis Use as a Moderator of Adolescent Cannabis Use



* $p < .05$; ** $p < .01$; *** $p < .001$

Discussion

The first aim of this study was to examine the strength of the individual associations of adolescent alcohol, cigarette and cannabis use with perceived peer and parental use along with measures of refusal self-efficacy, normative expectations, outcome expectancies and deviance. All predictor variables were significantly correlated with adolescent use for each of the substances. As hypothesized peer substance use had a stronger effect than parental use and reflected the proximal effect that this variable has on adolescent use. While all three substances had highly significant associations with parental use of the same substance, this effect was most pronounced for adolescent use of alcohol. Generally these findings are consistent with previous research in that those adolescents with parents who used substances were more likely to be substance users than those who reported no parental usage. In addition the more substance using friends with whom young people associated the greater their own risk of substance use and peer influence had a greater effect than parental influence (Bricker et al, 2006; Kandel, 1973; Flay et al, 1994; Li, Pentz & Chou, 2002).

Secondly structural equation models were constructed for each of the three substances in order to examine the moderator effect of perceived parental use. As expected and in keeping with previous studies, parental substance use had a significant moderator effect on peer influence for all three substances (Bahr, Hoffmann & Yang, 2005; Engels et al, 2004; Flay et al, 1994; Li, Pentz & Chou, 2002). Adolescents who perceived their parents to use substances were more likely to associate with increasing numbers of substance using peers. There were also significant but smaller direct effects

for cannabis and cigarettes and represented that portion of peer influence that was independent of parental use. A similar pattern was observed for deviant disposition in that larger components of this variable were moderated by parental usage with the effect reaching significance in the alcohol model. Refusal self-efficacy remained largely independent of parental use for adolescent cannabis and cigarette use, while significant direct and indirect components were found for adolescent alcohol use. These results would suggest that the model may be more relevant in explaining the effects of parental alcohol use on these three variables than for the other two substances. Parental substance was strongly related to the number of substance using friends for all three substances but youth who perceived their parents to be drinkers were also more likely to endorse deviant attitudes and to have lower refusal self-efficacy.

Peer normative expectations remained independent of parental substance use for all three substances with highly significant direct effects for alcohol and cigarettes. However a greater portion of the effect of alcohol and cannabis expectancies on adolescent use was influenced by parental use and this effect was significant for cannabis. Finally cigarette and cannabis expectancies were found to have significant direct effects.

The particular relevance of the moderator effect of parental alcohol use may be idiosyncratic of an Australian population. The high use of alcohol in this country would indicate a normative behaviour pattern and social acceptability when compared with the declining acceptance of cigarette smoking and the illegality of cannabis (AIHW, 2005). Nevertheless adolescent drinking is not socially acceptable and the results suggest that

parents who drink are encouraging similar behavior in their offspring by lowering the ability to refuse alcohol and indirectly influencing the choice of friends. The children of drinking parents were also more likely to endorse deviant attitudes. Deviance has been associated with a number of adolescent problem behaviors that include use of other substances, minor delinquency, poor school performance, precocious sexual activity and rebelliousness (Donovan & Jessor, 1985; Jessor & Jessor, 1977)

Limitations: This study has a number of limitations. Firstly the generalizability of these results needs to be interpreted with caution as ethics' requirements reduced the potential sample size to those students who were able to provide written active student and parental consent. Secondly it has been assumed that the association between parental and adolescent substance use has been due to social learning. Adolescent externalising problems that include substance use disorders have been found to have a genetic component and could provide an alternative explanation for the link between parent and child behaviours (Iacono, Malone, & McGue, 2003). Assessing the relative risk of environmental factors to inherited predisposition was beyond the scope of this study. Thirdly the data were derived from student self-report questionnaires and perceptions of the substance use of others may be a distortion of actual use. However perceptions of peer and parental substance use are as important to adolescent development as actual use and parental self-reports have not proven to be more accurate than adolescent reports when compared with objective measures (Gray & Steinberg, 1999). Finally the cross-sectional design of this study prohibits any conclusion being drawn of a causal link between parental and adolescent substance use even though the temporal ordering of

these variables who suggest that parental use would precede adolescent use and not the other way around.

Conclusions: Despite these limitations a number of implications for improving substance use prevention arise from this study. Programs need to be multimodal and include a parenting component to accompany school curriculum as a means of reducing adolescent associations with substance using peers. These efforts do not need to be substance specific but do need to specifically address the modelled effect of parental substance use on adolescent use. The most effective school prevention programs are based on the social influence model and incorporate strategies that enhance refusal self-efficacy and modify normative expectations and outcome expectancies (Tobler et al, 2000). Alcohol refusal self-efficacy and cannabis outcome expectancies were significantly influenced by perceived parental use of the same substance and these risks could be mitigated through parental intervention. Adolescent cigarette normative expectations, refusal self-efficacy and expectancies remained independent of parental use and these risk factors are best addressed within the context of school programs as can cannabis expectancies and self-refusal efficacy.

A number of family prevention programs have been found to be effective in reducing adolescent substance use without targeting parental use. In a review of these programs Kumpfer, Alvarado and Whiteside (2003) identified positive parent-child relations, parental supervision and consistent discipline, and parental anti-drug attitudes and values as reasons why youth do not use drugs or engage in other delinquent

behaviours. These three protective factors and their relation with adolescent problem behaviors are consistent with control theory (Hirschi, 1969) and its focus on attachment as a means of averting deviance. The findings in this study would suggest that drinking parents in particular, are contributing to increased deviance in their children and would benefit from training in improving the quality of their family relations.

Most adolescent substance use prevention since the early 1980s has targeted peer influence. The results of this study are consistent with a growing body of research identifying parental substance use modelling as exerting a distal influence on selection of friends and the young person's choice to use drugs. This effect was particularly pronounced for alcohol use with parental drinking contributing to lower refusal self-efficacy, increased deviance and favourable outcome expectancies. In conclusion school substance use prevention needs to be enhanced by making parents aware of how their behaviour may be either risk inducing or protective and these efforts need to include strategies for behavior modification of adult substance use and parenting skills.

References

- Australian Institute of Health and Welfare (2005). *Statistics on drug use in Australia 2004*. AIHW Cat. No. PHE 62. Canberra: AIHW (Drug Statistics Series No.15).
- Ajzen, I., & Fishbein, M. (2000). The prediction of behavior from attitudinal and normative variables. In E.T. Higgins & A.W. Kruglanski (Eds.), *Motivational science: Social and personality perspectives. Key reading in social psychology*. New York: Psychology Press.

- Akers, R.L. (1977). *Deviant Behavior: Social Learning Approach* (2nd ed.). Belmont California: Wadsworth.
- Andrews, J., Hops, H., Ary, D. V., Tildesley, E., et al (1993). Parental influence on early adolescent substance use: Specific and non-specific effects. *Journal of Early Adolescence* 13(3), 285-310.
- Andrew, J., Hops, H., & Duncan, S.C. (1997). Adolescent modelling of parent substance use. The moderating effect of the relationship with parent. *Journal of Family Psychology* 11(3), 259-270.
- Bachman, J.G., Johnston, L.D., & O'Malley, P.M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior* 31(2), 173-184.
- Bandura, A. (1986). *Social foundations of thought and action. A social cognitive theory*. Englewood Cliffs NJ: Prentice Hall.
- Botvin, G. J., Baker, E., Botvin, E. M., Dusenbury, L., et al (1993). Factors promoting cigarette smoking among Black youth: A causal modelling approach. *Addictive Behaviors* 18(4), 397-405.

- Botvin, G.J., Griffin, K.W., Diaz T., & Ifill-Williams, M. (2001). Drug abuse prevention among minority adolescents: Posttest and one-year follow-up of a school-based preventive intervention. *Prevention Science, 2*(1), 1-13.
- Bricker, J., Peterson, A.V.Jr., Andersen, M. R., Rajan, K. B., Leroux, B., & Sarason, I. (2006). Childhood friends who smoke: Do they influence adolescents to make smoking transitions? *Addictive Behaviors 31*(5), 889-900.
- Brook, J., Brook, D. W., Arencibia-Mireles, O., Richter, L., & Whiteman, M. (2001). Risk factors for adolescent marijuana use across cultures and across time. *Journal of Genetic Psychology 162*(3), 357-374.
- Caprara, G. V., Scabini, E., Barbaranelli, C., Pastorelli, C., Regalia, C., & Bandura, A., (1998). Impact of adolescents' perceived self-regulatory efficacy on familial communication and antisocial conduct. *European Psychologist Vol 3*(2), 125-132.
- D'Amico, E.J., & McCarthy, D.M. (2006). Escalation and initiation of younger adolescents' substance use: The impact of perceived peer use. *Journal of Adolescent Health 39*, 481-487.
- Donovan, J.E., & Jessor, R. (1985). Structure of problem behavior in adolescence and young adulthood. *Journal of Consulting and Clinical Psychology 53*(6), 890-904.

- Engels, R.C.M.E., Hale, W.W.III., Noom, M., & De Vries, H. (2005). Self-efficacy and emotional adjustment as precursors of smoking in early adolescence. *Substance Use & Misuse* 40(12), 1883-1893.
- Engels, R.C.M.E., Vitaro, F., Den Exter Blokland, E., de Kemp, R., & Scholte, R.H.J. (2004). Influence and selection processes in friendships and adolescent smoking behaviour: The role of parental smoking. *Journal of Adolescence* Vol 27(5), 531-544.
- Epstein, J. A., Botvin, G. J., Diaz, T., Toth, V., et al (1995). Social and personal factors in marijuana use and intentions to use drugs among inner city minority youth. *Journal of Developmental & Behavioral Pediatrics* 16(1), 14-2.
- Epstein, J., Griffin, K. W., & Botvin, G. J. (2000). Role of general and specific competence skills in protecting inner-city adolescents from alcohol use. *Journal of Studies on Alcohol* 61(3), 379-386
- Evans, R., et al (1978). Deterring the onset of smoking in children: Knowledge of immediate physiological effects and coping with peer pressure, media pressure, and parent modelling. *Journal of Applied Social Psychology* 8(2), 126-135.

- Flay, B., Hu, F. B., Siddiqui, O., Day, L. E., et al (1994). Differential influence of parental smoking and friends' smoking on adolescent initiation and escalation of smoking. *Journal of Health and Social Behavior* 35(3), 248-265.
- Gil, A., Wagner, E.F., & Vega, W. A. (2000). Acculturation, familism and alcohol use among Latino adolescent males: Longitudinal relations. *Journal of Community Psychology*, 28(4), 443-458.
- Gray, M. R., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage & the Family*, 61(3), 574-587.
- Griffin, K.W., Botvin, G.J., Nichols T.R., & Doyle, M.M. (2003). Effectiveness of a universal drug abuse prevention approach for youth at high risk of substance use initiation. *Preventive Medicine*, 36, 1-7
- Hirschi, T. (1969). *Causes of Delinquency*. California: University of California Press.
- Ho, R. (2006) *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*. Chapman & Hall/CRC Boca Raton, Florida.
- Iacono, W.G., Malone, S.M., & McGue, M. (2003). Substance use disorders, externalizing psychopathology, and P300 event-related potential amplitude. *International Journal of Psychophysiology*, 48(2), 2003, 147-178.

- Jessor, R., & Jessor, S.L. (1977). *Problem Behavior and Psychosocial Development – A Longitudinal Study of Youth*. New York: Academic Press.
- Kandel, D.B. (1973). Adolescent marihuana use: The role of parents and peers. *Science* 181, 1067-1070.
- Kaplan, H.B., Martin, S.S., & Robbins, C. (1984). Pathways to adolescent drug use: Self-derogation, peer influence, weakening of social controls, and early substance use. *Journal of Health and Social Behavior* 25(3), 270-289.
- Kumpfer, K.L., Alvarado, R., & Whiteside, H.O. (2003). Family-based interventions for substance use and misuse prevention. *Substance Use and Misuse*, 38(11-13), 1759-1787.
- Li, C., Pentz, M., & Chou, C. (2002). Parental substance use as a modifier of adolescent substance use risk. *Addiction*, 97(12), 1537-1550.
- Morrison, D.M., Mar, C.M., Wells, E.A., Rogers, Gillmore, M., Hoppe, M.J., Wilsdon, A., Murowchick, E., & Archibald, M.E. (2002). The theory of reasoned action as a model of children's health behavior. *Journal of Applied Social Psychology* 32(11), 2266-2295.

Peterson, A. V. Jr., Leroux, B., Bricker, J., Kealey, K. A., Marek, Patrick, M., Sarason, I., & Andersen, M. R. (2006). Nine-year prediction of adolescent smoking by number of smoking parents. *Addictive Behaviors* 31(5), May, pp. 788-801

Petratis, J., Flay, B.R., & Miller, T.Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychological Bulletin*, 117(1), 67-86.

Scheier, L.M., & Botvin, G.J. (1997). Expectancies as the mediators of effects social influences and alcohol knowledge on adolescent alcohol use: A prospective analysis. *Psychology of Addictive Behaviors*, 11(1), 48-64.

SPSS Inc. (2005). AMOS 6.0 User's Guide. Chicago, USA.

Sussman, P., Pokhrel, P., Ashmore, R.D., & Brown, B.B. (2007). Adolescent peer group identification and characteristics: A review of the literature. *Addictive Behaviors* 32, 1602-1627.

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts*. Washington: American Psychological Association.

- Tobler, N.S., Roona, M.R., Ochshorn, P., Marshall, D.G., Streke, A.V., & Stackpole, K.M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention, 20(4)*, 275-336.
- Trost, M., Langan, E. J., & Kellar-Guenther, Y. (1999). Not everyone listens when you "just say no": Drug resistance in relational context. *Journal of Applied Communication Research, 27(2)*, 120-138.
- Unger, J.B., Rohrbach, L.A., Howard-Pitney, B., Ritt-Olson, A., & Mouttapa, M. (2001). Peer influences and susceptibility to smoking among Californian adolescents. *Substance Use & Misuse 36(5)*, 551-571.
- Urberg, K., Degirmencioglu, S. M., & Pilgrim, C. (1997). Close friend and group influence on adolescent cigarette smoking and alcohol use. *Developmental Psychology 33(5)*, 834-844.

General Discussion

This dissertation set out to explore a number of aspects of adolescent drug and alcohol prevention. Following the breakthrough work conducted by Evans (1976), school drug prevention has mainly focused on strategies to combat peer drug influence. A more recent approach being promoted by a group of Australian researchers (McBride et al, 2004) has advocated alcohol harm minimisation as a prevention strategy. A new prevention program was developed incorporating these two approaches and results of an evaluation and implementation study were reported. Additionally descriptive studies have reported risk and protective factors for adolescent drug use that extend beyond peer influence in the domains of the family, school, culture and the personality (Hawkins, Catalano & Miller, 1992). Three additional studies explored a number of these risk and protective factors and their impact on adolescent substance use. The following is a summary highlighting the key findings of this dissertation with implications for future research.

Cultural Identity and Peer Influence Risk

The first study investigated the effect of cultural identity on adolescent substance use and confirmed an earlier observation by Oetting & Beauvais (1992) that there is no simple association between cultural identity and substance use. One explanation confounding the anticipated positive effect of cultural identity (Roberts et al. 1999), was risk from the influence of substance using peers (Bahr, Hoffmann & Yang, 2005; Wood, Read, Mitchell & Brand, 2004). Comparisons of the direct effects of the two variables

confirmed peer influence risk for Indigenous and Non-Indigenous initiation of all three substances. Alternatively strong cultural identity was generally independently protective of alcohol use for both cultural groups. However further investigation of the interactions between the two variables found an important difference between Indigenous and Non-Indigenous adolescent alcohol use. Interactions between the two factors found that cultural identity was associated with decreased alcohol initiation for up to four drinking friends for Non-Indigenous youth but was associated with increased risk for any number of drinking friends among their Indigenous counterparts. While the cross-sectional design of this study prevented a causative explanation, the results suggest that there is a significant association between strong Indigenous cultural identity and early alcohol initiation for any number of drinking friends.

. In 2006 alcohol use in the last month in the age range between 12-17 years olds increased from 34% to 68% and was the most widely misused substance among young people (AIHW, 2007). While a longitudinal study would be needed to confirm a causative link between Indigenous cultural identity and early alcohol use the following tentative conclusions were reached. Indigenous culture may inadvertently be encouraging conforming behaviour to the detriment of a more discriminating attitude towards substance using peers and adolescent alcohol use. In other words for cultural reasons Indigenous youth may find it harder to say “no” to offers of alcohol from their peers than their Non-Indigenous counterparts. The implication for Indigenous school prevention programs is that they may need to help Indigenous youth distinguish the positive effects of culture from the tendency to conform to the negative influence of alcohol using peers.

Indigenous leaders have long argued that such programs would need to be culturally appropriate. This may mean that Indigenous youth may benefit more from a culturally specific prevention program in comparison to the generic multicultural program that was investigated as part of this dissertation.

DAPPY:8 Program Evaluation

The effect of peer influence on adolescent substance use reported in the previous study supported the development of the DAPPY:8; a universal school prevention program based partly on the social influence model (Cuijpers, 2002; Tobler et al, 2000). A feature of the DAPPY:8 was the inclusion of alcohol harm minimisation messages (Midford, 2006). A key strategy of social influence programs is the provision of normative education. This takes the form of feeding back to students, results from classroom surveys indicating that most of their peers don't do drugs (Evans, 1976; Hansen & Graham, 1991). However young people who have already initiated drug use may not be convinced that this information is relevant to them as they are more likely to have a number of substance using friends (Hoffman, Monge Chou & Valente, 2007). In the latter case, an alcohol harm minimisation approach may be more useful in promoting relatively safer ways of drinking as a means of reducing harmful behaviours (Midford, 2006; Midford & McBride, 1999). The risk of including both models in the same program is that non-initiates may be misled into believing that alcohol use among young people may be more wide spread than what it is.

The results of the program evaluation were that in comparison with a drug education as usual control group, DAPPY:8 non-drinkers were less likely to initiate drinking during the course of the study. Additionally cannabis and inhalant abstainers reported that they were more likely to refuse future offers of inhalants and cannabis. The program had little effect on cigarette use and those who had already initiated drug use. A limitation was the small number of students taking part in the evaluation compared with the number who actually received the program. This was because the decision to run the program was made at the school level whereas a University ethics committee required both active student and parental consent for the evaluation. This requirement may have resulted in fewer high risk students participating in the evaluation which rendered the results for those already using substances too small to interpret statistically.

The small sample size may also have impacted on the changes observed for normative expectations following the intervention, in that none reached significance. The changes were that normative expectations dropped for cigarettes, cannabis and inhalants but increased for alcohol. The increase in alcohol norms may have been due to the inclusion of alcohol harm minimisation messages. However the increase in alcohol norms did not affect those at lowest risk in that fewer students initiated alcohol use during the course of the study than their control group counterparts. A similar outcome was observed in the results of SHAHRP (McBride et al, 2004), an alcohol harm minimisation program during which intervention students were more likely to remain non-drinkers compared with the controls. The results of this study would suggest that alcohol harm minimisation messages do not influence those at lowest risk to initiate alcohol use and

that both models can successfully be included in the same program. However a larger sample size representative of all students would be needed to determine if the program had any positive effect on the risky behaviour of youth who had already started drinking.

DAPPY:8 Curriculum Development and Implementation Evaluation

A major drawback in the dissemination of quality school prevention programs is a drop in efficacy to reduce adolescent substance use (Botvin, Baker, Dusenbury, Botvin & Diaz, 1995; Tobler et al, 2000). Program fidelity requires both the social influence and the harm minimisation approaches of prevention to be delivered in an interactive teaching style (Hansen & McNeal, 1999; McBride et al, 2004). This is because both approaches depend to a large extent on the teaching of interpersonal skills and the learning takes place when students are provided with the opportunity to interact with other students. Observational studies of teachers implementing prevention programs have found that many often fail to use interactive teaching, preferring instead a didactic approach with a focus on the provision of drug knowledge (Hansen & McNeal, 1999). In this study teachers were consulted and asked to provide feedback on a draft of the DAPPY:8 in an effort to highlight the importance of interactive teaching and to modify the program with a view to overcoming implementation problems.

The results were that less than half of the interactive activities (49%) were completed compared with those that were non-interactive (84%). The low implementation rate of the interactive components may go some way to explaining the limited success of the DAPPY:8, particularly in reducing smoking rates. According to the

teachers, the main reason for the low implementation of the interactive components was to do with class discipline. The interactive activities provided a greater opportunity for off-task behaviour and disruption. The discussion focused on overcoming implementation difficulties with reference to teacher training, teacher characteristics, program characteristics and organisational characteristics required to deliver effective school drug prevention. However two suggestions addressed in the next paragraph may contribute more to adherence to program aims and to overcoming implementation problems.

An observation was that some of the younger teachers were able to deliver more of the interactive components than others. New teachers have been found to be better trained, more confident in delivering interactive activities, more enthusiastic and more likely to adhere to a new prevention program (Rohrbach, Graham & Hansen, 1993). Alternatively teacher characteristics contributing to program fidelity have been found to be confidence and animation in program delivery, while authoritarian teaching style has been associated with low fidelity (Sobol et al, 1989). A key recommendation to encouraging program adherence is the selection of teachers with appropriate training and personal characteristics suited to an interactive teaching mode. Additionally the issue of class discipline would need to be addressed at the organisational level. There was evidence that persistently disruptive students were allowed to stay in classrooms to the detriment of the educational experience of other students. Evidence-based programs specifically for students with conduct problems are available and should be included among the school's regular programs. A limitation of this study was the small number of

teachers participating and the limited access available to the author to observe them in the classroom. However the low implementation rate of the interactive components is consistent with dissemination studies of quality programs conducted overseas and would suggest that future research would need to focus more on increasing program fidelity. Currently there are numerous commercial, quality school drug prevention programs available (CSAP, 2002) with fewer studies addressing the difficulty of reduced efficacy to prevent drug use associated with dissemination.

School, Peer, Parental and Personality Influences

The fourth study utilised structural equation modelling to investigate the combined effect of parental substance use (Li, Pentz & Chou, 2002), school connectedness (Kumpfer & Turner, 1991), deviant disposition and felt rejection (Kaplan, Martin & Robbins, 1984) on the level of peer influence on adolescent substance use. Social learning theory has proposed that adolescents are influenced to use drugs through the modelled and proximal effect of substance using peers (Akers, Krohn, Lanza-Kaduce & Radosevich, 1979). However more recent studies have found that adolescents also tend to choose their peers and that both effects are acting to precipitate substance use (Hoffman, Monge Chou & Valente, 2007; Juvonen, Martino, Ellickson & Longshore, 2007). The aim of the study was to investigate the extent to which distal influences from the family and school were possibly acting to influence the choice of friends. While individually, family, school and personality factors have not been found to be as strong as peer influence, the hypothesis was that the combined effect of these variables was strongly associated with the number of substance using friends. The results were reported

in terms of the direct and indirect effects of the independent variables on adolescent substance use.

The results were that the level of peer influence on adolescent substance use was associated with the combined level of parental substance use, school connectedness, deviant disposition and felt rejection for all three substances. Additionally adult drinking had a strong influence on adolescent drinking independent of the effect from peers. Similarly a lack of school connectedness was directly associated with adolescent drinking and smoking. It is true that the cross sectional design of the study could not rule out associations acting in the reverse direction. As an example smoking, drinking and associating with substance using peers may have precipitated a lack of school connectedness. However it is unlikely that adolescents and their peers were influencing adults to smoke, drink and use cannabis. Recommendations arising from this study were that school based prevention programs needed to a) be supplemented with selective programs addressing adult substance use and b) school connectedness needed to be strengthened through improvements in school climate and through efforts to ensure that all students benefited from the school experience.

Parental Substance Use as a Moderator of Social Influence Risk

The final study examined more closely the moderator effect of parental substance use on a number of social influence factors associated with adolescent use. The social influence variables were chosen because they are typically addressed in school prevention programs based on the social influence model. Structural equation models

were used to determine the extent to which the combined effect of refusal self-efficacy (Petraitis, Flay & Miller, 1995), peer normative expectations (D'Amico, & McCarthy, 2006), expectancies (Scheier & Botvin, 1997), number of substance using friends (Hawkins, Catalano & Miller, 1992) and deviant disposition (Kaplan, Martin & Robbins, 1984) was directly associated with the level of parental substance use and indirectly associated with adolescent use.

