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VALUES AND PROBLEM BEHAVIORS IN HONG KONG ADOLESCENTS

by

PHEBE KAREN LAM

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

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Advisor

Date

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DEDICATION

Lorenzo and Gianluca, this dissertation is dedicated to you, the two greatest loves of my life. Without you, my accomplishment would not have been possible. Life is full of surprises, laughter, joy, and tears; I am so blessed to be traveling on life's journey together as a family.

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CHAPTER 1 : INTRODUCTION

As estimated by the World Health Organization (WHO, 2009), one in every five people in the world fall in the age range of 10 to 19 years (1.2 billion worldwide), the developmental period called adolescence. Having survived the diseases of early childhood, adolescents are considered to be the portrait of health and life; thus death seems almost implausible. However statistics provide evidence that many adolescents die prematurely. An estimated 1.7 million adolescents succumb to death every year. These deaths are mainly due to behaviors that contribute to unintentional injuries and violence, motor-vehicle accidents, suicide, and risk behaviors (ex., tobacco use, substance use, risky sexual activity) that are either preventable or treatable (CDC-YRBSS, 2006; WHO, 2008). The overall health during adulthood is significantly affected by the habits and lifestyle choices that begin during adolescence. The consequences of these choices account for an estimated 70% of premature deaths during adulthood. This ultimately leads to the critical question: why are youths, the portrait of health and life, at risk for life-compromising outcomes?

Engaging in risk behaviors remains a leading problem among adolescents worldwide. As reported by WHO (2009), globally, 16 million adolescent girls (15 to 19 years old) give birth each year (11% of births worldwide). Youth between the ages of 15 to 24 years account for nearly half of all new HIV infections worldwide, that is, over 7000 new infections daily (WHO, 2008; WHO-CAH, 2006b). The second leading cause of death among 15 to 19 year olds is suicide, with more than 90,000 adolescent deaths each year due to suicides and an estimated 4 million reported attempts (WHO, 2008; WHO-CAH, 2006b). In numerous countries, the leading cause of death among boys is road traffic accidents. Early initiation of alcohol use during adolescence increases the chances of developing alcohol dependence by four times as an adult

(Grant & Dawson, 1997). Presently, an astounding 150 million adolescents use tobacco (WHO, 2008; WHO-CAH, 2006a). Of those adolescents, 75 million will die of tobacco-related diseases later in life (WHO-CAH, 2006a).

Risk behavior is defined socially as a problem, and is undesirable by societal norms and conventions; thus their occurrence elicits negative social sanctions (Jessor, 1998). Problem behavior includes delinquency, drug use, alcohol abuse, tobacco use, early sexual activity, and risky driving. Recent investigations into problem behavior also include behavior that compromise health development, these include inadequate social role performance (ex., poor school progress), psychopathology (ex., depression), and health-compromising behaviors (ex., poor dietary practices or insufficient exercise).

Statement of the Problem

As adolescents make their journey to adulthood, they will endure the normative physical, cognitive, and social transitions that are saturated with confusion and chaos. Maneuvering through this challenging time period places them at higher risk for negative outcomes as compared to other developmental periods in their lives. Adolescents are astonished by the increased amount of freedom and privileges that the transition to adulthood brings, but unfortunately are seemingly oblivious to the also increasing level of expectation, obligation and responsibility that this new found autonomy brings (Steinberg, 2008). Since the biological changes of puberty usually occurs about a year before the start of the cognitive changes, adult society may naturally place more expectations on the adolescent due to their mature physical stature (Steinberg, 2008). They assume that adolescents have superb ability in exercising their autonomy, through responsible decision-making in matters such as sexual relationships, alcohol, tobacco, and illicit drug use. Unfortunately, most adolescents are not developmentally prepared

to evaluate the consequences of engaging in these risk behaviors. Furthermore, there are insufficient guidance and support in helping them acquire these vital skills necessary to make informed and responsible life decisions.

These real life decisions involve daily choices between behaviors that are healthy and unhealthy. Many of the choices encountered such as drug use, alcohol consumption, cigarette smoking, weapon carrying, and violence, are problem behaviors. Furthermore, these problem behaviors are associated with one another, resulting in multiplication of risk rather than simply additional hazard (Griffiths et al., 2006; Kahn, Kaplowitz, Goodman, & Emans, 2002; Maxwell, 2002).

Adolescent development is universal. Whether an adolescent lives in North America, Africa or China, this transition to adulthood is inevitable. Chinese adolescents living in Hong Kong, as with all adolescents in the world, are not immune to the risk of engaging in health compromising behaviors. Although engagement in problem behaviors among Hong Kong adolescents is low compared to their Western counterparts (Le, Goebert, & Wallen, 2009; Lee et al., 2005; Lee & Tsang, 2004; Lee et al., 2009; Lo & Globetti, 1999), there has been an increase in that past 10 years. Data from the Hong Kong Police Force (2009) shows an increase in the number of arrests from 2009 (January to June) to the same period in 2008. Furthermore, there has been a rise in juvenile and young persons arrests from 2002 to 2008. The statistics from the Hong Kong Police will be further discussed in Chapter 2. Since 1999, the Centre for Health Education and Health Promotion at The Chinese University of Hong Kong has been administering the CDC's Youth Risk Behaviors Survey (YRBS) to a sample of Hong Kong adolescents to monitor the trend of youth health risk behaviors. Lee et al. (2009) published results from 2003-2004 (most current statistics) showing that 11.1% felt sad/hopeless, 12.2%

engaged in physical fights (one or more in the past year), 3.6% of adolescents (approximately 11 to 18 years old) were heavy smokers (more than 20 cigarettes in the past month), 7.4% were binge drinkers (5 or more drinks of alcohol at one time in the past month), 4.1% used illicit drugs, 5.9% had early sexual experiences, and 25.1% had suicide ideation or behavior (4.2% attempting suicide).

Suicide remains the leading cause of death among adolescents in Hong Kong (Chan et al., 2009; Lam et al., 2004a; 2004b; Lee et al., 2009; Yip & Chiu, 1998; Yip et al., 2004). In several Hong Kong studies, adolescent problem behaviors, such as heavy smoking, use of substances (alcohol and drugs), early sexual experience, internalizing problem behaviors (depressive and withdrawn symptoms), and externalizing problem behaviors (school problems and aggressive behavior) were all significant risk factors in suicidal thoughts and attempts (Chan et al., 2009; Ho, Leung, Hung, Lee, & Tang, 2000; Lam et al., 2004b; Lee et al., 2009; Wong et al., 2008; Wong, Stewart, Ho, & Lam, 2007; Wong, Stewart, Ho, Rao, & Lam, 2005; Yip et al., 2004). In a study comparing problem behaviors of adolescents in seven countries (including the U.S.A. and Hong Kong), problem behaviors were measured by the Youth Self-Report, and included categories of behavior such as: internalizing, externalizing, withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior (Verhulst et al., 2003). Hong Kong adolescents scored higher than the U.S. adolescents in internalizing, withdrawn, somatic complaints, anxious/depressed, social problems, attention problems, and aggressive behavior, and scored lower than U.S. adolescents in externalizing and delinquent behaviors.

Arnett and Jensen's (1994) model of health risk behavior showed that there were differences in engagement in health-endangering behaviors between Western and non-Western

adolescents. They proposed that socialization interacts with developmental characteristics in adolescence to affect the types and rates of problem behaviors within certain cultures (Arnett, 1999; Arnett & Jensen, 1994). In Western culture, where individualism and self-expressiveness are valued, it promotes a less restrictive society thus adolescents tend to engage in more problem behaviors. In cultures where obedience, conformity, and adherence to social standards are emphasized (as in Hong Kong), adolescents tend to engage in less problem behaviors because deviance from expected norms (e.g., academic achievement) is less tolerated (Feldman & Rosenthal, 1991; Stewart et al., 1998).

The low frequency of problem behaviors reported in Hong Kong raises the possibility that such behaviors indicate deviance more reliably than in the West (Lam, Stewart, & Ho, 2001a; Lam, Stewart, Ho, & Youth Sexuality Study Task Force, 2001b; Lo & Globetti, 1999). In Western cultures, experimentation with certain problem behaviors are considered to be normative and an essential part of development during adolescence (Baumrind, 1991); however, in the Chinese culture, adolescent problem behaviors are not considered normative, and is considered a source of shame for the family (Stigler, Smith, & Mao, 1985). When you take into account the Chinese cultural norms, those who participate in problem behaviors are considered deviants and thus more seriously violate the normative behavior that is expected from adolescents. This disparity in the way the culture sends messages to the adolescents, and the normative urge to participate in risky behavior to express an adolescent's autonomy will cause some adolescents turmoil.

Although there exists, a low incidence of problem behaviors in adolescents in Hong Kong, these adolescents are not immune to the need or desire to engage in risky behaviors. Zuckerman (2007) gives an excellent explanation for why individuals engage in problem

behaviors. To varying degrees, individuals pursue activities that offer novelty, variety, and intensity. While some people find that everyday pace of life provides adequate variety, others desire stimulation to such a degree that they seek out deviant activities that are not sanctioned by societal norms and potentially have deleterious consequences. All individuals have a need to maintain an optimal state of arousal in the reticular activating system (located in the core of the brain stem) and select activities or situations in order to meet that need. For high sensation-seekers, the types of activities that meet this need are often inherently risky. Although the biological basis for sensation seeking is strong, researchers have cautioned the underestimation of the influence of the social environment and other psychological influences on an individual's need for novelty or sensation.

Studies on adolescent smoking, drinking and delinquency have empirically supported its relationship with underlying adolescent psychological problem behavior. These studies have focused mainly on two broadband psychological syndromes of behaviors that have the propensity to occur together (Wicks-Nelson & Israel, 2003). The first group is the externalizing syndrome of behaviors (e.g., rule-breaking behavior, aggressive behavior, etc), which are manifested in an adolescent's outward behavior and reflect the adolescent negatively acting on the external environment (Achenbach & Rescorla, 2001; Wicks-Nelson & Israel, 2003). The second group is the internalizing syndrome of behaviors (e.g., anxious/depressed, withdrawn/depressed, somatic complaints, etc), behaviors that more centrally affect the adolescent's internal psychological environment rather than the external world (Achenbach & Rescorla, 2001; Wicks-Nelson & Israel, 2003). When the general public thinks of adolescent behavioral problems, they tend to focus on externalizing behaviors. Possible reasons for this are that many adolescents become involved in some level of antisocial behavior during the course of

their adolescence, and that externalizing problem behavior is more visible, and has more direct negative consequence for individuals and for the community (Moffit, 1993; Resnick & Burt, 1996). In contrast, symptoms of internalizing problems, though also fairly common among adolescents (depression affects between 7% and 33% of adolescents), often remain undetected by adolescents' social environment (Petersen, Richmond, & Leffert, 1993). The consequences of internalizing problems are also hardly less important: Depression is a strong predictor of suicidal ideation (CDC, 2007; WHO, 2008; WHO-CAH, 2006a). Thus, this study focuses on both psychological syndromes of problem behavior as predictors of problem behavior outcomes. In the literature, there is evidence that early internalizing problem behaviors (e.g., depressive symptoms), attention problems, and rule-breaking and aggressive behavior (e.g., Conduct Disorder or Oppositional Defiant Disorder symptoms) predict smoking, alcohol use, and delinquent behaviors (Burke, Loeber, White, Stouthammer-Loeber, & Pardini, 2007; Clark, Parker, & Lynch, 1999; Hall, Degenhardt, & Teesson, 2009; Henry et al., 1993; Hunt & Hopko, 2009; Kaplow, Curran, Angold, & Costello, 2001; Mason & Windle, 2002; Molina & Pelham, 2003; Owens & Shippee, 2009; Pardini, Lochman, & Wells, 2004; Pardini, White, & Stouthammer-Loeber, 2007; Prinstein & La Greca, 2009; Saraceno, Munafó, Heron, Craddock, & van den Bree, 2009; Skeer, McCormick, Normand, Buka, & Gilman, 2009; Sung, Erkanli, Angold, & Costello, 2004; Tillfors, El-Khoury, Stein, & Trost, 2009; Weinberg, Rahdert, Colliver, & Myer, 1998). Both sensation seeking and psychological problem behavior and its relationship with adolescent problem behavior have been extensively studied in the literature. Specifically, having elevated sensation seeking levels and a propensity to psychological problem behaviors has empirically exposed its deleterious effects on adolescent behavior.

Problem Behavior Theory (Donovan, Jessor, & Costa, 1991) presents a notable

theoretical framework that accounts for variation in adolescent involvement in an array of problem behaviors as well as conventional behaviors. This framework links risk and protective factors in a single model to different risk behaviors (Jessor, 1998). There are five systems of risk and protective factors (i.e., biological/genetic, social environment, perceived environment, personality, and behavior) that influence the manifestation of risk behaviors and consequently lead to health-life compromising outcomes. These risk and protective factors described in Jessor's Problem Behavior Theory place an adolescent at risk for problem behaviors, but more importantly, have the same effect on an adolescent regardless of the adolescent's sex, social class, or ethnicity (Peterson, Hawkins, Abbott, & Catalano, 1994).

What leads an individual to succumb to risk factors or to heed to protective factors? What are the internal mechanisms that adolescents use to guide them as they make their decisions whether to engage in risky behaviors or not? To answer these questions, it is important to look at risk and protective factors and an individual's value orientation and how they are incorporated into an individual's manner of processing during behavioral decision-making.

Researchers have identified certain value orientations and value hierarchies as important change agents in decreasing engagement in risk behaviors. These studies suggest that a value priority, focusing on the future and societal view of life, can be associated with protective factors and less health comprising in adolescents (Dubow, Arnett, Smith, & Ippolito, 2001). Values systems are a central concept in understanding and predicting human behavior. Value differences have been shown to predict important attitudes relating to social, environmental, and behavioral attitudes (Rokeach, 2003). Values orientation research has been conducted to identify predictors of drug use and abuse and to develop prevention interventions (Nagel, Mayton, & Walner, 1995). Researchers have compared the value orientations of drug users and non-users. Toler (1975)

found that non-users have higher values placed upon societal goals (e.g., world peace, equality, freedom, and national security) compared to drug users whose values emphasized more personalized goals (e.g., exciting life, inner harmony, mature love, and wisdom). Other researchers reported that a more present-oriented view of life has been associated with individuals with an increased incidence of drug use or risk taking behaviors. Those not engaging in risk taking behaviors were more future-oriented (Jones, 1973).

According to Schwartz's Values Theory, values are conceptions of desirable goals that are prioritized and guide the way an individual selects or evaluates actions, policies, people and events (Schwartz, 1992). This theoretical model consisting of 10 basic values (Power, Self-Direction, Achievement, Hedonism, Stimulation, Universalism, Benevolence, Tradition, Conformity, and Security) has been empirically established in the psychology of values as a comprehensive, cross-culturally stable model that can predict a series of external constructs. This comprehensive set of core values is recognized in cultures around the world (validated in more than 67 nations). People within and between cultures differ with regard to the importance they attribute to a specific value (Schwartz & Bardi, 2001).

Schwartz' Values Theory has been applied to behavioral research in areas such as prosocial, antisocial, environmental, political, consumer, and intellectual behaviors (Schwartz & Bardi, 2001). More specifically, researchers have examined the correlation between value-prioritization and specific "real-life" behaviors, including university course selection (Feather, 1988), voting (Schwartz, 1996), willingness to interact with members of an opposing socio-political group (Gandel, Sagiv, & Wrzesniewshki, 2005), and substance use behaviors (Dollinger & Kobayashi, 2003). A study conducted among male college students found that heavy drinkers compared to light drinkers/abstainers were more likely to endorse Hedonism and Stimulation

(Dollinger & Kobayashi, 2003). These results suggest that values may play a role predicting engagement in problem behaviors.

Need for Research

Substantial and growing research supports the concept of universally recognized values and their general relationship with behavior. However, the research has focused primarily on emerging adults (ages 18 to 22) and adults, rather than adolescents (Arnett; 2000; Steinberg, 2008). Given that the adolescent years (13-18) provide the first opportunities for most children to choose between risk and protective behaviors, the values-behavior relationship becomes of particular importance to examine during this developmental period. To date, the research regarding values has not explored a wide range of risk and protective factors and problem behaviors. Moreover, even if values are shown to be associated with increased or decreased likelihood of involvement in problem behaviors, the relative contribution of values against the backdrop of other risk and protective factors is of importance.

Substantial research literature establishes the covariance among problem behaviors (Jessor & Jessor, 1977; Donovan, Jessor, & Costa, 1988); that is if an individual is engaging in one problem behavior, they are more likely to engage in another problem behavior. Further, prior experience in a problem behavior is a strong predictor of future intention to be involved in that problem behavior. Research has consistently found that early onset of alcohol and drug use in adolescence has been linked to adult substance use disorders (Zucker et al., 2006). Moreover, the early use of alcohol adversely affects academic achievement and school behaviors (Crum et al., 2006). Finally, although the Portrait Values Questionnaire and the value constructs reflected therein have been assessed in East-Asian countries (i.e., Hong Kong, China, Singapore, and Taiwan); they have not been used to explain adolescent problems behaviors in these countries.

Although several local studies in the past decade have demonstrated that students in Hong Kong high schools, engage in problem behaviors (Goldberg, 2003; Lam, Chung, Betson, Wong, & Hedley, 1998; Lam et al., 2001a; 2001b; Lam et al., 2004a; 2004b; Lo & Globetti, 1999; Shek, 1997a; 1997b; 1997c; Shek, 2004a; 2004b; 2004c; 2007), there are no comprehensive data focusing on risk factors specifically in adolescents attending schools with students of differing academic abilities. The majority of resources and attention in an achievement-oriented culture (as in Hong Kong) is given to high achieving adolescents (i.e., band one or two schools) who society views as the hope for their future, and for those adolescents who are low-achievers (band three schools) and especially those who also engage in problem behaviors, they are ostracized and isolated from society.

One study in particular examined national achievement tests in 484 Hong Kong high school students, and found that highly curious students who had higher test scores (when compared to less curious peers) were also students who perceived their school environment as academically challenging (Kashdan & Yuen, 2007). Just being academically curious does not predict higher grades or test scores. These individuals with high levels of curiosity tend to be attracted to experiences that are novel and challenging; but more importantly, their environment needs to also be supportive of this value priority. If not, these individuals may quickly lose their motivation to succeed, which is especially detrimental in a competitive and success driven culture such as Hong Kong. Academic failure not only brings shame to themselves and their family, but may have deleterious effects on their actual career endeavors. Now, consider the uphill battle that adolescents who attend a lower ability level school must face: an academically less challenging school environment, and also the stigma of being underachievers and a failure.

Another study found that adolescents who viewed their future, school, and work

opportunities as negative or hopeless are more likely to engage in drug use and have teenage pregnancies than those who had a positive outlook on their future (Trad, 1993). The health/life-compromising consequences of engaging in problem behaviors can control the future of the adolescent; thus there needs to be research on factors that may lead adolescents to engage in problem behaviors. We need to ensure that no adolescents are “left behind” and permanently labeled as “deviants”, with no hope for the future.

The future of society is at-risk because these adolescents are considered “lost” and interventions are not tailored to the specific needs of these adolescents. These adolescents are marginalized and thus isolated from the adult culture/institutions. Furthermore, there is a need to modify current models to fit the culture in the study; due to the modernization of the current Chinese culture and the influence of the West, current beliefs on Chinese adolescents need to be reviewed to account for Western influences (more permissive attitudes towards problem behaviors).

Purpose of Study

There is mounting evidence that individual-level characteristics and also contextual factors interact to influence an adolescent’s susceptibility to engage in problem behaviors. This interrelated construct of problem behavior includes: smoking, drinking, and delinquency. Therefore, the purpose of this study is threefold. The first purpose is to examine the prevalence of problem behaviors among a cross-sectional sample Hong Kong adolescents studying in high school. The second purpose is to explore the relationship between the predictive variables and problem behavior outcomes. These associations are theoretically based on Jessor’s Problem Behavior Theory (1998), Sensation Seeking Theory (Zuckerman, 2007), and Schwartz’ Values Theory (1992). The final purpose is to evaluate the relationship between enrollment in different

ability level high school in Hong Kong and the problem behavior outcomes among these adolescents.

