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APPLICATION OF HEALTH PSYCHOLOGY IN THE SCHOOL SETTING: ADOLESCENT CIGARETTE SMOKING

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Abstract: Health psychology is a sub-discipline of psychology concerned with the dynamic interrelationship of behaviour and psychological states with physical health. The changing patterns of illness and death as a result of having more cases of chronic illnesses such as cancer, heart diseases and diabetes increase the significance of health psychology. These chronic illnesses are related to inappropriate health behaviours such as smoking, unbalanced diet and substance abuse; and psychological factors such as stress. Psychology, as a science of behaviour, has the role in modifying behaviours implicated in chronic illnesses. Clearly, it also plays a significant role in the school settings where there is a high incidence of smoking, obesity, myopia, and diabetes amongst teenagers. Effective learning is not merely a cognitive or emotional process but is tied up with good physical health. In this regard, teachers can collaborate with health psychologists in implementing school based preventive programmes to identify high-risk health behaviour, and treatment programmes such as smoking cessation and weight control exercise.

Introduction

This paper introduces to teachers the discipline of health psychology through a discussion on adolescent cigarette smoking. It begins with the definition of health psychology followed by a detail description on how health psychology can help us understand the adolescent smoking behaviour. Implications and recommendations for implementing a school-based prevention programme are discussed.

What is Health Psychology?

Health psychology, as a sub-discipline of psychology, is the

“aggregate of specific educational, scientific, and professional contributions of the discipline of psychology to the promotion and maintenance of health, the prevention and treatment of illness, and the identification of etiologic and diagnostic correlates of health, illness, and related dysfunctions” (Matarazzo, 1982, p. 4).

It adopts a biopsychosocial health model that emphasises positive health and prevention work, and sees diseases as resulting from the interaction of biological, psychological and social conditions. This holistic orientation is particularly relevant to the changing patterns of illness and deaths as a result of having more cases of chronic illness such as cancer, heart diseases, diabetes, and AIDS. These chronic illnesses are related to inappropriate or dysfunctional individual or social behaviours such as alcohol abuse, imbalance of diets, insufficient physical exercises, risky sexual behaviour, and smoking habits. Therefore, the traditional biomedical model is inadequate to account for the psychosocial dimensions of chronic illnesses. Psychology, as the science of behaviour, clearly has the role in dealing with behaviours implicated in chronic illnesses. For more information on how psychosocial factors influence health and diseases, see Bishop (1994), Cockerham (1998), Hafen, Karren, Frandsen and Smith (1996), Martin (1998), and Weinman (1995).

Application of Health Psychology in the School Setting – in the case of Adolescent Cigarette Smoking

Cigarette smoking, which is a common lifestyle problem in adolescence, was selected to illustrate the application of health psychology in the school setting. As for other health problems that are prevalent amongst Singaporean children and adolescents such as diabetes (Goh, 1999; Wee, 1998), myopia (“Most Singaporean”, 1999), obesity (Quek, 1999), and eating disorders (J. Lee, 1999; Lee & Goh, 1999; “More Teenage Girls,” 1997), see Bishop (1994) for an overview of the psychosocial aspects of these problems.

Background of adolescent cigarette smoking

According to the National Health Survey conducted by the Ministry of Health in 1998 (Ministry of Health, 1998), of all daily smokers (i.e., people who smoke cigarettes at least once a day), 12.2% were aged between 18 and 19. Overall, the prevalence of smoking had been decreased in this age group from 15.2% in 1992 to 12.2% in 1998. In terms of gender, the prevalence of smoking in male teenagers declined from 26% in 1992 to 20% in 1998. However, this difference was not statistically significant. Amongst female teenagers, the prevalence of smoking remained unchanged at 3.6% in 1992 to 3.7% in 1998.