The results were that across the three substances, components of the effect of the social influence variables on adolescent substance use were moderated by parental substance use. Strong associations were found for parental drinking and lower alcohol refusal self-efficacy along with parental cannabis use and more favourable cannabis expectancies. As in the previous study, parental substance use was consistently associated with adolescent substance use through the number of substance using friends. However both alcohol refusal self-efficacy and cannabis expectancies had components directly associated with adolescent use that were independent of parental use. Cigarette refusal self-efficacy, normative expectations and expectancies were all independent of parental smoking and directly associated with adolescent smoking. Similarly cannabis refusal self-efficacy was independent of parental use and directly associated with adolescent cannabis use. The data would suggest that although some adolescents are strongly influenced to use substances through the modelled effect of their parents, others do so for reasons independent of parental use. It was concluded that drug refusal self-efficacy, cigarette peer norms and cigarette and cannabis expectancies all had components independent of

adult use and should be addressed at the individual level within the context of a school-based social influence program.

Summary

A new universal school drug prevention program was developed in consultation with teachers and was successful in reducing alcohol initiation and increasing cannabis and inhalant refusal self-efficacy among non-initiates. Implementation problems were identified and quality of program delivery may have explained the limited effect of the school program on cigarette use and among those who had already initiated substance use. Additionally three descriptive studies explored variables representing risk and protection for adolescent substance use.

Key findings were that cultural identity was observed to be protective of both Indigenous and Non-Indigenous alcohol initiation but was associated with risk for Indigenous youth who had any number of drinking friends; that drinking parents had a strong direct effect on adolescent drinking independent of friends' use; and a lack of school connectedness was associated with increased adolescent smoking and drinking. In conclusion this dissertation demonstrated that school drug education in its self cannot effectively prevent adolescent drug use. While improvements can be made to current teaching practices, school curricula need to be supplemented with multi-modal programs that aim to selectively reduce parental substance use and improve the school experience for all students.

References

- Akers, R.L., Krohn, M.D., Lanza-Kaduce, L., & Radosevich, M. (1979). Social learning and deviant behavior: A specific test of a general theory. *American Sociological Review, 44*(4), 636-655.
- Australian Institute of Health and Welfare (2007). Statistics on drug use in Australia in 2006. Drug Statistics Series No. 18. Cat. no. PHE 80. Canberra, AIHW.
- Bahr, S. J., Hoffmann, J. P., & Yang, X. (2005). Parental and peer influences on the risk of adolescent drug use. *Journal of Primary Prevention, 26*(6), 529-551.
- Centre for Substance Abuse Prevention (2002). *Science Based Prevention Programs and Principles, 2002*. Rockville MD: US Department of Health and Human Services.
- Cuijpers, P. (2002). Effective ingredients of school-based prevention programs: A systematic review. *Addictive Behaviors, 27*, 1009-1023.
- D'Amico, E.J., & McCarthy, D.M. (2006). Escalation and initiation of younger adolescents' substance use: The impact of perceived peer use. *Journal of Adolescent Health 39*, 481-487.
- Evans, R.I. (1976). Smoking in children: Developing a social psychological strategy of deterrence. *Preventive Medicine, 5*, 122-127.

- Hansen, W.B., & Graham, J.W. (1991). Preventing alcohol, marijuana and cigarette use among adolescents. Peer pressure resistance training versus establishing conservative norms. *Preventive Medicine, 20*, 414-430.
- Hawkins, J.D., Catalano, R.F., & Miller, J.Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64-105.
- Hoffman, B.R., Monge, P.R., Chou, C., & Valente, T.W. (2007). Perceived peer influence and peer selection on adolescent smoking. *Addictive Behaviors, 32*(8), 1546-1554.
- Juvonen, J., Martino, S.C., Ellickson, P.L., & Longshore, D. (2007). "But Others do it!": Do misperceptions of schoolmate alcohol and marijuana use predict subsequent drug use among young adolescents? *Journal of Applied Social Psychology, 7*(4), 740-758
- Kaplan, H.B., Martin, S.S., & Robbins, C. (1984). Pathways to adolescent drug use: Self-derogation, peer influence, weakening of social controls, and early substance use. *Journal of Health and Social Behavior 25*(3), 270-289.
- Kumpfer, K.L., & Turner, C.W. (1990/1991). The social ecology model of adolescent substance use: implications for prevention. *The International Journal of the Addictions, 25*(4A), 435-463.

Li, C., Pentz, M., & Chou, C. (2002). Parental substance use as a modifier of adolescent substance use risk. *Addiction, 97*(12), 1537-1550.

McBride, N., Farrington, F., Midford, R., Meuleners, L., & Phillips, M. (2004). Harm minimisation in school drug education: Final results of the School Health and Alcohol Harm Reduction Project (SHAHRP). *Addiction, 99*, 278-291.

Midford, R. (2006). Looking to the future: Providing a basis for effective school drug education. In R. Midford & G. Munro (Eds.), *Drug education in schools: Searching for the silver bullet*. IP Communications: Melbourne.

Midford, R., & McBride, N. (1999). Evaluation of a national school drug education program in Australia. *International Journal of Drug Policy, 10*, 177-193.

Oetting, G.R., & Beauvais, F. (1991). Orthogonal cultural identification theory: The cultural identification of minority adolescents. *International Journal of the Addictions, 25*(5-A-6-A), 655-685.

Petratis, J., Flay, B.R., & Miller, T.Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychological Bulletin, 117*(1), 67-86.

Scheier, L.M., & Botvin, G.J. (1997). Expectancies as the mediators of effects social influences and alcohol knowledge on adolescent alcohol use: A prospective analysis. *Psychology of Addictive Behaviors, 11(1)*, 48-64.

Roberts, R. E., Phinney, J.S., Masse, I.C., Chen, Y.R., Roberts, C.R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *Journal of Early Adolescence, 19(3)*, 301-322.

Tobler, N.S., Roona, M.R., Ochshorn, P., Marshall, D.G., Streke, A.V., & Stackpole, K.M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention, 20(4)*, 275-336.

Wood, M.D., Read, J.P., Mitchell, R.E., Brand, N.H. (2004). Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors, 18(1)*, 19-30.

Botvin, Baker, Dusenbury, Botvin & Diaz, 1995 McBride et al, 2004 Hansen & McNeal, 1999 Rohrbach Graham & Hansen, 1993 Sobol et al, 1989



**Drug and Alcohol Abuse
Prevention Program
Year 8
Teachers Guide**

Contents

1. **Module 1 – Why do people use drugs and alcohol?**
2. **Module 2 – Choosing your friends**
3. **Module 3 – Tobacco**
4. **Module 4 – Alcohol**
5. **Module 5 – Marijuana and Inhalants**
6. **Module 6 – Poster Assignment**
7. **Module 7 – Managing Anxiety**
8. **Module 8 – Managing Anger**
9. **Module 9 – Assertiveness**
10. **Module 10 – Communication Skills**

This Project has been funded by the Alcohol, Education and Rehabilitation Foundation and the University of Queensland.

This document remains the intellectual property of the author and is not to be reproduced without permission.

Module 1: Why do people use drugs and alcohol?

Teacher's Guide

Goals and Objectives

Goal:

To introduce students to concept of drug and alcohol prevention through the teaching of life skills

Objectives:

- *Establish* ground rules
- *Discuss* what is currently important in students' lives
- *Discuss* pros and cons of AOD use
- *Identify* social and personal reasons for AOD use
- *Activity:* Giving and receiving complements
- *Identify* personal qualities students value in themselves and others

Materials:

- Coloured post-it notes and coloured felt pens
- Ball of wool

Module Duration:

- 60 – 70 minutes

Introduction (1 min)

Optional: Students may be seated in a circle.

“Welcome to the first Module of the Drug and Alcohol Abuse Prevention course. Today and over the next few weeks we will be looking at the **reasons** why some people **choose to use** drugs and alcohol and why other people **choose not to**.

The purpose of this program is to help you understand that people often use **substances** (another word for drugs and alcohol) as a way of making themselves **feel good** and to help them **get along** with other people.

Unfortunately **choosing to use** substances in this way can have **bad consequences**.

Abusing substances can be **bad** for your **health**, it can get you **into trouble**, but most **important** it gets in the way **learning personal and social skills, or the skills you will need** to help you be more **successful** in what ever you choose to do in life.”

Ground Rules (5 min)

“First we will start by discussing some **ground rules**.”

- Everyone is to remain **respectful** of each other’s opinions
- People are to **talk one at a time**
- What is said in this group stays in the group
- We don’t talk about each others drug and alcohol experiences
“If you don’t ask me what I do in my private life - I won’t ask you!”
- **Privacy will be respected**
To maintain privacy, if anyone wants to talk about a personal experience, consider telling story in 3rd person. I.e. “This story is about someone I know...”

- **Ground Rules** may be displayed on a **poster** and used as ongoing reference

“What’s important in my life at the moment?” (15 min)

- Ask students to think of something that is **important** in their lives at the moment and to create a **symbol** to represent this.
- Ask them to **draw the symbol** on a post-it note and to think of a **couple of sentences** that they would be **willing to share** with the class to explain the symbol.
- Then ask students, one at a time to **come to the front** of the class, to place their post-it note on a designated notice-board and to **briefly explain** what the **symbol means** to them. (If the class is newly formed and people do not know each other, ask them also to state their first name.)
- Once finished **congratulate** students on their foray into **public speaking** and explain that speaking in front of a group is difficult for many people
- Ask for responses as to how they **felt before** and **after** the task.
- **Examine** students’ symbols and try to **summarise** their **responses**. The topics will have to do with **new experiences** such as meeting a boy or girl that they like in a special way, **social activities** such as sports and friends, and **personal endeavours** such as mastering a musical instrument or succeeding at motor-cross.

“Why do people use drugs and alcohol?” (5 min)

“So why would some people want to include drugs and alcohol in their lives?”

- Ask students to **imagine the reasons** why young people their age would want to **use drugs or alcohol**
- Put student responses into **three columns on whiteboard**
- **Acknowledge as valid all answers** that address the question with a **neutral response** such as “OK,” “yes” but not “good” as it may be construed as approval
- **Prompt** students with the **following examples** in form of **questions** if you have difficulty getting responses

Physical Responses – “How it feels!”

Examples: Does smoking cigarettes help you relax?
Does smoking marijuana make you high?

Self Image – “How it makes me look!”

Examples: Does smoking cigarettes make you look more grown up?
Does smoking marijuana make you look cool?

Social Relating – “How it helps me get along with others!”

Examples: Does smoking marijuana let you have more fun?
Do kids who smoke cigarettes have more friends?
Is doing drugs a way of rebelling against authority?

- Allow students time to complete this section in **Student Guide**

“What’s not so good about drugs and alcohol?” (5 min)

“So what’s **not so good** about using drugs and alcohol?”

- Put responses into **three columns**
- **Prompt** students with following **facts**

Health Problems

Examples: Cigarette smoking is addictive and difficult to give up
Smoking has been linked to lung cancer

Social Problems

Examples: Smoking marijuana could get you into trouble with the police
Cigarette smoke can be a nuisance and a health hazard to people who don’t smoke

Personal Problems

Examples: Drugs and alcohol cost money
Smoking marijuana can give you a bad reputation
Most dugs are addictive

- Allow students time to this complete section in **Student Guide**
- **Summarise** as follows

Main Points (2 min)

- People use drugs and alcohol for many **different reasons** and that these reasons often have **nothing to do** with the physical effects of the drug itself
- A lot of the time people use drugs and alcohol to make themselves **look good** in front of their **friends**
- Other times people use drugs and alcohol **to help them get along** with other people
- When people use drugs in this way they hardly ever **think** of the **bad consequences** to their **health and their reputation**

Activity: Giving and Receiving Complements (15 min)

- Arrange students in a **circle**
- Tell students that an important social skill is to **pay attention** to other **people's good qualities**
- With the **ball of wool** have each student **state what they like** about another student and then to **throw the ball** to that person
- Continue until all students are **connected** by the wool thread

“What are some good things I like about my friends? (5 min)

- Ask students to **discuss** the **personal qualities** that they **like their friends to have**
- Allow students time to complete this section in **Student Guide**

What are some good things I like about ME? (5 min)

- Ask students what are their **good qualities** and if they think **other people** would **like these qualities too**
- Have students list their good qualities in the **Student Guide**

Summary of student responses and link in with program aims (2 min)

“The purpose of this program is to help you develop personal and social skills so that you can feel more confident in yourself and in your ability to make friends.

You have told me that drugs and alcohol may be one way that some people make friends and make themselves feel good but ***you have also told me*** that often this involves risk and **bad consequences**.

You have also told me that most people would like to be accepted for the type of person they are and that the **things you like about yourself** are the things **you look for in choosing your friends**

Over the next few weeks, we will be looking at these ideas more closely so that you can **clearly see a difference** between **choosing your friends because you like them and they like you** and hanging out with people who include you in their group just because you are prepared to use drugs and alcohol with them.”

TIME FILLERS

1. Affirmation Puzzle in Student Guide
2. Quiz questions from Mod 3 or Mod 5

Module 1: Why do people use drugs and alcohol?

Student Guide

Welcome to the first Module of the Drug and Alcohol Abuse Prevention Program.



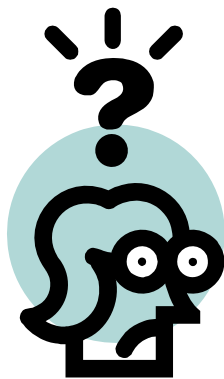
People use drugs and alcohol for different reasons

Some people use drugs and alcohol to help them have more fun

Other people use drugs and alcohol so they can feel better about themselves



Unfortunately using drugs and alcohol can also give you bad health, get you into trouble or give you a bad reputation



confident within yourself and

As a way of helping you make **informed choices** about using drugs and alcohol, this program will be telling you about the **risks of using** different substances

some **skills** that you



and helping you learn **personal and social** can use to feel more in making good choices



that are right for you.

“Why do people use drugs and alcohol?”

Write down some reasons why young people your age would want to use drugs and alcohol?

People often use drugs and alcohol for reasons that have nothing to do with the substance itself

“What’s not so good about drugs and alcohol?”

Write down some of the bad things that can happen to young people your age if they were to use drugs and alcohol:

Many people who think drugs and alcohol are cool often don’t think about the bad things that can happen when they use

“What are some good things I like about my friends?”

It is often difficult to feel that you are welcomed or included in a group if you are the only person who does not want to do drugs or drink alcohol

What are some good things I like about ME?

What are some things about you that you like and that you think other people might like about you.



Affirmations Puzzle

An affirmation is a positive thought that supports us in everything that we do in life.

There are two types of affirmations. The first are a set of beliefs about who we are. The second are a set of beliefs about what you need to do to succeed in life.

Look through the list below and see if you can fill in the missing words. You will find the missing words in the word puzzle. The words could be written backwards, up side down, diagonally, from left to right and from top to bottom.

As you do this, see if you can use any of these affirmations for yourself.

Accepting Who I Am

I'm OK just the ___ I am (3 letters)

I am lovable and I am _____ (7 letters)

I am an _ m ___ t ___ person. (9 letters)

I'm already a worthy person, I don't have to _____ myself. (5 letters)

My _ e _____ g _ and needs are important. (8 letters)

I deserve to be supported by those who _____ about me. (4 letters)

I deserve to be respected, and _ a _ e _ _ _ r. (5 + 3 letters)

I deserve to feel ___ e _ n _ _ _ e. (4 + 3 + 4 letters)

I'm _____ enough to handle what ever comes along. (6 letters)

Supporting What I Do

It's O.K. to say __ to others (2 letters)

It's good for me to take time for _____ (6 letters)

It's O.K. to think about what I _____ (4 letters)

The more I get what I need the more I have to _____ others (4 letters)

I don't have to take care of _____ else (8 letters)

I don't have to be p _____ to be loved (7 letters)

I can make m _____ and still be O.K. (8 letters)

The more you do something the better you get, I don't have to _____ myself (4 letters)

I am not _____ of who I am and where I come from (7 letters)

A	B	I	C	D	E	N	O	Y	R	E	V	E	F	G	H
R	D	Q	M	P	O	T	E	S	T	N	M	L	K	J	I
S	E	T	U	P	V	W	X	Y	C	Z	A	B	C	G	D
P	E	O	N	M	O	L	K	J	I	A	H	G	F	I	E
Q	N	R	S	T	U	R	V	W	X	P	R	O	O	V	E
H	G	F	E	D	S	C	T	W	B	A	Z	E	Y	E	L
S	T	R	O	N	G	I	J	A	K	L	M	N	D	O	B
Z	Y	X	W	V	N	U	T	Y	N	S	R	F	Q	P	A
A	D	B	C	D	I	E	F	G	H	T	O	I	J	K	P
W	E	V	U	T	L	S	R	Q	P	R	O	N	M	L	P
X	M	C	A	R	E	Y	Z	A	B	C	D	E	F	G	C
M	A	L	K	J	E	I	S	E	K	A	T	S	I	M	H
N	H	O	P	Q	F	R	E	E	A	N	D	S	A	F	E
N	S	P	E	R	F	E	C	T	R	S	T	U	V	W	X
O	A	Y	Z	A	B	C	D	E	F	F	L	E	S	Y	M

Module 2: Choosing your friends

Teacher's Guide

Goals and Objectives

Goal

To introduce students to the concept of indirect peer group pressure and the process of social problem solving.

Objectives

- Conduct anonymous survey of student substance use in last month
- Define direct and indirect peer group pressure
- Discuss problem solving for peer pressure situations
- Have students script and perform role plays demonstrating peer pressure problem solving
- Ask students to estimate prevalence of peer substance use

Materials

- Shoe box with slot
- Tally Sheet
- Survey form as follows

Please tick box if in the last 30 days you have:

- Smoked cigarette/s
- Drank alcohol
- Used marijuana
- Sniffed glue, petrol and anything else that makes you high

Do not write your name on this survey form.

Module Duration

- 60-70 minutes

Activity – Anonymous Substance Use Survey (5 min)

- “Today we’re going to be conducting an anonymous drug and alcohol use survey. This is a simple survey asking if you have used any of four substances, cigarettes, alcohol, marijuana or inhalants in the last 30 days
- Once you receive your form, please do not write your name on it, just answer the questions, fold the form in two and put it in the slot of the shoe box
- As I want you to feel confident that I will not see your answers while you are writing them down, can I have a couple of **volunteers** to give these forms out and to collect the results?”
- Provide volunteers with a **tally sheet** so that once answers are collected they can begin to **count** and **record** reported usage of each substance

Background Information: Young people tend to over estimate the proportion of peers who engage in substance use. It is expected that by providing them with actual proportions of students who have used substances that this will change their view of substance use from a behaviour which is normal and wide spread to one in which only a minority of young people engage. This strategy is called changing normative expectations and is a special case of indirect peer group pressure.

Cairns Survey 2004 – 12-14 yr olds
N = 106

	Used in last month	Lifetime use
Cig	20%	44%
Alcohol	28%	71%
Cannabis	11%	23%
Inhalants	Nil	7%

Why Have Good Friends? (5 min)

- “The topic of today’s module is about **choosing** and having **good friends**”
- Ask students how **important** it is to have good friends
- “To a large extent how we **feel** about **ourselves** is **influenced** by what other **people think of us** so for this reason it is important to **choose** your friends carefully
- If you want other people to **think of you** as a **nice person** you need to **be a nice person** and **surround yourself** with people who are **going to see you that way.**”
- Briefly refer to last week's Module and ask students to think of **some qualities** that they would look for in a **good friend**
- “Another reason why it is important to choose your friends wisely is because we can be easily **influenced to do things** just because it is what **other people doing**
- This is because the **need to belong** and to be accepted can sometimes be **much stronger** than our **ability** to make **good judgements** about a situation.”
- Ask students if they can think of things that people do because others are doing them too

Examples

Wearing the same type of clothes
Speaking the same language
Supporting the same football team
Eating the same food

Peer Pressure and Substance Use (3 min)

- “We are now going on to talk about peer pressure to use substances.”
- Ask students if they know what the term **peer group pressure** means.
- Write the term on the whiteboard.
- “The word **pressure** used in this way means **influence** and people can be **influenced** or **persuaded** to use substances in different ways”
- **Review** following sources

Pressure to Use Substances

- Advertising, television, the media, movies
- What you **see** and **think** adults are doing
- What you **see** and **think** your **peers** or young people your age are doing

- Tell students there are **two types** of **peer pressure**

Peer Pressure

- **Direct pressure** is when someone is trying to **persuade** you to do something
- **Indirect pressure** is when **no-one** is trying to **persuade** but you do something because you **want to be like** or you want to **conform** to what others are doing

- Tell students that the next exercise is about **Indirect Peer Pressure**

Making Decisions and Peer Pressure (17 min)

- "Now I want to give you a problem to solve!"
- Ask students to refer to the first scenario in the **Student Guide** and either ask for a volunteer to read out the passage or read it yourself:

#1 "You're in the local mall hanging out with a group of friends. The "new girl" who started school last week walks by. You recognise her because she lives in your street and she said hello to you on the way to school this morning. You liked her because she seemed quite nice. Your friends start talking about her saying that she's a snob and that she's stuck up. You know that she's heard what they're saying from the expression on her face when she looks in your direction. What do you do?"

- While students are thinking write the acronym "**POOCH**" vertically on the whiteboard. Tell students:
- "Some of you may have already thought of what you would do in this situation
- There are however a **number of choices** that you can make, and the best way to tackle this problem is to think of all the **different choices** or **options** that are available, and then to think through **what would happen with each choice**
- There are no right or wrong answers but **depending** on the **outcomes**, some **choices** will be better **than others**"
- **Explain POOCH** acronym to students and work through the problem using the whiteboard

Note: Problem Solving is a process and its purpose is not to come up with the "right" answer. It is a means of encouraging students to THINK THROUGH PROBLEMS FOR THEMSELVES. It should be viewed as an opportunity to stop and think about situations before acting. In working through this problem however consideration should be given to the idea that the central character is under indirect pressure from the group to behave differently from the way he/she would have behaved had the group not been there.

Problem: What is the problem?

If you say hello to the new girl, you're friends might start to think you're a snob and if you don't say hello to her, she's going to think that you're not very nice and not worth knowing.

Options: What are the options?

1. Say hello to the new girl
2. Ignore her
3. Say hello and explain to your friends that you ran into her this morning and she seemed OK

Outcomes: What are the outcomes of each option?

1. The new girl will think that you are nicer than your friends and might want to be friends with you, but your friends might think that you're as snobby as she is
2. The new girl will almost certainly ignore you next time she runs into you, but at least you haven't risked falling out with your friends
3. The new girl will probably say hello to you again and might want to be friends with you. You're also letting your friends know that you have a different view of her and that saying hello doesn't mean that you want to be a snob

Choose: Choose the best one for you?

You decide on the 3rd Option, because as much as you want to keep your friends on side, you would also like to be able to make up your own mind as to who you choose to say hello to or not.

How did it go? Try it out and see how it goes?

Role Play (25 min)

- Have students break off into about four groups
- Ask them to read through Scenario #2 and to script and rehearse a **Role Play** to be performed in front of class of **one possible option and its outcome**
- This **Scenario** follows on from the first one and assumes that the central character chose **Option 3**
- The central character can be either male or female

#2 “You said hello to the “new girl” and explained to your friends that you thought she was OK. Your friends accepted your explanation and the “new girl” came around to your place with a couple of tickets asking if you would like to go the movies with her this Saturday night. You said yes but after she left you realised that one of your friends invited you to his birthday party on Saturday night and you said that you would go. What do you do?”

- After students have acted out their **Role Plays**, ask each group to discuss their choice of option and outcome
- **Pay attention and commend those interpretations that show consideration for the feelings of the other people involved in this scenario.**

Survey (3 min)

- Conduct a quick **survey** with a **show of hands** of proportions of **people their age** that students **think** used the following substances in the last **30 days**:
- Draw up the following table on the whiteboard and write in raw numbers

Class Guess of Peer Substance Use

	A quarter or less	About Half	Three quarter or more	Class Guess
1. Smoked Cigarettes				
2. Drunk Alcohol				
3. Smoked Marijuana				
4. Used Inhalants				

- Record as the **Class Guess** the **proportion** with the **most frequent** responses
- By now the volunteers should have tallied up the responses from the ballot box survey.
- Take a copy of the results of the survey tally sheet as well as student estimates for use in the future **Modules**
- Inform students that over the next few weeks you will be giving them the results of the survey.

Summary (2 min)

- “Young people often **experience pressure** to do things that they may not do otherwise because it is what they **think others expect** of them or because they want to conform or **be like other people**.
- This is sometimes referred to as **peer group pressure**.
- In these situations, decisions have to be made that need to be carefully thought through, so that you do not end up doing something that you may regret later.
- The best way to make a decision is to carefully think of all the **options or choices** and **each outcome** before making a choice
- When the choice involves other people, thinking through problems in this way gives the best opportunity to take into account all sides.
- If you find yourself in a situation where as a result of peer group pressure you have made a mistake, take some time to carefully think through what a better choice would have been so that you don't repeat the mistake in future.
- If you have **offended** or **hurt** someone, try **offering** the other person an **apology**
- **Everyone makes mistakes**; the idea is **to learn** from these mistakes and to **move on**. Lessons learnt in this way are the ones that you are not likely to forget in hurry.”