Research Questions

This study asks the following research questions: (1) What is the prevalence of problem behaviors in Chinese adolescents living in Hong Kong? (2) What is the relation between demographic factors, predictive variables, and problem behavior outcomes among these adolescents? (3) What is the relation between enrollment in different ability level high schools in Hong Kong and problem behavior outcomes?

Outline of the Study

The current study examined a selection of variables and problem behaviors from a representative sample of Chinese adolescents living in Hong Kong from two high schools with students of differing academic ability levels (i.e., band one & three). Sensation seeking, psychological problem behavior, value orientations, and various other factors were examined in this sample in relation to the propensity to engage in problem behaviors. Using secondary analysis of the data, the research questions and the hypothesized relationships were tested. The data used for the current study was completed by anonymous data collection. Data was gathered through the administration of the survey questionnaire to adolescents attending two high schools in Hong Kong from Form 2 to Form 7 (ages 13 to 18).

Significance of the Research

Researchers must possess appropriate and comprehensive data in relation to the specific behaviors being examined to be able to develop appropriate preventative and therapeutic interventions. Historically, the responsibility of the initial development of interventions has been placed on researchers. Gathering information on the prevalence of certain behaviors and its affect

on an individual and their context are prerequisites to the development of developmentally and culturally competent interventions.

This study will significantly contribute to the body of knowledge on the prevalence of Chinese adolescent problem behaviors in Hong Kong. The association between specific risk factors and problem behaviors was reviewed; thereby contributing to a predictive model of problem behaviors. Although research has indicated that values orientation can predict whether a person will participate in certain problem behaviors, such as tobacco and alcohol use (Lewis, Phillippi, & Neighbors, 2007; Toler, 1975), the relationship of values orientation to those, and other types of problem behaviors has not yet been reported in adolescents in Hong Kong.

This ability to examine a deviant or problem behavior within the larger framework of associated behaviors is an important factor in the current researcher's decision to use the theory of problem behavior as a base for a model. The findings may identify factors specific to Hong Kong adolescents that will enable the development of preventive interventions designed to promote early identification of youths at high-risk. Furthermore, the development of therapeutic interventions may alter adolescent risk variables; thereby changing the trajectories which lead an adolescent to the initiation of or continued health risk behaviors in adulthood

Summary

This introductory chapter has defined the current state of the problem, and has explained the need and purpose of this study. A brief overview of the research questions, along with outline of the study has also been presented. And finally, the significance to society and education has been delineated. In the next chapter, there will be a review of the guiding frameworks used for the theoretical basis of this research: Problem Behavior Theory (Jessor, 1998), Sensation Seeking Theory (Zuckerman, 2007), and the Schwartz Values Theory (1992).

Chapter 2: Theoretical Framework for Research

Rationale behind an adolescents' enhanced risk for engaging in deviant behaviors has been studied extensively by psychologists. Problem Behavior Theory and Sensation Seeking Theory of risk behavior have become widely accepted in the psychological literature. Additionally, in recent years, Values System Theory has emerged as a validated framework for understanding human behavior. These three theoretical foundations will provide the underpinning for the model of problem behavior proposed in this study. This study will integrate components of the these three theories to enhance our current understanding of the mechanisms through which adolescents of Chinese background living in Hong Kong become involved in problem behavior.

The time period during which a child becomes transformed into an adult is known as adolescence (Steinberg, 2008). Research on adolescent development has consistently established that this is a period of biological, cognitive, and social change. During this transition, adolescents become more susceptible to physical, psychological, and emotional vulnerabilities. This state of heightened vulnerability increases the chance that an adolescent will engage in problem behaviors. The development of problem behaviors is complex, dynamic, and changes across development. Whether the adolescent opposes or accepts the path towards deviance, this is largely affected by risk and protective factors. Risk factors and protective factors belonging to a range of biological, psychological, behavioral, and social domains create forces pushing the adolescent towards and pulling them away from engagement in problem behavior. Thus, one can say that risk factors set tumultuous obstructions while protective factors shield the adolescent from harm.

Problem Behavior Theory

The conceptual framework of Problem Behavior Theory (PBT; Jessor & Jessor, 1977) is essentially based on the principle that learned behavior is purposeful and essential in attaining a desired goal. An adolescent's social culture provides the standards and expectations of behavior; this, in combination with the adolescent's personal experiences forms their values (Jessor & Jessor, 1977; Jessor, 1987; Jessor, 1998). The initial model of problem behavior (Jessor, Graves, & Hanson, 1968) was based on the social learning theory of values and expectations (Rotter, 1960) and the study of anomie, deviant behavior resulting from the discrepancy between social goals and the means to attain this goal (Merton, 1957). From these theoretical viewpoints, Jessor R. and Jessor S. L. (1977) developed the Problem Behavior Theory (PBT); a psychosocial model of adolescent risk behavior. Problem Behavior Theory (Jessor & Jessor, 1977) states that adolescent risk behavior is a product of the interaction of risk factors arising from the personality, perceived environment, and behavior domains of personal interaction. Demographic variables such as age and gender were only important insofar as they are mediated by other psychosocial variables. The overarching thesis of the PBT is that behaviors are goal directed, and to obtain those goals, an individual must act in either a conforming or a deviant manner.

In 1977, a five year longitudinal research study by Jessor and Jessor (the second phase of the 1968 cross-sectional study) tested the model of problem behavior. Behaviors of drug use, sexual activity, alcohol use/misuse, activism and protest (common in the 1970s), and general deviance (i.e., stealing, lying, and aggression) were assessed in 400 high school and 200 college students, age ranging from 12 to 22 years. Significant results indicated that the interrelationships between these behaviors and certain psychosocial aspects of adolescent development could be explained by PBT. That is, approximately 50% of the variance in the composite measure of

adolescent problem behavior was accounted for by PBT. These deviant behaviors were therein identified as “problem behaviors”: a constellation of the culturally salient behaviors identified as socially problematic based on current and prevailing sociocultural norms (legal or personal in nature).

Jessor’s Problem Behavior Theory (1992) was further developed to incorporate some aspects of an ecological approach that follows the socioecological theory originally proposed by Bronfenbrenner (1979). Thus in examining adolescent behaviors, one must encompass the multifaceted areas of an adolescent’s everyday life, particularly within the contexts of peers, family, school, and neighborhood (Donovan & Jessor, 1985; Jessor, 1992; 1998). In essence, an individual's experiences are influenced and shaped by their environment; additionally, individuals will also shape the environment in which they interact. Problem Behavior Theory is considered to be a comprehensive framework (Jessor, Donovan, & Costa, 1991) that incorporates both individual differences (i.e., attitudes, values, and beliefs) and various social contexts that are most significant to the adolescent (i.e., peers, family, school, and neighborhood). Jessor, Van Den Bos, Vanderryn, Costa, and Turbin (1995), for example, formulated a socioecological model to predict problem behaviors which included contextual risk factors such as peers’ engagement in problem behavior, as well as individual factors, such as the adolescent’s low expectations for success. Results from their study and from other studies (Costa, Jessor, Donovan, & Fortenberry, 1995; Costa, Jessor, & Turbin, 2007; Donovan et al., 1991; Fortenberry, Costa, Jessor, & Donovan, 1997; Jessor, Donovan, & Costa, 1986; Jessor, Turbin, & Costa, 1997; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1997) showed that not only individual risk and protective factors contributed to variations in behavioral outcome, but contextual (i.e., environmental) factors also.

Jessor and Jessor (1977) defined problem behavior as behavior that incurs control or sanction from the society in which it occurs. Although potentially dangerous, engaging in problem behavior may not be pathological (Shedler & Block, 1990). An adolescent's normative need for social redefinition may lead them to have sex or to drink alcohol; in so doing, they are essentially announcing their transformation into adulthood. These behaviors may be considered normative or developmentally adaptive when it takes place during an age-appropriate time and in the context of a protective environment. When it becomes a problem is when the behavior is age-inappropriate and has harmful consequences and a propensity towards maladaptive development (e.g., substance abuse, teenage pregnancies, incarceration).

The Appeal of Problem Behavior Theory

Problem Behavior Theory's depiction of the complex and diverse nature of adolescent behavior provides an appealing theoretical framework. According to PBT, no single component or domain of adolescent behavior (i.e., substance misuse, parental monitoring, and association with deviant peers) can of itself describe or account for the situational or behavioral influences that envelop the activities that adolescent engage in (Jessor, 1991). Problem behavior is conceived as an underlying syndrome or group of interrelated unconventional behaviors, with the adolescent at center stage. These behaviors are purposefully acted out by the adolescent; additionally, the adolescent is also the receiver of the consequences of such behaviors. Essentially, PBT focuses on the action or actions of a person, rather than the actual person; thereby eliminating the need to make moral judgments about the adolescent's personal attributes.

The Concept of Proneness in Problem Behavior Theory

Adolescent behavior can be thought of as on a continuum, ranging from unconventional problem behaviors to conventional or socially acceptable behaviors (Donovan et al., 1991;

Jessor, 1992). The balance between the unconventionality and conventionality reflects a behavioral profile of an adolescent's propensity to engage in and be committed to values and standards of behavior that are currently sanctioned or not sanctioned by the society at large (Donovan et al., 1991). An adolescent's advancement along the path of unconventionality is identified as "proneness".

Proneness, can be defined according to the psychosocial systems: behavior system, personality system, perceived environment, social environment system and biology/genetics system. Each system consists of variables that act on each other in a mutual dynamic state either as an instigation towards involvement in problem behavior or a control against problem behavior. Overall, the individual and combined effects of the forces from the five systems results in a psychosocial proneness either towards or away from engagement in problem behavior.

Psychosocial proneness is defined by the effect of risk (instigator) factors and protective (control) factors on behavioral outcomes. This proneness is also reflected by a covariance of the risk and protective factors where one system influences the other in either a positive or negative direction. Thus the role of risk factors is to increase the likelihood that an adolescent will engage in problem behavior. A few examples of risk factors include; academic problems, poor parenting, socioeconomic disadvantage, low self-esteem, propensity to psychological problems, peer models for problem behavior, propensity for risk-taking, and low perceived chances for success. On the other hand, the role of protective factors is to decrease the likelihood that an adolescent engages in problem behavior. Some examples of protective factors include: values on achievement and health, high intelligence, involvement in school and voluntary clubs (member of organized sports or art club) and religiosity (church attendance), attending good quality schools, and intolerance for deviant behavior. Moreover, empirical evidence that has shown that

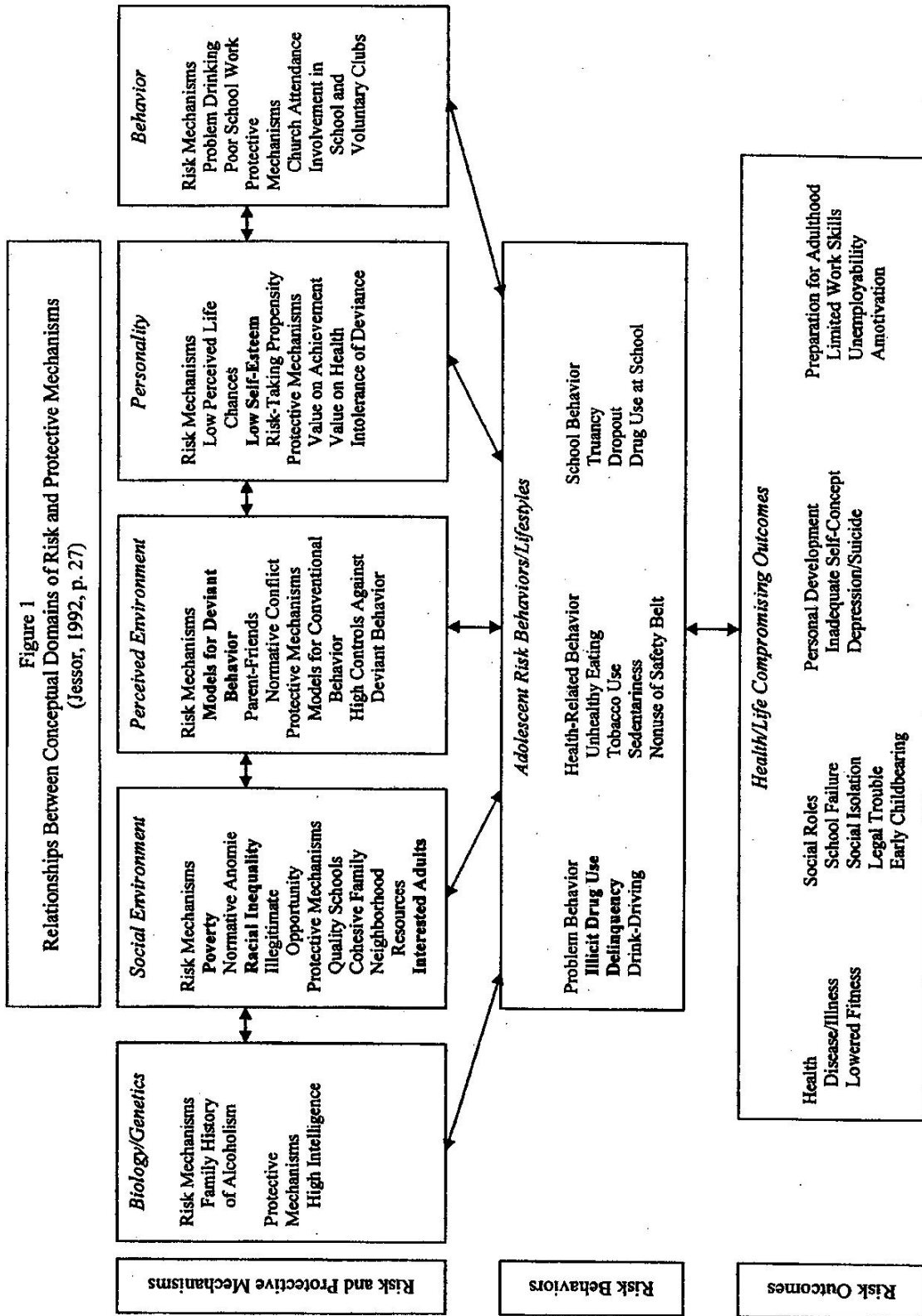
protective factors not only directly affect problem behaviors, but also indirectly through its moderating effect on the impact of risk factors.

Psychosocial Proneness and Proximal and Distal Variables

As stated in Jessor and Jessor's 1977 model, an adolescent's perceived environment includes risk and protective factors that are proximal (direct effect) or distal (indirect effect) in nature. Proximal variables (e.g., model of peers who use alcohol) have a more visible influence on behavior than distal variables (e.g., support from parents); due to the direct association with the specific behavior. Proximal structures include parent and peer approval of problem behavior and peer models for problem behavior. Distal variables are indirectly associated with the specific behavior through some mediating effect and are not always immediately detected. Distal structures include parental and peer support, parental and peer controls, parent-peer influence, and parent-peers compatibility.

Theoretical Framework Revisions Since 1977

Jessor made major revisions to his model in 1992, and discussed the most recent model in his 1998 book, in which he noted that current research literature had identified additional problem behaviors, risk factors, and protective factors. Their correlations through testing of the Problem Behavior Theory required changes to the original framework. This latest framework of multiple domains and linkages illustrate the relationships of these variables to each other, as well as their influence on health outcomes. Figure 1 presents the 1998 problem theory framework that Jessor referred to as the interrelated conceptual domains of risk and protective factors (Jessor, 1992; 1998).



The first domain explicated by the revised model included the systems of perceived environment, personality, and behavior. Two additional systems were added to account for the adolescent's social environment and biological/genetic predispositions. All of the systems' structures were then divided into risk factors and protective factors, with the individual variables appropriate to each one listed in one of the two structures.

The next domain was the domain of risk behaviors. This domain was named adolescent risk behavior/lifestyles and was further subdivided into three types of behaviors; problem behaviors, health related behaviors, and school behaviors. The final domain was risk outcomes, conceptualized as health/life compromising behaviors. The four systems in this domain included health, social roles, personal, and preparation for adulthood. Each included specific variables for measurement to test the theory.

The Problem Behavior Theory has been empirically validated and revised over three decades on adolescents and young adults of varying ethnicities (Caucasian, African American, and Hispanic) in the United States and in numerous other countries including China (Jessor et al., 2003). PBT has been shown to account for a significant proportion of the variance in various problem behaviors, health-related behaviors, and prosocial behaviors.

Psychosocial Explanatory Systems

Problem Behavior Theory focuses on five main systems that influence each other and affect the likelihood of adolescents developing problem behaviors: the personality system, the perceived environment system, the behavior system, the social environment system, and the biology/genetic system. How the adolescent experiences, these domains during the course of adolescent development is a primary predictor of present and future harmful adolescent risk

behavior they may engage in (Jessor, 1992). Behavior results from the sum of two opposing sets of risk and protective factors (from all systems), which determine proneness toward either deviant or normative conduct. Thus the dominance of either positive or negative factors will predict whether the individual will engage in normative or deviant behaviors.

The personality system includes relatively stable sociocognitive variables that are a reflection of social learning and the developmental experiences of the adolescent. Essentially, this system describes the character or nature of the person and is posited to instigate or control against problem behaviors. These include attitudes, beliefs, values, expectation, and orientations towards self and others. Proneness to problem behavior consists of: low expectation placed on academic success, high value placed on behavioral autonomy, low self-esteem, high social criticism, high levels of alienation, more tolerance of deviant behaviors, and lower levels of religiosity.

The perceived environment consists of subjective psychosocial variables that may or may not exercise societal norms that enable the emergence of appropriate or inappropriate behaviors. These variables include an adolescent's perceived social support and control forces (i.e., social controls, models, and supports). To have any effect on behavior, the adolescents' must be able to distinguish or identify these variables. The manner in which adolescents perceive the presence and effect of each variable is what influences their behavior and their environment. This system is comprised of two structure of variables, the proximal (models and support) and distal structures (social controls). Proneness to problem behavior consists of: low levels of parent disapproval and high levels of peer approval for problem behaviors, abundance of peers who engage in problem behavior, limited parental monitoring and support, conflict with parent and peer's expectations, peers more influential than parents, low levels of peer control.

The behavior system consists of two structures; the problem behavior and the conventional behavior structure. The conventional behavior structure contains actions that were socially acceptable norms, which are expected and referred to as appropriate behaviors for adolescents. While conventional behaviors are viewed by society as a responsible and mature way to transition to adulthood; problem behavior, on the other hand, is considered deviant and inappropriate. Proneness to problem behavior consists of: alcohol misuse, and limited/or no dedication towards academic achievement, religiosity, and involvement in school-related extracurricular activities and volunteer work.

The social environment system incorporates variables that are within an adolescent's context. Variables included are those that pertain to the immediate settings in which the adolescent interacts. Proneness to problem behavior consists of: economic disadvantage, normative anomie (absence of social norms or values), racial inequality, opportunities to engage in problem behaviors, not attending quality schools, non-cohesive family, limited/or no access to neighborhood resources, and limited/or no support from adults.

The Biology/Genetic System includes inherited predispositions that help set the stage for adolescent behavior. Proneness to problem behavior consists of: low intellectual ability and a family history of alcoholism. Factors from this system were not included in the problem behavior model for the current study.

Covariance of Multiple Problem Behaviors

The tendency of problem behaviors to aggregate within individual youth has been well-known for over twenty years (Arnett, 1998; Biglan, Flay, & Foster, 2003; Biglan & Severson, 2003; Biglan, Wang, & Walberg, 2003; Donovan & Jessor, 1985; Roberts, Roberts, & Xing, 2007). Health risk behaviors co-occur during adolescence, in part, because different problem

behaviors serve the same social or psychological developmental functions for adolescents [e.g., individuation, seeking acceptance from peers (Jessor, 1992)]. For example, substance use is highly correlated with high-risk sexual behaviors (Cornelius, Clark, Reynolds, Kirisci, & Tarter, 2007; Rosenbaum & Kandel, 1990; Walter, Vaughan & Cohall, 1991). Among urban minority high school students, substance use predicted having multiple sex partners, sex with an IV drug user, unprotected sex and a history of STDs (Walter, Vaughan, Ragin, & Cohall, 1993). Alcohol use by adolescents, as well as other drugs, has been associated with having unprotected sex (Biglan, Metzler, Wirt, & Ary, 1990; Cooper, Peirce & Huselid, 1994; Huselid & Cooper, 1994). Alcohol use has also been associated with early onset of sexual activity and more frequent sexual activity (Bentler & Newcomb, 1986; Donovan & Jessor, 1985).