The prevalence of adolescent smoking should not be overlooked in view of its consequences. Firstly, early smoking is related to smoking later in life. In the United States, the age for beginning smoking is 12 to 13 years (McAlister, Perry & Maccoby, 1979). In Singapore, the average age at which smoking was first experimented was 15 and the average age at which smoking habit was established was 17 (Ministry of Health, 1998). Studies conducted in the United States (Bachman, O’Malley & Johnston, 1984; Chassin, Presson, Sherman & Edwards, 1990) have consistently shown that amongst those who smoke regularly in adolescence, a significant number of them went on to become adult regular smokers. It is more difficult for an adolescent smoker to quit, as indicated in the survey conducted by Ministry of Health (1998) that smoking cessation is positively correlated to the age of the smokers. The transferring of smoking habit into adulthood will mean having more potential cases of hypertension, heart diseases, cancer, stroke, and chronic obstructive lung disease.

The second consequence of adolescent smoking is that, it is one of the most influential risk factors for adolescents. It was found that development of smoking behaviour is significantly related to development of risky sexual behaviour in adolescence (Duncan, Strycker & Duncan, 1999).

Similar to the trend observed in the United States and European countries, there has been an increasing number of young women smokers in Singapore (Ministry of Health, 1998). The number had increased significantly from 2.5% in 1992 to 6.7% in 1998. Why is there such an increase? Comparing the smoking rates between male and female populations across several countries (Ministry of Health, 1998), it was found that the number of smokers was distributed quite equally between two genders in the Western countries (e.g., Britain, Canada, the United States, and Sweden). By comparison, there were more male smokers than female smokers in Asian countries (e.g., China, Hong Kong, and Singapore). This difference may reflect the different social status and expectations of gender role across cultures. Smoking may be perceived as a male activity and a symbol of masculinity (e.g., aggressiveness and assertiveness). In the West, the feminist movement may have created a conducive social environment for women to take up smoking that is traditionally associated with male activities. If this hypothesis is correct, with an increasing social tolerance and the change of social image of female in Singapore, more women are expected to take up smoking.

What leads to the development of smoking in adolescence?

The current emphasis is on preventing people from taking up the habit in the first place given the difficulty in quitting smoking (Bishop, 1994). Therefore, the present paper focuses on the prevention rather than treatment. Readers are referred to Bishop (1994) for an overview of the psychological treatments, notably behaviour modification, for smoking cessation.

An understanding of the early onset of smoking behaviour and habit has important implications for developing prevention programme. Several factors are found to be influential to the development of smoking initiation: personality, genes, and environmental factors.

Personality. Personality factors are found to have an important role in determining the smoking initiation and cessation (Lipkus, Barefoot, Williams & Siegler, 1994; Patton, Barnes & Murray, 1993). Masse and Trembly (1997) conducted a longitudinal study to assess the usefulness of personality dimensions measured at ages 6 and 10 years in predicting early onset of cigarette smoking and other substance use amongst boys. The three personality dimensions are (1) the novelty-seeking dimension that is defined as impulsive, excitable and exploratory behaviours; (2) the harm avoidance dimension that is defined as cautious, apprehensive, and inhibited behaviours; and (3) the reward dependent dimension that is defined as warm, sympathetic and sentimental behaviours. The results showed that high novelty-seeking and low harm avoidance led to early onset of cigarette use in adolescence (14 years and older).

Genetic factors. Smoking initiation and the difficulty in quitting smoking may also be related to certain genetic factors. Lerman and associates (1999), and Sabol and associates (1999) found that people carrying a particular version of the dopamine transporter gene (SLC6A3-9) were less likely to start smoking before the age of 16 and were more likely to quit smoking if they were to start. The same study also discovered an association between the SLC6A3-9 polymorphism and the low novelty-seeking personality trait as mentioned before. They hypothesised that the SLC6A3-9 polymorphism reduces the need for novelty and reward by external stimuli, including cigarettes.