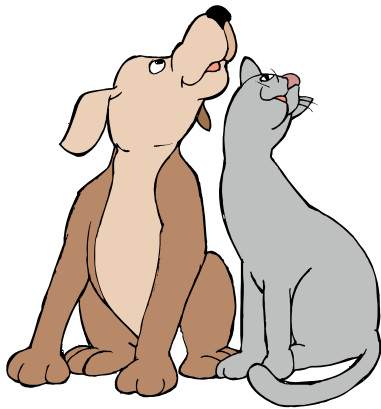
TIME FILLERS

- 1. Introduce Assignment “Interview with a Smoker” in Mod 3**
- 2. Quiz questions from Mod 3 or Mod 5**

Module 2: Choosing your friends

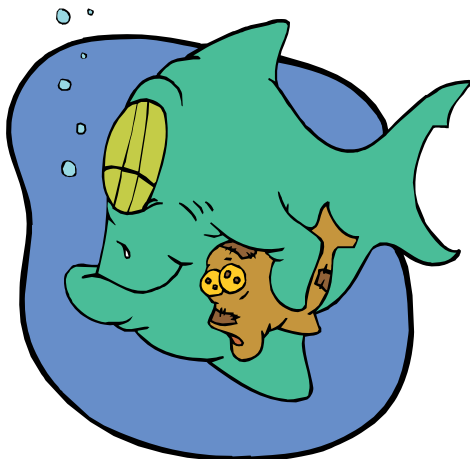
Student Guide

It is important to have good friends because to a large extent how we feel about ourselves depends on how others see us.



If you want people to think of you as a nice person, you not only have to be a nice person but you need to choose friends who are going to see you that way.

Another reason for choosing to have good friends is because we can easily be influenced to do things that other people are doing even if it is not what we want to do



This is called **peer pressure** and it happens because our need to belong and to be accepted is sometimes much stronger than our ability to make good judgements about a situation.

Scenario #1:

#1 *“You’re in the local mall hanging out with a group of friends. The “new girl” who started school last week walks by. You recognise her because she lives in your street and she said hello to you on the way to school this morning. You liked her because she seemed quite nice. Your friends start talking about her saying that she’s a snob and that she’s stuck up. You know that she’s heard what they’re saying from the expression on her face when she looks in your direction. What do you do?”*

Problem: What is the problem?

Options: What are the options?

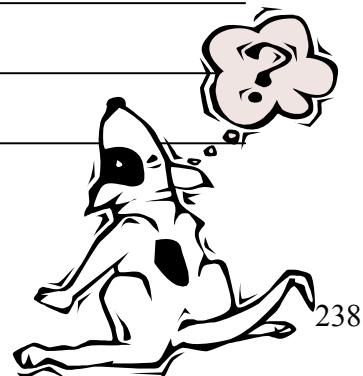
1. _____
2. _____
3. _____

Outcomes: What are the outcomes of each option?

1. _____
2. _____
3. _____

Choose: Choose the best one for you?

How did it go? Try it out and see how it goes?



Scenario #2:

#2 “You said hello to the “new girl” and explained to your friends that you thought she was OK. Your friends accepted your explanation and the “new girl” came around to your place with a couple of tickets asking if you would like to go the movies with her this Saturday night. You said yes but after she left you realised that one of your friends invited you to his birthday party on Saturday night and you said that you would go. What do you do?”

Problem: What is the problem?

Options: What are the options?

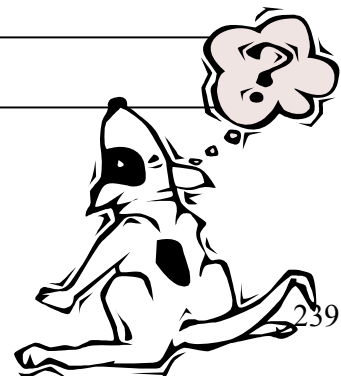
1. _____
2. _____
3. _____

Outcomes: What are the outcomes of each option?

1. _____
2. _____
3. _____

Choose: Choose the best one for you?

How did it go? Try it out and see how it goes?



Module 3: Tobacco

Teacher's Guide

Goals and Objectives

Goal

To provide students with a) results of peer tobacco use survey, b) age appropriate information outlining risks associated with tobacco use in quiz format to c) develop critical appraisal of tobacco advertising.

Objectives

- To provide students survey results of peer cigarette smoking
- To inform students of purpose of advertising
- To introduce common cigarette marketing techniques
- To develop a critical response to cigarette advertising
- To provide students with information about risk associated with tobacco use through a quiz
- To outline assignment for an interview with a smoker

Materials

- Monopoly money
- **Quiz questions and answers** written on **individual cards**
- **Transparencies of cigarette advertisements**
- **Overhead Projector**
- **Student Guide**

Note

- **Quiz Question and Answers** are in the **Student Guides** so these should be kept closed during the **Quiz**

Duration

- 60-70 min

Introduction (1 min)

“Last week we looked at the way people can be influenced to do things that they may not otherwise do through peer pressure. People can be **persuaded to use substances** in a number of **other ways**, and this week we are going to be looking at **cigarette smoking** and the persuasive power of:

- **Advertising** on television, in the media and the movies.”
- In addition we’re going to be having a **Quiz** to test your **knowledge** on tobacco. But first let’s look at to look at some of the **survey results** from last week.”

Peer Substance Use – Tobacco (5 min)

- Tell students that you have the **tobacco results** of the **peer substance use survey** that was conducted in **Module 2**
- Draw following **table** on whiteboard and **fill in results** from **Module 2 survey**

How many people in my class...	Class Guess	Survey Results
Smoked cigarettes in last month?		

- Ask **representative number** of students to **stand up to illustrate** your class’s **raw data of actual use**
- Ask students if any of them were **surprised** by this **result**
- Briefly **discuss** idea that many **young people** tend to **overestimate peer use** of substances
- Ask students if they think that **overestimating tobacco peer use** has an **influence** on their **behaviour** (in age appropriate language)

- Ask students to **copy** results in **Student Guide**

How do Advertisers make Cigarettes Appealing to Young People? (24 min)

- Tell students that in this section on **Advertising** you will be looking at the main ways that **Advertisers** use to make their product **appealing**, particularly to **young people**

Main Points

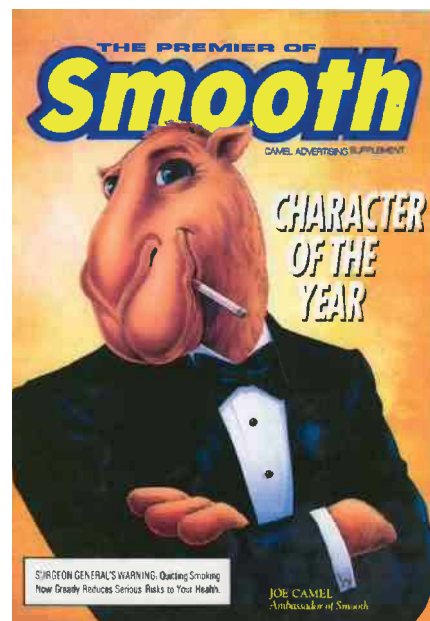
- Advertisers advertise to **make money**
- **Tobacco and Alcohol advertising is not in your best interests;** it is in the best interests of the advertiser
- Tobacco and alcohol advertisers **make unreal claims** about their products

- Briefly discuss the following with reference to the **Student Guide**
 - ✓ Tobacco companies have known since the sixties that cigarette smoking causes cancer
 - ✓ Tobacco companies continue to make millions of dollars from cigarette sales
 - ✓ Tobacco advertising has been banned in Australia
 - ✓ Tobacco companies continue to promote their products through product placement in movies, sponsorship of sporting events internet advertising and advertising at point of sale e.g. attractive models offering patrons cigarettes at entertainment venues
- Ask students if they know of any **examples of cigarette advertising** here in **Australia**
- Tell students that the main way that tobacco advertisers get you to buy their product is by **associating** (or putting together) it with a **personal quality** that people would like to have

- The advertisement then tells you that if you **buy** and use **the product** you will also **have the other quality** that the cigarette has been matched up with
- These claims in almost all instance are **unreal and deceptive**
- Tobacco advertisers **never tell** you the **truth** about the **health problems associated** with **cigarette smoking** unless they've been forced to by law
- **As an aid to help students analyse the following advertisements refer to Tobacco Advertising in Student Guide**
- Tell students that you will now review some tobacco advertising using the following format
 1. What is the target group?
 2. What is the message in the advertisement?
 3. What is the underlying message?
 4. What technique is used to sell the underlying message?"
 5. What are some arguments against the underlying message?
- Place **transparencies** on **overhead projector** ask students to critically analyse these advertisements by responding to the questions above as a class exercise
- The following are suggested responses to the questions; encourage students to come up with their own ideas

Joe Camel

1. The target group is young boys judging by the use of an appealing cartoon character
2. The message is that Joe Camel (smoking a cigarette and dressed in a tuxedo) is so **smooth** that he has made the cover of a magazine and been nominated "Character of the Year."
3. The underlying message is that if you use this product you too can be as

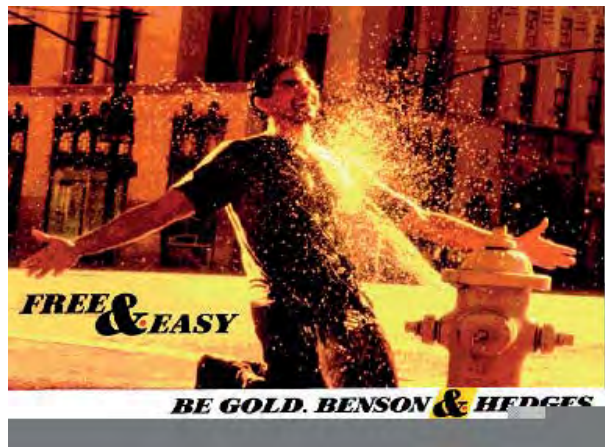


smooth, sophisticated and as successful

4. The advertising technique used to sell the product is the **Maturity / Sophistication Appeal**.
5. Ask students if they really think that smoking Camel cigarettes will make them more mature, sophisticated, successful and smooth?

Free & Easy

1. The target group are boys.
2. The advertiser's message is that Smoking Benson & Hedges is like a refreshing shower of water on a hot day.
3. The underlying message is that smoking is as clean and refreshing as a shower of cool water.



4. The advertising technique is the **Fun / Relaxation Appeal**.
5. The counterargument is that smoking cigarettes is anything but clean and refreshing. Cigarettes are dirty; smokers inhale carbon monoxide, a poisonous gas that comes out of the exhaust of cars, cancer causing tar, and noxious chemicals like arsenic and radio-active compounds.

Find Your Voice - I



1. The target group is young Asian women
2. This Virginia Slims ad features a beautiful Oriental model traditionally dressed, but the look of the ad is that of a contemporary fashion plate. The slogan "**My voice reveals the hidden**

power within - Find your voice” is a reference to the changing role women toward greater independence and self-determination.

3. The underlying message is that modern Asian women who traditionally have been discouraged from smoking, now have the freedom to assert their independence from society’s expectations by choosing to smoke.
4. The advertising technique is the **Maturity / Sophistication Appeal**.
5. The counterarguments are that you do not need to smoke Virginia Slims cigarettes to prove that you are an independent, contemporary Asian woman. Also smoking cigarettes in the long term could cause you to lose your voice, rather than find it. Some chronic smokers have had their voice-boxes removed because of cancer. Smoking has been associated with cancer of the mouth, throat and lungs.

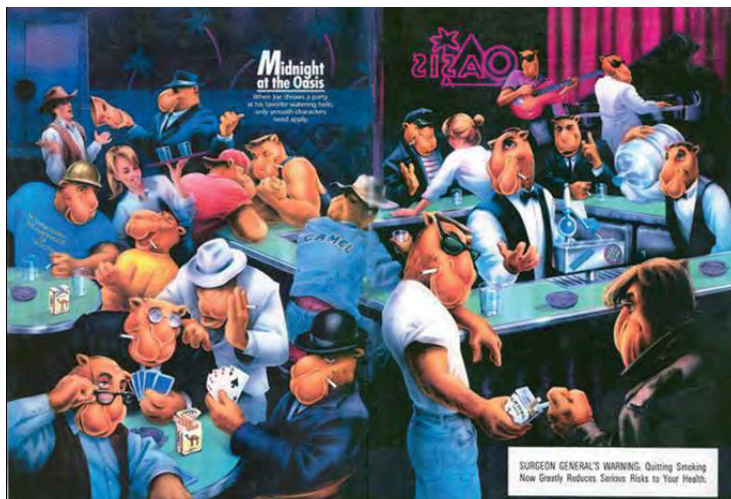
Find Your Voice - II

- Encourage students to critically analyse this ad on their own.
- The slogan is **“Never let the goody two shoes get you down – Find Your Voice”**



Midnight at the Oasis - "Only smooth characters need apply!"

1. The target group is adolescent boys
2. The advertiser is suggesting that if you want to belong to this exclusive group you have to



- be **smooth** and smoke Camel
3. The underlying message is that everyone who is **smooth** smokes and so should you
 4. **Band Wagon Appeal**
 5. Most people do not smoke cigarettes. This is the reason why many smokers these days usually find themselves smoking out in the cold.

Interview with a Smoker (5 min)

Assignment 1 / Homework – 2 weeks

- Students are to find a regular adult smoker and to conduct a short interview. This assignment should be done out of class by all students individually. The interview questionnaire is contained in the **Student Guide**.
- **Time permitting this interview can be rehearsed in class by pairing students and each taking turns to play the part of the interviewer and the part of the smoker.**

Reference:

Tobacco advertising used in this Module is from the “Campaign for Tobacco-Free Kids” website <http://tobaccofreekids.org/>

Quiz (25 min)

Activity: Divide class into 4 or 5 groups and issue each group with \$100 in small denominations of Monopoly money. The teacher will be the “bank” and Quiz Master. Groups can place a bet at any time and can vary the amount of the bet depending on what they reckon is the correct answer. The “bank” pays double or nothing. The group with the largest amount of money wins at the end of the quiz.

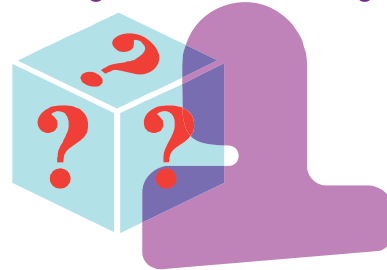
Questions from quiz can be used as Time Fillers in other Modules.

Quiz Question and Answers

1. Q: Which substance has the *highest addiction rate**
(*Percentage of experimenters who go on to become regular users)

- (a) Marijuana
- (b) Alcohol
- (c) Tobacco
- (d) Cocaine

A: (c) Tobacco.



2. Q: What percentage of adult smokers began smoking in their teens?

- (a) 30%
- (b) 50%
- (c) 60%
- (d) 90%

A: (d) 90%.

3. Q: What proportion of youth smokers will eventually die of smoking related diseases?

- (a) All of them
- (b) 2/3
- (c) 1/3
- (d) 3/4

A: (c) 1/3
The chances of survival rapidly increase if people quit smoking.

4. Q: Name three immediate consequences that smoking has on kids?

- (a) Bad breath, irritated eyes and throat
- (b) Increased heart beat and blood pressure
- (c) Bad breath, irritated eyes and throat, increased heart beat and blood pressure.

A: (c) Bad breath, irritated eyes and throat, increased heart beat and blood pressure.

5. Q: Kids who smoke

- (a) Cough more often
- (b) Become sick more often
- (c) Have more tooth decay
- (d) Have more gum disease
- (e) All of the above

A: (e) All of the above

6. Q: What are the symptoms of cigarette smoking addiction?

- (a) Strong urges to smoke, unsuccessful quit attempts
- (b) Strong urges to smoke, unsuccessful quit attempts, anxiety and irritability
- (c) Strong urges to smoke, unsuccessful quit attempts, depression

A: (b) Strong urges to smoke, anxiety or irritability, unsuccessful quit attempts

7. Q: How soon after occasional smoking begins can smoking addiction begin?

- (a) After daily smoking starts
- (b) About a month after daily smoking starts
- (c) Within weeks or days and well before daily smoking has started

A: (c) Within weeks or days and well before daily smoking has started

8. Q: What proportion of kids who have ever tried a cigarette go on to become regular smokers before leaving high school?

- (a) All of them
- (b) About 3/4
- (c) About a 1/2
- (d) About a 1/4

A: (d) About a 1/4.

9. Q: What proportion of high school kids who are regular smokers have tried to quit but failed?

- (a) 1/4
- (b) 1/2
- (c) 3/4

- A: (c) 3/4
10. Q: What are some long term risks associated with starting smoking **early**?
- (a) Higher chances of becoming a regular smoker
 - (b) Less likely to quit
 - (c) More likely to develop lung cancer
 - (d) All of the above
- A: (d) All of the above
11. Q: Why do cigarette companies need kids to survive?
\$50 Bonus for each correct answer – each answer can only be paid once.
- \$50 – They need new customers because their regular customers are dying
 - \$50 - They need new customers because their regular customers are quitting
 - \$50 – Very few people try smoking after the age of 18 years and become addicted
 - \$50 – If kids didn't experiment with cigarettes they wouldn't grow up and become regular smokers
12. Q: Which cigarette company believes that “**Today's teenager is tomorrow's regular customer...**” and what are their most popular brands in Australia?
- (a) R, J. Reynolds – Camel; Winston
 - (b) Phillip Morris - Peter Jackson; Longreach; Marlboro
 - (c) Brown and Williamson – Kool; Lucky Strike
 - (d) British American Tobacco – Benson & Hedges
- A: (b) Phillip Morris - Peter Jackson; Longreach; Marlboro
13. Q: Cigarettes contain some of the same ingredients found in nail polish remover, rocket fuel and floor polish
- (a) True
 - (b) False
- A: (a) True

Apart from nicotine cigarettes contain: tar; carbon monoxide; hydrogen cyanide; ammonia; formaldehyde; metals such as nickel, arsenic and cadmium; radio-active compounds; agricultural chemicals and additives.

14. Q; Which substance in cigarettes has been found to cause lung cancer?
(a) Tar
(b) Nicotine
(c) Carbon monoxide

A: (a) Tar
Tar is a common name for a sticky mixture of substances that are produced when tobacco is burnt and is deposited in the lungs when a cigarette is smoked

15. Q In its pure form, one drop of nicotine (70mg) when injected, can kill

(a) A man within a few minutes
(b) A horse within a few minutes
(c) An elephant within a few minutes

A: (a) A man within a few minutes
Most cigarettes contain between .2mg and 2.2mg of nicotine

16. Q Carbon monoxide is a poisonous gas found in cigarette smoke that decreases the capacity of blood to supply the body with

(a) Nitrogen
(b) Carbon Dioxide
(c) Oxygen
(d) H₂O

A: (c) Oxygen

17. Q; Name some ways in which young people can be influenced to start smoking.
\$50 Bonus for each correct answer or variations thereof.

\$50 - Peer pressure
\$50 - Adult role models
\$50 - Advertising
\$50 - Product placement in movies
\$50 - Parents who smoke
\$50 - Older brothers or sisters who smoke

18. Q: Cigarette advertising has been banned in Australia but the tobacco industry continues to promote their products in other ways. Which of these sporting events has been sponsored by a cigarette company?

- (a) AFL Grand Final
- (b) Wimbledon
- (c) State of Origin
- (d) F1 Grand Prix

A: (d) F1 Grand Prix

19. Q: Name some movies in which product placement has been used to make cigarette smoking look attractive. \$50 Bonus for any correct answer.

A: Who Framed Roger Rabbit; Honey I Shrank the Kids; Superman II; Lethal Weapon II; Beverly Hills Cop; Last Action Hero; Pulp Fiction (Any other movie provided students can name both the movie and the character in the movie that was smoking cigarettes).

20. Q: Smoking makes men more fertile

- (a) True
- (b) False

A: (b) False
Smoking can affect blood supply to the penis making it more difficult for men to get and sustain an erection. Smoking also decreases sperm production.

21. Q: One in two lifetime users of cigarettes will die from a disease caused by smoking?

- (a) True
- (b) False

A: (a) True
Cigarette smoking has been associated with lung cancer; heart disease; chronic bronchitis; stroke; emphysema. There is no cure for lung cancer and heart disease. The chances of survival however increase if people quit before these disease develop.

22. Q: Passive smoking annoys some people but doesn't cause any

health problems?

- (a) True
- (b) False

A: (b) False
Children exposed to passive smoking are more likely to get chest infections such as bronchitis, pneumonia, to have asthma and to have lungs that are less well developed. Passive smoking is also a cause of lung cancer and heart disease

23. Q: Air pollution causes most lung cancer in Australia
(a) True
(b) False

A: (b) False
Tobacco use is the main cause of lung cancer in Australia and 90 – 95% of all lung cancer victims die within 5 years.

24. Q: Elle McPherson signed a million dollar contract to let her name be used as a cigarette brand.
(a) True
(b) False

A: (b) False
When one of the cigarette companies launched a cigarette named “Elle,” Elle McPherson announced publicly that she had nothing to do with the brand.

25. Q: There are more smokers than non-smokers in Australia
(a) True
(b) False

A: (b) False
About 20-25% of Australians are smokers.

26. Q: Ammonia causes cancer. Why did Marlboro decide to mix ammonia into the tobacco of their cigarettes?

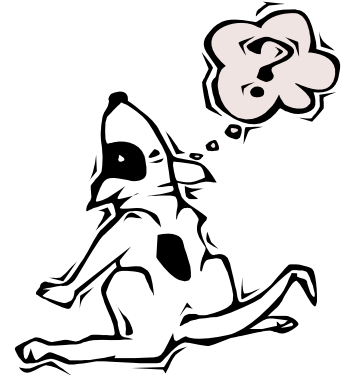
- a. Makes the cigarette burn better**
- b. Gives the cigarette a nice flavour**
- c. Ammonia in cigarettes delivers nicotine to the brain much faster than cigarettes without ammonia**

A: c) Ammonia delivers nicotine to the brain faster and increases addiction in smokers. If anyone contaminated or poisoned a food or a drug product and endangered the people's lives they would be charged and thrown into jail. Tobacco companies get away with murder because of the amount of tax they pay to government

27. Q Young boys smoke more than young girls.

- (a) True
- (b) False

A: (b) False
Recent Australian surveys indicate that girls are reporting more regular cigarette smoking than boys



Module 3: Tobacco

Student Guide

How many people in my class smoked cigarettes in the last month?

How many people in my class...	Class Guess	Survey Results
Smoked cigarettes in last month?		

Tobacco and Alcohol Advertising

- Advertisers advertise to **make money**
- **Tobacco and Alcohol advertising is not in your best interests;** it is in the best interests of the advertiser
- Tobacco and alcohol advertisers **make unreal claims** about their products

- Tobacco companies have known since the sixties that cigarette smoking causes cancer
- Tobacco companies continue to make millions of dollars from cigarette sales
- Tobacco advertising has been banned in Australia
- Tobacco companies continue to promote their products by:
 - Paying movie stars to smoke in movies
 - Sponsoring sporting events
 - Attractive models offering patrons cigarettes at entertainment venues
 - Internet sales



TOBACCO ADVERTISING

Midnight at the Oasis

Q: Who do you think this advertisement is meant to appeal to?

- a) Young boys
- b) Young girls
- c) Anyone who doesn't like following the rules
- d) Anyone who likes being cool
- e) More than one answer



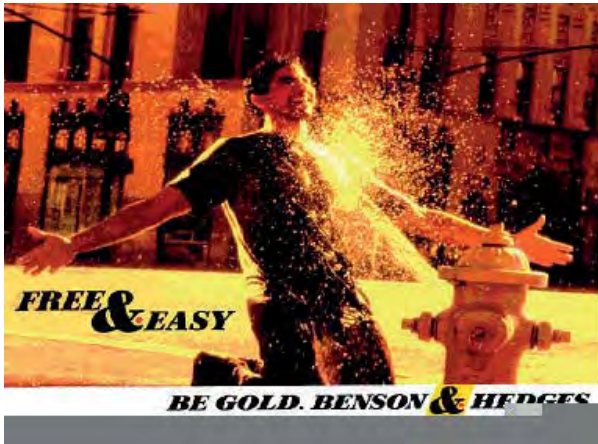
Q: All of the “camels” in the picture are smoking cigarettes. What is the cigarette advertiser trying to tell you?

- a) Camels like smoking cigarette
- b) Camels like to dress up and go to bars
- c) Boy camels like going to the same watering hole
- d) Cool people smoke cigarettes, so if you want to be cool and hang out with cool people so should you

Q: According to this advertisement, being cool is doing what cool “camels” do. How would you define what being cool means to you?