Research conducted by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) found that most adult users of alcohol or tobacco first experimented with these substances in early adolescence (NIAAA, 2007). Furthermore, numerous NIAAA research found that adolescents who smoke cigarettes, are 3 times more likely to also use alcohol. Other studies have also confirmed these results (Bobo & Husten, 2000; Ellickson, Hays, & Bell, 1992; Griffiths et al., 2006; Jackson, Sher, Cooper, & Wood, 2002; Johnson, O'Malley, Bachman, & Schulenberg, 2006; Schmid et al., 2007). There is a high prevalence of co-occurring tobacco and alcohol use disorders in high school students (Johnson et al., 2006). Furthermore, the use of alcohol and tobacco generally precedes the use of other drugs (Ellickson et al., 1992). In a study by Jessor, Costa, Krueger, and Turbin (2006), one of the key predictors of heavy drinking were cigarette smoking and marijuana use. In another study sampling 6645 adolescents across the nation found that it was alcohol use that predicted cigarette smoking more reliably than the reverse (Jackson et al., 2002).

Substance abuse has also been shown to co-occur with delinquent behavior (Fite, Colder, & O'Connor, 2006; McMorris, Hemphill, Toumbourou, Catalano, & Patton, 2007; Wiesner & Windle, 2006). For instance, Wei, Loeber, and Stouthammer-Loeber, (2002) reported that as compared to youth with a history of no offending or moderate offending, repeat, serious delinquent offenders reported higher rates of alcohol and drug use; thus, is also likely to have a direct effect upon risky sexual behaviors. Moreover, a study by the National Institute of Justice (2000) assessed the five most common drugs abused in a national sample of 2,529 juvenile detainees. The study found that 56% of males and 40% of females were positive for drug use based on self-report or urine drug screens. In addition, in longitudinal studies of delinquent youth, Stouthammer-Loeber and colleagues (2004) have shown that a risk factor for persistence of criminal activity into adulthood is the use of hard drugs in adolescence. Likewise, youth who used drugs consistently across developmental periods rather than engaging in the more typical adolescent pattern of sampling drugs and then desisting were characterized by persistent delinquent acts over time (Loeber, Farrington, Stouthammer-Loeber, & Van-Kammen, 1998). Thus, substance use/abuse, risky sexual behavior, and delinquent behavior appear to interact in a synergistic fashion to worsen outcomes in adulthood, supporting the importance of directly targeting substance use/abuse, risky sexual behavior, and delinquency in populations of youth. The overall health during adulthood is significantly affected by the habits and lifestyle choices that initiate during adolescence.

Research literature has confirmed the relationship between adolescent problem behaviors and various psychological factors (Benjet et al., 2007; Costello, 2007a; 2007b; Degenhardt, Coffey, Moran, Carlin, & Patton, 2007; Roberts et al., 2007). Some studies have shown that individual risk factors such as depression, anxiety, distress, and low self-esteem are significantly

associated with adolescent problem behavior (Kandel & Davies, 1996) and adult alcoholism and nicotine dependence (Grant, Hasin, Chou, Stinson, & Dawson., 2004). According to the literature, adolescents who exhibited psychological syndromes such as attention problems, anxiety, depression, withdrawal, and low self-esteem were more prone to substance use (Costello, 2007a; 2007b; Trim, Meehan, King, & Chassin, 2007).

In the “Islands of Risk” study by Houck et al. (2006), a total of 1153 sexually active adolescents aged 15 to 21 years were sampled from multiple sites across three United States cities. Five problem behaviors were assessed: unprotected sex, alcohol/marijuana use, illicit drug use, mental health crises, and arrest/school dropout. To some extent this study supports Jessor and Jessor’s (1977) construct of “syndrome of problem behavior” (co-occurrence of problem behaviors). Among this sample of high-risk adolescents, specific risk factors, such as sexual risk behaviors, substance use (alcohol/marijuana use), and mental health crises were found to co-occur. Conversely, statistical analyses found evidence of a differentiation among problem behaviors even within this group of high risk adolescents, not all adolescents engaging in problem behaviors do so at the same frequencies.

Critiques of the syndrome of behaviors. There have been some researchers who have placed a cautionary note on viewing problem behavior only as a syndrome of behaviors (Loeber et al., 1998; Maggs, Frome, Eccles, & Barber, 1997). Although, consensus among researchers remains that there exists significant covariation among domains of problem behavior, Maggs et al. (1997) found it worthwhile to distinguish between multiple domains. Some problem behaviors can have advantageous developmental outcomes while other behaviors may have harmful outcomes. Maggs et al. (1997) reviewed and compared adolescent problem behaviors of alcohol, tobacco, and illicit drug use, and offered a striking example that puts the issue of using a

‘unitary syndrome of behaviors’ in perspective. Depending on developmental level and age, moderate alcohol use may have some beneficial effects on the social development of an adolescent, without any harmful long-term effects on health. However, any level of tobacco and illicit drug, even moderate use, at any age or developmental level would likely have deleterious effects on health. Therefore, by uniting alcohol, tobacco, and illicit drug use into one unitary factor of behavior, namely, ‘substance use’, one would likely obscure the outcomes, whether beneficial or deleterious, for each behavior. Therefore, some researchers (Loeber et al., 1998) have put forward the constructive use of viewing adolescent problem behavior as a unitary construct as well as discrete entities of behavior in describing problem behavior’s antecedent and consequential facets. The current study will not look at the problem behavior outcomes as a unitary factor, but as separate outcomes (i.e., cigarette smoking, alcohol use, and delinquency).

Additionally, Loeber et al. (1998) suggested that in trying to formulate explanations for problem behaviors, proximal behaviors that are interrelated displayed a significantly stronger internal association than those that were more distal. Physical aggression and having models of deviant peers are more proximally associated with delinquency than the distal variable of substance use which of itself may or may not lead to deviant behavior. Therefore, the combination of these proximal variables as a single construct can be statistically advantageous in accounting for a more significant proportion of variance in determining the level of delinquency affecting an adolescent. On the other hand, certain risk factors are more significantly associated than others to certain outcomes. When examining the outcomes of externalizing and internalizing problems, risk factors such as having a broken family structure, negative mood, disadvantaged socioeconomic status, and poor neighborhood environment is more significantly associated to externalizing problems than internalizing. Furthermore, research literature has consistently found

a significant relationship between internalizing and externalizing behaviors and propensity to engage in problem behaviors (Hall et al., 2009; Hunt & Hopko, 2009; Owens & Shippee, 2009; Prinstein & La Greca, 2009; Saraceno et al., 2009; Skeer et al., 2009; Tillfors et al., 2009).

Sensation Seeking Theory

One of the premises of this study is that elements of an adolescent's personality predispose them to engage in problem behavior. Personality traits are underlying characteristics of an individual that are relatively stable over time, and can explain regularities in an individual's behaviors (McCrae & John, 1992; McCrae et al., 2002; Roberts, Caspi, & Moffit, 2001; Zuckerman, 2007). Numerous studies on the personality trait of sensation seeking has predicted adolescents who are most likely to engage in problem behaviors such as substance use (alcohol and illicit drugs), risky sexual behaviors (multiple sex partners), and precocious sexual activity (Zuckerman, 2007; 1983).

Marvin Zuckerman initially developed the Sensation Seeking Theory in the 1950s following a series of sensory deprivation experiments. Zuckerman suspected that individuals who participated in these experiments had shared personality traits. These individuals appeared to be especially adventurous and inquisitive, eager to engage in novel and stimulating experiences even if it contained social or physical risk. Sensation seeking is described as "the need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experiences" (Zuckerman, 1994, p. 10). The construct of sensation seeking is measured by a scale developed by Zuckerman called the Sensation Seeking Scale (SSS; Zuckerman, 1994; Zuckerman, Kolin, Price, & Zoob, 1964). This empirically validated and reliable scale has undergone several revisions (SSS-Form V will be used in this study; Zuckerman, 1994) and has been translated into various languages, including

Chinese (Wang et al., 2000).

According to Zuckerman and Kulman (Zuckerman, 2007; Zuckerman & Kulman, 2000), heredity offers the most conclusive explanation of sensation seeking: the specific biological markers are the enzyme, monoaminoxidase (MAO), and the monoamine neurotransmitter, dopamine. Confirmatory analyses have shown that those with various disinhibitory types of disorders that are also high in sensation seeking have significantly low levels of MAO in their blood stream. These same individuals also engage in a variety of problem behaviors such as smoking, alcohol use, illicit drug use, and illegal activity. In another study, Cloninger, Sigvardsson, and Bohman (1996) found that long alleles of the D4DR exon III was significantly associated with those who are high sensation seekers.

Sensation seeking is a particularly strong predictor of behavior in adolescents, as this trait routinely emerges in pre-adolescence and begins to peak by young adulthood (Zuckerman, 2007). The propensity for a high sensation seeking individual to engage in problem behaviors is already elevated; now add in the developmental challenges that an adolescent faces, this will surely place the high sensation seeking adolescent at an even more critical risk. Although the desire for sensation seeking endures beyond adolescence, it is during this developmental period that it appears to be strongest.

Dimensions of the Model of Sensation Seeking

In addition to an overall model of sensation seeking, Zuckerman (2007) proposes that there are four sub-dimensions to the Sensation Seeking trait: (1.) "Thrill and Adventure Seeking" which relates to the willingness to take physical risks (reckless driving, alcohol and illicit drug use) and participate in high risk sports (bungee jumping, skydiving), (2.) "Experience Seeking" which relates to the need for new and exciting experiences (traveling, listening to avant-garde

music, eating or preparing exotic foods, or interacting with an eclectic group of friends) and is associated with all types of risk taking, (3.) "Disinhibition" which relates to a willingness to take social risks (tendency to ignore or challenge social norms or the law) and engage in health risk behaviors (e.g. binge drinking or unprotected sex), and (4.) "Boredom Susceptibility" which relates to an intolerance for monotony (rapidly habituate to events, situations, or people).

There is evidence that gender differences exist in the construct of sensation seeking. Males tend to score higher on the Thrill and Adventure Seeking and Disinhibition variables and have slightly higher overall sensation seeking tendencies than females. On the other hand, females tend to score higher on the Experience Seeking sub-scale (Newcomb & McGee, 1991; Zuckerman, 1994). Biological differences in the level of hormones (gonadal hormones) may be plausible explanation for these gender differences (Zuckerman, 1994).

While the argument for a biological basis for sensation seeking is strong, many caution that one should not underestimate the influence of the social environment on an individual's need for novelty or sensation (Zuckerman, 2007). Zuckerman (1994) states that sensation seeking is approximately 50% genetically determined. The remaining variance in personality traits is due to the environment; the way in which we are socialized, and the way in which we were brought up by our parents. Influences such as perceived peer norms, behavior of members of a peer group, parental influence, and future orientation may, too, serve as accelerants or deterrents to risky sensation seeking behavior.

It is generally accepted that socioeconomic status influences the range of options available to high sensation-seeking adolescents. Middle to upper class adolescents for example may have opportunities to engage in social and athletic activities that provide acceptable sensation seeking outlets (e.g., skiing, bungee jumping, or travel). Furthermore, it may be

generally more socially unacceptable to engage in problem behaviors, thus these conditions control/prevent an adolescent in middle or upper class from engaging in problem behaviors. The options available to socially disadvantaged adolescents are more limited, especially those who also live in a poor neighborhood. If pro-social risky activities are not reachable by these adolescents, they may resort to risky or even criminal activities to achieve their inherent need for novelty or sensation. These activities include truancy, recreational drug use, precocious sex, unprotected sex, or sex with multiple partners (Donohew et al., 2000). Moreover, youths living in poverty may have more opportunities to engage in problem behavior (e.g., accessibility of drugs) and also more deviant peer models (e.g., gang involvement).

Adolescents are more likely to choose peers that are most similar to them: “birds of a feather flock together” (Steinberg, 2008, p. 186). Adolescents high in sensation seeking may search for peers most similar to themselves, to satisfy their social need for peer support or models for sensation seeking (Donohew, Clayton, Skinner, & Colon, 1999a; Donohew et al., 1999b). Thus, it is reasonable to believe that both social and individual forces are operating in a two-way causal function (Donohew et al., 1999a; 1999b). In fact, within the peer group, they are causing each other to engage in even more problem behaviors; thus, reinforcing the relationship (Bryant & Zimmerman, 2002; Donohew et al., 1999). The socialization of selecting novel or risky friends may be both a high sensation seeking pursuit, and a force that influences risk-taking behaviors in the future.

Having a strong trait of sensation seeking is not necessarily problematic, Zuckerman (2007) describes the high sensation seeker as an individual who actively seek out paths that offer them novelty and intensity, rather than just waiting for circumstances to deliver it. Most likely, you will be able to distinguish these individuals because they usually venture on paths less

traveled and are constantly full of new and innovative ideas. Many creative adolescents engage in tasks that may be indicative of high sensation seeking, such as a fascination with new technology, over-commitment to tasks or projects, or even procrastination. Engaging in risky sports such as skiing has been associated with high sensation seeking; although it has not been found to associate with a higher than average sport related injuries (Cherpitel, Meyers, & Perrine, 1998).

Despite the fact that sensation seeking may be relatively risk-free and or socially acceptable, numerous studies have found that a high proportion of adolescents who engage in problem behaviors such as illicit drug use or unprotected sex are also high sensation seekers (Donohew, Palmgreen, & Lorch, 1994; Zuckerman, 1994). In fact, adolescents who are sensation seekers are 2-7 times more likely to engage in drug use (Donohew et al., 1994). Tang, Wong, and Schwarzer (1996) studied the regular use of marijuana and heroin in 969 adolescent offenders in Hong Kong. Increased level of marijuana and heroin were highly associated with high sensation seekers. In another Hong Kong study, over 50% of adolescents reported engaging in deviant behaviors that are characterized as “thrill seeking activities”, such as, using illicit drugs, throwing things from heights, staying overnight away from home without parental consent, and acts of vandalism (Davis, Tang, & Ko, 1998). Davis et al. (1998) recommended that there be services available for high sensation seeking adolescents that can redirect this inherent need for novelty and excitement into more positive activities (competitive sports, boot-camps).

There is also evidence that sensation seeking is a reliable predictor of other problem behaviors, for example, precocious sexual activity, having multiple sexual partners, having sex while under the influence of substances (alcohol or illicit drugs), and have elevated levels of alcohol and illicit drug use (Caspi et al., 1997; Donohew et al., 2000; Kalichman et al., 2002;

Seto et al., 1995). In a longitudinal study that followed 1037 participants from birth to the age of 21 (Caspi et al., 1997) found that sensation seeking was a reliable predictor of various health risk behaviors. High sensation seekers were consistently more likely to engage in sexual risk behaviors, such as having unprotected sex. More strikingly are the significant results from a study by Seto et al. (1995) that found that high sensation seekers not only reported more problem behaviors, but also had intentions to have multiple sex partners and to engage in a variety of risky sexual experiences in the future.

The literature clearly demonstrates that high sensation seekers are more likely to engage in behaviors that put them at risk for health risk outcomes. These behaviors include a propensity toward alcohol and illicit drug use, unprotected sexual activity, and delinquent behaviors. Given the deleterious effects of these health risk outcomes on the adolescent (e.g., death, chronic illness, incarceration) and to others, it is obvious why targeting adolescent high sensation-seekers is important.

Values Theory

There exist few domains of practical human concern more important and time honored than that of moral and ethical behavior. Many voters in the United States believed that “moral values” was a critical factor in voting for a U.S. president (CNN, 2004). Twenty-two percent ($N = 13,660$) reported that moral values was the most important issue in their vote for president (5%-taxes, 4%-education, 15%-Iraq, 19%-terrorism, 20%-economy/jobs, and 8%-health care). Moral values continue to be a key matter for our nation, as it is continuously brought up in the President’s addresses (The White House, 2009a; 2009b). Furthermore, in his travel to the U.S. in 2008, the Pope’s main purpose was to address issue of values (MSNBC, 2008). A “Google” search on the World Wide Web for “moral values” revealed over 26 million citations and a

search in PsycINFO revealed over 1400 citations, suggesting the significance of moral values across nations and in the scientific literature. Values can be thought of as a set of moral principles that provides a guide for making life decisions, small and large. Your values come into play when you have a decision to make and you have to ask yourself, “What is really most important to me?” For example, if you chose a career that your parents were opposed to, the decision you made about whether or not to pursue this career anyway would be a reflection of your values, of what was of ultimate importance to you.

Values of Individualism vs. Collectivism

The challenges and transitions adolescents face are influenced by their culture and by their past and present environments. Individual, familial, and cultural differences influence both the life-experiences of youth and the manner in which youth deal with and react to challenges and transitions. For this reason, it is important in developmental research to examine the social backgrounds of adolescents in culturally distinct groups, and to examine how culture and environment might influence the manner in which adolescents behave. Cultural history and present status of a cultural group are an important part of an individual’s values system.

Traditional studies of values have defined it in terms of individualism and collectivism (Chen, Chan, Bond, & Stewart, 2006; Hwang, Francesco, & Kessler, 2003; Kashdan & Yuen, 2007; Lai, Liu, & Zhehg, 2009; Le et al., 2009; Leung & Bond, 2009; Liu, Tein, & Zhao, 2004; Pillutla, Farh, Lee, & Lin, 2007; Rego & Cunha, 2009; Soontiens, 2007). Individualistic values center on the rights and needs of each person. Examples of individualistic values would be freedom, independence, self-sufficiency, self-esteem, equality of relationships, individual achievement, competition, personal enjoyment, and self-expression. Collectivistic values center most highly on a person’s obligations and duties to others. Examples of collectivistic values

would be cooperation (in-group harmony), hierarchical relationships, duty, loyalty, courtesy, kindness, generosity, modesty, obedience, academic achievement, and self-sacrifice.

A recent study found that people who come from collectivistic cultures (Hong Kong, Shanghai, Beijing, Chinese in Canada) are more likely to display more modest behaviors (Chen, Bond, Chan, Tang, & Buchtel, 2009). That is, values orientation towards an emphasis on individuation (i.e., willingness to display oneself publicly, high values on personal achievement/success, social status and prestige, and social dominance of people) are less likely to show modest behaviors (e.g., self-humbling behaviors).

Individualism and collectivism have been used most often to describe cultural differences in values. For example, the United States is often described as individualistic, whereas Japan, China, Hong Kong, and other Asian cultures are often described as collectivistic. In a study by Feldman and Rosenthal (1991), they compared values of 10th and 11th grade students from Hong Kong ($N = 141$), United States ($N = 155$), and Australia ($N = 155$). Results found that adolescents from Hong Kong described their families as less accepting, less engaged and less structured; had less expectations for autonomy; placed less value on individualism, external success, and individual competence, and more value on tradition and prosocial behaviors. The values of the adolescents from Australia and the United States were very similar.

Other research on values has found that some Chinese youths in Hong Kong are collectivistic, some are avidly individualistic while others are a combination of the two ethics. Younger generations of Chinese are becoming more individualist (Bond, 1986; Chang, Arkin, Leong, Chan, & Leung, 2004; Ho & Chan, 2009); although, not to the extent of youths in Western cultures. Ho and Chan (2009) found that the individuals in Hong Kong moderately perceived Hong Kong as a harmonious society ($M = 5.57$, range 1 to 10). With the following

reported as important aspects of a collectivistic culture: public governance (a just government with sincerity on communication), social solidarity and respect (mutual support and respect with integrity and dedication), economy/family/work (dedication to one's job and community by helping he needed) and, social tolerance and progressiveness (creativity and progressiveness with tolerance). Confirmed by another study (Soontiens, 2007), results showed that individuals from Hong Kong placed high values priority on society and environment, and global well-being (collectivistic), but also high priority on materialism in work and lifestyle (individualistic). Hence, these studies conclude that Hong Kong is a society that has kept their traditional cultural values, but has also adopted a more westernized culture.