Environmental factors. As I argued elsewhere (Lee, 1999) that in order to understand behaviour, it is important to put it in context. Adolescent smoking behaviour would be best perceived from the point of interactional patterns amongst personality, genetic and other ecological factors. Adolescents who start smoking are likely to have at least one parent who smokes as well as friends who smoke (Bishop, 1994). Peer pressure was cited by teenagers as the main reason for smoking (Ministry of Health, 1998).

After-school experience also appears to influence the smoking initiation. Mott, Crowe, Richardson and Flay (1999) examined the independent contributions of the settings, and the intensity of after-school self-care to the cigarette smoking behaviours of some two thousand ninth graders in the United States. In terms of the effects of the setting of after-school activity, it was found that when self-care took place in settings that were more removed from direct or indirect adult contact, adolescent smoking increased substantially. This may be due to decreased chances of being caught or increased exposure to peer attitudes and behaviours that support the use of cigarettes. Further analyses revealed that "lax parenting" might exacerbate this association between unsupervised or unmonitored after-school settings and adolescent smoking behaviour.

As for the intensity of after-school self-care, Mott and colleagues (1999) also found that regardless of the settings of after-school activity, the number of hours per week spent in self-care was positively correlated with cigarette smoking amongst adolescents who did, or did not, go home after school. Based on these findings, it was suggested that a non-permissive parenting style and family

rule-setting about cigarettes may reduce the likelihood of cigarette smoking amongst latchkey and nonlatchkey adolescents alike (Mott et al., 1999).

Implications and recommendations for implementing a school-based prevention programme in Singapore

None of the above factors can adequately explain the complexity of smoking behaviour that is likely to be caused by a combination of factors. Some recommendations are made here to implement a school-based smoking prevention programme.

Basic research on the smoking patterns. Whether the above factors are generalisable to Singaporean students remains to be seen. Nonetheless, some of these factors such as personality and after-school care experience can be used to formulate research hypotheses. Local studies should be conducted to find out the risk factors to understand why adolescents smoke. It would also be useful to find out the resisting factors; that is, why some adolescents do not smoke despite under stress or peer pressure. Another important research question is how adolescents perceive cigarette smoking. It is concerned with their beliefs about the severity, onset, development and consequences of cigarette smoking. Teenagers who do not believe that they will be vulnerable to lung cancer if they smoke will be less likely to take up preventive measures. Findings from these studies will then be used for planning preventive programmes.

Collaboration between school and the family. Based on the holistic approach to adolescent issues (Lee; 1999), and the findings on how the after-school care experience and lax presenting guidance are associated with smoking initiation (Mott et al., 1999), it will not be effective to implement the school-based programme without involving the family. The family, besides school, is the most important agency for the adolescents' socialisation and development whereby they learn various behaviours and habits, including smoking. As mentioned before, young people who start smoking are those who have at least one parent who smokes. Therefore, an effective preventive programme needs the involvement of parents.

Psychoeducation on smoking. Psychoeducation is concerned with how individual behaviour is associated with the onset and development of smoking habit. Students should be aware of not only the consequences of cigarette smoking, but also social influences to smoking. They should learn specific skills to say "no" to cigarette when under peer pressure. Since relaxation was cited by adolescents as a main reason for smoking (Ministry of Health, 1999), stress management workshops could be conducted to help them learn alternative and healthier ways to ventilate stress.

Other areas that a psychoeducational programme can focus on include sublimating high novelty-seeking behaviour and controlling low harm avoidance behaviour. These two behavioural patterns are found to be associated with smoking initiation. For students having novelty-seeking behaviour, they can be directed to engage in more socially approved activities such as scientific discovery or other school tasks that stimulate creativity. As for low harm avoidance behaviour, students concerned can undergo behaviour modification programmes to learn discriminate between harmful and harmless stimuli (cf. Sarafino, 1996). In conclusion, students who are identified having these two behavioural patterns must be *inoculated* before being exposed to smoking.

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