- a) It means doing what cigarette companies want you to do
- b) It means checking out cool people and doing what they do
- c) It means making your own decisions about what you want to do and what you don't want to do
- c) It's just a picture of a bunch of camels

Free and Easy



Q: Who do you think this advertisement is meant to appeal to?

- a) Boys
- b) Girls
- c) People who don't like to conform?

Q: What would the advertiser like you to believe about smoking their cigarette?

- a) That it can give you a boost of energy
- b) That it can make you more grown up
- c) That it is cool and refreshing
- d) That it will make you more popular

Q: What are some ingredients contained in cigarette smoke?

- a) Tar
- b) Arsenic
- c) Carbon monoxide (poisonous gas)
- d) Insecticides
- e) Ammonia
- f) All of the above

Q: Do you think the advertiser is being honest about what is in the cigarette?

- a) Yes
- b) No

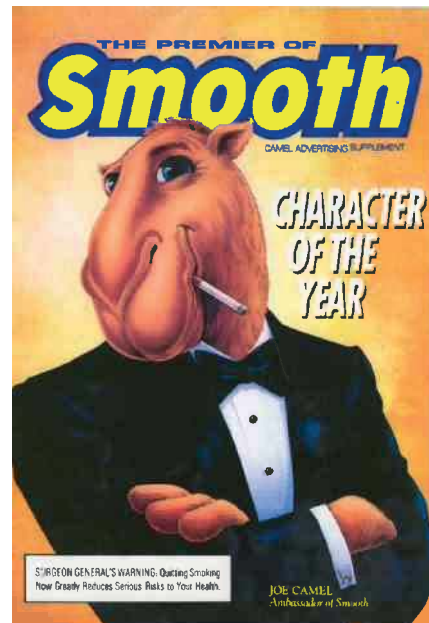
Joe Camel

Q: Joe Camel is a cartoon character. Which age group do you think he is supposed to appeal to?

- a) 10 – 14 year olds
- b) 15 – 19 year olds
- c) 20 – 24 year olds
- d) 25 – 26 year olds

Q: Joe is wearing a tuxedo and smoking a cigarette. How would you describe Joe's style?

- a) Nerd
- b) Geek
- c) Smooth, sophisticated, successful
- d) Macho man



Q: What would the advertiser like you to believe about their cigarettes?

- a) That smoking their cigarettes will make you more intelligent
- b) That smoking their cigarettes will make you more popular
- c) That smoking their cigarettes will let you have more fun
- d) That smoking their cigarettes will make you more grown up

Q: Who do you think is going to believe that you are more grown up if you smoke Camel cigarettes?

- a) Me
- b) My friends
- c) My parents
- d) My teachers
- c) Probably no-one

Q: Cigarette companies claim that they don't sell or advertise their products to underage people. Do you think they are being honest?

- a) Yes
- b) No

Find Your Voice - 1 Oriental Lady



Q: Who is the Oriental Lady meant to appeal to?

- a) Modern girls
- b) Old fashion girls
- c) Anyone else?

Q: The slogan for this ad is *My Voice Reveals the Hidden Power Within – Find Your Voice*? What do you think this advertisement is saying to women?

- a) That women are attractive when they are shy
- b) That women are attractive when they are confident
- c) That women in kimonos and oriental make-up are attractive

Q: By putting together the Oriental Lady, the *Voice Within* slogan and a picture of their cigarette pack, what is the advertiser trying to tell you?

- a) That women who smoke their cigarettes are shy and attractive
- b) That women in kimonos and oriental make-up are attractive
- c) That women who smoke their cigarettes will be more confident and more attractive

Q: Smoking has been known to cause which of the following problems

- a) Early or pre-mature aging
- b) Wrinkly skin
- c) Lung cancer
- d) Throat cancer
- e) All of the above

Q: If the advertisers are telling you that you will become more confident and attractive but not telling you about the health problems of cigarette smoking, are they being honest?

- a) Yes
- b) No
- c) If they were honest, you wouldn't buy their cigarettes

Find Your Voice - 2 Dark-Skinned Lady

Q: The slogan for this advertisement is *Never Let the GoodyTwo Shoes Get You Down – Find Your Voice.* What type of girls is this meant to appeal to?



- a) Girls who are rebels
- b) Girls who like to play safe
- c) Girls who don't like to break the rules

Q: These two cigarette advertisements are meant to appeal to women. So why aren't the models pictured smoking?

- a) They forgot it was an advertisement for cigarettes
- b) The models thought they'd ruin their make up if they smoked

- c) It's hard to make a model look attractive with a cigarette hanging out of her mouth

Interview with a Smoker

Assignment 1 / Homework – 2 weeks

You are to find a regular smoker and to conduct a short interview with them about their smoking. Be polite and respectful of the person and do not be critical of their behaviour. Start your interview by asking their permission and tell the person that you will not be using their name. The following may help you get started:

“I’ve noticed that you smoke cigarettes and was hoping if I could do a short interview with you about your smoking. This is a school assignment and I’d like to try and understand a little more about what it’s like to be a smoker. I do not need to use your real name. So is it OK for me to ask you a few questions?”

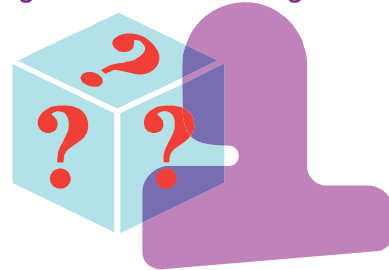
1. How many cigarettes do you smoke a day?
2. How long have you been smoking for?
3. How did you get started?
4. Do you like smoking?
5. Do you worry about the health risk?
6. Have you ever tried to quit?
7. (If they have tried to quit) How many times have you tried?
8. If you could turn the clock back, would you take up smoking again?

Thank the person for their time and participation

Tobacco Quiz

2. Q: Which substance has the *highest addiction rate**
(*Percentage of experimenters who go on to become regular users)

- a. Marijuana
- b. Alcohol
- c. Tobacco
- d. Cocaine



3. Q: What percentage of adult smokers began smoking in their teens?

- a. 30%
- b. 50%
- c. 60%
- d. 90%

4. Q: What proportion of youth smokers will eventually die of smoking related diseases?

- a. All of them
- b. 2/3
- c. 1/3
- d. 3/4

5. Q: Name three immediate consequences that smoking has on kids?

- a. Bad breath, irritated eyes and throat
- b. Increased heart beat and blood pressure
- c. Bad breath, irritated eyes and throat, increased heart beat and blood pressure.

6. Q: Kids who smoke

- a. Cough more often
- b. Become sick more often
- c. Have more tooth decay
- d. Have more gum disease
- e. All of the above

7. Q: What are the symptoms of cigarette smoking addiction?
- Strong urges to smoke, unsuccessful quit attempts
 - Strong urges to smoke, unsuccessful quit attempts, anxiety and irritability
 - Strong urges to smoke, unsuccessful quit attempts, depression
8. Q: How soon after occasional smoking begins can smoking addiction begin?
- After daily smoking starts
 - About a month after daily smoking starts
 - Within weeks or days and well before daily smoking has started
9. Q: What proportion of kids who have ever tried a cigarette go on to become regular smokers before leaving high school?
- All of them
 - About 3/4
 - About a 1/2
 - About a 1/4
10. Q: What proportion of high school kids who are regular smokers have tried to quit but failed?
- 1/4
 - 1/2
 - 3/4
11. Q: What are some long term risks associated with starting smoking **early**?
- Higher chances of becoming a regular smoker
 - Less likely to quit
 - More likely to develop lung cancer
 - All of the above

12. Q: Why do cigarette companies need kids to survive?
\$50 bonus for each correct answer
13. Q: Which cigarette company believes that “**Today’s teenager is tomorrow’s regular customer...**” and what are their most popular brands in Australia?
- R, J. Reynolds – Camel; Winston
 - Phillip Morris - Peter Jackson; Longreach; Marlboro
 - Brown and Williamson – Kool; Lucky Strike
 - British American Tobacco – Benson & Hedges
14. Q: Cigarettes contain some of the same ingredients found in nail polish remover, rocket fuel and floor polish
- True
 - False
15. Q; Which substance in cigarettes has been found to cause lung cancer?
- Tar
 - Nicotine
 - Carbon monoxide
16. Q In its pure form, one drop of nicotine (70mg) when injected, can kill
- A man within a few minutes
 - A horse within a few minutes
 - An elephant within a few minutes
17. Q Carbon monoxide is a poisonous gas found in cigarette smoke that decreases the capacity of blood to supply the body with
- Nitrogen
 - Carbon Dioxide
 - Oxygen
 - H₂O

18. Name some ways in which young people can be influenced to start smoking.

\$50 Bonus for each correct answer or variations thereof.

19. Q: Cigarette advertising has been banned in Australia but the tobacco industry continues to promote their products in other ways. Which of these sporting events has been sponsored by a cigarette company?

- a. AFL Grand Final
- b. Wimbledon
- c. State of Origin
- d. F1 Grand Prix

20. Q: Name some movies in which product placement has been used to make cigarette smoking look attractive.

\$50 Bonus for any correct answer.

21. Q: Smoking makes men more fertile

- a. True
- b. False

22. Q: One in two lifetime users of cigarettes will die from a disease caused by smoking?

- a. True
- b. False

23. Q: Passive smoking annoys some people but doesn't cause any health problems?

- a. True
- b. False

24. Q: Air pollution causes most lung cancer in Australia

- a. True

b. False

25. Q: Elle McPherson signed a million dollar contract to let her name be used as a cigarette brand.

- a. True
- b. False

26. Q: There are more smokers than non-smokers in Australia

- a. True
- b. False

27. Q: Ammonia causes cancer. Why did Marlboro decide to mix ammonia into the tobacco of their cigarettes?

- a. Makes the cigarette burn better
- b. Gives the cigarette a nice flavour
- c. Ammonia in cigarettes delivers nicotine to the brain much faster than cigarettes without ammonia

28. Q Young boys smoke more than young girls.

- a. True
- b. False



Module 4: Alcohol

Teacher's Guide

Goals and Objectives

Goal

To provide students with a) results of peer alcohol use survey, b) age appropriate information outlining risks associated with alcohol abuse and dependence and to c) critically analyse alcohol advertising.

Objectives

- Provide students with survey result of alcohol use by peers
- Discuss if students think alcohol is as big a problem as tobacco
- Inform students of evidence of genetic predisposition to alcoholism
- To inform students of physiological effects of alcohol
- To define signs of teen alcohol abuse
- To define signs of teen alcohol dependence
- Identify students' personal reasons for not letting alcohol become a problem
- To critically analyse alcohol advertising

Materials

Student Guide

Alcohol advertising transparencies
Overhead projector

Introduction

“The main topic of this week is Alcohol. We will be looking at what alcohol is, what it does to the body, and how people use it.”

Peer Substance Use – Alcohol (5 min)

- Tell students that you have the **alcohol results** of the **peer substance use survey** that was conducted in **Module 2**
- Draw following **table** on whiteboard and **fill in results** from **Module 2 survey**

How many people in my class...	Class Guess	Survey Results
Drank alcohol in last month?		

- Ask **representative number** of students to **stand up** to **illustrate** the number of people who **used**
- Ask students if any of them were **surprised** by this **result**
- Briefly **discuss** idea that many **young people** tend to **overestimate peer use** of substances
- Ask students if they think that **overestimating alcohol peer use** has an **influence** on their **behaviour** (in age appropriate language)
- Ask students to **copy** results in **Student Guide**

Is Alcohol as Big a Problem as Tobacco (10 min)

- Ask students to **recall** first question in the **Tobacco Quiz** from the previous **Module**

1. Q: Which substance has the *highest addiction rate**
(*Percentage of experimenters who go on to become regular users)

- (a) Marijuana
- (b) Alcohol
- (c) Tobacco
- (d) Cocaine

A: (c) Tobacco.

- Ask students to **discuss** whether they think that **alcohol is as big a problem** in society as **is cigarette smoking**

Note: The intention of this discussion is to give students the opportunity to talk about adult alcohol use from their point of view. It is expected that some students will see drinking as being problematic and will be able to give examples such as drink driving. Additionally the alternative point of view should also be canvassed and that is that drinking in moderation is socially acceptable and not everyone who drinks has a problem.

- **Suggest** to students that **whether or not** a person has a **problem** with alcohol **depends** on the **person** and **how** they are **using** it and the next section may help them to decide
- Additionally tell students that some people are **born** with a **WEAKNESS (genetic predisposition)** that makes them more likely to have problems with alcohol
- People who have such a **weakness** find it difficult to drink alcohol in **moderation**
- Many of these people decide to **NOT DRINK AT ALL** rather than **ruin** their lives with alcohol
- The best way to recognise such people is that once they start drinking – they just keep on drinking and find it difficult to stop

- Lastly tell students that there is also a **proportion** of people who for their own reasons **do not drink** alcohol at all and that should they **choose not to drink** that they **won't be alone**
- Ask a **20 % representative portion** of students to **stand up**

The National Figures for Adult Abstainers Are:

ATSI People	21%
Other Australians	17%

“How much is too much? (10 min)”

“The question with alcohol is how much is too much?”

“First let’s look at some facts about what alcohol is and what it does.”

- Refer students to **What is Alcohol** in **Student Guide** and **review** main points

Main Points

- Alcohol is a **drug** found in beer, wine and spirits
- When alcohol is drunk it goes through the walls of the stomach and intestines into the blood stream and then straight to the brain
- Alcohol is a **depressant** in it that **slows down** the workings of the brain and body
- Alcohol when drunk **regularly** is physically and psychologically **addictive**

- Ask students what they think **happens** to people or **how their bodies respond** when they **drink alcohol**

- Make **two columns** on whiteboard for **small amounts** and **large amounts** of alcohol
- **Add** and **discuss** the following to student responses

Small Amounts of Alcohol	Large Amounts of Alcohol
▪ Giggly	▪ Dizziness
▪ Light-headed	▪ Talking loudly
▪ Talkative	▪ Talking more
▪ More relaxed	▪ Not making sense
▪ Looser	▪ Reduced co-ordination
▪ More daring	▪ Difficulty walking, talking
▪ Difficulty in thinking	▪ Difficulty staying awake
▪ Responses slow down	▪ Nausea
▪ Slows breathing	▪ Fighting
▪ Lowers heart rate	▪ Behaving badly
▪ Lowers blood pressure	▪ Vomiting
▪	▪ Loosing bowel control
▪	▪ Hangover next day
▪	▪ Blackout*
▪	▪ Coma**
▪	▪ Death***

*Loss of memory during or after drinking

**Unconsciousness

***A litre of vodka when drunk all at once can cause coma and death.

- Apart from what has already been mentioned ask students what they think are **some bad things** that can happen from **drinking too much**
- Include the following:

You have drunk too much when:

- You get into a car when the person driving has been drinking
- You put yourself at risk of doing something dangerous
- You put yourself at risk of having unsafe or unwanted sex
- You steal
- You loose your balance and fall
- You risk drowning by deciding to go swimming

- You get into a car and drive, risking your own life and that of other people
- You get into fights and risk injury to yourself and others

- Ask students **how many** of them **disapprove** of drinking too much.
- Then **ask why** they think some **teenagers drink too much** and put themselves and others **at risk**

Examples: Some reasons why young people drink

- Friends do it
 - Parents drink
 - It's grown up
 - To be more popular
 - Get high and have fun
 - To experiment
 - To be rebellious
 - To escape from bad feelings like boredom, shyness, depression, anger
 - Like the taste
- Ask students to write in the **Student Guide**, their reasons for **not letting alcohol** become a **problem**.
 - Ask **for volunteers** to **read out** their reasons.

Examples: Why I'm not going to let alcohol become a problem

- Don't like taste
- It's illegal for under 18 year olds to drink
- It's too risky
- Problems are still there when you sober up
- I'd get into too much trouble
- You can have fun without having to get drunk

Dependence – What is it? (5 min)

- Tell students that most substances when used regularly can become both **physically and psychologically addictive**
- Discuss the **two signs of physical dependence** on a substance

Physical Dependence

- **Tolerance** – The person needs more of the substance to get the same effect as when they first started
- **Withdrawal Symptoms** – If the person suddenly stops using the substance they suffer uncomfortable, unpleasant, painful or even life threatening symptoms

- Tell students that **smokers** find it **difficult to quit** because they are **physically addicted** to tobacco
- A sign of **tobacco dependence** are **urgers to smoke**
- A person cannot feel **comfortable or relaxed** unless they smoke a cigarette and **feed** their **addiction**

Psychological Dependence

- This is when the person does not **think** that they can feel good unless they are using the substance

Or

- The person has come to rely on a substance for a particular purpose

“What are the signs that a teenager could be dependent on alcohol?” (5 min)

- Refer students to this **Signs of Alcohol Dependence in Student Guide** and **review**:

Signs of Alcohol Dependence

- Drinking regularly to relieve shyness, anger, fear
- Drinking in the morning
- Drinking alone and regularly
- Having a drink at a certain time each day
- Having a loss of memory during or after drinking
- Becoming more moody or irritable after drinking

“Even if only one of these applies to you, you could be in danger of becoming alcohol dependent.”

Alcohol Advertising (20 min)

- Tell students that their next **assignment** will be to design a **Drink Safe** or an **Anti-Smoking Poster** and that they might get some **inspiration** from the **alcohol advertising** that you are about to show them
- Remind students **alcohol advertisers** are **only interested** in **selling** their products, and **NOT** in **informing** the public about the **dangers** of alcohol
- Use overhead projector to **display transparencies** and **critically analysis** each advertisement using following **criteria**
 1. Target Group
 2. Advertiser’s message
 3. Implied or underlying message
 4. Advertising technique
 5. Counterarguments

- Below are **suggestions** for responses, students however should be **encouraged** to come up with their **own critical ideas**

Instant Party



Note: This ad is mainly promoting Bacardi Mixers – these are **alcopops** with a high sugar content intended to disguise the taste of rum and appeal to a younger market.

Market research has found the largest consumers of **alcopops** to be **teenage girls**

1. Ask students who they think the target group is, boys or girls?
2. The advertiser’s message is that using the product can create an Instant Party
3. By **associating** the product with parties, the underlying message is that the alcohol “mixer” can get people “**mixing**” **socially**” at parties
4. The advertising technique is a **Fun / Relaxation Appeal** and is suggested by the colourful party atmosphere
5. The counterargument is that **good social skills** are a better “**mixer**” at parties than alcohol

Pursue Your Daydreams

1. The target group maybe people interested in finding romantic relationships
2. The advertiser’s message is that the product can help you pursue your romantic daydreams
3. By **associating** romance and sex appeal with the product, the underlying message is that the product will make your romantic day dreams come true
4. The advertising technique is **Romance / Sex Appeal**



5. The counterargument is that **drinking alcohol** or using this product is **not** going to make you **more popular** with the opposite sex – it’s just as likely to do the opposite

Good Taste Takes Years to Acquire

- so if you’re underage, just don’t drink



1. The target group is young people
2. The advertiser’s message is that you have to be mature to appreciate the product
3. The underlying message is that using this product will make you are mature. **Discuss** with students whether this is an **appeal to underage drinkers**, contrary to what the advertiser is saying

4. The advertising technique is the **Maturity /**

Sophistication Appeal

5. The counterargument is that maturity and sophistication have nothing to do with drinking alcohol

Before Aging / After Aging

1. The target group is teenage girls
2. The advertiser’s message compares the aging of the product with that of teenage girls maturing and suggests that both get “better”
3. By **associating** the product with most teenagers’ desire to be mature and sophisticated, the underlying message is that teenage girls **will** be more sophisticated, mature and sexy if they **use** the product



4. The advertising technique is the **Maturity / Sophistication Appeal**

5. **Ask** female students how they **feel** about his type of advertising

Real Friends



1. The target group is boys
2. The advertisers' message is that **Real Bourbon** and **Real Friends** belong together
3. By **associating** the product with **mateship** the underlying message is that mates who drink this product together are **real friends**
4. The advertising technique is the **Band Wagon Appeal**
5. **Ask** the male students if they really think that drinking has anything to do with making **real friends**

Summary

- Summarise as follows
- Unlike cigarette smoking, drinking **alcohol in moderation** is socially acceptable
- Some people however are born with a **weakness or genetic predisposition** that makes it difficult for them to drink in **moderation**
- People with an **alcohol problem** often decide **not to drink at all** rather than letting drink **ruin their lives**
- On the other hand **alcohol advertisers never warn** you of the **dangers** of drinking
- Their main interest is in **selling their products** by leading you to believe that **drinking can get young people all the things they want out of life** such as good friends, fun, success, maturity and sophistication

Module 4: Alcohol

Student Guide

How many people in my class drunk alcohol in the last month?

How many people in my class...	Class Guess	Survey Results
Drank alcohol in last month?		

National Surveys show that most Australians drink alcohol occasionally....

....and many who don't drink at all!

Australian Non-drinkers

ATSI people 21%
Other Australians 17%

What is Alcohol? Fill in correct word from list below

- Alcohol is a _____ (4) contained in beer, wine and _____ (7)
- When alcohol is drunk it goes through the _____ (5) of the stomach and intestines into the _____ (5) stream and then straight to the _____ (5)
- Alcohol is a **depressant** in that it _____ (5+4) the workings of the brain and _____ (4)
- Alcohol when drunk **regularly** is physically and psychologically _____ (9).

BRAIN ADDICTIVE WALLS DRUG BODY
SLOWS DOWN SPIRITS BLOOD

How much is too much?

You have drunk too much when:

- You get into a ___ (3) when the person driving has been _____ (8)
- You put yourself at ___ (4) of doing something dangerous
- You put yourself at risk of having _____ (6) or unwanted sex
- You steal
- You _____ (5) your balance and fall
- You risk _____ (8) by deciding to go swimming
- You get into a car and drive, risking your own _____ (4) and that of other _____ (6)
- You get into _____ (6) and risk injury to yourself and others

DRINKING FIGHTS UNSAFE LOOSE LIFE
CAR PEOPLE RISK DROWNING

My reasons for not letting alcohol become a problem!

1.
2.
3.

“What are the signs that a teenager could be dependent on alcohol?”

Signs of Alcohol Dependence

- Drinking regularly to relieve shyness, anger, fear
- Drinking in the morning
- Drinking alone and regularly
- Having a drink at a certain time each day
- Having a loss of memory during or after drinking
- Becoming more moody or irritable after drinking

Even if only one of these applies, you could be in danger of becoming alcohol dependent.

CROSSWORD – Drink Safe Tips



Across

1. _____ No-one is counting how much you drink! (4 +4)
- 4 A can of _____ has as much alcohol as a mixed drink or a shot of spirits. (4)
5. ___ Standard (STD) drink contains about 10gms alcohol (3).
8. You can stay in control by _____ while you drink (6)
9. The liver needs an _____ to break down and get rid of one STD drink (4)
10. A glass of _____ wine has the same amount of alcohol as a glass of red wine (5)
11. Alcohol is a leading factor in _____ suicide and homicide (7)
13. 1 STD = A can of beer = _____ of wine (100 ml) = shot of spirits (30 ml) (5)
17. Drinking and driving don't _____ (3)
18. Alcohol can make bad feelings _____ (5)
19. Black _____ does not make you sober (6)
22. Alcohol is a leading factor in teenage car _____ (9)
23. Coffee and cold water don't sober you up. They only make you less _____ (6)
24. Cold _____ don't sober you up.