Asian and Western youth prioritize values rather differently. Youths in individualistic societies such as the United States emphasize values such as autonomy, self-direction, stimulation, and universalism, devaluing conformity and tradition (Feather, 1980a; 1980b; Rosenthal, Bell, Demetriou, & Efklides, 1989; Schwartz, 1994). Youth in collectivistic societies, such as Hong Kong and many other Asian societies, tend to emphasize tradition and conformity (Bond & Hewstone, 1988; Schwartz, 1994).

It might be expected that an emphasis on conformity, obedience and collective welfare (typical in collectivistic societies) would decrease the likelihood of adolescent deviant behaviors (Arnett, 1992a, 1992b; Juang & Nguyen, 2009; Le et al., 2009; Lim & Chang, 2009). Similarly, an emphasis on personal freedom and personal power with a relative de-emphasis on group interest (characteristic of individualistic societies), may increase the likelihood of such behaviors (Arnett, 1992a; 1992b). There are few studies explicitly investigating the relationship between Hong Kong Chinese adolescent values and problem behaviors. In one cross-cultural study (Feldman, Rosenthal, Mont-Reynaud, Leung, & Lau, 1991), Western adolescents were found to

have greater self-reported misconduct. In both Western and Chinese cultural groups, youth endorsing more “individualistic” values, and those placing a higher value on outward success reported higher levels of problem behaviors.

A recent study by Lim and Chang (2009) studied youth violence and a collective values orientation in 149 incarcerated Singaporean male adolescents. Results confirmed past literature, whereby youths who endorse values of collectivism may be the reason for lower violent crime rates in Asia. Another study (Le et al., 2009) examined individualism-collectivism and substance use among Asian American adolescents ($N = 329$; Cambodian, Chinese, Laotian/Mien, and Vietnamese adolescents). Chinese adolescents reported the least amount of substance use as compared to other Asian adolescents. Furthermore, having a collectivistic values orientation served as a buffer against substance use and interacting with substance using peers (especially for females) while individualistic values orientation served as a risk factor. Finally, Jiang and Nguyen (2009) found that Chinese American adolescents ($N = 309$) who place high priority on the specific cultural value of family obligation were less likely to engage in delinquent behaviors. Thus, cultural values specific to Chinese culture is of salient value when examining adolescent problem behavior.

Defining and Identifying Values Across Cultures

Based on the extensive literature on values theory, value questionnaires, and religious and philosophical discussions of values, (Bardi, Calogero, & Mullen, 2008; Calogero, Bardi, & Sutton, 2009; Parks & Guay, 2009; Rokeach, 1973; Schwartz, 1992; Schwartz, 2007; Williams, 1970), the consensus is that values are “deeply rooted, abstract motivations that guide, justify or explain attitudes, norms, opinions, and actions” (Schwartz, 1992, p. 261). According to Schwartz’s Values Theory (1992), values are conceptions of desirable goals that are prioritized

and guide the way an individual selects or evaluates actions, policies, people and events. Essentially, values “underlie and influence individual” differences on various “constructs that researchers from different disciplines will want to study” (Schwartz, 1992, p. 261). Furthermore, key changes that occur within a society and across countries are manifested in values.

Schwartz and colleagues (Schwartz, 1992; 2006; 2007) wanted to determine if certain values were recognized, understood, and used to form priorities across cultures and whether a comprehensive list could be composed. Validated in over 67 nations (including China and Hong Kong), ten basic values were compiled. Individuals within and between cultures differ with regard to the priority that they placed on a specific value, although it is apparent that they understood the concept and the motivational oppositions or compatibilities of these values (Schwartz, 2006). This model consisting of 10 basic values (Power, Self-Direction, Achievement, Hedonism, Stimulation, Universalism, Benevolence, Tradition, Conformity, and Security) has been established in the psychology of values as a comprehensive, cross-culturally stable model that can predict a series of external constructs. The 10 basic values can be differentiated based on their central motivational goals as illustrated in Table 1.

Table 1

Ten basic values and their central motivational goal (Schwartz, 2006, p. 1-2)

Basic Values	Central Motivational Goals
Self-direction	Independent thought and action; choosing, creating, exploring.
Stimulation	Excitement, novelty, and challenge in life.
Hedonism	Pleasure and sensuous gratification for oneself.
Achievement	Personal success through demonstrating competence according to social standards.
Power	Social status and prestige, control or dominance over people and resources.
Security	Safety, harmony, and stability of society, of relationships, and of self.
Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.
Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide the self.
Benevolence	Preserving and enhancing the welfare of those with whom one is in frequent personal contact (the 'in-group').
Universalism	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature.

Relationship Between Core Values

The 10 basic categories of values corresponds to a motivational continuum, thus are organized in a circular pattern (as illustrated in Figure 2). Values that are adjacent to each other have similar underlying motivations, while those values that are farther apart from each other are more dissimilar in their underlying motivations. Based on the 10 basic values, four higher-order values are clustered (see Table 2). The values model is essentially divided into two dimensions that summarize the compatibility and conflicts between the value structures: Openness to Change versus Conservation, and Self-Enhancement versus Self-Transcendence (see Table 3).

On the dimension of Openness to Change versus Conservation, self-direction and stimulation values are in conflict with the values of security, conformity, and tradition. That is, the values that emphasize autonomy and preference for novelty, sensation, and variety are in opposition to values that emphasize obedience, social control, and the preservation of traditions. On the second dimension of Self-Enhancement versus Self-Transcendence, personal achievement and dominance over others are in opposition to values that emphasize altruism and equality and social justice. Hedonism is not exclusively included in either of the two dimensions because the values of pleasure and self-gratification are related to both Openness to Change and Self-Enhancement.

Each class of values is related to the others in systematically consistent ways, such that strong endorsement of one value is likely to predict low endorsement of another value. Thus, instead of measuring single values, Schwartz's Value Scale (SVS; Schwartz, 1992) allows researchers to map individuals' (and study groups') profiles of values. Such profiles are theoretically related to a variety of value-oriented human behaviors in systematic ways. For instance, an individual's quest for altruism (benevolence-oriented) will interfere with the quest

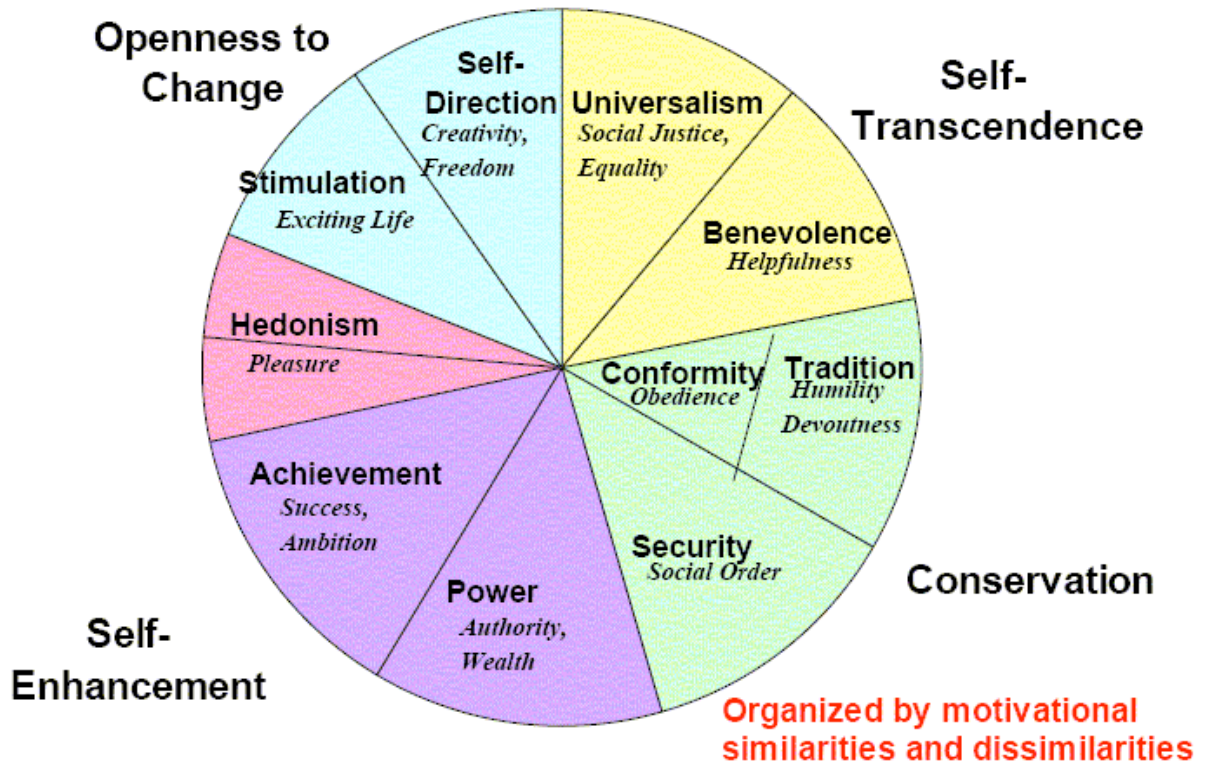


Figure 2. Theoretical model of relations among ten motivational types of values (Schwartz, 2006, p. 3).

Table 2

Four higher-order values and the broad motivational goal shared by the basic values they are composed of (Schwartz, 2006, p. 3)

Higher-Order Values	Motivational Goal
Openness to change (stimulation & self-direction)	Pursuing whatever intellectual or emotional directions one wishes, however unpredictable or uncertain the outcomes.
Conservation (conformity, tradition & security)	Preserving the status quo and the certainty it provides in relationships with close others, institutions, and traditions.
Self-enhancement (achievement & power)	Enhancing one's own personal interests (even at the expense of others).
Self-transcendence (universalism & benevolence)	Transcending one's selfish concerns and promoting the welfare of others, close and distant, and of nature.

Table 3

Two basic dimensions of the higher-order values (Schwartz, 2006, p. 3)

Basic Dimensions	Oppositions
Self-enhancement vs. self-transcendence	On this dimension, power and achievement values oppose universalism and benevolence values. Both of the former emphasize pursuit of self-interests, whereas both of the latter involve concern for the welfare and interest of others.
Openness to change vs. conservation	On this dimension, self-direction and stimulation values oppose security, conformity and tradition values. Both of the former emphasize independent action, thought and feeling and readiness for new experience, whereas all of the latter emphasize self-restriction, order and resistance to change. Hedonism shares elements of both openness and self-enhancement, but in most cases hedonism is closer to openness to change.

for self success (achievement-oriented). Likewise, those who seek self success will also seek power (actions that strengthens a person's authority over others). Research by Schwartz and his colleagues (2001) found that the acceptance of Hedonism, Stimulation, and Self-Direction oriented values and the rejection of Tradition-oriented values are predictive of alcohol use in South African respondents, whereas endorsement of Power- or Benevolence-oriented values is unrelated to alcohol use. Similarly, Schwartz (1996) found that the endorsement of benevolence-oriented values was correlated with cooperative behavior in children, while the endorsement of Power-oriented values was negatively correlated with such behaviors.

Pattern of Relationship Between Values

One of the benefits of values being arranged in a circle is that the order of associations is predictable: “there is a specific pattern of positive, negative, and zero associations for the remaining values” (Schwartz, 1992, p. 1). Associations between the values decrease monotonically (in a set order) in both directions as one travels around the circle (Bardi, Lee, Hofmann-Towfigh, & Soutar; 2009; Lee, Soutar, & Louviere, 2008; Maio, Pakizeh, Cheung, & Rees, 2009; Schwartz, 1992; 2007; Vecchione, Casconi, & Barbaranelli, 2009). That is, if an attitude, behavior, or trait correlates positively with one value, and negatively with another, there exists a pattern of associations that follow a set path around the circle. Schwartz gives an example to illustrate this: “if voting for a party with a left-wing orientation correlates most positively with universalism values and most negatively with security values. Then, going from universalism round the circle to the right (benevolence, tradition, conformity, security), correlations are likely to become less positive and more negative. This is also likely going from universalism around the circle to the left” (Schwartz, 1992, p. 1).

Variables That Influences Values Priorities

The priorities of values are dictated by a person's life circumstance (Schwartz, 1992). An individual will place more priority on values that they can easily achieve, while demoting values that are not within reach. For example, adolescents who are consistently allowed to be autonomous in all areas of their lives will place the value of self-direction at high priority while downgrading the importance of conformity. The adaptation of values according to life circumstances occurs with most of the values, but not all. With the value structure of power (personal wealth) and security, the opposite occurs, that is, if the attainment of either of these values is blocked, an individual will give these values an even higher priority.

Early adolescence. Schwartz studied the values structure of early adolescents in Israel, and suggested that it is not until age 13 that the relations between values are completely crystallized. Schwartz and his colleagues (2001) sampled Ugandan girls aged 13 and 14. It was difficult to distinguish between the basic values of universalism and benevolence within the higher-order value of self-transcendence, and also the basic values that make up the higher-order value of conservation (i.e., tradition, conformity, and security). Although the aforementioned values were not discriminate, this did not exist for all other categories of values structure. There exist clear differentiations between the four higher-order values, and also a differentiation of the basic values of stimulation, hedonism, achievement, self-direction, and power. This pattern of prediction based on the order of the values on the circle was replicated by another study. Bubeck and Bilsky (2004) tested the applicability of the values structure on German children and adolescents. They sampled 1555 participants 10 to 17 year-old and found that even the youngest of the group (age 10) showed highly differentiated values structure (basic and higher-order values) as in adult samples. Bubeck and Bilsky stated that the early development of the values

structure at an age earlier than expected may have been due to significant socialization experiences that these 10 year olds had early in their life (e.g., family, school, and media influence).

Historical events. Values priority can change in response to specific events in history that affects a particular age cohort [e.g., war, 9-11, the Great Depression (Schwartz, 1992)]. An individual's values that were shaped during adolescence are generally quite stable (Inglehart, 2006; Inglehart & Baker, 2000). For example, youths who faced economic and physical hardships will place high priority on materialist values that will usually last a lifetime. On the other hand, youths who live in nations that offer prosperity and security will tend to have less priority on materialistic values. Youths in this type of environment are accustomed to opportunities for exciting ventures, indulgences, freedom, and independence. Thus, hedonism, stimulation, self-direction, and perhaps, universalism will become values of high priority, rather than values of security, tradition, and conformity.

In a 2007 study by Lyons, Duxbury, and Higgins, generational differences in values orientation were examined. Results showed that the values orientation of individuals from different generational eras (i.e., Matures, Baby Boomers, Generation Xers, and Millenials) were significantly different from each other and may play a more important role in determining values orientation than any age-pattern.

Matures' (born earlier than 1954) experiences were largely affected by the Great Depression, World War II, and the development of the social security system; thus, they are more likely to delay personal gratification, sacrifice to benefit those around them, have high work ethics and devotion, conform to traditions, and finally, are more accepting of authority.

They are more likely place high value on conformity, tradition, and security while placing low value on stimulation, hedonism, and self-direction.

Baby Boomers' (born between 1945 and 1964) experiences were largely influenced by high birth rates (North America). Due to the large presence of Baby Boomers, competition became the norm, from competing for attention during childhood to competing for jobs. Values of self-direction, universalism, indulgence, hedonism, and achievement are in the forefront, even at the expense of those around them. Furthermore, due to the historical events of the Vietnam War and the Watergate scandal, Boomers are skeptical of authority figures and are also disdainful of conformity.

Generation Xers (born between 1965 and 1979) were largely affected by economic uncertainty, recession, job loss, and inflation. In fact, Xers may be worse off than their Baby Boomer parents who grew up during more prosperous times. Xers have a tendency to place high value priorities on openness to change (i.e., stimulation, hedonism, and self-direction), and low priority on values of conformity, security, and tradition than Baby Boomers.

As with Xers, Millennials (born after 1980) are easily adapted to change, and are creative, optimistic, and independent. Their experiences were vastly shaped by advancements in information technology (first generation to have computers in schools) and globalization. Consequently, they place high values priority on achievement (like their Boomer parents), and openness to change, and low values priority on conservation.

The findings from Lyons et al. (2007) showed that Generation Xers endorsed higher openness to change values and lower conservation values than Matures and Baby Boomers. Surprisingly, the values orientation of Millennials did not differ significantly in the values of openness to change and conservation when compared to Baby Boomers or Matures. This result is

unexpected, given that Millennials' experiences were vastly shaped by advancements in information technology (first generation to have computers in schools) and globalization. Finally, Millennials and Generation Xers endorsed higher self-enhancement and lower self-transcendence values than Baby Boomers and Matures. This study is compelling in that generational differences may play a more important role than age-related pattern of values.

Gender. Males tend to have higher priority on the values of power, achievement, hedonism, stimulation, and self-direction; while females place high importance on the values of benevolence, universalism, conformity, and security. These gender differences were confirmed in a cross-cultural study (Lan, Ma, Cao, & Zhang, 2009; Schwartz & Rubel, 2005); although the size of these differences did vary substantially across the 70 countries studied. Furthermore, the values of conformity and tradition were not reliably differentiated by males and females.

Education. Those who place a high priority on the attainment of education also have high importance placed on values of stimulation and self-direction at the expense of the values of conformity, tradition, and security (Lan et al., 2009; Prince-Gibson & Schwartz, 1998; Schwartz et al., 2001b). Autonomous thinking and action that is nurtured in a novel, exciting, and challenging educational environment is in conflict with acceptance of the ideas and customs of the traditional culture, the control from social norms, and a focus on safety and stability. Furthermore, the value of achievement is continually fostered in an environment that is full of opportunities to display one's competence and success. In the final years of high school, the value of universalism (empathy, gratitude, tolerance, and protection for the well-being of others and the environment) begins to increase in its importance in the adolescent's life, especially in those who strive to attain higher education (attend college).

Relationship Between Values and Behaviors

Schwartz (1996) in his chapter on the ability of using values to predict behavior summarizes four main processes that occur. The first process states that values must be activated in order to influence or cause a behavior. This can be a conscious or unconscious thought. Values that are of higher importance will be activated more easily, and may consequently lead to some behavior.

The second process states that values motivate action and its effect on actions may be either through conscious or unconscious awareness. Actions that promote goals that are of high value are more appealing. Values that are of high importance to an individual make up a key proponent of their self-concept. If there is an opportunity to achieve these values, an individual will respond automatically, positively, and affectively. On the other hand, if there is a threat to the attainment of such value, the individual will respond in a negative and affective way to oppose this threat. Furthermore, how much an action appeals to the individual is influenced by their values. In light of how values motivate actions, one must remember that individuals will unlikely take action if they don't believe that they have the ability to attain such goals.

The third process states that situations are defined in light of the values that are important; different values may bring about different actions. Individuals consistently strive for goals that are of high value priority; thus becoming "chronic goals" that direct an individual to the constant awareness of situations that involve those values.

Finally, the last process states that the more importance given to a value, the more likely it will form action plans that lead to its expression in behavior. When an individual formulates a plan, the focus is in favor of attaining a specific goal. This focus enhances their confidence in

their capability to be victorious. When faced with barriers and distractions, an individual's prior planning will keep them heading towards the end goal.

Values Theory has been applied to behavioral research in areas such as prosocial, antisocial/problem behaviors (i.e., substance use, delinquency), environmental, political, consumer, individuation and intellectual behaviors (Chen et al., 2009; Sagiv & Schwartz, 2004; Schwartz & Bardi, 2001). More specifically, researchers have examined the correlation between value-prioritization and specific "real-life" behaviors, including university course selection, (Feather, 1988), voting (Schwartz, 1996), modesty (Chen et al., 2009), empathic behavior (Balliet, Joireman, Daniels, & George-Falvy, 2008), attitudes and behavior in the workplace (Cohen, 2009), willingness to interact with members of an opposing socio-political group (Sagiv & Schwartz, 1995), stigmatization of those with mental illness (Norman, Sorrentino, Windell, & Manchanda, 2008), a client's overt behavior in counseling sessions (Sagiv & Schwartz, 2004), efficacy of psychotherapy (Whalley & Hyland, 2009), contraceptive use (Kendall et al., 2005), delaying the initiation of sexual activity (DiLorio, Dudley, Soet, & McCarty, 2004; Stallworth et al., 2004; Tsai, 2002), and substance use behaviors (Dollinger & Kobayashi, 2003).