Down

1. Only time can make you _____ if you are drunk (5)
2. _____ and driving don't mix (8)
3. Drinking does _____ make bad feelings go away – they always come back (3)
4. You can stay in control by eating _____ you drink (6)
6. One mixed _____ has the same alcohol as a can of beer (5)
- 7 Alcohol can _____ people angrier and more depressed when they drink (4)

- 10. Drinking _____while you drink can help you stay in control (5)
- 12. Drinking may make bad feelings go away for a while but they always come back and you still have to learn ___ to cope with them (3)
- 14. Drinking doesn't make bad feelings go away – it just _____ to them (4)
- 15. Alcohol is a leading factor in teenage _____ (8)
- 16. Only _____can make you sober (4)
- 20. Girls usually need _____ alcohol than boys to get drunk (4)
- 21. This is because _____ usually have more body mass than girls (4)

CROSSWORD – Alcohol Knowledge

Across

1. One ----- of vodka can cause coma and death (6)

3. Alcohol ----down the brain and body (5)

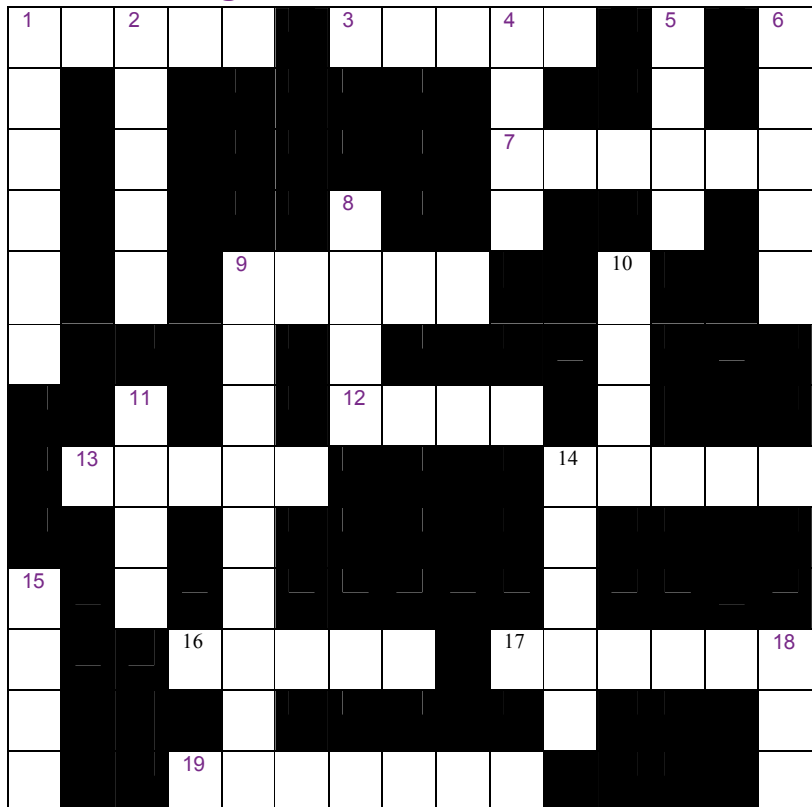
7. A feeling of sickness and wanting to vomit after drinking too much alcohol is called ----- (6)

9. People who drink too much have problems staying ----- (5)

12. The brain getting agitated after drinking too much is called a ----over (4)

13. The body is reacting to alcohol as a poison when the person begins to ----- (5)

14. When alcohol is drunk it goes through the walls of the stomach and intestines



into the ----- stream and then straight to the brain (5)

16. Another sign of drinking too much is getting ----- (5)

17. Some people get aggressive and start ----- when they drink (6)

19. Alcohol ----- heart rate (7)

Down

1. Alcohol ----- blood pressure (6)

2. Even a small amount of alcohol makes it more difficult to ----- (5)

4. Beer, ---- and spirits all contain alcohol (4)

5. If you drink and drive you put yourself at ---- of injuring yourself and other people (4)

6. Drinking large amounts of alcohol at one time can cause ----- (5)

8. Having problems with alcohol will leave you short of ---- (8)

9. Even small amounts of alcohol can be -- ----- when drunk regularly (9)

10. Large amounts of alcohol could make you loose your balance and ---- (4)

11. A ---- is another word for unconsciousness (4)

14. A depressant slows down the ----- and body (5)

15. A sign of alcohol dependence is a ---- of memory during or after drinking (4)

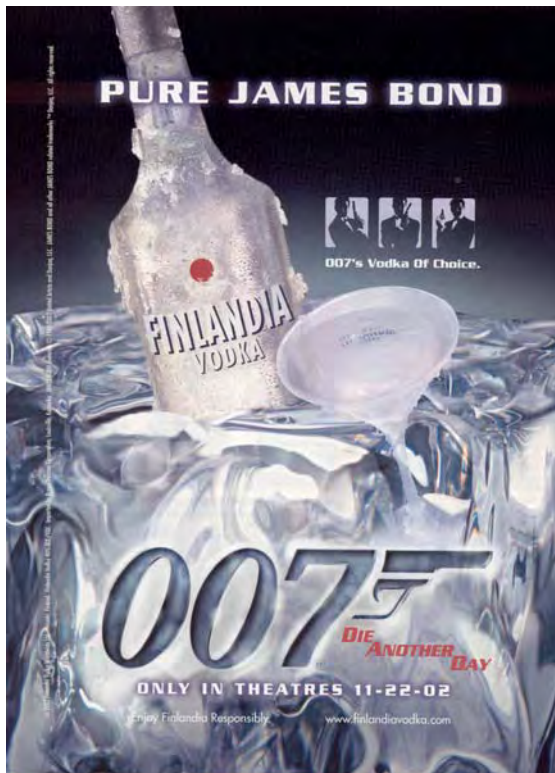
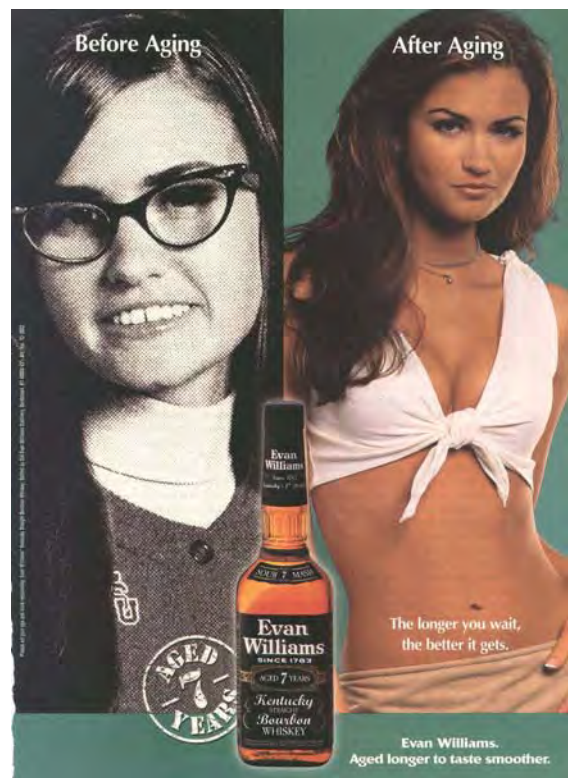
18. You have drunk too much when you put yourself at risk of having unsafe or unwanted --- (3)

Who is this advertisement appealing to?

- a) Boys
- b) Girls who want to be more grown up

The advertiser is saying “The longer you wait the better it gets” Do you think that comparing a girl to a bottle of whiskey is...

- a) OK
- b) Offensive – should be banned!
- c) Telling you that if you’re an ordinary girl, you can become attractive by drinking this whiskey



Who is this advertisement appealing to?

- a) Boys
- b) Girls

What is the underlying message?

- a) If you drink this vodka you will be very intelligent
- b) If you drink this vodka you will be as deadly as 007

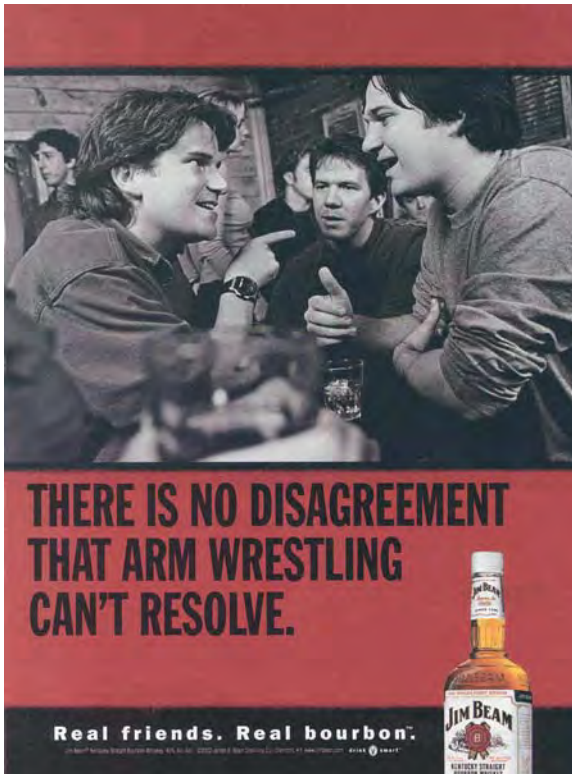
c) If you drink this vodka you'll have lots of friends

Who is this advertisement appealing to?

- a) Boys
- b) Girls

What is the underlying message?

- a) If you drink this vodka you will be more grown up
- b) If you drink this vodka you will turn into an exotic Serpent of the Nile?
- c) If you drink this vodka you will probably get very drunk



Who is this advertisement appealing to?

- a) Boys who like hanging out with their mates
- b) Wrestlers
- c) Girls

What is the underlying message?

- a) Boys who drink this whiskey get very drunk

b) Boys who drink this whiskey have more fun and real friends

c) Boys who drink this whiskey get into arguments with their friends



The underlying message in this advertisement is...

a) If you drink this tequila you'll have more fun

b) If you drink this tequila your love life will be better

c) If you drink this tequila you will be popular with the opposite sex

d) If you drink this tequila you will get very drunk

e) All of the above

Why do you think the makers of this rum are selling it like a strawberry fruit drink?

a) They're trying to appeal to a younger market

b) They're trying to disguise the taste of rum with fruit flavours and sugar

c) They're trying to get young people used to the taste of rum



- d) They're trying to make their product look like a harmless fruit drink
- e) All of the above

Module 5: Marijuana and Inhalants

Teacher's Guide

Goals and Objectives

Goal

To provide students with a) results of peer marijuana and inhalant use survey, b) age appropriate information outlining risks associated with inhalant and marijuana use c) and to review assignment challenging influence of adult role model to smoke.

Objectives

- To provide students with survey results of peer marijuana and inhalant use and to compare with class estimates
- To review results of the assignment “**An interview with a smoker**”
- To provide students with information about risks associated with marijuana and inhalant use through a **Quiz**

Materials

- Monopoly money
- Quiz questions and answers written on individual cards

Reminder

- Completed student assignments from Module 3 – **Interview with a Smoker**
- Survey results from Module 2

Note

- **Quiz Question and Answers** are in the **Student Guides** so these should be kept closed during the **Quiz**

Module Duration

- 60 – 70 minutes

Introduction (1 min)

“This week we’ll be looking at the results of your assignment “**Interview with a Smoker**” and then we’ll have a **Quiz** on the facts about marijuana and inhalant use.”

“Right now let’s take another look at the survey results for marijuana and inhalant use that were collected in Module 2.”

Survey Results (5 min)

- Tell students that you have the **marijuana and inhalant results** of the **peer substance use survey** that was conducted in **Module 2**
- Draw following **table** on whiteboard and **fill in results** from **Module 2 survey**

How many people in my class...	Class Guess	Survey Results
Used Marijuana in last month?		
Used Inhalants in last month?		

- Ask **representative number** of students to **stand up** to **illustrate** the **number** that used in the last month
- Ask students if any of them were **surprised** by this **result**
- Briefly **discuss** idea that many **young people** tend to **overestimate peer use** of substances
- Ask students if they **think** that **overestimating marijuana and inhalant peer use** has an **influence** in their **behaviour** (in age appropriate language)
- Ask students to **copy** results in **Student Guide**

Main Point

Most young people do not use marijuana and inhalants

“Interview with a Smoker”(25 min)

- Ask students to take out the assignment on “**Interview with a Smoker**”
- **Review** each of the **questions** and have students **report** their **findings**
- **Summarise** the **most frequent responses**

9. *How many cigarettes do you smoke a day?*

- a. Most people will report smoking in the vicinity of 30 a day

10. *How long have you been smoking for?*

- a. Most people will report starting in early teens

11. *How did you get started?*

- a. There may be a range of responses that include: because their friends were smoking; to experiment; because they enjoyed it etc.

12. *Do you like smoking?*

- a. Most people will say they enjoy it or it helps they relax etc.

13. *Do you worry about the health risk?*

- a. Most smokers are aware of and would worry about the health risks

14. *Have you ever tried to quit?*

- a. Most regular smokers have made some quit attempts

15. *(If they have tried to quit) How many times have you tried?*

- a. Inform students that most people who quit and never go back to smoking cigarettes have made as many as **six or seven** attempts to quit before they are finally successful

- b. Note range of numbers that students report

16. *If you could turn the clock back, would you take up smoking again?*

- a. Most smokers would say “No”

i. **Tell students** that this assignment was to help them gain a better understanding of the **influence of adult role models on young people’s choice to smoke**

- Ask students **what they learnt** from doing this assignment
- Ask students to **discuss** how their **view of cigarette smokers** may have **changed** as a result this assignment

Main Points

- Smoking is a problem most smokers would rather not have
- Smoking is a problem most smokers would find hard to stop

Quiz (25 min)

Activity: Divide class into 4 or 5 groups and issue each group with \$100 in small denominations of Monopoly money. The teacher will be the “bank” and will ask the quiz questions. Groups can place a bet at any time and can vary the amount of the bet depending on what they reckon is the correct answer. The “bank” pays double or nothing. The group with the largest amount of money wins at the end of the quiz.

Summary (4 min)

- “The information that you have been presented with in the last three Modules on tobacco, alcohol, marijuana and inhalants has been to help you make an **informed choice** about whether or not to use substances.
- Most of this information has been about highlighting the **risks** involved with substance use
- The reason we’ve been talking about **risk** is because many of the influences to start using substances make them look more **glamorous** or **attractive** than what they really are.
- You may recall from Module 1 that we talked about the **reasons** why young people **start using** substances and that these reasons often have **nothing** to do with the substances themselves
- These reasons often have a lot to do with making a person look good in front of their friends and helping them get along with others
- This program is about showing you better ways of feeling good about yourself and getting along with other people without having to use AOD.
- The last half of the program will be about learning and practising **life skills**. Some of you may be familiar with these skills and you may even be practising them in your every day lives
- The reason we are including these skills in a drug and alcohol prevention program is so you can learn better ways of **coping** with problems instead learning to rely on substances to get by.”
- Tell students that in the next Module they will be designing a **Poster** that will be informing other students of the risks associated with AOD use and that they might like to read through the **Guidelines** in the **Student Guide** as preparation.

Quiz Questions and Answers

1. Q: Marijuana is a dried mixture of leaves, vines, seeds, and stems of a hemp plant called cannabis sativa

- (e) True
- (f) False

A: (a) True

2. Q: Smoking one marijuana “joint” is equal to smoking how many cigarettes?

- (a) 5
- (b) 4
- (c) 2
- (d) 1

A: (b) 4

The amount of tar and carbon monoxide in a “joint” is also three to five times higher. It also contains carcinogens that can lead to cancer

3. Q: Which of the following is **NOT** true about marijuana?

- (a) Causes the heart to beat faster
- (b) Lower’s peoples blood pressure
- (c) Makes hands less steady
- (d) Causes people to feel sleepy

A: (b) Lower’s people blood pressure
Marijuana raises people’s blood pressure

4. Q: Marijuana is not physically addictive

- (a) True
- (b) False

A: (b) False

Heavy users experience withdrawal symptoms such as agitation, sleep problems, physical tension, decrease in appetite and mood swings. Heavy users also develop tolerance in that they need more of the drug to get high as when they did when they first started



5. Q: Which of the following is **NOT** true about marijuana

- (a) Makes it harder to pay attention
- (b) Makes it harder to remember things
- (c) Has no effect on driving a car
- (d) Makes it harder to learn new things

A: (c) Has no effect on driving a car
Marijuana makes driving more dangerous because it slows reflexes, makes it harder to concentrate, to judge distances and respond to unexpected events.

6. Q: Marijuana use **makes** people go on and use harder drugs like heroin and cocaine

- (a) True
- (b) False

A: (b) False
There is no evidence that using marijuana **makes** people go on and use harder drugs. Most people who use marijuana however have previously used tobacco and alcohol.

7. Q: Marijuana has no bad effect on young people

- (a) True
- (b) False

A: (b) False
Marijuana use can affect hormone levels in both young men and young women. Boys can experience delays in puberty and girls can have their menstrual cycles disturbed.

8. Q: Marijuana is “natural” so it's safer than other drugs

- (a) True
- (b) False

A: (b) False
Many “natural” substances found in nature also contain poisons, e.g. poisonous mushrooms, tobacco, oleander, mistletoe. Smoking marijuana also carries the same problems as tobacco smoking because unfiltered smoke is being inhaled into the lungs causing respiratory problems and increased risk of disease.

9. Q: Possession of marijuana has been *decriminalised* in

Queensland

- (a) True
- (b) False

A: (b) False

It is still an offence to be caught with any amount of marijuana in Queensland and can lead to prosecution and a criminal record. Police however can and do divert people to counselling instead of charging them if it is a first offence and the amount is under 50gm.

10. Q: Marijuana can lead to mental illness

- (a) True
- (b) False

A: (a) True

Marijuana can lead to mental illness in **SOME** people. These are people who may have been born with a weakness or are vulnerable to mental illness. One sign of this vulnerability is if the person's family has a history of mental illness. Heavy use can also lead to depression and possibly psychosis (disordered thoughts; seeing and hearing things that are not there; these problems do not go away when the person is sober.)

11. Q: Which of the following does not belong in the category of chemicals known as **solvents**?

- (a) Paint
- (b) Glue
- (c) Paint thinner
- (d) Nail polish remover
- (e) Heroin
- (f) Correction fluid

A: (e) Heroin

Heroin is the only substance produced from a plant. The others are all manufactured chemicals.

12. Q: Which of the following does not belong in the category of chemical sprays known as **aerosols**?

- (a) Spray paint
- (b) Hair spray
- (c) Deodorants
- (d) Petrol

(e) Room fresheners

A: (d) Petrol
Petrol is the only product that comes in a liquid form.

13. Q: Which of the following is not a **toxic gas** to human beings?

- (a) Butane
- (b) Hydrogen dioxide
- (c) Carbon monoxide
- (d) Propane
- (e) Nitrous oxide

A: (b) Hydrogen dioxide
Hydrogen dioxide as a gas is steam and is not toxic to human beings.

14. Q: Breathing in the fumes from solvents, aerosols and toxic gases is harmless?

- (a) True
- (b) False

A: (b) False
Breathing in the fumes from solvents, aerosols and toxic gases cuts down the amount of oxygen reaching the brain and in the worst cases can **lead to death**.

15. Q: “Chroming,” “huffing,” and “bagging” are all slang terms for?

- (a) Spray painting your bike silver
- (b) Creating graffiti with spray paint
- (c) Breathing in large amounts of solvents, aerosols and toxic gases to get high
- (d) Making model aeroplanes

A: (c) Breathing in large amounts of solvents, aerosols and toxic gases to get high

16. Q: Which of the following is not true about using inhalants to get high?

- (a) Makes blood pressure rise
- (b) Causes dizziness
- (c) Makes blood vessels bigger
- (d) Causes nausea and vomiting
- (e) Produces bad headaches and tiredness

(f) Makes breathing difficult

A: (a) Makes blood pressure rise
Using inhalants causes blood pressure to drop

17. Q: You can stay high from using inhalants for up to an hour?

(a) True
(b) False

A: (a) True
Even though the high can pass in a few minutes, there are cases where it can last for up to an hour. This can be dangerous if the person intends to play sport, go swimming or drive a car.

18. Q: No-one ever died from using inhalants?

(a) True
(b) False

A: (b) False
Using inhalants **just once** can cause breathing to stop, suffocation, **sudden sniffing death** from heart stopping, choking on vomit and accidental death from dangerous behaviour.



19. Q: Ongoing abuse of inhalants can cause permanent brain damage. How long do the symptoms take to appear after a person starts using?

(a) About 6 months
(b) About a year
(c) About 5 years
(d) About 10 years

A: (a) About **6 months**

20. Q: Neurological effects of inhalants refers to damage done to the white matter of the brain. Which of the following is **NOT** a neurological effect of inhalant abuse?

(a) Loss of bladder control
(b) Memory problems
(c) Thinking problems
(d) Seeing problems

- (e) Hearing problems
- (f) Difficulty with walking

A: (a) Loss of bladder control
Loss of bladder control is a symptom of inhalant abuse but it is not an effect of brain damage.

21. Q: Apart from brain damage, inhalant abuse can cause other health problems. Which of the following is **NOT** caused by inhalant abuse?

- (a) Loss of bladder control
- (b) Liver damage
- (c) Heart damage
- (d) Poor breathing
- (e) Diabetes
- (f) Bone marrow damage

A: (e) Diabetes
There are no known links between inhalant abuse and diabetes.

22. Q: What are the biggest risks associated with marijuana use?
\$50 bonus for each correct answer. Groups can take turns to answer.

- (a) Contributes to memory loss
- (b) Concentration problems
- (c) Breathing problems
- (d) Hormonal problems in young people
- (e) Accidents caused by bad judgement when stoned
- (f) Risk of mental illness in those who are most vulnerable and in heavy users
- (g) Psychologically addictive
- (h) Produces physical dependence in heavy users
- (i) Long term increases the risk of cancer
- (j) Is illegal and can lead to prosecution

23. Q: What are the biggest risks associated with tobacco use?
\$50 bonus for each correct answer. Groups can take turns to answer.

- (a) Highly addictive
- (b) Difficult to give up
- (c) Increases risk of illness in young people
- (d) Can lead to lung cancer
- (e) Can lead to heart attack

- (f) Can lead to breathing problems such emphysema and bronchitis
- (g) Contributes to early death
- (h) Pre-mature aging

24. Q: What are the biggest risks associated with alcohol abuse?
\$50 bonus for each correct answer. Groups can take turns to answer

- (a) In large amounts can cause alcohol poisoning, coma and death
- (b) Accidents due to impaired judgement when drunk
- (c) Key factor in teenage traffic accidents
- (d) Psychologically and physically addictive when used regularly
- (e) Intoxication can magnify bad feelings like depression
- (f) Has been linked to youth suicide
- (g) Intoxication can lead to aggressive behaviour

25. Q: What are the biggest risks associated with inhalant abuse?
\$50 bonus for each correct answer. Groups can take turns to answer

- (a) Sudden Sniffing Death
- (b) Choking on vomit
- (c) Permanent brain damage
- (d) Damage to body's organs such as bladder, liver, heart, lungs and bones
- (e) Burns
- (f) Suffocation
- (g) Accidents due to bad judgement when high



Module 5: Marijuana and Inhalants

Student Guide

Results of Class Survey on Marijuana and Inhalant Use

How many people in my class...	Class Guess	Survey Results
Used Marijuana in last month?		
Used Inhalants in last month?		

Most people my age do not use marijuana and inhalants

Quiz Questions and Answers

1. Q: Marijuana is a dried mixture of leaves, vines, seeds, and stems of a hemp plant called cannabis sativa

(g) True
(h) False
2. Q: Smoking one marijuana "joint" is equal to smoking how many cigarettes?

(e) 5
(f) 4
(g) 2
(h) 1
3. Q: Which of the following is **NOT** true about marijuana?

(e) Causes the heart to beat faster
(f) Lower's peoples blood pressure



- (g) Makes hands less steady
 - (h) Causes people to feel sleepy
4. Q: Marijuana is not physically addictive
- (c) True
 - (d) False
5. Q: Which of the following is **NOT** true about marijuana
- (e) Makes it harder to pay attention
 - (f) Makes it harder to remember things
 - (g) Has no effect on driving a car
 - (h) Makes it harder to learn new things
6. Q: Marijuana use **makes** people go on and use harder drugs like heroin and cocaine
- (c) True
 - (d) False
7. Q: Marijuana has no bad effect on young people
- (c) True
 - (d) False
8. Q: Marijuana is “natural” so its safer than other drugs
- (c) True
 - (d) False
9. Q: Possession of marijuana has been *decriminalised* in Queensland
- (c) True
 - (d) False
10. Q: Marijuana can lead to mental illness
- (c) True
 - (d) False

11. Q: Which of the following does not belong in the category of chemicals known as **solvents**?

- (g) Paint
- (h) Glue
- (i) Paint thinner
- (j) Nail polish remover
- (k) Heroin
- (l) Correction fluid

12. Q: Which of the following does not belong in the category of chemical sprays known as **aerosols**?

- (f) Spray paint
- (g) Hair spray
- (h) Deodorants
- (i) Petrol
- (j) Room fresheners

13. Q: Which of the following is not a **toxic gas** to human beings?

- (f) Butane
- (g) Hydrogen dioxide
- (h) Carbon monoxide
- (i) Propane
- (j) Nitrous oxide

14. Q: Breathing in the fumes from solvents, aerosols and toxic gases is harmless?

- (c) True
- (d) False

15. Q: “Chroming,” “huffing,” and “bagging” are all slang terms for?

- (e) Spray painting your bike silver
- (f) Creating graffiti with spray paint
- (g) Breathing in large amounts of solvents, aerosols and toxic gases to get high
- (h) Making model aeroplanes

16. Q: Which of the following is not true about using inhalants to get high?

- (g) Makes blood pressure rise
- (h) Causes dizziness
- (i) Makes blood vessels bigger
- (j) Causes nausea and vomiting
- (k) Produces bad headaches and tiredness
- (l) Makes breathing difficult

17. Q: You can stay high from using inhalants for up to an hour?

- (c) True
- (d) False

18. Q: No-one ever died from using inhalants?

- (c) True
- (d) False

19. Q: Ongoing abuse of inhalants can cause permanent brain damage. How long do the symptoms take to appear after a person starts using?

- (e) About 6 months
- (f) About a year
- (g) About 5 years
- (h) About 10 years



20. Q: Neurological effects of inhalants refers to damage done to the white matter of the brain. Which of the following is **NOT** a neurological effect of inhalant abuse?

- (g) Loss of bladder control
- (h) Memory problems
- (i) Thinking problems
- (j) Seeing problems
- (k) Hearing problems
- (l) Difficulty with walking

21. Q: Apart from brain damage, inhalant abuse can cause other health problems. Which of the following is **NOT** caused by inhalant abuse?

- (g) Loss of bladder control
- (h) Liver damage
- (i) Heart damage
- (j) Poor breathing
- (k) Diabetes
- (l) Bone marrow damage

22. Q: What are the biggest risks associated with marijuana use?
\$50 bonus for each correct answer. Groups can take turns to answer.

- (k) Contributes to memory loss
- (l) Concentration problems
- (m) Breathing problems
- (n) Hormonal problems in young people
- (o) Accidents caused by bad judgement when stoned
- (p) Risk of mental illness in those who are most vulnerable and in heavy users
- (q) Psychologically addictive
- (r) Produces physical dependence in heavy users
- (s) Long term increases the risk of cancer
- (t) Is illegal and can lead to prosecution

23. Q: What are the biggest risks associated with tobacco use?
\$50 bonus for each correct answer. Groups can take turns to answer.

- (i) Highly addictive
- (j) Difficult to give up
- (k) Increases risk of illness in young people
- (l) Can lead to lung cancer
- (m) Can lead to heart attack
- (n) Can lead to breathing problems such as emphysema and bronchitis
- (o) Contributes to early death
- (p) Pre-mature aging

24. Q: What are the biggest risks associated with alcohol abuse?
\$50 bonus for each correct answer. Groups can take turns to answer

- (h) In large amounts can cause alcohol poisoning, coma and death
- (i) Accidents due to impaired judgement when drunk
- (j) Key factor in teenage traffic accidents
- (k) Psychologically and physically addictive when used regularly
- (l) Intoxication can magnify bad feelings like depression
- (m) Has been linked to youth suicide
- (n) Intoxication can lead to aggressive behaviour

25. Q: What are the biggest risks associated with inhalant abuse?
\$50 bonus for each correct answer. Groups can take turns to answer

- (h) Sudden Sniffing Death
- (i) Choking on vomit
- (j) Permanent brain damage
- (k) Damage to body's organs such as bladder, liver, heart, lungs and bones
- (l) Burns
- (m) Suffocation
- (n) Accidents due to bad judgement when high



Module 6 - Poster Assignment

Teacher's Guide

Goals and Objectives

Goal

Students are to design posters with AOD health promotion messages using commercial advertising techniques that when finished are to be displayed on the walls around the school

Objectives

- To design drafts of poster for promoting anti-smoking, drink safe messages or risks associated with marijuana or inhalant use.
- To display and discuss draft posters with reference to the 5 guidelines for good poster design outlined in **Student Guide**

Materials

- **Student Guide**
- Butcher paper and coloured felt tip pens

Poster Design / Assignment 2 / Class Activity

- Have students pair off with a partner and issue each pair with butcher paper and coloured felt tip pens
- Their assignment is to design either
 - **Anti-Smoking** or a **Drink Safe** poster using **Module 3 Student Guide** containing the **Quiz Questions and Answers** or **Module 4 Student Guide** containing the **Drink Safe Tips**
 - Or
 - **Poster** promoting **Risks** associated with **Marijuana** or **Inhalant** use outlined in **Module 5 Quiz Question and Answers**
- The pairs are to choose **one health message** that they think needs to be promoted to other students

- They are to develop a **draft copy** of the **poster**; with consideration given to art materials needed for completion
- Refer students to **Assignment** in **Student Guide** and review **Guidelines**
- As students work, mingle and ask students how they are addressing the **5 guidelines**

Poster Display and Discussion

- In this section students are to **display** the **draft copies** of their **poster assignment** on the walls around the classroom
- Write the **Assignment Guidelines** on the **whiteboard**
- Ask student pairs to give a **brief description** of their posters using the **Guidelines**
- **Praise** student efforts in addressing **any** of the **guidelines**
- If students have **not addressed all** of the **guidelines** ask the class to offer **suggestions** on how to **improve** their **presentations**
- Offer **special commendation** to students who have **targeted special interest groups** with **relevant health messages**

Examples: Higher incidence of smoking among ATSI people
 Higher rate of young girls taking up alcohol and cigarettes
 Higher number of young girls buying “alcopops”

- Students should complete posters in own time and arrangements should be made to display these around the school

Module 6 - Poster Assignment

Student Guide

Assignment 2 / Class Activity

You are to choose a partner and together you are to design either:

- An **Anti-Smoking** or a **Drink Safe** poster using information in the **Quiz Questions and Answers** in **Module 3** or the **Drink Safe Tips** in **Module 4**. You are to choose one health message that you would like to promote to your target group.

OR

- A poster telling students of the **Risks** associated with **Marijuana** or **Inhalant Use** using **Module 5 Quiz Questions and Answers**.
- When designing your poster, keep the following in mind.

Guidelines

1. Target group.

- What type of person are you trying to attract? Age, ethnicity or culture, sex.

2. Slogan

- A simple message that others are going to remember. e.g “Cancer Stix for Chix – The Look to Die For!”

3. Visuals

- The visual image to support your slogan should also appeal to your target group



4. Advertising Technique

Some advertising techniques to help sell your message are:

- **Bandwagon Appeal** – Most people **don't** do it so why should you?
- **Shock Tactics** – Cigarettes kill people and cause serious health problems
- **Sarcasm or Ridicule** – You may like to ridicule or make fun of some of the claims that tobacco advertisers use to sell their products with the facts about cigarette smoking
- **Can you think of any other technique to sell your message?**

5. Materials

- Collage, air brush, stencils etc
- Digital photographs of classmates posing as models
- Downloads from websites – Tobacco and alcohol advertising comes from the “**Campaign for Tobacco-Free Kids**” and the “**Alcohol Advertising**” websites
<http://tobaccofreekids.org/>
<http://medialit.med.sc.edu/alcoholadwebsites.htm>
- Alcohol advertising from magazines and newspapers
- Cigarette butts, ash, tar, cigarette packs, alcohol labels may also be used in a collage
- If your school has facilities you may design a website instead of a poster
- **If your school has camera equipment you can produce a one minute TV commercial**

Module 7: Managing Anxiety

Teacher's Guide

Goals and Objectives

Goal

The goal is to assist students in identifying the symptoms of anxiety, situations that cause anxiety and to introduce and provide practice in techniques for managing anxiety

Objectives

- To identify symptoms of anxiety
- To identify and rate anxiety provoking situations
- To identify thoughts associated with anxiety
- To learn and practice Deep Breathing relaxation
- To learn and practice Mental Rehearsal
- To participate in Guided Fantasy exercise

Materials

- **Student Guide**

Module Duration

- 60-70 minutes

Introduction (2 min)

“In this Module we will be focusing on managing anxiety. Anxiety is a word that describes a set of uncomfortable feelings and physical responses to certain situations. We become anxious because we are not so sure that we can cope or manage the situation well. We will learn to recognise the signs of anxiety and learn and practice some strategies for coping.”

Signs of Anxiety (5 min)

Activity: “However before we start talking about anxiety, I’d like to know what you’ve learnt in the course so far. I’m going to ask you one at a time to come to the front on the class and give a two minute speech about what this course has taught you about not abusing drugs and alcohol. This will count towards your assessment so you can have a minute to think about what you are going to say before I call for volunteers.

- While students are thinking about their speech start writing the following list on the whiteboard.

- **Sweaty hands**
 - **Shortness of breath**
 - **Heart beating faster**
 - **Shaking**
 - **“Butterflies in stomach”**
 - **Going red in the face**
 - **Difficulty thinking**
 - **Dry mouth**
 - **“Lump in the throat”**
 - **Muscles tensing up**
- “Are any of you starting to experience any of the physical responses that I am writing on the board?”
 - By the way, I was only joking about the speech!
 - You don’t have to do it. I told you that because I wanted to put you in the mood for today’s topic.”
 - Ask some students to identify from the list, any symptoms that they experienced while “preparing” for their speech.
 - “These are all **signs of anxiety** and you **responded** in this way because most of you probably **felt unable to complete the task** in some way.”
 - Ask students to identify some of the thoughts that they were having while they were experiencing the signs of anxiety.

Some typical thoughts may be:

- “I’m going to make a fool out of myself”
 - “I won’t have anything to say”
 - “I’m not going to be able to do it”
 - “People are going to laugh at me
 - ”I’ll probably stuff it up”
- Ask student’s to tick some of the **Signs of Anxiety** in the **Student Guide** and to fill in **Anxious Thoughts**.

Anxious Situations (5 min)

- Ask students if they can identify some situations in which they have felt anxious or nervous

- Refer students to **Anxious Situations** in the **Student Guide** and to fill in any additional situations apart from the ones mentioned
- Additionally ask students to **rate on a scale** from **one** to **ten** how **anxious** or nervous these **situations** would make them feel

Coping with Anxiety (20 min)

- “There are a number of things that you can do to learn to cope effectively with anxiety
- Firstly it’s worthwhile recognising that **most of the class** became **anxious** about **making a speech**. You weren’t the only one.
- Making an unprepared speech would make most people anxious and it takes skill and practice to have the confidence to do it well.”
- “Now let’s look at some techniques for coping with anxiety. To cope with anxiety you need to be able to relax yourself.
- The **Deep Breathing** can be **used any time**, particularly as a means of **calming yourself** if you are about to do something that is making you anxious.”

Deep Breathing

- Ask students to sit up in their chairs with their feet flat on the floor and their hands relaxed in their laps.
- **Activity:** “I’m going to show you a **Deep Breathing** exercise in which you will learn to **breath** with your **abdomen** or the lower part of the lungs.’

- Ask students to **watch** you while you place your **hand on your abdomen** and **inhale and exhale** a number of times while **extending** your abdomen like a **balloon**.
- Ask students to **practice Deep Breathing** and to take **NORMAL SIZE** breaths. Taking big breaths may cause hyperventilation

Holding your Breath

- “Now that you are breathing with your abdomen, try **Holding your Breath** when you breath in:
 1. For a **count of 3** slowly **inhale**
 2. **Hold** your breath for a **count of 3**
 3. **Breath out** through pursed lips while saying “**Relax**”
 4. **Repeat** 4 or 5 times or until **calm**
- Allow students a minute to practice on own
- “It is best to **practise** this exercise in **easy situations** in which you feel the **least** anxious and then to **build up** to more **difficult situations**
- It won’t work so well if you start of with the difficult situations first.”
- “If you would like to achieve a **deeper state of relaxation** and you **have time** to meditate for a longer period, instead of **Holding your Breath** you can use **Rhythmic Breathing**.
- **Rhythmic Breathing** will help you **develop confidence** in your ability to **relax yourself** when you are not facing a difficult situation.

Rhythmic Breathing

- **Activity:** Ask students to close their eyes or to stare at a point on the floor in front of them
 1. **Inhale** in through the nose for a **count of between 3 and 6**
 2. Choose a number that is comfortable for you
 3. **Exhale** for the **same count** through the nose
 4. Continue to **focus on your breathing** as you feel yourself **winding down**
- Allow students a couple of minutes to practise **Rhythmic Breathing** and to **find their own count**

Zen Meditation

- After a couple of minutes ask students to pay attention again
- Ask students if any of them were having **thoughts** that were **interfering** with the exercise
- A **Zen** technique to cope with **interfering thoughts** while using Rhythmic Breathing is to **count the number of breaths** backwards from **10 to 1**. If a thought interferes while you do this and you loose count, start again from 10.
- Ask students if everyone is feeling **relaxed**
- “The best way to overcome anxiety in difficult situations is to spend **a little time each day practising** these techniques.
- Practising does not have to interfere with other things that you do
- You could **practise relaxation** while riding to school in the bus every morning or during any **quiet moment** that you have to **yourself.**”

Mental Rehearsal

- “Now that you are all hopefully relaxed we can look at another technique for managing anxiety in specific situations and this is called Mental Rehearsal.”
- Ask students to choose a situation that they identified as anxiety provoking in the earlier exercise
- Ask them to stay in their **relaxed state of mind** and to imagine themselves performing that activity confidently and remaining relaxed through out.
- Refer students to **Student Guide** entitled **My Script**
- Ask students to briefly **write a script** for themselves **performing the task confidently**, including **assessment** of anxiety levels **before** and **after**
- Allow a few minutes for students to write their scripts
- Ask students if their **anxiety** level **changed** before compared with after writing the script
- Ask students if anyone started to feel **more anxious** as they were writing the script
- **The key to reducing anxiety through mental rehearsal is to play the scene over and over in the mind until anxiety begins to subside. Using Breathing Relaxation will help this process**
- Ask for a few volunteers to read their scripts out to the class

Guided Fantasy (10 min)

- **Activity:** “This last relaxation exercise is a **Guided Fantasy** but some of you may recognise it as **day dreaming**.”
- Ask students to sit in a comfortable position with feet on floor and eyes either closed or staring at ground in front
- “Breath in slowly, deeply and exhale. Allow your body to relax and to feel the tension float away.”
- “I’m going to count from **one to ten** and when I reach ten you will be in a deep state of relaxation

One:	You are sitting here relaxed, quietly breathing in and out. With every breath out, think the word RELAX.	Seven:	sinking into your chair as you gently breathe in and out. All your tension is completely gone now and you are sitting here quietly and at peace.
Two:	The room and the people around you are now starting to fade away. You’re here on your own and this time is for you.	Eight:	All the nerves and muscles in your body are becoming heavy and want to sleep, relax.
Three:	All your tense feelings are now starting to float away.	Nine:	You are completely relaxed and at peace. Sit there now, gently breathing in and out. All you hear is your breathing and somewhere in the distance, the sound of my voice.
Four:	Let your problems and thoughts fade into the background. They are of no concern to you now. This time is for you.		
Five:	Feel yourself relaxing more and more. Let any distant noises that you hear fade away and leave you in peace.		
Six:	Let your muscles relax. Feel yourself		

Ten: Picture yourself walking on your favourite beach. It's early morning and the sea is still, like a mirror. You're barefoot and walking along the water's edge. The sand feels soft beneath your feet and the gentle waves ripple around your ankles. The sky is a hazy blue and a few puffy white clouds catch the first rays of sun. Occasionally a fish jumps out of the water and you can hear the splash in the distance as it dives back in. A gentle breeze stirs the palm trees and feels cool against your skin. You watch a pelican as it uses its webbed feet and big wings to take off from the water. It glides past you a few feet above the water, perfectly still in mid air, floating south, as if it weighed nothing. You keep watching and as you watch, you're floating too, gliding, perfectly balanced, still, flying south with the pelican.

(pause....)

A little crab scuttles into a hole in the sand in front of you and brings you back to earth again. You smile and continue walking. Now you're beginning to wake up, you're still smiling, half floating with the pelican. You're still feeling light, but you're starting to wake up, back into the room, still feeling good, feeling relaxed. When you're ready, slowly open your eyes and smile.

Summary (3 min)

- Briefly review **Breathing Relaxation** techniques as a means of **coping with anxiety**
 - i) **Deep Breathing** with **abdomen**
 - ii) **Holding Breath** technique for coping with a difficult situation
 - iii) **Rhythmic Breathing** for relaxation and meditation
 - iv) **Counting backwards** from **10** to chase off **interfering thoughts**
- Review **Mental Rehearsal** and imagining coping with a difficult situation while practising **Breathing Relaxation**
- Tell students as with all strategies taught in this course, practising in easy situations and building to more difficult situations is the key to mastery

Module 7: Managing Anxiety


Student Guide

Anxiety is a word that describes a set of uncomfortable feelings we have to certain situations. We become anxious because we are not so sure that we can cope or manage the situation well. In this Module we will recognise the signs of anxiety and learn and practice some coping strategies.



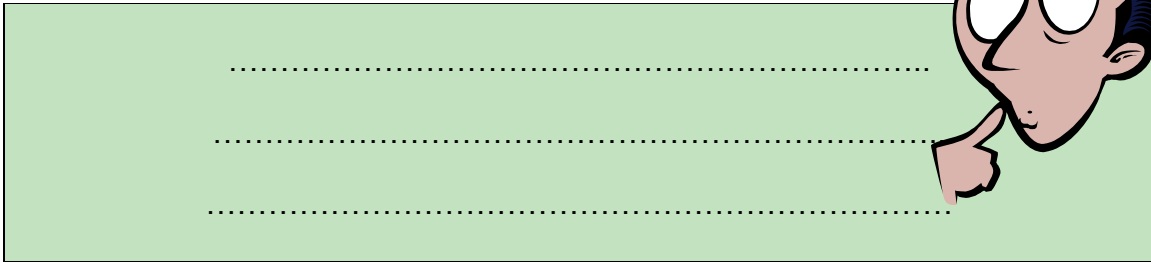
Signs of Anxiety

How did you respond when your teacher told you that you had to make a speech in front of the class?

Tick	Anxiety Sign	Tick	Anxiety Sign
	Sweaty hands		Going red in the face
	Shortness of breath		Difficulty thinking
	Heart beating faster		Dry mouth
	Shaking		“Lump in throat”
	“Butterflies in stomach” 		Muscles tensing up

Anxious Thoughts

Write down some thoughts that were running through your head when your teacher told you that you needed to make a speech in front of the class



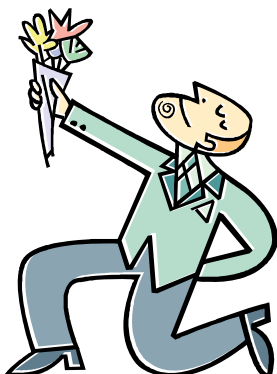
Anxious Situations

On a scale of **1** to **10**, rate how anxious each of these situations would make you feel

One – Not anxious at all
Ten – Extremely anxious

Making a speech in front of the class

Rating



Asking someone out on a date for the first time

Rating

Having to go and see the principal

Rating



Going to see a doctor

Rating

Breathing Relaxation

Deep Breathing

To be used in situations that make you feel anxious
e.g. just before making a speech in front of your class

1. For a count of 3 slowly inhale
2. Hold your breath for a count of 3
3. Breath out through pursed lips while saying “**Relax**”
4. Repeat 4 or 5 times or until calm

Note: It is best to practice this in situations that make you the **least** anxious and then to build up to more **difficult** situations. It won't work so well if you start of with the difficult situations first.

Rhythmic Breathing

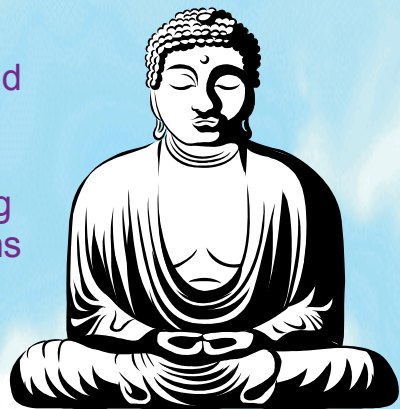
To help you relax when you have some time to your self and when you are doing **Mental Rehearsal** (see below)

1. Inhale in through the nose for a count of between 3 and 6
2. Choose a number that is comfortable for you
3. Exhale for the same count through the nose
4. Continue to focus on your breathing as you feel yourself winding down

Zen Meditation

You can only relax your mind when your head is not cluttered up with thoughts

If thoughts keep popping up as you are doing Rhythmic Breathing, try counting your breaths backwards from **10** to **1**. If a thought comes into your mind and you loose count, start again from **10**.



Mental Rehearsal

1. Choose a situation that makes you anxious
2. Relax yourself using **Rhythmic Breathing**
3. Imagine yourself performing the task and staying relaxed
4. If you start to become anxious, keep imagining yourself doing the task over and over again until you feel confident and comfortable rehearsing it.

My Script for Coping

Situation:

Anxiety Level Before (1 – 10)

.....

.....

.....

.....

.....

.....

.....

.....

My New Anxiety Level (1 -10).....

Module 8: Managing Anger

Teacher's Guide

Goals and Objectives

Goal

The goals are to assist students in distinguishing between anger as an emotion and angry behaviour, to learn strategies for managing high levels of anger and using problem solving to deal with anger provoking situations.

Objectives

- Define anger
- Distinguish angry emotion from angry behaviour
- Discuss situations that provoke anger
- Rational for controlling anger
- Define Out of Control and In Control anger
- Review tips for staying In control
- Use Problem Solving to resolve anger provoking situation
- Practice Positive Self Talk in Memory Game activity

Materials

- **Student Guide**
- **Playing Cards**
- **Tennis Balls or Ball of Wool**

Module Duration

- 60-70 minutes

Introduction (5 min)

- “Last week we learnt some strategies for coping with anxiety. Another **strong feeling** that people sometimes have **problems** with is **anger**.”
- Ask students for their definitions of anger and write these on white board
- **Suggest** to students the following **definition**

Definition of Anger

Anger is a feeling you have when

- you can't get something you want
 - you can't do something you want to do
 - someone has treated you unfairly
- Ask students to discuss if being angry is good or a bad
 - Suggest to students the following points and write on white board

Main Points

- Anger **demands** that you **do something** about a situations
- **Expressing anger is healthbut losing control of your anger is a problem in itselfand could make things worse**

Emotion vs Behaviour (7 min)

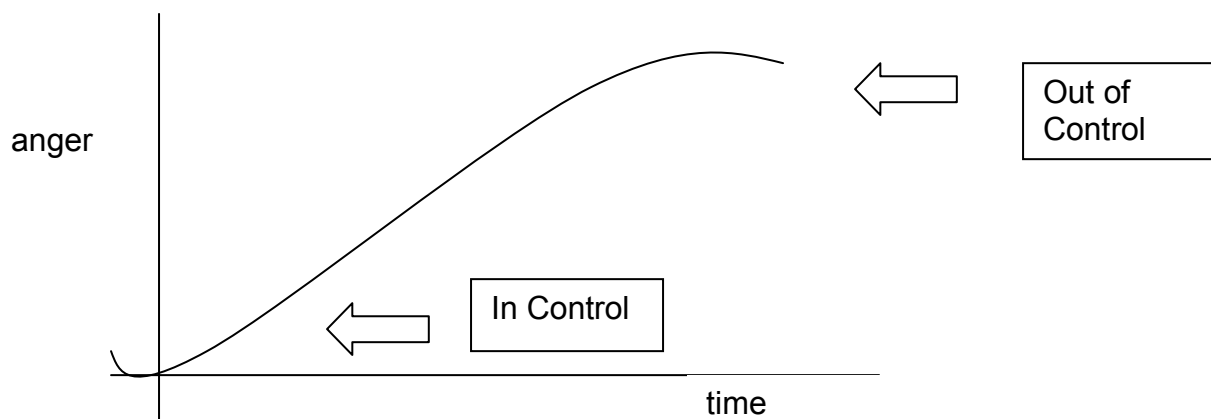
- “As a way of **learning** how **to control** anger we need to be aware of the **difference** between anger as an **emotion** and **angry behaviour**.”
- Ask students to name some examples of the emotion of anger or how anger feels
- Ask students to then name some examples of angry behaviour
- Allow students some time to fill in **Emotion vs Behaviour** in **Student Guide**
- Ask students to think of some situations that have really made them mad

Examples

Treated unfairly
Insulted

Teased
Bullied

- Allow students time to write their angry situations in **Student Guide**
- While students are writing draw following diagram on whiteboard



- “An important **strategy** in learning how to **cope** with anger is to **know** when you’re **in control** of your anger and when you’re **out of control**”
- When something happens that makes you angry, your anger can rise very quickly in a very short space in time.
- One of the problems with being **really angry**, or being at the top of the curve, is that we **don’t think very clearly** about how to best handle the situation
- There is also a **danger** that we might lash out and start something we **may regret**, like a fight that could get seriously out of control.
- Ask students if they can think of examples of being **In Control** and **Out of Control** of anger
- Make two lists of students’ response on white board

- Below are some examples that may be added to the lists
- Refer students to **Student Guide** and ask them to fill in the signs of when their **Emotional Thermometer** is in the red and **Out of Control** and the signs of when they are **In Control**

Emotional Thermometer

Out of Control

Red in the face

Yelling

Not thinking clearly

Clenched fists

Heart pumping

Breathing heavily

In Control

Still Cool

Voice still calm

Thinking clearly

Hands starting to tense

Heart beating a little faster

Breathing a little faster

Alert

Some Tips for Staying In Control (10 min)

Note: In order to implement anger management strategies, an awareness of the first signs of physiological arousal is a necessary first step before any strategies can be initiated. While most people can recognise when their anger is Out of Control, the first signs of escalating anger, particularly for adolescents, are much harder to detect.