Some studies found that those who endorse high levels of self-enhancement values (i.e., emphasis on pleasure/gratification, success, ambition, authority over others, wealth) come from more individualistic cultures while those in a more collectivistic culture endorse lower levels (Chen et al., 2009; Kurman, 2003; Kurman, Yoshihara-Tanaka, & Elkoshi, 2003). In examining a client's overt behavior during a career counseling session, Sagiv and Schwartz (2004) found that a client's assertion of independence correlated positively with values of self-direction (i.e., independent thinking/action, curiosity) and achievement (i.e., personal success) and negatively with values of conformity (i.e., restraint of actions/impulses that is not socially acceptable) and

tradition (i.e., respect, commitment, and acceptance of customs of traditional culture). While a client's insightfulness during a counseling session was negatively correlated with the values of conformity and tradition, and positively correlated with values of maturity. Another study (Whalley & Hyland, 2009) found that if individuals perceived the type of therapeutic treatment (i.e., cognitive behavior, psychodynamic, client-centered) to match their values priority, the efficacy of that treatment is significantly increased.

A study conducted among male college students found that heavy drinkers compared to light drinkers/abstainers were more likely to endorse Hedonism and Stimulation (Dollinger & Kobayashi, 2003). This was confirmed in a study by Schwartz and his colleagues (2001) where they found that in a sample of 3210 South African university students, alcohol use was positively associated with the values of stimulation and hedonism while it was negatively associated with conservation values of tradition, conformity, and security.

Schwartz Values Theory and Studies in China and Hong Kong

Literature on Schwartz Values Theory in Chinese adolescents (especially Hong Kong Chinese) are scarce. A study by Bond and Chi (1997) explored the relationship between Schwartz Values Theory and the anti-social behavior in a sample of 1841 Chinese high school students (ages 12 to 17) from across several urban cities in China (not including Hong Kong). Results from the study found that those who place low priority on the values of universalism, benevolence, and conformity were those who exhibited high levels of antisocial behaviors. However, the value domains only accounted for 4% of the variance in antisocial behaviors. Certainly there are other factors that influence anti-social behaviors, although this was not a focus of Bond and Chi's research.

To date, there are only a handful of studies that studied the relationship between specific

behaviors and the Schwartz Values Theory in youths living in Hong Kong (Deeds, Stewart, Bond, & Westrick, 1998; Lam et al., 2004a; 2004b; Stewart, Bond, Deeds, Westrick, & Wong, 1999; Stewart et al., 1998; Yik & Tang, 1996). However, three of the five studies focused on youths who attend an international high school. Students from this particular high school are foreign students (expatriates from different countries), and are not a native of Hong Kong.

Nonetheless, two studies assessed the relationship between values system and emotional stability (Lam et al., 2004b; Yik & Tang, 1996). Yik and Tang (1996) sampled 222 Hong Kong university students (mean age was 19.1, SD = 1.69). Values were measured by the Schwartz Value Survey (SVS; 1992). Results showed that those who were emotionally stable place high values priority on tradition and low values priority to achievement. Those who were assessed as being emotionally unstable were individuals who constantly feel tense, anxious, and restless. These individuals placed high value priority on achievement. This may be due to the fact that being motivated to achieve provides them with a channel to ventilate their extra restlessness.

Another study examined suicidality and values system in 2427 Hong Kong adolescents from age 14 to 18 years-old (Lam et al., 2004b). The values of self-direction/independence (individualistic values) and obedience/respect (tradition values) were measured by Schwartz' Portrait Values Questionnaire (PVQ) and suicidality was categorized as suicidal ideation in the past year, plans for a suicide attempt, attempted suicide, and made a serious attempt requiring medication assistance. Results showed that the value of tradition (obedience/respect) protected adolescents from suicidal ideation for both girls and boys. For suicide attempts, the value of tradition was only protective for girls. For boys, the value of self-direction was correlated with reduced risk of planning and attempting suicide. In all analyses, there was an effort by the researchers to control for the variables of depressive symptoms and quality of family

relationships. Lam and colleagues suggested that the difference between what values protect boys or girls are due to gender-role differentiation. Since Hong Kong culture supports these gender role differences, societal support may decrease the stress that is involved with incorporating these roles for boys and girls.

Hong Kong History and Culture

Hong Kong is situated in south-eastern China and evolved from a harbor village to become a densely populated, modern, multi-ethnic city and financial center. Hong Kong's location and status as a commercial port have significantly impacted its history. The Opium War of 1842 forced Hong Kong Island and nearby islands to be ceded to Great Britain. Parts of the mainland were subsequently added to the British holdings on a 99 year lease. On July 1st 1997, the expiration of that lease led to the return of Hong Kong to the sovereignty of China. Hong Kong became a Special Administrative Region of the People's Republic of China. With respect to this study, "Hong Kong" stands for the Hong Kong Special Administrative Region (Hong Kong SAR) while "China" stands for the mainland of China.

Hong Kong is divided into Hong Kong Island, Kowloon Peninsula, and the New Territories (with a total of 262 outlying islands), with a total area of 1,104 square kilometers and a population of 7.0 million (Census and Statistics Department Hong Kong Special Administrative Region, 2009b). Government statistics from a 2009 census showed that the vast majority of Hong Kong people are of Chinese ethnicity (95%). With regard to language, 90% of people over the age of five speak Cantonese. Based on demographics, Hong Kong is fundamentally a Chinese society; this is also true culturally. Most of the Hong Kong Chinese population (especially the adults) are immigrants from Mainland China. These immigrants carry with them cultural traditions from all over China.

However, one cannot state that Hong Kong is a 100% Chinese society, because it has been a British Colony for one and a half centuries. The British established the administrative-legal framework that has become embedded in how Hong Kong functions currently. Furthermore, Hong Kong is a society that is ever-changing. Over the past couple of decades, Hong Kong has had tremendous economic growth, which secured its position as Asia's most highly modernized industrial-commercial center. Hong Kong has been culturally influenced by all parts of the world, notably the West. Thus, to fully comprehend the beliefs and realities of Hong Kong society, one needs to not only acknowledge its Chinese cultural heritage, but also how it has evolved and transformed.

The people of Hong Kong have a pragmatic attitude and make use of material resources from Mainland China while distancing themselves from mainland politics. They have maintained Chinese culture, especially a strong allegiance to family life, while incorporating cultural influences from the West (i.e. U.K. or North America). The community places emphasis on learning and education. The majority of schools are publicly funded but privately run by sponsoring bodies, the majority of bodies being religious organizations. Of these religious organizations, the majority are Christian.

This introductory information shows that education in Hong Kong occurs in a context in which the families of the Chinese majority live according to Chinese cultural heritage while many of them send their children to schools run by Christian organizations. This evidences a mix of sources of influence on the beliefs and values of the people in Hong Kong.

*Literature Review**Problem Behaviors and Hong Kong Adolescents*

The low frequency of problem behaviors reported in Hong Kong raises the possibility that such behaviors indicate deviance more reliably than in the West (Lam et al., 2001a; 2001b). In Western cultures, problem behaviors are considered to be normative and an essential part of development during adolescence (Baumrind, 1991); however, in the Chinese culture, adolescent problem behavior is not considered normative, and is considered a source of shame for the family (Stigler et al., 1985). When you take into account the Chinese cultural norms, those who participate in problem behaviors are considered deviants and thus more seriously violate the normative behavior that is expected from adolescents. This disparity in the way the culture sends messages to the adolescents, and the normative urge to participate in risky behavior to express autonomy may cause some adolescents turmoil.

Although engagement in problem behaviors in Hong Kong adolescents is low compared to Western counterparts (Feldman et al., 1991; Lee et al., 2005; Lee & Tsang, 2004; Lee et al., 2009; Lo & Globetti, 1999), there has been an increase in that past 10 years. Data from the Hong Kong Police Force (2009) shows an increase in the number of arrests from 2009 (January to June) to the same period in 2008, there is a 6.8% increase in arrests (2,388 arrests compared to 2,247 arrests) for juveniles (ages 10 to 15) and a 2.8% increase in arrests (2,512 arrests compared to 2,444 arrests) for young persons (ages 16 to 20). Furthermore, in the year 2008, there were 4,178 arrests of juveniles and 4,830 arrests for young persons, which is a 14.5% and 17.5% rise from 2006 (3,649 juvenile and 4,111 young persons arrests). Other statistics also support the notion that delinquency is on a rise.

Results from a study by the Hong Kong Federation of Youth Groups (HKFYG; 2005), showed a significant increase in girls joining gangs (especially all female groups) and taking part in delinquent behaviors (HKFYG, 2005; Tam & Taki, 2007), with those in Form 2 (age 13) being the most vulnerable to participate in these deviant activities. This gender difference was found in research a decade ago, Davis and colleagues (1998) explored behaviors in Chinese juvenile delinquents in Hong Kong. A total of 398 (183 females, and 215 males) juvenile delinquents from age 12 to 18 completed the interviews. Results showed significant gender differences in the frequency of delinquent behaviors. As compared to males, there were significantly more females that committed acts of vandalism, drawing graffiti, running away from home, using illicit drugs, throwing things from heights, and committing indecent assault or sexual abuse/offense. On the other hand, males significantly engaged in more breaking and entering, robbery/burglary, pick pocketing, and gang fights. Berger (1989) attributed this gender difference to a gender “role strain” where females are faced with a conflict between their internal and external expectations. Although Hong Kong is known as the most modernized and industrialized city in Asia, the traditional philosophy of gender inequality still exists. Some female adolescents may be experiencing this role strain while also facing problem behavior risk factors (i.e., deviant peers, family conflict, opportunities for deviance); thus engaging in deviant behaviors may be an outlet for this conflict; albeit potentially harmful.

In the last decade, there has been much public attention given to ‘young night drifters’ (Lee, 2000) or ‘marginal youths’ (Ngai & Cheung, 2005), a term given to Hong Kong adolescents who spend all evening and throughout the night wondering the streets, and engaging in deviant behaviors (e.g., smoking, alcohol use, chasing each other around, fighting and teasing with each other, vandalizing, using soft drugs, petting publicly, casual sex, and harassing

pedestrians). The majority of these youth lives in the New Territories, and are from intact family homes (67%); although over half of the 60 adolescents (ages 15 to 17) interviewed had dropped out of school, with 62% reporting poor academic performance. Furthermore, when asked about friends, 95% reported that they had close friends, and the majority reporting that those friends were also 'night drifters'. In Ngai and Cheung's (2005) study examining marginal youths, vandalism was found to be the most reported delinquent behavior, followed by gang activity, assault, bullying, and substance use. Another study found that among 3000 Hong Kong high school students sampled, fighting/bullying and involvement in a triad (gangs) were the second and third most reported problems in their schools (Yue & Ho, 1999).

Through this research and significant media attention, the Hong Kong government has set up several organizations to reach out to these youths. In February of 2008, Hong Kong's Secretary for Labor and Welfare went to visit these young night drifters to encourage them to spend time in a safer environment. More specifically, youth mobile teams (5 social workers per one mobile team) are in service from 21:00 until 07:00, with actual field work (on the streets) from 23:00 to 07:00. The mobile team would go out to search for these youths (night drifters/marginal youths) and would assess their need of temporary shelter services (transported to residential centers). Based on the youths' assessed needs, the mobile team would provide crisis intervention, counseling, escorting, and service referrals. In a period of 16.5 months, the two mobile teams serviced over 1,477 youths.

In a study comparing delinquency and gang/triad involvement across three cities in China (i.e., Hong Kong, Shanghai, and Guangzhou), delinquent adolescents ($M = 15.8$ years; $N = 838$) from Hong Kong reported significantly more gang involvement (current and past involvement)

than any of the other two cities (Ngai, Cheung, & Ngai, 2007). Furthermore, Hong Kong adolescents had the lowest moral beliefs, parental control, and attachment to teachers.

With respect to drinking alcohol, 20% of underage respondents (under 18 years of age) admitted that they had used alcohol (HKFYG, 2000). Studies at Hong Kong universities have found that 61% reported lifetime alcohol use and 14% reported binge drinking (as defined by NIAAA) in the past month (Abdullah, Fielding, & Hedley, 2002). Data from the Centre for Health Protection (2006) found an increase in the rate of binge drinking in the past month (at least once) among Hong Kong adults to have increased within a one year period from 24% to 29% (2004 to 2005). More remarkable are those who binged three or more times, there was an increase from 35 to 45%. Griffiths and her colleagues (2006) studied alcohol use among 2968 first year students (mean age of 18.9 years) at the Chinese University of Hong Kong. The surveys were given to students prior to them starting their first year classes at the university. Results showed that 62% of the students reported lifetime alcohol use, 7% reported binge drinking, 0.8% had alcohol-related problems, 49% reported not drinking any alcohol in the past year. Furthermore, males reported a higher frequency of drinking and binge drinking compared to females.

A 2008 study (Kim et al., 2008) examined the prevalence rates of problem drinking in Hong Kong ($N = 9,860$) and found that the younger age groups (young adults) had the highest rates of drinking problems (i.e., binge drinking, alcohol abuse, and alcohol dependence). Furthermore, smoking was significantly related to the likelihood of problem drinking among both genders. Griffiths' study (2006) also collected data on smoking, and found that 96.4% (2519) of respondents never smoked, 3.4% (88) reported smoking in their lifetime, and 0.2% (6) were current smokers (smoking 5 or more cigarettes per day). Fifty-six males (4.6%) reported

lifetime cigarette smoking, and 32 (2.4%) females reported lifetime use. There were 5 (0.4%) current male smokers and 1 (0.07%) female current smoker. Although there are low reported rates of smoking, there is a significant association between smoking and alcohol use. The study states some reasons for the low rate of alcohol use in Chinese young adults: genetic factors (intolerance of alcohol causing illness) and social (excessive and solitary drinking not socially acceptable), and cultural influences (living at home, family harmony and obedience are highly valued). Although rates of alcohol and tobacco use are low, they are still the most prevalent substances used among Hong Kong adolescents (HKFYG, 1999).

The Census and Statistics Department's (C&SD; 2009a) survey of smoking patterns of Hong Kong residents found that 754,800 were current smokers (had a smoking habit), which is 13.2% of all persons aged 15 and over living in Hong Kong. Of the current smokers, 679,000 (90.0%) were daily smokers (daily cigarette smoking habit), while the other 10% (75,300) were categorized as non-daily smokers. The percentage of daily cigarette smokers has been steadily decreasing over the past decade and a half (since 1993). Although the number of daily cigarette smokers has decreased, the daily consumption of cigarettes of daily cigarettes smokers has increased: from 13 per day in 2005 to 14 per day in 2008. With regard to gender differences, males (20.5%) tend to smoke significantly more than females (3.6%). Focusing specifically on the age range of 15 to 19 years, the C&SD found that only 2.4% of those in this age group were daily cigarette smokers. On average, daily cigarette smokers (age 15 to 19 years) consumed 9 cigarettes in 2005 and 11 cigarettes in 2008. This increase in consumption coincides with the overall Hong Kong population increase, but at a more alarming rate of increase. Since the first of January 2007, Hong Kong has banned smoking in the majority of public places, which includes restaurants, workplaces, schools, karaoke lounges and other public areas. Even smoking

outdoors, at public beaches, swimming pools, sports grounds, museums and most areas in public parks is prohibited. As smoking becomes less socially acceptable, the C&SD cautions their statistics, stating that the actual percentage of youth smoker may not be represented in the C&SD report due to underreporting of smoking behavior.

Adolescent cigarette smoking (in the past three months) have been significantly associated with illnesses such as, chronic anxiety and /or insomnia, disorders of the digestive system, accidental injury, headache and/or dizziness, and skin problems (Lam et al., 2001b). In a study among 4116 high schools (age 13 to 18 years), Lam et al. (2001b) found that 30% of the adolescents reported 'ever smoking'. Smoking was positively correlated with age. Generally, males were more likely to report smoking. Finally, current smokers significantly reported more psychological symptoms of anxiety, depression and somatic complaints.

Psychological symptoms of internalizing and externalizing problem behaviors have been extensively studied and found to be related to higher incidences of smoking, drinking, and delinquency (Burke et al., 2007; Clark et al., 1999; Hall et al., 2009; Henry et al., 1993; Hunt & Hopko, 2009; Kaplow et al., 2001; Mason & Windle, 2002; Molina & Pelham, 2003; Owens & Shippee, 2009; Pardini et al., 2004; Pardini et al., 2007; Prinstein & La Greca, 2009; Saraceno et al., 2009; Skeer et al., 2009; Sung et al., 2004; Tillfors et al., 2009; Weinberg et al., 1998). This clearly demonstrates the importance of including this variable as a predictor of problem behavior outcome. In Hong Kong, leading researchers in the area of children and adolescent psychopathology published Youth Self-Report's normative T-score values ($N > 1500$): 48.4 ($SD = 9.8$) for Total Problems, 48.5 ($SD = 9.9$) for Internalizing Problems, and 48.7 ($SD = 10.0$) for Externalizing Problems (Leung et al., 2006). A recent study with Hong Kong adolescents (Leung et al., 2008) examined prevalence rates of various DSM-IV disorders. Prevalence rates are as

follows: 6.9% for anxiety disorders, 1.3% for depressive disorders, 3.9% for attention deficit/hyperactivity disorder (ADHD), 6.8% for oppositional defiant disorder (ODD), 1.7% conduct disorder (CD), and 1.1% for substance use disorders. The same study also measured psychological problem behaviors using the YSR and found T-scores for Total Problems to be 46.1 (SD = 10.1), Internalizing Problems to be 45.3 (SD = 9.7), and Externalizing Problems to be 48.5 (SD = 10.6). These values are only slightly lower than the normative YSR T-scores published in 2006, but still higher than the overall YSR T-scores (Total Problems) from a 2003 published study, where the over Total Problems score was 44.2 (Verhulst et al., 2003). In a 2008 study, Ng, Chan, and Ho compared the mental health of high school students across Hong Kong, Shanghai, and Beijing ($N = 5058$). Results found that students from Hong Kong had significantly poorer mental health and self-esteem compared to the other two metropolitan cities. From this review of psychological problem behaviors in Hong Kong adolescents, it is apparent that these youths are at risk for engagement in problem behaviors.

Hypotheses

As a result of the review of the literature examining sensation seeking, psychological problem behaviors, values orientation, and problem behavior outcomes of smoking, alcohol use, and delinquency, the following hypotheses are presented:

H₀₁: Problem behavior outcomes will be related to the independent study variables of sensation seeking, psychological problem behavior, values orientation, and to each other.

H_{01a}: There will be a positive relationship between sensation seeking and the problem behavior outcome of smoking, alcohol use, and delinquency. As sensation seeking increases, smoking, alcohol use, and delinquency will also increase.

H_{01b}: There will be a positive relationship between psychological problem behavior, both internalizing and externalizing problem behavior, and the problem behavior outcome of smoking, alcohol use, and delinquency. As

internalizing and externalizing problem behavior increases, smoking, alcohol use, and delinquency will also increase.

H_{01c}: There will be a positive relationship between the values orientation of hedonism, openness to change, and self-enhancement, and the three problem behavior outcomes of smoking, alcohol use, and delinquency. As the values orientation of hedonism, openness to change, and self-enhancement increases, smoking, alcohol use, and delinquency will also increase.

H_{01d}: There will be a negative relationship between the values orientation of conservation and self-transcendence, and the three problem behavior outcomes of smoking, alcohol use, and delinquency. As the values orientation of conservation and self-transcendence increases, smoking, alcohol use, and delinquency will decrease.

H_{01e}: There will be a positive relationship between the three problem behavior outcomes of smoking, alcohol use, and delinquency. As smoking increases, alcohol use and delinquency will also increase.

H₀₂: Problem behavior outcomes will be predicted based on age, gender, school band level, etc.

H_{02a}: Delinquent behavior will be predicted based on age, gender, school band level, etc.

H_{02b}: Smoking behavior will be predicted based on age, gender, school band level, etc.

H_{02c}: Alcohol use behavior will be predicted based on age, gender, school band level, etc.

H₀₃: Adolescents at each of two levels of school band level will differ on their involvement in problem behavior activities.

H_{03a}: Adolescents who are studying at the band three level school are more likely to engage in delinquent behaviors than adolescents who are studying at the band one level school. That is, the mean level of delinquent activity will be higher for those studying at the band one level school.

H_{03b}: Adolescents who are studying at the band three level school are more likely to be current smokers than adolescents who are studying at the band one level school.