In the previous and in the following exercise if students are having problems identifying the first signs of anger, an analogy can be made with FEAR.

- Using **FEAR** as an analogy discuss with students the first signs of physiological arousal **E.g.** “**If you hear a sound that you can’t explain late at night, how do you feel... orhow does your body react?**”
- **Examples of Answers:** “**Very alert, heart starting to race, breathing starting to increase, muscles starting to tense up, uncomfortable feeling in pit of stomach, feeling threatened.**”
- Suggest to students that the **first signs** of **FEAR** are **similar** to the **first signs** of **ANGER**
- Ask students to write in **Student Guide** what they think are their **FIRST SIGNS of anger** in section entitled “**I know I starting to get angry when....**”
- Tell students that anger management strategies are **NOT** a means of **WIMPING OUT** of a situation or **AVOIDING** taking **ACTION**

Main Point

- **Anger management** strategies are a way of staying **in control....**
.....so you can **think** how to best handle a situation

Tips for Staying In Control

- Review with Students the **THREE** strategies in sections **Tips for Staying In Control** in **Student Guide**
 - **Red Light**
 - **Counting to Ten**
 - **Positive Self Talk**
- Ask students **who is in control** when a **bully insults** or **teases** you
- Discuss with students the idea that **someone** who is trying to **make you angry** by treating you badly is someone who is trying to **control you**
- Discuss with students what the statement **“You’re making me really angry!”** is saying about the person making the statement
- Is it saying that the person is **In Control** of their **own emotions** or is it saying that the person has **LOST Control** of their **emotions**

Main Point

Staying **In Control** of **anger** means **OWNING** your own **FEELINGS**

Anger Management Practise (20 min)

Activity: This is a self-control memory game using playing cards. The group leader is to shuffle and select 10 different NUMBER cards from a pack. The leader is to hold them in a fan and to show them to other students NOT participating in memorising the cards. Before showing the cards to the student selected for the memory game, that student is to be taunted and teased for 15 seconds. The cards are then exposed to the selected student for 5 seconds while the other students continue to issue verbal taunts. That student then writes on a piece of paper as many card numbers (ignoring suits) as he/she can remember. The selected student may talk out loud using anger management strategies previously outlined.

The rule is that taunts and teasing are not to include racial slurs, swear words or teasing and name calling of a personal nature. A reasonable distance needs to be kept between the selected students and those issuing taunts to avoid physical altercations.

- The teacher should be prepared to model this exercise initialling uttering anger-coping statements such as “Stay cool!” “I can handle this!” while being taunted by students
- The modelling exercise should also serve as a rehearsal for students so that appropriate taunts are selected that comply with the rule above. It may be useful to ask students to write down appropriate taunts on a sheet of paper as a reference before engaging in this activity.
- If students issuing taunts cannot abide by the rule, they should not be used for this part of the activity
- Ask for volunteers to play the **Memory Game** – Note: Some students may be better offer observing this game rather than participating in any way
- Students may **compete** with each other to see who can remember the most cards
- A “**cool down**” period needs to be included at the end of this activity.
- Have students play **pass-the-ball** or a **ball of wool** (leaving a connecting thread between students, so that everyone gets a turn) during which each student gets to state something that he or she likes about another student.

Problem Solving (15 min)

- Reiterate to students that the **calming** strategies of the previous section are for the purpose of helping them **think clearly** about an angry situation
- The best strategy for **handling or coping** with angry situations is **Problem Solving**
- Explain to students that **Problem Solving** is a way of **thinking through** a problems and **not** about **what to do**
- Each **situation** is **different** and can have either **good** or **bad outcomes**
- The **outcome** of a situation depends on **what you choose to do**
- The **choice** of **option** also depends on how **confident** the person feels in **carrying it out**
- Refer students to the **Problem Solving** example in the **Student Guide**
- Read the **Scenario** and then **problem solve Milton's dilemma** as a class exercise
- Use **Socratic questioning** to get students **considering all possible options and outcomes, desirable and undesirable**
- If student responses are skewed in either a desirable or undesirable direction, **offer options** in the **other direction**
- Write student responses on whiteboard and organise in three columns as in example below

Example

Options	Outcomes	OK or Not OK?
1. Do nothing	She might keep picking on him He would feel like a wimp for not doing anything	
2. Realise that Mrs Crabapple is having a bad day and that she is not behaving as her usual self *	She might still keep picking on him On the other hand things might blow over as she doesn't usually behave in this way	
3. Refuse to do anymore homework	He would be the loser in the long run	
4. Wait till she calms down and then ask to talk to her about how he felt when she yelled at him **	At least she would know that he's not a wimp and she might think twice about doing it again As she is usually a nice person, she probably realises that she has treated Milton unfairly	
5. He could go around to her place one night and stone her roof	He could get into trouble if he was caught If she found out who it was, she'd really have it in for him	

* A different kind of anger management strategy is **Reframing** or taking into account all **other facts**. It is **not** the same as **doing nothing** if the outcome helps the person stay **In Control** and **reduces anger**

- ** Confronting an adult about being treated unfairly is an option available only to students who would have the confidence to do this.** Nevertheless **suggest** it as an **option** and add that **confidence** would largely depend upon a person's **speaking skills** in this instance. Ask students to consider this option even if they would not choose it and add that in **Module 10** you will be looking at the topic of **speaking skills** that would help them in this situation.
- Ask students to write three options and outcomes in their **Student Guide** and to **choose** an option that they **would use** to make them feel **less angry and more In Control** if they were Milton

Summary (3min)

- Restate **rational** for anger management as **calming strategies** for staying **In Control** of a situation
- Review main strategies of recognising internal **Red Light, Counting to 10, Positive Self Talk**
- Remind students that they have **choices** in dealing with difficult situations and the way to make the **best choice for themselves** is to think of all **options and outcomes** that may be available to them
- Remind students to look for opportunities for **practising** anger management in their everyday lives

Module 8: Managing Anger

Student Guide

Anger is a normal emotion that is neither good nor bad. Expressing anger is health. On the other hand losing control and behaving badly when you're angry may not get you what you want and could make things worse.

Emotion vs Behaviour



What does it feel like to be angry?

.....

.....

What are some examples of angry behaviour?

.....

.....



Some situations that have really made me mad?

.....

.....

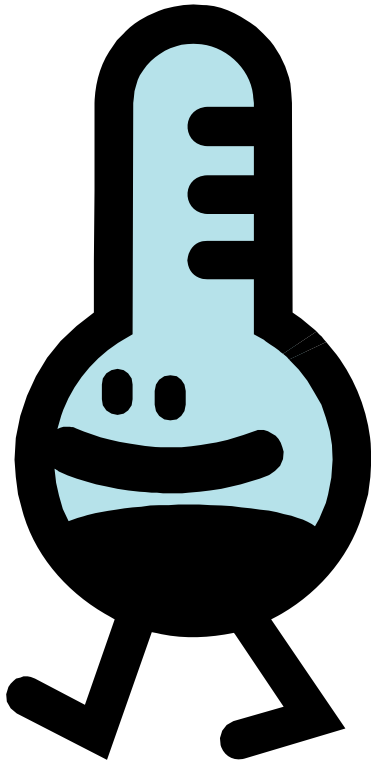
.....

.....

When the dog ate the BBQ!

Emotional Thermometer

How do you know when you're emotional thermometer is in the red and out of control?



OUT OF CONTROL

.....
.....
.....

IN CONTROL

.....
.....
.....

I know I'm starting to get angry when.....

.....

Coping with anger means **KNOWING** when you're **STARTING** to get angry and **CALMING YOURSELF DOWN**.....

.....so you can **THINK** how to handle the situation

Tips for Staying In Control

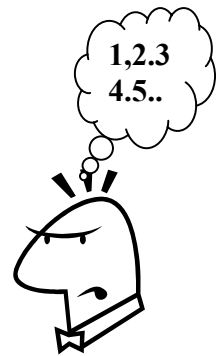
The Red Light



1. Recognise when you're **STARTING** to get **OUT OF CONTROL**
2. Imagine a **RED LIGHT** that is telling you to **STOP AND THINK**
3. **DO NOT SPEAK** or **ACT** until you are **IN CONTROL**

Count to TEN

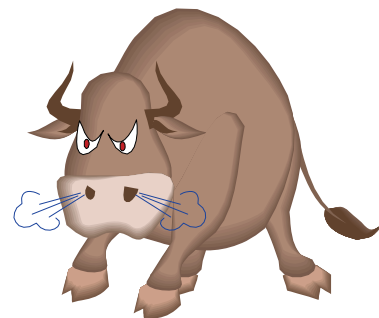
1. Focus on **DEEP BREATHING**
2. **Inhale** and **Exhale** while you slowly **COUNT to 10**
3. Look the other person in the eye
4. **Do not say** or **do anything** to **aggravate** the situation any further until you are **IN CONTROL**



Positive Self Talk

Telling yourself over and over again that you are In Control can help keep you calm. Find a statement that works for you and use it when you get angry.

1. "**Stay Cool!**"
2. "**I can handle this!**"
3. "**I'm In Control!**"
4. "**Stay Calm!**"



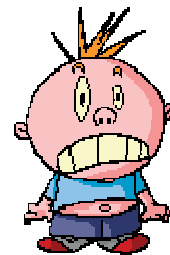
Problem Solving

Scenario #1: Milton liked maths and he was pretty good at it. He also liked his maths teacher, Mrs Crabapple. One day Mrs Crabapple just lost it! On this day instead of being her usual, nice, helpful self, Mrs Crabapple screamed at the class at the top of her lungs.



“Shut up! I don’t want to hear another word from anyone!” Milton had just loaned his maths notes to Felicity and quietly asked her to return them.

With no warning Mrs Crabapple approached Milton, grabbed the notes out of his hands, ripped them into little shreds and threw them in the air. Milton was furious. Mrs Crabapple had no right to do that!



After giving himself some time to calm down, Milton was still angry and upset about what Mrs Crabapple had done. He was afraid that he wouldn’t enjoy maths anymore and that this was going to affect his overall grade.

Problem

What can Milton do to feel less angry and more in control about what Mrs Crabapple did?

Options	Outcomes	OK or Not OK
1.
2.
3.

Module 9: Assertiveness

Teacher's Guide

Goals and Objectives

Goal

To assist students in identifying assertive behaviour and providing practice in refusal skills

Objectives

- Define assertiveness and distinguish from passive and aggressive responses
- Identify difficult situations confronting students in being assertive
- Identify advantages of being assertive
- Identify disadvantages on not being assertive
- Identify reasons for not being assertive
- Problem solve conflict situation using assertive principles
- Model assertive behaviour using drug and alcohol refusal skills
- Practice drug and alcohol refusal skills in group role plays

Materials

- **Student Guide**
- Transfer **ROLE PLAY** scenarios to individual **cards**

Module Duration

- 60-70 minutes

Introduction (3 min)

- Write **ASSERTIVENESS** on white board and ask students if anyone knows what it means
- Suggest to students following definition

Assertiveness means knowing how to **stand up for your rights** while at the same time **respecting** the **rights** of **other people**.

- Tell students that **today's Module** will be dealing with the **skill** of being **assertive** to help them **cope** with **conflict** situations with **other people**
- Tell students that they can **only be assertive** if they are **In Control** of any **anger** that they may have **toward someone**
- Remind students of the **calming down strategies** of the previous Module. **Red Light, Count to Ten, Positive Self Talk**

Responding to Conflict Situations (3 min)

- Tell students that there are **three ways** that they can **respond to conflict**
- Review **Three Ways of Handling Difficult Situations** with reference to **Student Guide**

Difficult Situations (3 min)

- Refer students to **exercises** in **Student Guide**
- Ask students to **think** of and to **write** down one situation in which they did **one** of the following :
 - **They stood up for themselves when someone had acted badly towards them**
 - or
 - **They resisted pressure from someone else to do something they did not want to do**
- Ask for students to **volunteer** some **responses** and ask each student how they **felt** afterwards

Advantages of Standing up for Yourself (3min)

- Ask students to try and think of some **advantages** in being **assertive**
- Make list of responses on whiteboard
- Suggest some of the following examples

Examples

- Feeling better about self
- Being more in control
- People are less likely to take advantage of you
- Better chance of getting what you want
- Less anxiety about conflict with other people
- Less anger with self for not standing up for your rights

- Continue with exercise and ask students to **think of** and **write down** one situation in which they

- **Failed to stand up for themselves when someone had treated them badly**

or

- **Given in to pressure to do something they did not want to do**

- Ask for some **responses** and ask each students how they **felt** afterwards

Examples of Difficult Situations

- Standing up to a bully who is bigger than you
- Standing up to a teacher or a parent who is being unfair
- Saying “No” to a request from a friend
- Saying you’re not interested when a salesman is trying to sell you something
- Saying “No” to cigarettes or alcohol when everyone else at the party is smoking and drinking

Reasons for Not Standing up for Yourself (3 min)

- Discuss with students some of the reasons they identified for not standing up for themselves in difficult situations
- Make a list of reasons for not standing up for oneself

Examples

- Fear of retaliation
- Not wanting to hurt a friend
- Not wanting to get into an argument
- Not wanting to make a big deal out of it
- Fear of making things worse
- Not wanting to make a scene
- Not wanting to be the odd person out by refusing to do something that everyone else is doing

Problem Solving Conflict (15 min)

- Tell students that you will now read out a **short scenario** and afterwards you will be using **problem solving** to see how students want to resolve it

Scenario: You're playing a game of football (basketball etc) and a member of the other team, who is also a person of a different culture to your own, calls you a racial slur.

What do you do?

- **Problem solve** what students would do using **three columns** on white board, **Options, Outcomes, OK or Not OK**
- Ensure following **options** are considered:
- **Aggression** with possible school administrative consequences
- **Nonaggression** with possible negative peer consequences
- **Third option** – avoids negative consequences of first two
- Tell students this is a **tough choice** that needs to be made and you are interested in what **they think**
- Once problem has been discussed **ask individual students for their choice and their reasons**

Modelling Assertiveness (7 min)

- Ask a student who is confident in appearing in front of the class to assist you in a **ROLE PLAY**
- You are to **MODEL** assertive refusal to offers of a cigarette under pressure from the student who will become increasingly persistent in his attempts to get you to smoke.
- The student's instructions are to try every which way he/she can to get you smoke and he/she is not to stop in his/her attempts
- The **ROLE PLAY** may be more credible if it is couched in a conversation about a topic of mutual interest, such as cars or football
- Explain the **ROLE PLAY** to the class and refer students to the section in **STUDENT GUIDE** entitled "**Saying NO to Drugs and Alcohol**"
- Explain to students that the **purpose** of the **ROLE PLAY** is to demonstrate how to say **NO** to the **OFFER** but **YES** to the **FRIENDSHIP**
- During the course of the **ROLE PLAY**, pay attention to the **MODELLING** of both **VERBAL** and **NON-VERBAL ASSERTIVE SKILLS**:
 - **Respect for your rights and the rights of other person**
 - **Speaking with a firm, moderately loud voice**
 - **Speaking clearly, confidently**
 - **Making eye contact**
 - **Facial expression expressing seriousness of purpose**
 - **Using hand gestures to convey refusal when the pressure to use starts to escalate**
 - **As a last resort WALK AWAY**

Refusal Skill Practice (20 min)

- Inform students that they will now have an opportunity to practice their refusal skills
- Break class up into four groups and hand out **SCENARIOS**
- Each is to rehearse their Scenario in preparation for a performance in front of the class
- Mingle among the groups and provide **FEEDBACK** and positive reinforcement or **PRAISE** at successful enactments of refusal skills
- Reassemble class and ask each group to **ROLE PLAY** their **SCENARIO** to the rest of the class

Scenarios

1 Your parents are going away for the weekend and this is the first time they have left you on your own. You like having the house to yourself and want to make sure that nothing goes wrong while they're away. Some of your friends find out and want to come around for a party. You also know that a few of them like drinking and can get out of control when they're drunk. How can you let them know that they are invited to your place but you do not want them to bring any alcohol.

#2 Reynold is in Yr 12 and wants to go to university. For a few years he got distracted with partying and smoking dope and his grades went down. It has not been easy for him to give the smoking away so he can complete his HSC. He's taking one day at a time and knows if he is not careful he could easily get distracted again. Johnno is Reynold's old smoking mate. He has come from the other side of town to chill out, listen to some music and blow a few cones with his old mate. Reynold knows that if Johnno starts smoking in front of him that it's going to get him going again. If you were Reynold how do you tell your old mate that what he wants to do isn't a good idea.

#3 Jenny has a new boyfriend. When she first met Jacko she thought he was really cool, but lately she's been noticing some odd things about him. A few times when they've gone out, he's eyes have been pink and when he spoke, he slurred his words and didn't sound too bright. He's also been asking her for money and never seems to be able to return her loans. Jenny really likes Jacko but is suspecting that he has a problem. She has decided not to give Jacko any more money. If you were Jenny, how do you tell Jacko that you're not going to keep funding his habit.

#4 Some of your friends want to have a party, and you're invited. They're underage and want you to get your older brother to buy them some beer from the bottle shop. You don't like being used up in that way and wonder if they are really your friends. How do you explain that you would like to go to their party, but that you are not prepared to get your older brother to buy them beer.

Summary (3 min)

- Review **definition of assertiveness** and the **three ways of responding to conflict** situations with others
- Remind students that in **real life situations** they will be **confronted** with some **tough choices**
- The best way of resolving conflict is by thinking of all their **options** and making **choices** that respect **their rights** and the **rights of others**
- Remind students that in situations where they **may feel pressure** **use** drugs or alcohol, that the **best response** is to say **no** to the **offer** but **yes** to the **friendship**
- Remind students that **assertiveness** needs to be **practised** and to look for situations in which they can **use their skills**

Module 9: Assertiveness

Student Guide

Assertiveness means knowing how to **stand up for your rights** while at the same time **respecting the rights of other people**.

Difficult Situations

Describe one situation in which you **stood up** for yourself with another person!

.....

.....

.....

Afterwards I Felt

Describe one situation in which it was **difficult** for you to **stand up** for yourself with another person!

.....

.....

.....

Afterwards I felt

Why did you find it difficult to stand up for yourself!

.....

.....

Three Ways of Handling Difficult Situations

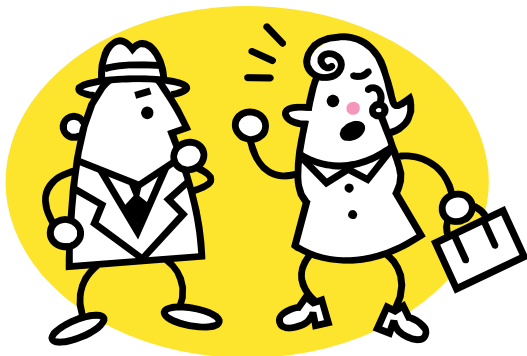
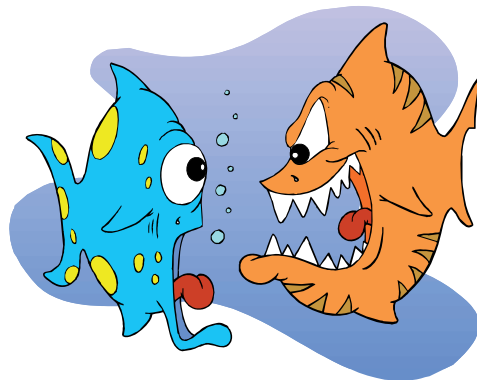


Passive:

- You do not respect your own rights
- The other person gets what they want without regard for you

Aggressive

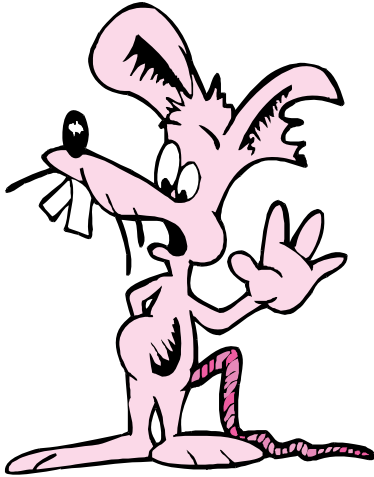
- You do not respect the rights of the other person
- You probably get what you want because you've monstered the other person



Assertive:

- You respect your rights and those of the other person
- You have been able to explain to the other person your point of view and the other person has listened to you

Refusal Skills



If a friend offers you drugs or alcohol

..... and you don't want to smoke, drink or get stoned.....

Just say

“No thanks, I don't smoke.....

.....but you go ahead don't let me stop you.....”

If the person is a friend, he should respect your right to say “No” just as you respect his right to do as he pleases

Make your friend an offer that is OK by you and that you think he might like

“Do you want to listen to some music?” or

“Do you want to go to the movies next Saturday?”

If you're with a group of friends and you're the only one who doesn't want to smoke, drink or get stoned.....

.....you may need to make an excuse and leave

“No thanks, I'm meeting my girlfriend in half an hour and I don't want to be stoned!”

“No thanks, maybe some other time!”

It's hard to feel like you are part of a group if you are the only one who doesn't want to drink, smoke or get stoned

My Choice

.....

.....



Module 10: Communication Skills

Teacher's Guide

Goals and Objectives

Goal

To teach students basic communication and social skills and to provide opportunities for practise through interactions with other students.

Objectives

- Define good communication
- Identify verbal and non-verbal components of good communication
- Discuss components of good listening skills
- Discuss assertive speaking skills
- Discuss ways of overcoming shyness and social awkwardness
- Practise giving a compliment or commenting on a point of interest in another person
- Teacher demonstration of initiating, maintaining and ending a conversation
- Practise conversational skills

Materials

- **Student Guide**
- Tennis balls for half the class

Module Duration

- 60-70 minutes

Introduction (1 min)

- “In this, the last Module in this program, we will be looking at the basic components of good communication and social skills
- Most people have experienced feeling shy and awkward in social situations
- Overcoming shyness and being more confident socially is a matter of learning and practising some techniques that will help you feel more accepted by other people and will enable you to have a more enjoyable social life.”

Listening Skills (5 min)

- “An important component of social skills is listening skills and learning to pay attention to what other people are saying to you.”
- **Activity: Whisper the following sentence to one student and have each student relay the message around the class.**
- “The blue cow swam over the purple moon. Green spiders and red caterpillars taste good for breakfast. “
- Compare the original message with the final relayed message
- Ask students to discuss how and why the message changed

Main Point

Good communication is when the listener understands the message and the speaker feels understood

Assertive Speaking Skills (25 min)

- Tell students that in this section you will be **focusing on assertive speaking skills** for **avoiding misunderstanding** and **resolving conflict situations**
- Ask students to recall **Milton’s dilemma** with **Mrs Crabapple**, the problem solving exercise in the **Anger Management** Module
- Tell students that **one option** available to Milton would be for him to ask **to talk** to Mrs Crabapple about her **unfair treatment of him**
- Ask students how many would **choose this option** if they felt **confident** about **approaching an adult** with a **complaint**
- Tell students that **confidence** in this situation is **dependent** on **good speaking skills**
- Review **Assertive Speaking Skills** in **Student Guide**

Activity: Ask students to pair off with a partner and using Milton’s dilemma in which each student alternately plays the part of Milton and then Mrs Crabapple, they are to practise what Milton would say to Mrs Crabapple. Ask students to consider including the following

- **Offer a positive statement about the other person**
 - **Take responsibility for your own wrong doing** (if any)
 - **Make “I” statements**
 - **Be specific about what you want the other person to do in future**
- Ask students to recall **example** in previous **Module** of a football player calling a player of the opposite team a racial slur
 - As a **class exercise**, ask students to **consider whether assertive speaking** skills could be used to **persuade** the abusive player **to stop** his name calling
 - Be prepared to **model student’s suggestions** about what to say to the abusive player

Conversational Skills (30 min)

- Ask students **how many** have felt **uncomfortable** or **shy** in **social situations**
- Ask students what **kind** of **difficulties** they have experienced
- Explain to students that **most people experience shyness** and feel uncomfortable in social situations but it is possible to **learn skills** that will help them become **more confident**.

Tips to Overcome Shyness

Practise in Easy Situations

1. Practice smiling, saying hello and talking to people in easy situations
 2. Think of what you're going to say in advance
- Ask students to come up with some **opening liners** in the following situations

In a ticket cue at the movies

Example: “Looks like there are a lot of people who want to see “Harry Potter” tonight!”

To the check out person at the supermarket

Example: “There are a lot of people out shopping today! Bet you're looking forward to the end of your shift!”

Sitting next to a stranger who is reading a book on a bus

Example: “I read another book by the same author last week. Are you finding it interesting?”