H_{03c}: Adolescents who are studying at the band three level school are more likely to be current alcohol users than adolescents who are studying at the band one level school.

Summary

Research has shown a relationship between sensation seeking, psychological problem behaviors, and values orientation on problem behavior outcomes, but little is known about how these factors affect Chinese adolescents in Hong Kong. A proposed predictive model is illustrated in Figure 3, which represents the independent and dependent variables of this study. Furthermore, Figure 4 presents the hypotheses and statistical analysis to test each hypothesis.

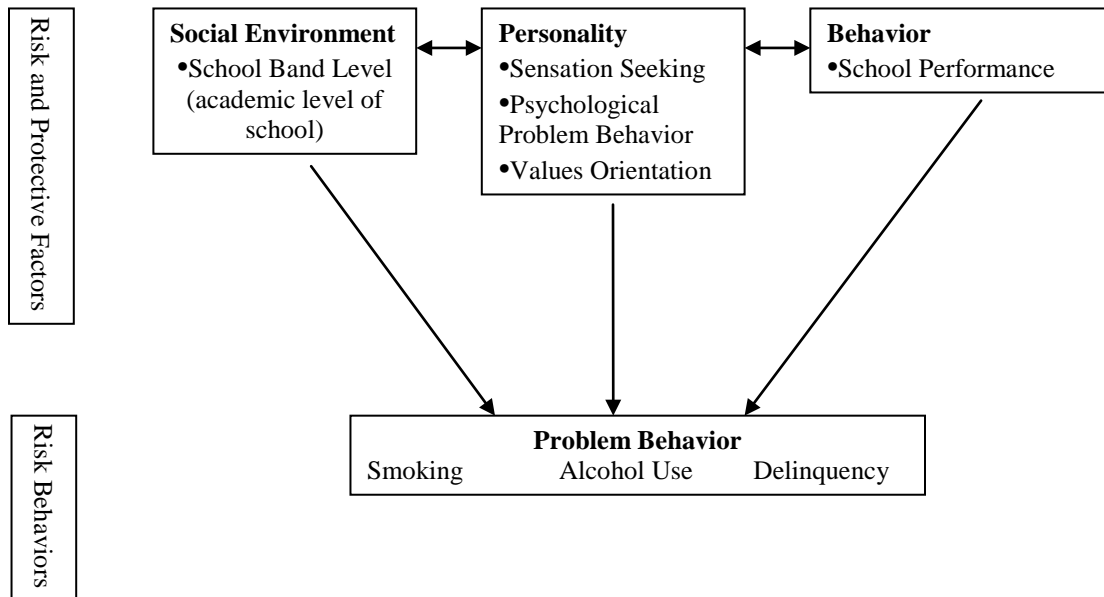


Figure 3. Problem behaviors in adolescents and the effect of risk and protective factors on these behaviors.

Hypothesis	Variables	Statistical Analysis
<p>H₀₁: Problem behavior outcomes will be related to the independent study variables of sensation seeking, psychological problem behavior, and to each other.</p> <p>H_{01a}: There will be a positive relationship between sensation seeking and the problem behavior outcome of smoking, alcohol use, and delinquency. As sensation seeking increases, smoking, alcohol use, and delinquency will also increase.</p> <p>H_{01b}: There will be a positive relationship between psychological problem behavior, both internalizing and externalizing problem behavior, and the problem behavior outcome of smoking, alcohol use, and delinquency. As internalizing and externalizing problem behavior increases, smoking, alcohol use, and delinquency will also increase.</p> <p>H_{01c}: There will be a positive relationship between the values orientation of hedonism, openness to change, and self-enhancement, and the three problem behavior outcomes of smoking, alcohol use, and delinquency. As the values orientation of hedonism, openness to change, and self-enhancement increases, smoking, alcohol use, and delinquency will also increase.</p> <p>H_{01d}: There will be a negative</p>	<p><u>Independent Variables</u></p> <p>Sensation Seeking Internalizing Problem Behaviors Externalizing Problem Behaviors Values: Openness to Change Values: Self-Transcendence Values: Conservation Values: Self-Enhancement Values: Hedonism</p> <p><u>Dependent Variables</u></p> <p>Problem Behavior Outcome</p> <ul style="list-style-type: none"> • Smoking • Alcohol use • Delinquency 	<p>Pearson product moment correlations were used to examine the strength and direction of the relationships between the independent and dependent study variables.</p>

<p>relationship between the values orientation of conservation and self-transcendence, and the three problem behavior outcomes of smoking, alcohol use, and delinquency. As the values orientation of conservation and self-transcendence increases, smoking, alcohol use, and delinquency will decrease.</p> <p>H_{01e}: There will be a positive relationship between the three problem behavior outcomes of smoking, alcohol use, and delinquency. As smoking increases, alcohol use and delinquency will also increase.</p>		
<p>H₀₂: Problem behavior outcomes will be predicted based on age, gender, school band level, etc.</p> <p>H_{02a}: Delinquent behavior will be predicted based on age, gender, school band level, etc.</p> <p>H_{02b}: Smoking behavior will be predicted based on age, gender, school band level, etc.</p> <p>H_{02c}: Alcohol use behavior will be predicted based on age, gender, school band level, etc.</p>	<p><u>Outcome Variables</u> Smoking Alcohol use Delinquency</p> <p><u>Predictor Variables</u> Age Gender School Band Level Sensation Seeking Internalizing Problem Behaviors Externalizing Problem Behaviors Values: Openness to Change Values: Self-Transcendence Values: Conservation Values: Self-Enhancement Values: Hedonism Smoking Alcohol use Delinquency</p>	<p>Regressions were employed to determine the contribution of the significantly correlated variables in explaining each of the three problem behavior outcomes in this sample. The three problem behavior outcomes (smoking, alcohol use, and delinquent behavior) were separately analyzed. Linear regression was deployed for delinquent behavior (continuous variable), whilst multinomial logistic regression was used for smoking and alcohol use (categorical variable with three categories).</p>
<p>H₀₃: Adolescents at each of two levels of school band level will differ on their involvement in problem behavior activities.</p> <p>H_{03a}: Adolescents who are studying at the band three level school are more likely to engage in delinquent behaviors than adolescents who are studying at the band one level school. That is, the</p>	<p><u>Independent Variable</u> School Band Level</p> <ul style="list-style-type: none"> • Band 1 • Band 3 <p><u>Dependent Variable</u> Problem Behavior Outcome</p> <ul style="list-style-type: none"> • Smoking • Alcohol use • Delinquency 	<p>Independent-samples t-test, cross-tabs, and chi-squares test were all performed to examine the relation between students enrolled in Band 1 or Band 3 schools and the three problem behavior outcomes. Independent-samples t-test was used for the continuous variable of delinquent behavior, and cross-tabs and chi-squares test were used for the categorical variables of smoking and alcohol use.</p>

<p>mean level of delinquent activity will be higher for those studying at the band one level school.</p> <p>H_{03b}: Adolescents who are studying at the band three level school are more likely to be current smokers than adolescents who are studying at the band one level school.</p> <p>H_{03c}: Adolescents who are studying at the band three level school are more likely to be current alcohol users than adolescents who are studying at the band one level school.</p>		
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Figure 4. Hypotheses and statistical analysis.

Chapter 3: Methodology

Setting

The Hong Kong secondary school education system is largely based on the British schooling system. Secondary school or high school begins after the seventh year of formal education, after Primary Six, called Form One. The first three years of high school (Forms One to Three) are compulsory and free, with most students spending five years in high school. During Form Four and Five, the students begin preparing for the Hong Kong Certificate of Education Examination (HKCEE), which takes place after Form Five. If the student passes the examination, they will be promoted to Form Six. During Form Six, the students will begin to prepare for the Hong Kong Advanced level Examination (HKALE), which is to be taken after Form Seven. Currently, there is a proposal to change the secondary school educational system from seven to six years, thereby merging the HKCEE and HKALE into one exam.

In Hong Kong, most secondary schools (total of 451 schools and 482,000 students) are considered public schools where they are either directly managed by the government or are sponsored by voluntary agencies with funding provided by the government. The majority of schools are Christian schools (52%). Furthermore, most of the schools are grammar schools, which follow a common core curriculum comprising Chinese language, English language, Mathematics, and Integrated Science. Practical subjects, such as Home Economic, Design and Technology, Music, Arts, and Physical Education, are also included. English is the medium of study in most secondary schools.

This study collected data on students studying from Form 2 to Form 7 (age 13 to 18), among two high schools in Hong Kong. Students in this study are comparable to those studying in Grade 8 to Freshman Year in college in the United States education system. In Hong Kong,

school banding is a system of assigning elementary school students into different bands for secondary school allocation, a form of streaming students based on their academic ability. Based on the results from achievement tests (math, Chinese, and English) taken last year of elementary school, students are arranged to one of three different bands of secondary schools. It is the students who are banded rather than the schools, but by a transference of designation, secondary schools with an intake of high ability students (band one) are considered as “band one schools”. Similarly, schools which have an intake of low ability students (band three) are called “band three schools” by the community. These students are perceived as academic low achievers at risk of academic failure and behavioral difficulties. It is now government policy that schools with a considerable proportion of band three students be given extra resources. There must be consideration of a school’s environment since this may differ depending on which band category the school falls under. In band one schools, the majority of students come from middle or high socioeconomic backgrounds. They are usually located in more prosperous areas, have better school facilities, and have more extracurricular programs than the other band schools. Student motivation and achievement can be affected by a school’s physical and cultural environment (Maehr & Midgley, 1996).

Demographics of the two high schools. Bethel High School is a band three (low academic ability) school, located in Fairview Park, a private housing estate in the suburbs of Yuen Long, New Territories, in Hong Kong. Wong Shui Chi Secondary School is a band one (high academic ability) school, located in the suburbs of Tai Po, New Territories, in Hong Kong. The level of education of the teachers from the band one school is as follows: 5% has their Certificate in Masters/Mistress, 60% has their bachelor’s degree, 33% has their master’s degree, and 2% has their doctoral degree. The level of education of the teachers at the band one schools

is 1.7% has their Certificate in Masters/Mistress, 71.2% has their bachelor's degree, 27.1% has their master's degree, and none has a doctoral degree. All teachers from both schools are proficient in Chinese and English. Basic demographics of each high school are shown in Table 4 (HKedCity, 2008).

Table 4

Basic Demographics of Wong Shui Chi Secondary School and Bethel High School

	Wong Shui Chi Secondary School	Bethel High School
Year of commencement	1960	1950
School band level	band one	band three
School type	Aided / Co-ed	Aided / Co-ed
School size (land area)	8,000 sq. m.	8,000 sq. m.
Number of students enrolled 2007-2008	1150	924
Number of teachers	63	59
Religion	Protestantism/Christianity	Protestantism/Christianity
School motto	Learnedness, Love- Dedication, Integrity	You will know the Truth, and the Truth will make you free.
Teacher qualification: (number of teachers)		
Working experience:		
0-4 years	13	10
5-9 years	8	7
≥ 10 years	42	42
Education qualification:		
NET teacher	1	1
Special education	0	2
Teacher training	60	54

Participants

The sample (age 13 to 18 years) was drawn from two secondary schools in Hong Kong, each representing the top and bottom school bands (i.e., band one and three). All home room classes were targeted for participation in the proposed study. The school principals provided letters of support for the researcher to conduct this study in their high school. Wayne State University Human Investigative Committee Internal Review Board (WSU HIC IRB) gave this study full approval (10-30-2007, HIC #107407B3E). Copies of WSU's HIC full approval and all amendments filed with HIC are located in Appendix B.

The final sample consisted of 1385 students from two high schools in Hong Kong. The total number of eligible students aged 13 to 18 at these two high schools totaled 1499. The number of eligible students for the band one school was 865 and 634 for the band three school. Of this number, 1432 volunteered to participate in the study for a participation rate of 95.8%. The researcher mailed parent information sheets to the homes of all students that were eligible to participate in the study ($N = 1499$). Of this number, 4 parents did not allow their children to participate in the study. Fifty-nine students were absent during the data collection day, thus the final participant pool was comprised of 1436 students. A total of 1436 students completed the research questionnaire, indicating their willingness to participate in the study. Of these protocols completed, 51 were unusable due to significant missing data across all scales. The current study eliminated questionnaires from analyses if there were any missing data on any of the following scales: Sensation Seeking Scale, Youth Self Report, Portrait Values Questionnaire, and the individual questions from the Adolescent Health and Development Questionnaire measuring problem behavior outcomes (smoking, drinking, and delinquency). The percentage of missing data was relatively small ranging from 21 to 77 participants (1.5 to 5.5%) with missing data on

various scales, out of a total of 1385 total participants. Hence, the study did not replace any missing values and may have varying sample sizes for each analysis.

Procedure

Data collection involved a self-report questionnaire that was administered to students in classrooms by the trained research staff. Two research assistants were hired to administer the questionnaire at both schools. Both research assistants completed Wayne State University HIC training and also training specific to the current study (consent procedure and questionnaire administration). One research assistant was a faculty member at a local teacher's college in Hong Kong, and the other research assistant was a researcher employed by this faculty member.

During questionnaire administration, the home room teacher was not present in the classroom. The research staff members followed a standardized protocol in consenting and giving instructions to the students. The Participant Information Sheet (approved by WSU HIC IRB) was given to all students (translated into Chinese). English and Chinese versions of all information sheets and informed consents are located in Appendix C. After giving all instructions to the students and answering all student questions, the research staff remained in the classroom for student supervision and data collection integrity. For those students who chose not to participate in the research, they continued to remain in the classroom and occupied themselves as they wished (e.g., completed homework, read, etc). Students who volunteered to participate in the research retrieved a research packet that was in a box in the front of the classroom, they completed the questionnaire, and then placed it back in the same box from which it was retrieved. The survey was administered under confidential and anonymous conditions, and participants were instructed not to write their names on the questionnaires and were given envelopes in which to seal their completed surveys. Participants were informed that their

responses were anonymous and would not be known by their parents, school authorities, or teachers. Students, age 13 to 17 years, participated under a consent procedure in which parents were sent, by first class mail delivery, a Parent Consent Form (approved by WSU HIC IRB) that informed them about the purpose and nature of the study. This consent form was translated into Chinese. Parents were informed that they could exclude their child from the research, if they wish, by notifying the researcher or the school within two weeks. All students were informed about the purpose and nature of the research at the time of the questionnaire administration, if they chose to complete the questionnaire packet, this indicated their consent to participate in the study. They were also instructed that they could refuse or discontinue participation at any time during the questionnaire completion period.

Measures

Participants completed a paper-and-pencil questionnaire packet comprised of several scales. The variables used in the analyses are based on single and combined items. All measures were written in Chinese, and have all come from existing Chinese versions of the scales, obtained directly from its original authors. The Chinese scales have all been tested for reliability and validity in Hong Kong with results published in peer reviewed journals.

Demographics. The demographics survey collected the following information on the participant: age (in years), gender, current grade level, GPA, school band level, socio-economical status, employment, school/community involvement and religious/spiritual involvement, family structure (living situation, and dual parents, single parent, other), ethnicity and country of origin (Hong Kong, China, other), and primary language spoken at home. Data collected on the adolescent's academic grade ($N = 623$, 45%), socioeconomic status ($N = 942$, 68%), household composition ($N = 817$, 59%), and engagement in religious activities ($N = 1219$,

88%) could not be used in any analysis, due to a significant amount of cases with missing responses and/or also multiple responses from a single adolescent. Copies of the questionnaire in English and Chinese are in Appendix A.

Sensation seeking. The Sensation Seeking Scale Form-V (SSS-V; Zuckerman, 1994; Zuckerman, Eysenck, & Eysenck, 1978) is a 40-item questionnaire that yields four subscale scores (10 items each): (1) Thrill and Adventurer Seeking (TAS; desire to engage in sports or other physical activities involving speed or danger), (2) Experience Seeking (ES; seeking of experience through the mind and senses, travel, and a nonconformist life-style), (3) Disinhibition (DIS; desire for social and sexual disinhibition as expressed in social drinking, partying, and variety in sexual partners), and (4) Boredom Susceptibility (BS; an aversion to repetition, routine, and restlessness when things are not changing). It also yields an overall index of sensation seeking (total score; the sum of the four subscale scores, maximum score of 40), which is used in this study. The SSS-V presents participants with a choice between two opposite statements, with one point assigned for each choice of the option reflecting the seeking of varied, novel, complex, and intense situations and experiences, and the willingness to take physical, social and financial risks for the sake of such experience (Zuckerman, 1994). The total score has good internal reliabilities of .83 to .86, and a 3-week retest reliability of .94 (Zuckerman, 2007). The Chinese version of the SSS-V was obtained from the original author (Wang et al., 2000), and permission to use was granted. Wang et al. (2000) and Ke et al. (2007) have shown good reliabilities ($\alpha \geq .76$) with the Chinese SSS-V within the Chinese culture. In the current study, the total score showed good internal reliabilities ($\alpha = .76$).

Values system. The 40-item Portrait Values Questionnaire (PVQ; Schwartz et al., 2001; Schwartz, 2005) is constructed based on the Schwartz Value Survey (SVS; Schwartz, 1992;

2005). The PVQ assesses 10 basic values: Benevolence (helpfulness); Universalism (social justice, equality); Self-direction (creativity, freedom); Stimulation (exciting life); Hedonism (pleasure); Achievement (success, ambition); Power (authority, wealth); Security (social order); Conformity (obedience); and Tradition (humility, devoutness). These 10 basic categories cluster to form 4 higher-order values: Openness to Change (Stimulation and Self-Direction), Conservation (Conformity, Tradition, and Security), Self-Enhancement (Achievement and Power), and Self-Transcendence (Universalism and Benevolence). The basic category of Hedonism is not included within a particular higher-order value due to its involvement in both Openness to Change and Self-Enhancement. This current study uses the 4 higher-order values and the basic value of Hedonism. Scored along a six-point likert scale from 1 (not at all like me) to 6 (very much like me), values items are combined to yield a mean score for each values subscale, then again for the higher-order values categories. Since individual and cultural groups differ in their use of the response scales, corrections were made for individual differences before performing further analyses. To correct for scale use, scores were computed for the 10 values by taking the means of the items that index it; then, each individual's mean score was computed across all 40 value items (called the MRAT); then the MRAT was subtracted from each of the 10 value scores. The PVQ can be used from age 11 and on, and was specifically designed for use in all populations, including those groups with limited literacy. Although the SVS and PVQ have been tested Hong Kong (Luk & Bond, 1993; Schwartz & Boehnke, 2004; Yik & Tang, 1996), there have not been any studies using the PVQ in this particular adolescent population. The Chinese version of the PVQ was obtained from Dr. Shalom Schwartz, and permission to use was granted. Psychometric properties of the original instrument among different populations (14 samples from seven different countries) are adequate (Schwartz et al., 2001; Vecchione et al.,

2009). Test-retest coefficients across an interval of six weeks showed considerable stability, with coefficients ranging from .70 to .80. Cronbach alphas of internal reliability (consistency) ranged from .68 to .75, with Tradition, as the only value with an alpha of .60. Schwartz stated that possibly the low reliability may be due to the diverse component of the value of tradition. In a recent study (Vecchione et al., 2009), the psychometric properties of the PVQ was tested in a sample of 9,847 participants, and results showed a strong internal validity ($RMSEA = .06$) for the PVQ. One study in Hong Kong (Lam et al., 2004b) showed the test-retest reliability over a one month period was .90 (internal reliabilities were not published). In the current study, the overall total values score showed very good internal reliabilities ($\alpha = .94$). The reliabilities for the four higher-order values and Hedonism range from an alpha of .76 to .83.

Psychological problematic syndrome of behaviors. To assess adolescents' psychological problematic symptoms, internalizing and externalizing problem behavior in the previous 6 months, the Youth Self Report (YSR-age 11-18; Achenbach, 1991) was used. The questionnaire consists of 101 items, with possible answer choices of '0=not true', '1=somewhat or sometimes true', and '2=very true or often true'. The YSR has a combined total problem score that encompasses eight syndromes: withdrawn, somatic complaints, and anxious/depressed (combined as Internalizing Scale); delinquent and aggressive behavior (combined as Externalizing Scale); and social problems, thought problems, and attention problems (which are neither Internalizing nor Externalizing). Adolescent problem behavior can be conceptualized as two empirically derived syndromes: externalizing versus internalizing behavioral problems (Achenbach & Rescorla, 2001). Social problems, thought problems, and attention problems are indicative neither of externalizing nor of internalizing problems; therefore, are only included in the Total Score.

The Ratings to Scores Utility (RTS) computer program transformed the YSR raw scores that were entered into the SPSS statistical package into an analyzable format. RTS computed the percentiles, T-scores, and subscale scores of the YSR. RTS also produced these scores in a scored data file which was then converted back to into the SPSS package through the A2S utility computer program. All of these computer scoring programs were purchased from ASEBA, the YSR's publishers. The raw legacy scores were used for analyses in this current study, and not the legacy derived T-scores (normalized scores). Using T-scores would result in changing the distribution of the raw scores, since the derived scores are reduced for skewness and are truncated. Kamphaus and Frick state that the "lack of reflection of the sample characteristics in the T-scores makes them of dubious value for research purposes in particular" (1996, p. 110).

For the original version of the YSR (English version), the mean one week test-retest reliability for the problem scales was .65 for 11- to 14-year-old adolescents and .83 for 15- to 18-year-old adolescents. Internal consistencies for symptom scales ranged from alpha .89 for externalizing problems and alpha .91 for internalizing problems. The YSR has been translated into Chinese and tested in Hong Kong with good test-retest reliability and factorial validity (Ivanova et al., 2007; Leung et al., 2006). Results from Ivanova's et al. (2007) confirmatory factor analyses of the syndromes in the YSR in 23 societies, found the Chinese YSR (Hong Kong; N = 1,593) to be of good model fit (RMSEA = .043). Test-retest reliability for Total Problems was .86, Internalizing Problems was .81, and Externalizing Problems was .86. In the current study, internal consistencies for the symptom scales are as follows: an alpha of .88 for externalizing problems and an alpha of .90 for internalizing problems. The following represent the normative t-score values for Hong Kong: 48.4 (SD = 9.8) for Total Problems, 48.5 (SD =

9.9) for Internalizing Problems, and 48.7 (SD = 10.0) for Externalizing Problems (Leung et al., 2008).

Problem behavior outcome. Jessor's (2002) Adolescent Health and Development Questionnaire (AHDQ) was used to assess the individual levels of adolescent problem behavior involvement of cigarette smoking, alcohol use, and delinquency. Three types of problem behavior were assessed: (1) delinquent behavior (i.e., theft, physical aggression, and vandalism); (2) cigarette smoking (i.e., lifetime use, frequency and quantity of use in the past month and year); and (3) problem drinking (i.e., lifetime use, frequency of drunkenness, high-volume drinking, and negative consequences of drinking). Jessor et al. (2003) has tested the overall reliability of the scale, the Multiple Problem Behavior Index (MPBI), which includes the three problem behaviors stated above. When tested in the U.S., the reliability was .69, and when tested in China, it was .64. When looking at the problem behaviors individually, these are the following cronbach's alphas: delinquent behavior (U.S. $\alpha = .84$, China $\alpha = .82$); cigarette smoking (U.S. $\alpha = .79$, China $\alpha = .84$); and problem drinking (U.S. $\alpha = .71$, China $\alpha = .58$). In the current study, the MPBI had an internal reliability of .60; while individually, the problem behavior outcomes showed good internal reliabilities (i.e., delinquent behavior $\alpha = .78$; cigarette smoking $\alpha = .90$; problem drinking $\alpha = .77$).

For the current study, problem behavior outcome for cigarette smoking, alcohol use, and delinquency were calculated as follows:

Cigarette smoking:

- a) Never Smoker (NS)-in their lifetime, has never smoked a cigarette ever or has only tried it once
- b) Non-current Smoker (NcS)-smoked cigarettes before (at least a few times or

more), but not in the past year

c) Current Smoker (CS)-smoked cigarettes before (at least a few times or more), smoking, and daily smoking in the past month

Alcohol use:

a) Never Drinker (ND)-has never drank alcohol or only had a sip or taste OR has drank more than a sip or taste, but less than 2 or 3 times in their life

b) Non-current Drinker (NcD)-drank alcohol more than 2 or 3 times in their life, but not in the past 6 months

c) Current Drinker (CD)-drank alcohol more than 2 or 3 times in their life, and drinking in the past 6 months

Delinquency:

A set of 10 items that asks how often have they engaged in delinquent behavior in the past 6 months. For example, delinquent behaviors such as, cheating on tests/homework, making fun of or picking on others, shoplifting from a store, lying to a teacher, staying out all night without permission, or carrying a weapon at school. Scored along a five-point likert scale from 1 (never) to 5 (five or more times), with a total score ranging from 10 to 50; thus, a higher score reflects more self-reported delinquency behavior.

Statistical Analyses

All statistical analyses were performed using the Statistical Package for the Social Sciences, version 17.0 (SPSS Inc, 2009). Prior to analysis, the data were assessed for normality and appropriateness of the proposed statistical tests. The data were also assessed for missing data, outliers, linearity (scatterplots), and homoscedasticity (homogeneity of variance), and any

violations of normality. Screening was conducted for out of range values and outliers. Scatterplots were generated between independent and dependent variables to check for the multiple regression assumption of linearity. Scales were all scored according to scoring directions, and cronbach's alpha was utilized to determine the reliability (internal consistency) of scale scores in this sample. Results were considered significant at a 95% or higher confidence interval. Chi-squares tests were considered only if cell categories had a frequency of 5 or more. Initially, frequencies, means, standard deviations, and proportions were calculated for study variables. Then bivariate correlations were conducted to examine the relationships between study variables. Only significant relationships from the bivariate correlations were assessed using linear and multinomial logistic regressions for its predictiveness of the three problem behavior outcomes (smoking, alcohol use, and delinquency). Finally, independent-samples t-test, cross-tabs, and chi-squares test were computed to assess the relation between enrollment in the two different ability level high schools (Band 1 or 3) and the three problem behavior outcomes.

Research Question 1. What is the prevalence of problem behaviors in Chinese adolescents living in Hong Kong? In order to answer this question, descriptive statistics were calculated using SPSS frequencies, means, standard deviations, proportions, and range of scores.

Research Question 2: What is the relation between demographic factors, predictive variables, and problem behavior outcomes among these adolescents? Bivariate correlations was used to examine the patterns of relations between all study variables. In addition to examining the bivariate correlations, as described above, the contribution of those variables in predicting problem behavior were explored through linear and multinomial logistic regressions. Regressions were employed to determine the contribution of the significantly correlated variables in explaining each of the three problem behavior outcomes in this sample. The three

problem behavior outcomes (smoking, alcohol use, and delinquent behavior) were separately analyzed. Linear regression was deployed for delinquent behavior (continuous variable), whilst multinomial logistic regression was used for smoking and alcohol use (categorical variable with three categories).

Research Question 3: What is the relation between enrollment in different ability level high schools in Hong Kong and problem behavior outcomes? Independent-samples t-test, cross-tabs, and chi-squares test were all performed to examine the relation between students enrolled in Band 1 or Band 3 schools and the three problem behavior outcomes. Independent-samples t-test was used for the continuous variable of delinquent behavior, and cross-tabs and chi-squares test were used for the categorical variables of cigarette smoking and alcohol use.

Summary

The methodology, research procedures, and statistical analyses used to describe the research sample and to test the three main hypotheses has been presented in this chapter. The results the statistical analyses will presented in Chapter 4.

Chapter 4: Results of Data Analysis

Results of the data analysis are presented in this chapter. Specifically, SPSS data analysis (SPSS 17.0) was used to describe the sample and to address the research questions. The chapter is divided into three sections. Using descriptive statistics, the first section provides a description of the sample and outcome variables, with the primary study variables described in the second section. The results of the inferential statistical analyses that were used to test the specific hypotheses that guided this study are presented in the last section of the chapter.

The purpose of this study was threefold. The first purpose was to examine the prevalence of problem behaviors, such as smoking behavior, alcohol use, and delinquency among a cross-sectional sample Hong Kong adolescents studying in high school. In addition, demographic variables were examined in the context of these three problem behavior outcomes. The second purpose was to explore the relationship between the study variables and the three problem behavior outcomes. Specifically, whether these outcomes could be predicted by various study variables such as demographic characteristics, level of sensation seeking, psychological problem behavior (externalizing and internalizing problem behavior), and values orientation (conservation, openness to change, self-enhancement, self-transcendence, and hedonism). The final purpose was to evaluate the relationship between enrollment in different ability level high school (school band one and three) in Hong Kong and the problem behavior outcomes among these adolescents. That is, whether these outcomes differed between adolescents from these two high schools.

Description of Problem Behavior Outcome Variables

Jessor's Adolescent Health and Development Questionnaire (AHDQ) was used to assess the individual levels of adolescent problem behavior involvement of smoking (cigarettes),

alcohol use, and delinquency. Three types of problem behavior were assessed: (1) delinquent behavior (i.e., theft, physical aggression, and vandalism); (2) smoking (i.e., lifetime use, frequency and quantity of use in the past month and year); and (3) alcohol use (i.e., lifetime use, frequency and quantity of use in the past 6 months).

Smoking. Table 5 presents the frequency distribution of each categorical level of smoking behavior. For the current study, problem behavior outcome for smoking was calculated as follows:

- a) Never Smoker (NS)-in their lifetime, has never smoked a cigarette ever or has only tried it once
- b) Non-current Smoker (NcS)-smoked cigarettes before (at least a few times or more), but not in the past year
- c) Current Smoker (CS)-smoked cigarettes before (at least a few times or more), smoking, and daily smoking in the past month

A chi square statistic was performed to compare smoking behavior category by gender. School band level comparison is discussed later in the chapter, as it is one of the study hypotheses. A chi-square test of independence was not significant, $\chi^2(2, 1358) = 5.10, p = .08$, which indicated that smoking behavior was not reliably related to gender. That is, gender and smoking behavior category are independent of each other, without any statistical pattern.

Table 5

Frequency Distribution in Percentages of Smoking Behavior Category Among the Total Sample, and the Sample by Gender and School Band Level

	Smoking Behavior Category							
	Total		Never Smokers		Not-Current Smokers		Current Smokers	
	<i>N</i>	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	
Total sample	1363	1261	93	30	2	72	5	
Gender ^a								
Males	681	619	91	19	3	43	6	
Females	677	637	93	11	2	29	4	
School Band Level								
Band one	829	815	98	8	1	6	.7	
Band three	534	446	84	22	4	66	12	

Note. ^aGender missing data = 5.

Alcohol use. Table 6 presents the frequency distribution of each categorical level of alcohol use behavior. For the current study, problem behavior outcome for alcohol use were calculated as follows:

- Never Drinker (ND)-has never drank alcohol or only had a sip or taste OR has drank more than a sip or taste, but less than 2 or 3 times in their life
- Non-current Drinker (NcD)-drank alcohol more than 2 or 3 times in their life, but not in the past 6 months
- Current Drinker (CD)-drank alcohol more than 2 or 3 times in their life, and drinking in the past 6 months

A chi square statistic was performed to compare alcohol use behavior category by gender. School band level comparison is discussed later in the chapter, as it is one of the study hypotheses. A chi-square test of independence was not significant, $\chi^2(2, 1345) = 2.63, p = .27$,

which indicated that alcohol use behavior was not reliably related to gender. That is, gender and alcohol use behavior category are independent of each other, without any statistical pattern.

Table 6

Frequency Distribution in Percentages of Alcohol Use Behavior Category Among the Total Sample, and the Sample by Gender and School Band Level

	Alcohol Use Behavior Category						
	Total	Never Drinkers		Not-Current Drinkers		Current Drinkers	
	<i>N</i>	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
Total sample	1350	861	64	84	6	405	30
Gender ^a							
Males	676	416	62	44	7	216	32
Females	669	440	66	40	6	189	28
School Band Level							
Band one	819	573	70	30	4	216	26
Band three	531	288	54	54	10	189	36

Note. ^aGender missing data = 5.

Delinquency. For the current study, problem behavior outcome for delinquent behavior was a measure of 10 items that asks how often have they engaged in delinquent behavior in the past 6 months. For example, delinquent behaviors such as, cheating on tests/homework, making fun of or picking on others, shoplifting from a store, lying to a teacher, staying out all night without permission, or carrying a weapon at school. Scored along a five-point likert scale from 1 (never) to 5 (five or more times), with a total score ranging from 10 to 50; thus, a higher score reflects more self-reported delinquency behavior. Table 7 presents the frequency distribution of delinquent behavior.

The mean score for delinquent behavior (raw score) was 4.28 ($SD = 5.61$) with a median of 2.00 and a range of 0 to 40. The mean score for delinquent behavior (T-score) was 50.00 ($SD = 10.00$) with a median of 45.93 and a range of 42 to 114. An Independent Samples T-test was used to determine the difference in delinquent behavior between males and females and between school band level one and three. With respect to gender, the results indicate that there is no significant difference in delinquent behaviors between males and females. Although the mean for males ($M = 4.51$, $SD = 5.96$) was higher than the mean for females ($M = 4.05$, $SD = 5.21$), the difference was not large enough to be statistically significant. With respect to school band level, the results indicate that there is a significance difference ($p \leq .001$) in delinquent behavior between band one and band three level adolescents, the average total delinquent behavior score of band one level adolescents ($M = 3.85$, $SD = 5.19$) was significantly higher than that of band three level adolescents ($M = 4.93$, $SD = 6.14$). Table 7 presents the results from the comparison of the means for gender and school band level.

The frequency of responses for each individual delinquent behavior item is presented in Table 8. In the past school year, 2.3% ($n = 19$) band one level adolescents reported that they had been suspended or expelled from school, while 11.1% ($n = 61$) band three level adolescents reported being suspended/expelled. With respect to gang or triad involvement, in the band one level school, four adolescents reported current involvement with a gang/triad while two reported past involvement. In the band three level school, 6 adolescents reported current involvement with a gang/triad while 18 reported past involvement.

Table 7

Descriptive Statistics of the Problem Behavior Outcome of Delinquency in the Total Sample and Differences Between Gender and School Band Level

	Gender						School Band Level						Total Sample		
	Males			Females			Band 1			Band 3			M (range)	SD	N
	M (range)	SD	N	M (range)	SD	N	M (range)	SD	N	M (range)	SD	N			
Delinquent Behavior															
Raw score	4.51 (0-40)	5.96	690	4.05 (0-40)	5.21	673	3.85 (0-40)	5.19	821	4.93 (0-40)	6.14	547*	4.28 (0-40)	5.61	1368
T-score	50.40 (42-114)	10.62	690	49.58 (42-114)	9.28	673	49.24 (42-114)	9.25	821	51.16 (42-114)	10.94	547	50.00 (42-114)	10.00	1368

* $p \leq .001$.

Table 8

Descriptive Statistics of the Individual Delinquent Behaviors in the Total Sample (N = 1385)

Delinquent Behavior	Frequency of Delinquent Behavior (%)					
	N	Never	Once	Twice	3-4 times	5 or more
Cheated on tests/homework						
Total sample ^a	1363	65.0	12.9	7.3	3.7	11.1
Band 1	816	60.3	14.1	8.2	4.3	13.1
Band 3	547	72.0	11.2	6.0	2.7	8.0
Shoplifted from store						
Total sample ^b	1369	97.4	1.8	.4	.1	.4
Band 1	821	98.3	1.3	0	.1	.2
Band 3	548	96.0	2.4	.9	.2	.5
Vandalism						
Total sample ^c	1370	85.1	8.2	3.2	1.7	1.8
Band 1	820	88.0	7.2	2.3	1.0	1.5
Band 3	550	80.7	9.6	4.5	2.7	2.4
Lied to teacher						
Total sample ^d	1369	65.6	17.9	7.8	3.0	5.7
Band 1	821	68.5	17.1	7.2	2.4	4.9
Band 3	548	61.3	19.2	8.8	3.8	6.9
Taken something of value that isn't yours						
Total sample ^e	1369	81.5	11.0	3.7	1.5	2.3
Band 1	821	82.1	11.1	3.7	1.2	1.9
Band 3	548	80.7	10.8	3.8	2.0	2.7
Stayed out all night without permission						
Total sample ^f	1371	88.0	4.8	2.6	1.8	2.8
Band 1	822	92.2	3.6	1.6	.9	1.7
Band 3	549	81.8	6.6	4.2	3.1	4.4
Lied to parents (where you have been or who you were with)						
Total sample ^g	1369	68.4	10.9	7.2	5.0	8.5
Band 1	822	69.6	12.0	7.8	4.7	6.0
Band 3	547	66.7	9.1	6.2	5.5	12.4
Hit another student because you did not like them						
Total sample ^h	1368	80.5	9.4	3.7	2.2	4.2
Band 1	821	86.7	6.7	2.3	1.2	3.0
Band 3	547	71.1	13.5	5.9	3.7	5.9
Carried a weapon to school (knife or gun)						
Total sample ⁱ	1368	92.3	3.5	1.3	.7	2.2
Band 1	820	93.0	3.8	.7	.4	2.1
Band 3	548	91.1	3.1	2.2	1.3	2.4
Made fun of or picked on other kids, because they were different or not part of your group						
Total sample ^j	1366	71.2	13.7	5.8	3.1	6.1
Band 1	820	71.3	14.9	6.0	2.7	5.1
Band 3	546	71.1	11.9	5.5	3.8	7.7

Note. ^aMissing data = 22. ^bMissing data = 16. ^cMissing data = 15. ^dMissing data = 16. ^eMissing data = 16. ^fMissing data = 14. ^gMissing data = 16. ^hMissing data = 17. ⁱMissing data = 17. ^jMissing data = 19.

Description of the Sample

The adolescents completed a demographic survey that was comprised of some items from Jessor's Adolescent Health and Development Questionnaire (AHDQ). These responses are presented along with the three problem behavior outcomes separately. Specifically, age, country of origin, involvement in extracurricular/community activities, and employment will be presented.

Age. Age is the first variable, and the results for smoking behavior are presented in Table 9.

Table 9

Crosstabulation of Age and Smoking Behavior Category

Age	Smoking Behavior Category						Total	
	Never Smokers		Not-Current Smokers		Current Smokers		N	%
	N	%	N	%	N	%		
13	341	94.7	0	0	19	5.3	360	100.0
14	263	92.6	7	2.5	14	4.9	284	100.0
15	291	92.4	8	2.4	16	5.1	316	100.0
16	205	91.1	8	3.6	12	5.3	225	100.0
17	116	92.1	5	4.0	5	4.0	126	100.0
18	44	86.3	2	3.9	5	9.8	51	100.0
Total	1260	92.6	30	2.2	71	5.2	1361	100.0

The largest group of adolescents ($n = 360$, 26.5%) were 13 years of age. Of the 360 adolescents, 341 (94.1%) were included in the never smokers category, no adolescents (0%) were in the not-current smokers category, and 19 (5.3%) were in the current smokers category. The smallest group of adolescents ($n = 51$, 3.7%) were 18 years of age. Most of these adolescents ($n = 44$, 86.3%) were in the never smokers category, with 2 (3.9%) in the not-current smokers category, and 5 (9.8%) adolescents in the current smokers category. Of the current smokers ($n =$

71), most of adolescents ($n = 19$, 26.8%) were 13 years of age, with only 5 (7.0%) adolescents in each of the 17 and 18 age groups.

The results for the crosstabulation of age and alcohol use behavior category are presented in Table 10.

Table 10

Crosstabulation of Age and Alcohol Use Behavior Category

Age	Alcohol Use Behavior Category						Total	
	Never Drinkers		Not-Current Drinkers		Current Drinkers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
13	253	71.7	19	5.4	81	22.9	353	100.0
14	202	72.4	15	5.4	62	22.2	279	100.0
15	181	57.6	23	7.3	110	35.0	314	100.0
16	128	55.9	11	4.8	90	39.3	229	100.0
17	71	56.8	14	11.2	40	32.0	125	100.0
18	25	52.1	2	4.2	21	43.8	48	100.0
Total	860	63.8	84	6.2	404	30.0	1348	100.0

The largest group of adolescents ($n = 353$, 26.2%) were 13 years of age. Of the 353 students, 253 (71.7%) were included in the never drinkers category, 19 (5.4%) were in the not-current drinkers category, and 81 (22.9%) were in the current drinkers category. The smallest group of adolescents ($n = 48$, 3.6%) were 18 years of age. Most of these adolescents ($n = 25$, 52.1%) were in the never drinkers category, with 2 (4.2%) in the not-current drinkers category, and 21 (43.8%) adolescents in the current drinkers category. Of the current drinkers ($n = 404$), most of the adolescents ($n = 110$, 27.2%) were 15 years of age.