- Ask students to come up with their **own opening liners** in response to the situations in the **Student Guide**

At Parties or When You're Meeting New People

3. Mental Rehearsal

- Tell students that a good way of overcoming shyness is to prepare in advance by **imagining** yourself **feeling** and **acting confident** and **comfortable** when meeting new people
- Additionally having a **script** and **rehearsing** what it is that you are going to say to people can help **overcome** being at a **loss for words**.
- **Breathing Relaxation** can be used to reduce the **nervousness or anxiety** some people may feel during social encounters

Activity: Ask students to pair up with someone other than a close friend. Have students initiate a conversation by one partner paying the other a *compliment* or *commenting* on something that they find interesting in the other person. Allow the couples to converse for a few minutes and then have the other partner initiate the conversation.

- Review **Conversational Skills** in **Student Guide**
- Ask students to think of **scripts** for **starting, maintaining and ending conversations**
- Ask students to **write** in their scripts in the **blank spaces**

Demonstration: Ask a student to be your partner in a demonstration. Use a tennis ball to throw back and forward to maintain the rhythm of a conversation. Tell students to imagine a party situation and in your demonstration try and include:

1. Appropriate **opening liners**:

Example: “Hi! I don’t think I’ve met you before. My name is”
(Throw ball)

2. Include a **compliment** or a comment about a **point of interest** in the other person.

Example: “I saw you at the movies the other night.”

3. Ask **questions** about the other person’s interests, hobbies, sports etc.

Example: “What did you think of “Harry Potter?”
“What other movies have you seen recently?”

4. Find points of **common interest** or agreement.

Example: “I’m a bit of a movie buff, too!”

5. Tell the other person something **about yourself**.

Example: “I saw “I Robot” a while ago. I thought it was one of the best movies I’ve seen all year.”

6. Look for a good place to **end the conversation**.

Example: “You know if you’d like someone to go to the movies with, I’d like to give you my number.”

7. End the conversation.

Example: “Well it’s been nice talking to you. It would be good to catch up again soon!”

Activity: Tell students that they are to imagine a party situation and they are to mingle amongst the guests. Give half of the students a tennis ball each and these students are to try and initiate, sustain and end a conversation with a non-ball carrying student. Each conversation is to finish with the tennis ball passed to the other student who will then initiate a conversation with another non-ball carrying student. Give students about five minutes for their conversations and then another minute to wrap up.

- Mingle amongst the couples conversing. Offer **compliments** and **positive feedback** at the end of each conversation.

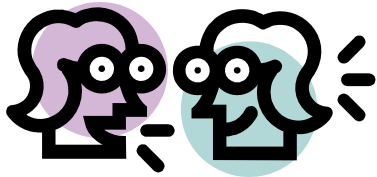
Summary (4 min)

- Summarise by telling students that **shyness** and being at a **loss for words** in social situations are common to a lot of people and can be overcome by:
 - Imagining yourself feeling and acting confidently
 - Having a script and knowing what to say in advance
 - Practising in easy situations
- In addition, **Good Social Skills** are about being respectful and taking an interest in other people
- Tell students that if they are nice to other people, they are more likely to attract people who will want to be nice back to them
- Remind students that the skills taught in this program will only become second nature if they go out and look for opportunities to practise
- End by thanking students for their participation in the program

Module 10: Communication Skills

Student Guide

Good Communication



- **Good communication** is when the **listener understands** the message and the **speaker feels understood!**

- **Good communication** is when **verbal** and **non-verbal** messages are the **same!**



Tips to Overcome Shyness



- **Practise** smiling, saying hello and talking to people in **easy situations.**
- **Think** of what to **say** in **advance.**

Opening Liners

Think of some opening liners in the following situations

In a Movie Cue:

In a Video Shop:.....

In a Jeans Shop:.....

Conversational Skills



At a Party

Getting Started

- Pick someone that seems friendly and that you would like to talk to.
- Introduce yourself
- Find something interesting about the other person that you can compliment or comment about eg. dress, hair, piece of jewellery.

What are some good opening liners to introduce yourself to someone at a party?

.....

.....

Keeping It Up

- Ask polite questions about the other person's interest, hobbies, where they go to school etc
- Tell the other person something about yourself
- Find common points of interest



Stuff to talk to about with someone at a party

.....

.....

.....

Ending It!

- Look for a natural place to end the conversation
- Let the other person know you enjoyed talking to them

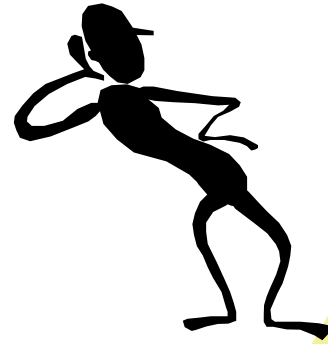


What are some nice ways of ending a conversation?

.....

.....

Listening Skills



Pay Attention – Make eye contact. Include non-verbal communication such as nodding your head and saying “Uh-huh!”

Express Agreement – Let the other person know if you agree with anything he/she is saying. “I like playing basketball too!”

Empathise – Pay attention to any feelings that the person is expressing. “I can see you really like playing basketball!”

Paraphrase – Let the other person know you have understood him/her by repeating back in your own words what you think the speaker is saying.

Ask Questions – Ask for more information if you have not understood what is being said. “Are you saying that.....?”

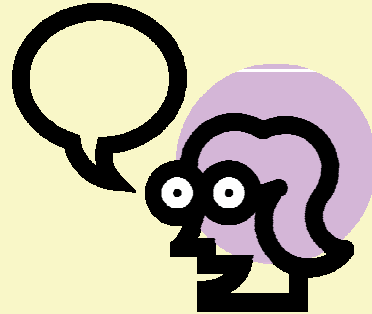
Assertive Speaking Skills

Say something positive about the other person!

Example: *Milton to Mrs Crabapple*

“I like coming to your classes...”

“Most of the time, I think you are a good teacher...”



Make “I” statements – Remind yourself that your feelings are your own and that you can choose how to respond to a situation

Example: *Milton to Mrs Crabapple*

“When you yelled at me and tore up my notes.....”

“.....**I** felt upset and angry.....”

“.....**I** thought that you treated me unfairly.....”

“.....**I've** always liked maths and **I'm** not sure if **I** can enjoy it any more.....”

If you have made a mistake, own up to it!

Example: *Milton to Mrs Crabapple*

“I know I kept talking after you told everyone to be quiet....”

Be specific about what you want

Example: *Milton to Mrs Crabapple*

“In future if you want me to do something, please don't yell at me!”

THANK YOU



APPENDIX A – Ethics Approval



THE UNIVERSITY OF QUEENSLAND
Institutional Approval Form For Experiments On Humans
Including Behavioural Research

Chief Investigator: Ms Nicki Gazis

Project Title: Drug and alcohol abuse prevention program for Year 8 and Year 9 students – 04/08/04 - AMENDMENT

Supervisor: Dr Jason Connor, Prof Graham Martin

Co-Investigator(s): None

Department(s): Psychiatry – RBH

Project Number: 2004000337

Granting Agency/Degree: Alcohol Education and Rehabilitation Foundation/PhD

Duration: 2 July 2007

Comments:

**Name of responsible Committee:-
Behavioural & Social Sciences Ethical Review Committee**

This project complies with the provisions contained in the *National Statement on Ethical Conduct in Research Involving Humans* and complies with the regulations governing experimentation on humans.

**Name of Ethics Committee representative:-
Dr Jack Broerse
Chairperson
Behavioural & Social Sciences Ethical Review Committee**

Date

6/08/04

Signature

APPENDIX B – Information Sheet/Consent Form



THE UNIVERSITY
OF QUEENSLAND

RESEARCH PROJECT DRUG AND ALCOHOL SURVEY

During **second semester** this year and next year, State High School will be inviting Year 8 students to take part in a **Drug and Alcohol Survey**. The **Survey** will be asking students about their drug and alcohol experiences (if any) and other questions about their social life.

This **Survey** will be used to develop a **Drug and Alcohol Abuse Prevention Program** that will inform students about:

- The risks of drug and alcohol abuse
- How to say NO to drug and alcohol offers
- How to think critically about tobacco and alcohol advertising
- Life skills such as anger management, relaxation and social skills

The **Program** will be made available to State High School after the completion of the two year **Survey** period.

As we want students to answer questions **honestly**, the **Survey** will be **anonymous**. This means students will not be asked to put their name on the Survey form and answers cannot be traced back to students.

The **Survey** will be given in class but is **voluntary**. This means we need the **written consent** of both student and parent for the student to take part. Students who do not want to take part in the **Survey** will be given another school approved activity.

The first **Survey** will be given in the week starting **29th Aug**, and another **12 weeks** later in the week starting **28th Nov**

We hope you will take part in this **Survey** because you will be helping us find better ways of helping young people who may be getting into trouble with drugs and alcohol.

This research project has been approved by your school and Education Queensland.

If you take part in the Survey
You will get a
\$2.00 FOOD VOUCHER
from
The Tuck Shop

This study has been cleared by one of the human ethics committees of the University of Queensland in accordance with the National Health and Medical Research Council's guidelines. You are of course, free to discuss your participation in this study with project staff (contactable on (07) 4055 8378). If you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Officer on (07) 3365 3924. If you have any further questions please contact:
Principal Investigator: Nicki Gazis, Ph: (07) 40558378.

Please sign and date both the Student's Consent and Parent's Consent, and return this form to your school.

Student's Consent

Student name:.....

Your school: ----- **State High School**

"I have read the **Research Project – Drug and Alcohol Survey** information and agree to complete the Survey as part of my normal school activities. I understand that my taking part is voluntary and that I am free to withdraw at any time without explanation. If I choose not to take part, both the researcher and the school will be informed and I will be required to attend another school activity. I further understand that any personal information I may give during the Survey will be anonymous. I am not being paid to take part in this research."

Student
signature: **Date:**.....

Parent's Consent

Please tick your preference.

- I give consent for my child to take part in this Survey
 I do not give consent for my child to take part in this Survey

Parent
/ Guardian
Signature: **Date:**.....

Witness
signature:..... **Date:**.....

Parent / Guardian's name (please print).....
If you are not a parent please specify by what authority you are entitled to sign this consent form on the child's behalf:

.....

This study has been cleared by one of the human ethics committees of the University of Queensland in accordance with the National Health and Medical Research Council's guidelines. You are of course, free to discuss your participation in this study with project staff (contactable on (07) 4055 8378). If you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Officer on (07) 3365 3924. If you have any further questions please contact:
Principal Investigator: Nicki Gazis, Ph: (07) 40558378.

APPENDIX C – Questionnaire

Write your name on this sheet

Tear it off

Hand it in

Name.....

This questionnaire cannot be traced back to you, so please answer all questions honestly.

For Research Purposes Only:

School Code #: _____

Class Code# : _____

Section One

1.1 My age is:

Years	Months
-------	--------

1.2 I am:

Female

Male

1.3 Most of the time I live with:

Mother and father

Mother only

Mother and stepfather

Father only

Stepmother and father

Mother and Father but
in different houses

Other

1.4 The name of the suburb I live in is:

Your nickname.....

Think of a nickname that you are not going to forget

Section Two

In this country, people come from a lot of different cultures. Some words used to describe these different cultural groups are Indigenous, Aboriginal, Black, Murri, Asian Australian, Chinese, Caucasian, White, Anglo Australian, Italian Australian, Torres Strait Islander and many others. These questions are about your culture or your cultural group and how you think and feel about it.

Below is a list of cultures found here in Australia:

1	Aboriginal / Australian	9	Australian
2	Torres Strait Islander / Aust.	10	New Zealander / Australian
3	Anglo / Australian	11	Hmong / Australian
4	European / Australian	12	Philippino / Australian
5	Middle Eastern / Australian	13	Papua New Guinea / Australian
6	Samoaan / Australian	14	Asian /Australian
7	Cook Islander / Australian	15	Maori / Australian
8	Pacific Islander /Australian	16	Other (<i>which country</i>)

Using the numbers above:

2.1 Which culture/s, in order, best describe you?

e.g. or

2.2 What is your mother's cultural group?

2.3 What is your father's cultural group?

2.4 What language do you prefer to speak?	
2.5 What language do you speak at home?	
2.6 What language do you speak at school?	
2.7 What language do you speak with friends?	

2.8 Using the cultural group that you belong to, place an X in the box that shows how much you agree or disagree with these statements:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1- I spend time trying to find out more about my cultural group, such as its history, traditions, and customs.				
2- I take part in social groups that include mostly people of my own culture.				
3- I have a good idea of my cultural background and what it means for me.				
4- I think a lot about how my life will be affected by being part of my cultural group.				
5- I am happy that I am part of the group I belong to.				
6- I have a strong feeling of belonging to my own cultural group.				

7- I understand pretty well what being part of my cultural group means to me.				
8- I talk to other people about my cultural background so I can learn more about it.				
9- I have a lot of pride in my cultural group.				
10- I take part in customs, special food, music and dance that belong to my cultural group.				
11- I feel strongly attached to my cultural group.				
12- I feel good about my cultural background.				

Section Three

Place **X** in box that suits your answer.

3.1 In the past how often (if ever) have you:

	Never	A few times but NOT in the last year	A few times a year	Once a month	A few times a month	Once a week	A few times a week	Once a day	More than once a day
1. Smoked cigarettes									
2. Drank beer, wine, wine coolers or spirits									
3. Drank until you were drunk									
4. Smoked marijuana (gunja, grass), hashish (hash)									

5. Sniffed glue, paint, petrol, or other things you inhale to get high									
6. Used other drugs									

Place X in box that suits your answer.

3.2 How many people your age do you think:

	None	Less than Half	About Half	More than Half	All or Almost All
1. Smoke cigarettes					
2. Drink beer, wine, wine coolers or spirits					
3. Smoke marijuana (gunja, grass), hashish (hash)					
4. Sniff glue, paint, petrol, or other things you inhale to get high					

3.3 How many adults do you think:

	None	Less than Half	About Half	More than Half	All or Almost All
4. Smoke cigarettes					
5. Drink beer, wine, wine coolers or spirits					
6. Smoke marijuana (gunja, grass), hashish (hash)					
4. Sniff glue, paint, petrol, or other things you inhale to get high					

3.4 How likely would you be to:

	Definitely would	Probably would	Not sure	Probably would not	Definitely would not
1. Would you say “no” when someone tries to get you to smoke a cigarette					
2. Would you say “no” when someone tries to get you to drink beer, wine or spirits					

3. Would you say 'no' when someone tries to get you to smoke marijuana or hashish					
4. Would you say "no" when someone tries to get you to sniff glue, paint, petrol or other things you inhale to get high					

Place **X** in box that suits your answer.

3.5 Do you think you will use any of these within the next year?

	Definitely not	Probably not	Maybe	Probably will	Definitely will
1. Cigarettes					
2. Beer, wine, wine coolers, or spirits					
3. Marijuana (gunja, grass), hashish (hash)					
4. Glue, paint, petrol, or other things you inhale to get high					

3.6 How much do you agree or disagree with the following:

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1 Kids who drink alcohol are more grown-up					
2 Smoking marijuana makes you look cool					
3 Smoking cigarettes makes you look cool					
4 Kids who drink alcohol have more friends					
5 Kids who smoke have more friends					
6 Smoking marijuana lets you have more fun					
7 Drinking alcohol makes you look cool					
8 Smoking cigarettes lets you have more fun					
9 Kids who smoke cigarettes are more grown-up					

10 Drinking alcohol lets you have more fun					
11 Kids who use marijuana have more friends					
12 Kids who use marijuana are more grown up					

Section Four

These questions are about how much you feel you belong to your school and how well you are doing at your school work.

4.1 How much are the following statements true or not true about you:

Place X in box that suits your answer.

	Not at all true	Usually not true	Sometimes true	Usually true	Completely true
1. Teachers here respect me					
2. People here know I can do good work					
3. I wish I were in a different school					
4. Teachers here are not interested in people like me					

5. I feel proud of belonging to my school.					
--	--	--	--	--	--

	Excellent	Very Good	Good	Need Help
4.2 What grades do you usually get at school?				

	Not important at all	Important	Very Important
4.3 How important is it for you to have a good job or career after finishing school, OR to go to university?			

Section Five

Place X in box that suits your answer

5.1 How many of your friends:

	None	One	Two	Three or four	Five to seven	Eight to ten	More than ten
1. Smoke cigarettes							
2. Drink Alcohol							

3. Smoke marijuana							
4. Sniff glue, paint or petrol							
5. Use other drugs							

5.2 How many times in the last month have you been offered:

	Never	Once	Two times	Three to five times	More than five times
1. Cigarettes					
2. Alcohol					
3. Marijuana					
4. Glue, paint ,petrol					
5. Other drugs					

Section Six

Place **X** in box that suits your answer

6.1 How much do you agree or disagree with these statements about your family:

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1. Family members respect one another					
2. We share the same values and beliefs as a family					
3. Things work out well for us as a family					
4. We really do trust and confide in each other as a family					
5. Family members feel loyal to the family					
6. We are proud of our family					
7. We can express our feelings with our family					

6.2 How much do you agree or disagree with these statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
6. It is OK to sneak into a movie or football game without paying					
7. It is OK to steal a bicycle if you can do it without getting caught					
8. It is important to pay for all things taken from a shop					
9. It is important to try and follow rules and obey the law					
10. I don't care about other people's feelings					
11. I would like to quit school as soon as possible					
12. I would like to leave home					
13. The kids who mess around with law are better off than those who always follow the law					

6.3 How many parents or adults who look after you:

	None	One	Two
1 Smoked cigarettes in the past month			
2 Drank alcohol in the past month			
3 Smoked marijuana in past month			
4 Used other drugs in past month			

6.4 How many parents or adults, who look after you, do you think:

	None	One	Two
1 Have a problem with cigarette smoking			
2 Have a problem with alcohol			
3 Have a problem with marijuana			
4 Have a problem with other drugs			

Thankyou for completing this questionnaire

APPENDIX D – Teacher Monitoring Sheet

Monitoring Sheet

Drug and Alcohol Abuse Prevention Program Yr 8

School:.....

Class:.....

Teacher:.....

Please a tick next to each Module component completed

Module 1 – Why do people use drugs and alcohol?	Tick
Ground Rules	
What's important in my life at the moment?	
Why do people use drugs and alcohol?	
What's not so good about drugs and alcohol?	
Activity: Giving and receiving complements	
What are some good things I like about my friends?	
What are some good things I like about me?	
Comments:	

Module 2 – Choosing your friends	Tick
Activity – Anonymous substance use survey	
Why have good friends?	
Peer pressure and substance use	
Making decisions and peer pressure	
Role Play	
Survey – Class guess of peer substance use	
Summary	
Comments:	

Module 3 - Tobacco	Tick
Peer substance use – Survey results	
How do advertisers make cigarettes appealing to young people?	
Critical analysis of advertising	
Joe Camel	
Free and Easy	
Find Your Voice - 1	
Find Your Voice - 2	
Midnight at the Oasis	
Quiz	
Number of questions completed?	
Interview with Smoker	
Comments:	

Module 4 - Alcohol	Tick
Peer substance use – Survey Results	
Is alcohol as big a problem as tobacco?	
How much is too much?	
Dependence – What is it?	
What are the signs that a teenager could be dependent?	
Alcohol Advertising	
Instant Party	
Pursue Your Day Dreams	
Good Taste Takes Years to Acquire	
Before Aging / After Aging	
Best Friends	
Summary	
Comments	

Module 5 - Marijuana and Inhalants	Tick
Peer substance use – Survey Results	
Interview with a Smoker	
Quiz	
Number of questions complete?	
Summary	
Comments:	

Module 6 – Poster Assignment	Tick
Activity: Draft of poster	
Poster display and discussion	
Comments:	

Module 7 – Managing Anxiety	Tick
Signs of anxiety	
Anxious situations	
Coping with anxiety	
Deep breathing	
Holding your breath	
Rhythmic breathing	
Zen Meditation	
Mental Rehearsal	
Guided Fantasy	
Comments:	

Module 8 - Managing Anger	Tick
Definition of anger - introduction	
Emotion vs Behaviour	
Emotional thermometer	
Some tips for staying in control	
Anger management practice	
"Cool down" activity	
Problem solving	
Summary	
Comments:	

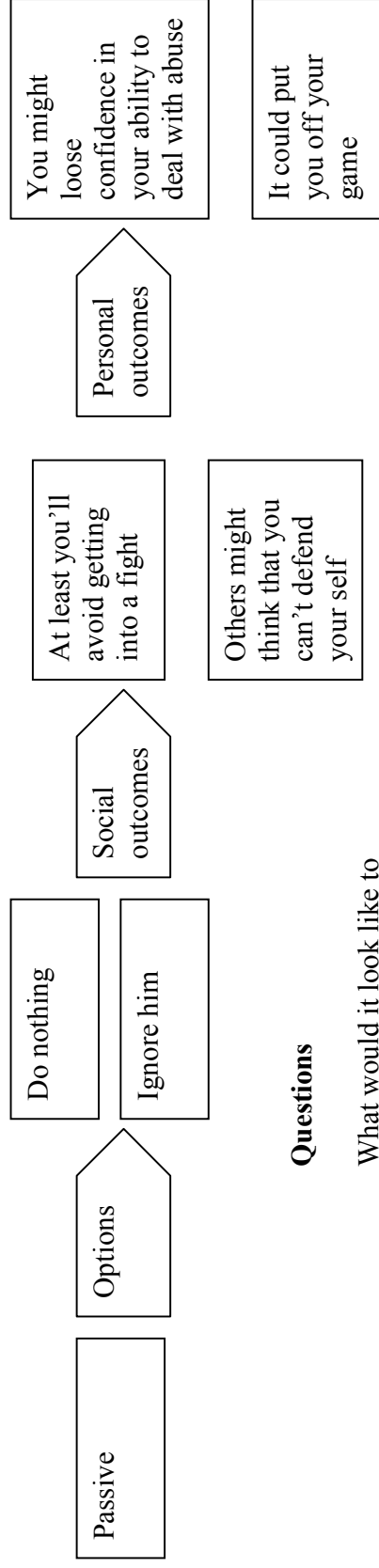
Module 9 Assertiveness	Tick
Definition of anger – Introduction	
Responding to conflict situations	
Conflict situations	
Advantages of standing up for yourself	
Reasons for not standing up for yourself	
Problem solving conflict	
Modelling assertiveness	
Refusal skills practice	
Summary	
Comments:	

Module 10 – Communication Skills	Tick
Listening skills	
Assertive speaking skills	
Conversational skills	
Practice in easy situations	
Mental rehearsal	
Activity – opening a conversation with a compliment	
Teacher demonstration – initiating sustaining and ending conversations	
Student Activity – initiation, sustaining and ending conversations	
Comments:	

Scenario: You're paying a game of football / basketball and a player of a different culture on the opposite team calls you a racial slur.

Question

How do you think someone who wasn't very confident might handle this situation?



Questions

What would it look like to others if you did nothing?

What do you think he might do if you did nothing?

What's one good thing that could happen if you did nothing?

What's one bad thing that can happen if you did nothing?

Questions

How would you feel if you did nothing?

Would it make you lose confidence in yourself?

Could you put it behind you easily and get on with the game?

Scenario: You're paying a game of football / basketball and a player of a different culture on the opposite team calls you a racial slur.

Question

He's made you really mad – what are some things you could do?

Aggressive

Options

Payback – Hit him

Payback – Finish the game and get him later

Say something to him he won't like

Social Outcomes

He might think twice about doing it again!

You could get suspended or worse – charged with assault

At least your friends will know that you can stand up for yourself

You could get a bad reputation for being violent

Personal Outcomes

Remorse – feel bad

Satisfaction!

Questions

How would you feel inside if you hit him

Questions

You decide you're going to hit him – the school principal has been watching the game – what do you think he's going to think?

What's one bad thing that can happen if you hit him?

Would hitting him fix the problem or make it worse?

What's one good thing that might happen if you hit him?

Scenario: You're paying a game of football / basketball and a player of a different culture on the opposite team calls you a racial slur.

Question

Apart from hitting him or doing nothing, is there anything else that you can do?

Assertive

Options

Report it

Social Outcome

Finish the game and talk to him later

Social Outcome

Depends on how confident you feel in having school deal with the problem

Personal Outcome

Depends on how confident you are in using **Assertive speaking skill** in shaming him

Satisfaction and no loss of confidence in self

Satisfaction without regret, guilt remorse

Questions

What can the school do to address the problem?

Would it work in helping you get even?

If not, what would you want your school to do?

Questions

How would you feel personally if you reported it?

How would you feel if you could shame him into stopping his bad behaviour?

Aims of Problem Solving

1. Consider a range of different response to a complex life situations
 - Well suited to class discussion
2. Avoid extremely passive or extremely aggressive responding
 - Extreme response characteristic of either externalising or internalising problems
3. Acknowledge that individuals will respond differently to a situation
4. There is no one correct response but depending on outcomes, some responses will be better than others