A 1 x 6 one-way analysis of variance (ANOVA) procedure was used to test the difference between age and delinquency. Higher scores on delinquency were indicative of more delinquent behaviors, and lower scores reflected less delinquent behaviors. Age ranged from 13 to 18 years.

Table 11 represents the results of this analysis.

Table 11

One-way Analysis of Variance of Age by Delinquency

Age in Years	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	<i>p</i>
13	357	4.48	5.85			
14	284	3.97	5.27			
15	317	4.34	5.86			
16	230	4.70	5.66	2, 1365	1.52	.18
17	127	3.29	4.03			
18	51	5.06	7.14			
Total	1366	4.29	5.61			

The results of the one-way ANOVA provided no evidence of statistically significant differences among age and delinquent behaviors. While those who were the oldest (18 years of age) had higher scores of delinquency than younger adolescents, this difference was not sufficient to be considered statistically significant.

Country of origin. The adolescents were asked to indicate their race and country of origin, whether they were a Chinese native of Hong Kong (had been living there for most of their lives), Chinese from Mainland China, Chinese from another country, or the other category. The majority of adolescents ($n = 1050$, 79.3%) indicated that they were natives of Hong Kong. For those who reported not being a Chinese native of Hong Kong, the majority were Chinese from Mainland China ($n = 263$, 19.5%), while 14 (1.0%) reported being Chinese from another country and 6 (.4%) reported the “Other” response. Their responses were crosstabulated by smoking and alcohol use behavior categories separately. The results for smoking behavior are presented in Table 12.

Table 12

Crosstabulation of Country of Origin and Smoking Behavior Category

Hong Kong Native	Smoking Behavior Category						Total	
	Never Smokers		Not-Current Smokers		Current Smokers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Yes	991	94.4	16	1.5	43	4.1	1050	100.0
No	236	86.1	11	4.0	27	9.9	274	100.0
Total	1227	92.7	27	2.0	70	5.3	1324	100.0

$\chi^2(2, 1324) = 21.84, p = .00$

Of the adolescents who are a native of Hong Kong, 991 (94.4%) that were in the never smokers category, 16 (1.5%) in the not-current smokers category, and 43 (4.1%) in the current smokers category. To determine if there was an association between being a native of Hong Kong and smoking behavior category, a chi-square test for independence was used. The results of this analysis were statistically significant, $\chi^2(2, 1324) = 21.84, p = .00$, which indicated that being a native or not a native of Hong Kong was not independent of smoking behavior. That is, there is an association between country of origin and smoking behavior category. Adolescents who are a native of Hong Kong were more likely to have never smoked ($n = 991, 94.4\%$) than those adolescents who are not originally from Hong Kong ($n = 236, 86.1\%$). For not current smokers, 1.5% ($n = 16$) were a native of Hong Kong, while 4.0% ($n = 11$) were not originally from Hong Kong. Lastly, 4.1% ($n = 43$) of those who are a native of Hong Kong were current smokers, while 9.9% ($n = 27$) were not originally from Hong Kong.

The results for the crosstabulation of country of origin and alcohol use behavior category are presented in Table 13.

Table 13

Crosstabulation of Country of Origin and Alcohol Use Behavior Category

Hong Kong Native	Alcohol Use Behavior Category						Total	
	Never Drinkers		Not-Current Drinkers		Current Drinkers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Yes	688	66.2	55	5.3	297	28.6	1040	100.0
No	155	56.2	26	9.4	95	34.4	276	100.0
Total	843	64.1	81	6.2	392	29.8	1316	100.0

$\chi^2(2, 1316) = 11.97, p = .00$

When alcohol use was examined, the majority of adolescents ($n = 1040, 79.0\%$) indicated that they were a native of Hong Kong. This number included 688 (66.2%) that were in the never drinkers category, 55 (5.3%) in the not-current drinkers category, and 297 (28.6%) in the current drinkers category. To determine if there was an association between being a native of Hong Kong and alcohol use behavior category, a chi-square test for independence was used. The results of this analysis were statistically significant, $\chi^2(2, 1316) = 11.97, p = .00$, which indicated that being a native or not a native of Hong Kong was not independent of alcohol use behavior. That is, there is an association between country of origin and alcohol use behavior category. Adolescents who are a native of Hong Kong were more likely to have never drank alcohol ($n = 688, 66.2\%$) than those adolescents who are not originally from Hong Kong ($n = 155, 56.2\%$). For not current drinkers, 5.3% ($n = 55$) were a native of Hong Kong, while 9.4% ($n = 26$) were not originally from Hong Kong. Lastly, 28.6% ($n = 297$) of those who are a native of Hong Kong were current drinkers, while 34.4% ($n = 95$) were not originally from Hong Kong.

An independent-samples *t* test was used to compare delinquency scores between those who are a native of Hong Kong to those who are not a native of Hong Kong. Results showed that there was not a significant difference in delinquency behaviors between those who were

originally from Hong Kong to those who were not. Since there was not a significant Levene's test for equality of variances, equal variances was assumed. The results are presented in Table 14.

Table 14

Summary of Independent-Samples t Test to Compare Delinquency by Country of Origin

Country of Origin	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>
Native of Hong Kong	1051	4.30	5.70	1329	-.48	.63
Native of Other Country	280	4.49	5.48			

Involvement in extracurricular/community activities. The adolescents provided information on whether they were involved in extracurricular or community activities. Specifically, they were asked if they were involved in: 1) school clubs or organizations (drama club, school newspaper, and sports teams), 2) community (Boy Scouts, Big Brothers or Sisters) or church groups, and 3) volunteer work in the community. Of the 1353 responses, 631 (46.6%) adolescents reported no involvement in extracurricular or community activities, 398 (29.4%) reported being involved in at least one of the three activities, 231 (17.1%) involved in two activities, and 93 (6.8%) in all three activities. Results from the crosstabulation of involvement in extracurricular/community activities and smoking behavior are presented in Table 15.

Table 15

Crosstabulation of Involvement in Extracurricular/Community Activities and Smoking Behavior Category

Involvement in Extracurricular / Community Activities	Smoking Behavior Category						Total	
	Never Smokers		Not-Current Smokers		Current Smokers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
None	570	90.3	10	1.6	51	8.1	631	100.0
1 activity	375	94.2	10	2.5	13	3.3	398	100.0
2 activities	220	95.2	5	2.2	6	2.6	231	100.0
3 activities	87	93.5	4	4.3	2	2.2	93	100.0
Total	1252	92.5	29	2.1	72	5.3	1353	100.0

The majority of adolescents ($n = 631$, 46.6%) indicated that they were not involved in any extracurricular/community activities. This number included 570 (90.3%) that were in the never smokers category, 10 (1.6%) in the not-current smokers category, and 51 (8.1%) in the current smokers category. Of the 93 (6.9%) adolescents who participated in all three activities, 87 (93.5%) were never smokers, 4 (4.3%) were not-current smokers, and 2 (2.2%) were current smokers.

The results for the crosstabulation of involvement in extracurricular/community and alcohol use behavior category are presented in Table 16.

Table 16

Crosstabulation of Involvement in Extracurricular/Community Activities and Alcohol Use Behavior Category

Involvement in Extracurricular / Community Activities	Alcohol Use Behavior Category						Total	
	Never Drinkers		Not-Current Drinkers		Current Drinkers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
None	395	63.4	38	6.1	190	30.5	623	100.0
1 activity	246	61.8	29	7.3	123	30.9	398	100.0
2 activities	151	65.7	15	6.5	64	27.8	230	100.0
3 activities	63	68.5	2	2.2	27	29.3	92	100.0
Total	855	63.7	84	6.3	404	30.1	1343	100.0

The majority of adolescents ($n = 623$, 46.4%) indicated that they were not involved in any extracurricular/community activities. This number included 395 (63.4%) that were in the never drinkers category, 38 (6.1%) in the not-current drinkers category, and 190 (30.5%) in the current drinkers category. Of the 92 (6.9%) adolescents who participated in all three activities, 63 (68.5%) were never drinkers, 2 (2.2%) were not-current drinkers, and 27 (29.3%) were current drinkers.

A one-way analysis of variance (ANOVA) procedure was used to test the difference between involvement in extracurricular/community activities and delinquency. Table 17 represents the results of this analysis.

Table 17

One-way Analysis of Variance of Involvement in Extracurricular/Community Activities by Delinquency

Age in Years	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	<i>P</i>
None	642	4.33	5.99			
1 activity	400	4.20	5.01			
2 activities	230	4.55	5.80	3, 1363	.47	.71
3 activities	92	3.77	5.01			
Total	1364	4.29	5.62			

The results of the one-way ANOVA provided no evidence of statistically significant differences among involvement in extracurricular/community activities and delinquent behaviors. While those who were at the highest level of involvement in extracurricular/communities activities had lower scores of delinquency than those less involved in activities, this difference was not sufficient to be considered statistically significant.

Employment Status. The adolescents were asked to indicate whether they were employed. Their responses were crosstabulated by smoking and alcohol use behavior categories separately. The results for smoking behavior are presented in Table 18.

Table 18

Crosstabulation of Employment and Smoking Behavior Category

Employment	Smoking Behavior Category						Total	
	Never Smokers		Not-Current Smokers		Current Smokers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
No	1173	92.9	28	2.2	61	4.8	1262	100.0
Yes	53	82.8	1	1.6	10	15.6	64	100.0
Total	1226	92.5	29	2.2	71	5.4	1326	100.0

The majority of adolescents ($n = 1262$, 95.2%) indicated that they were not employed/working. This number included 1173 (92.9%) that were in the never smokers category, 28 (2.2%) in the not-current smokers category, and 61 (4.8%) in the current smokers category.

The results for the crosstabulation of employment and alcohol use behavior category are presented in Table 19.

Table 19

Crosstabulation of Employment and Alcohol Use Behavior Category

Employment	Alcohol Use Behavior Category						Total	
	Never Drinkers		Not-Current Drinkers		Current Drinkers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
No	804	64.2	79	6.3	369	29.5	1252	100.0
Yes	32	49.2	3	4.6	30	46.2	65	100.0
Total	836	63.5	82	6.2	399	30.3	1317	100.0

The majority of adolescents ($n = 1252$, 95.1%) indicated that they were not employed or working. This number included 804 (64.2%) that were in the never drinkers category, 79 (6.3%) in the not-current drinkers category, and 369 (29.5%) in the current drinkers category.

An independent-samples t test was used to compare delinquency scores with an adolescent's employment status. Those who were working ($M = 6.06$, $SD = 7.56$) expressed significantly higher levels of delinquent behaviors than those who were not working ($M = 4.22$, $SD = 5.53$), $t(71) = -1.98$, $p = .05$. Since there was a significant Levene's test for equality of variances, equal variances was not assumed. Results are presented in Table 20.

Table 20

Summary of Independent-Samples t Test to Compare Delinquency by Employment Status

Employment Status	N	M	SD	df	t	p
No job	1262	4.22	5.53	71	-1.98	.05
Job-working	68	6.06	7.56			

Description of Scaled Variables

All scales were scored according to protocols developed by the original authors. Results from descriptive and mean comparison statistics are presented in Table 21, this includes total scores and separate scores for gender and school band level.

Table 21

Descriptive Statistics of Main Study Variables in the Total Sample and Differences Between Gender and School Band Level

	Gender						School Band Level						Total Sample		
	Males			Females			Band 1			Band 3			M	SD	N
	M (range)	SD	N	M (range)	SD	N	M (range)	SD	N	M (range)	SD	N			
Sensation seeking															
Total score	15.44 (2-33)	5.37	674	14.32 (1-33)	5.76	676***	14.81 (2-33)	5.64	821	15.01 (1-31)	5.58	534	14.90 (1-33)	5.62	1355
Psychological problem behavior															
Internalizing problem															
Raw score	11.93 (0-58)	9.27	656	15.64 (0-50)	10.06	652***	14.51 (0-58)	9.69	802	12.62 (0-48)	9.98	506***	13.78 (0-58)	9.84	1308
T-score	51.14 (26-97)	12.75	656	52.92 (26-87)	11.28	652	52.87 (26-97)	11.59	802	50.69 (26-88)	12.70	506	52.03 (26-97)	12.07	1308
Externalizing problem															
Raw score	11.67 (0-60)	8.44	656	12.06 (0-55)	7.81	652	12.00 (0-60)	7.68	802	11.65 (0-57)	8.81	506	11.86 (0-60)	8.13	1308
T-score	49.36 (25-100)	11.83	656	52.24 (27-96)	10.90	652	51.33 (25-100)	10.90	802	49.95 (25-97)	12.52	506	50.80 (25-100)	11.57	1308
Total problem															
Raw score	39.58 (0-178)	25.52	656	47.34 (0-174)	25.89	652	44.78 (0-178)	24.88	802	41.34 (0-174)	27.55	506*	43.45 (0-178)	25.99	1308
T-score	50.43 (22-95)	12.75	656	53.71 (22-95)	11.51	652***	52.82 (22-95)	11.55	802	50.86 (22-95)	13.22	506	52.06 (22-95)	12.26	1308
Values orientation															
Conservation	3.60 (1-6)	.81	680	3.64 (1-6)	.76	675	3.75 (1-6)	.74	822	3.42 (1-6)	.83	538***	3.62 (1-6)	.79	1360
Openness to change	3.84 (1-6)	.93	681	3.90 (1-6)	.87	677	4.02 (1-6)	.83	824	3.64 (1-6)	.96	539***	3.87 (1-6)	.91	1363
Self-enhancement	3.65 (1-6)	.94	680	3.62 (1-6)	.92	677	3.76 (1-6)	.89	824	3.43 (1-6)	.96	537***	3.63 (1-6)	.93	1361
Self-transcendence	3.91 (1-6)	.92	680	4.13 (1-6)	.84	676***	4.20 (1-6)	.81	822	3.74 (1-6)	.94	539***	4.02 (1-6)	.89	1361
Hedonism	4.11 (1-6)	1.14	683	4.40 (1-6)	1.04	676***	4.50 (1-6)	1.00	824	3.87 (1-6)	1.15	540***	4.25 (1-6)	1.10	1364

* $p < .05$. ** $p < .01$. *** $p \leq .001$.

Sensation seeking. The Chinese version of Zuckerman's Sensation Seeking Scale Form-V (SSS-V) was used to measure the adolescent's need to engage in novel, stimulating, and diverse experiences. This scale has a total of 40 items, the overall index of sensation seeking was used in this study. This index is the total score of all items, thus yielding a maximum score of 40. The mean score for overall total sensation seeking was 14.90 (SD = 5.62) with a median of 15.00. Sensation seeking score ranged from 1 to 33.

An Independent Samples T-test was used to determine the difference in sensation seeking between males and females and between school band level one and three. With respect to gender, the results indicate that there is a significant difference in sensation seeking between males and females, $t(1346) = 3.70, p = .00$. That is, the average total sensation seeking score of males ($M = 15.44, SD = 5.37$) was significantly different from that of females ($M = 14.32, SD = 5.76$). With respect to school band level, the results indicate that there is no significant difference in sensation seeking between adolescents at a band one and band three level school.

Psychological problem behavior. Achenbach's Youth Self-Report (YSR: Chinese version) was used to measure the adolescent's psychological problematic symptoms, internalizing and externalizing problem behavior in the previous 6 months. This measure has a total of 101 items, resulting in a combined total problem score, an internalizing problem score, and an externalizing problem score. The raw legacy and derived T-scores (normalized) scores are both reported, but only the raw legacy scores were used for the main analyses in this current study. The mean score for overall total problem score (raw legacy) was 42.45 (SD = 25.99) with a median of 40.00 and a range from 0 to 178. The mean score for internalizing problem score (raw legacy) was 13.78 (SD = 9.84) with a median of 12.00 and a range from 0 to 58. The mean score for externalizing problem score (raw legacy) was 11.86 (SD = 8.13) with a median of

11.00 and a range from 0 to 60. The mean score for the derived T-score for overall total problems was 52.06 (SD = 12.26) with a median of 52.00 and a range from 22 to 95. The mean score for the derived T-score for internalizing problems was 52.03 (SD = 12.07) with a median of 53.00 and a range from 26 to 97. The mean score for the derived T-score for externalizing problems was 50.80 (SD = 11.57) with a median of 51.00 and a range from 25 to 100.

An Independent Samples T-test was used to determine the difference in psychological problem behavior between males and females and between school band level one and three. With respect to gender, the results indicate that there is a significant difference in internalizing problem behavior, $t(1296) = 6.93, p = .00$, and total problem behavior between males and females, $t(1306) = 5.46, p = .00$. That is, the average internalizing problem behavior score of males ($M = 11.93, SD = 9.27$) was significantly different from that of females ($M = 15.64, SD = 10.06$). Furthermore, the average total problem behavior score of males ($M = 39.58, SD = 25.25$) was significantly different from that of females ($M = 47.34, SD = 25.89$).

With respect to school band level, the results indicate that there is also a significant difference in internalizing problem behavior, $t(1306) = 3.40, p = .001$, and total problem behavior between adolescents at a band one and band three level school, $t(993) = 2.28, p < .05$. That is, the average internalizing problem behavior score of band one level adolescents ($M = 14.51, SD = 9.69$) was significantly different from that of band three level adolescents ($M = 12.62, SD = 9.98$). Furthermore, the average total problem behavior score of band one level adolescents ($M = 44.78, SD = 24.88$) was significantly different from that of band three level adolescents ($M = 41.34, SD = 27.55$). With respect to externalizing problem behavior, the results indicate that there is no significant difference between gender and school band level.

Values Orientation. The Chinese version of the Portrait Values Questionnaire (PVQ) was used to measure the adolescent's values orientation. The questionnaire is a 40 item with 4 subscales, higher order values: openness to change (stimulation and self-direction), conservation (conformity, tradition, and security), self-enhancement (achievement and power), and self-transcendence (universalism and benevolence). The basic values orientation of hedonism is not included within a particular higher order values orientation due to its involvement in both openness to change and self-enhancement. This current study used the four higher order values orientation and the basic values orientation of hedonism in the analyses. The mean score for the values orientation of conservation was 3.61 (SD = .80) with a median of 3.61 and a range of 1 to 6. The mean score for the values orientation of openness to change was 3.87 (SD = .91) with a median of 3.86 and a range of 1 to 6. The mean score for the values orientation of self-enhancement was 3.63 (SD = .93) with a median of 3.57 and a range of 1 to 6. The mean score for the values orientation of self-transcendence was 4.02 (SD = .89) with a median of 4.00 and a range of 1 to 6. Finally, the mean score for the values orientation of hedonism was 4.25 (SD = 1.10) with a median of 4.33 and a range of 1 to 6.

An independent samples *T*-test was used to determine the difference in values orientation between males and females and between school band level one and three. With respect to gender, the results indicate that there is only a significant difference in the values orientation of self-transcendence, $t(1341) = 4.50$, $p = .00$, and hedonism, $t(1347) = 4.90$, $p = .00$. That is, the average values orientation of self-transcendence, the score of males ($M = 3.91$, $SD = .92$) was significantly different from that of females ($M = 4.13$, $SD = .84$). This was also true for the values orientation of hedonism, the score of males ($M = 4.11$, $SD = 1.14$) was significantly different from that of females ($M = 4.40$, $SD = 1.04$). With respect to school band level, the

results indicate that there is significance difference in the values orientations of conservation, $t(1358) = 7.48, p = .00$, openness to change, $t(1034) = 7.39, p = .00$, self-enhancement, $t(1359) = 6.44, p = .00$, self-transcendence, $t(1027) = 9.36, p = .00$, and hedonism, $t(1038) = 10.53, p = .00$. Such that there is a difference between adolescents attending a band one and band three level school with respect to all five values orientation (Table 21 shows the means and standard deviations).

Research Hypotheses

Three main hypotheses were developed for the current research study, with separate hypotheses for each of the three problem behavior outcomes; hence, a final total of 11 hypotheses. Inferential statistical analyses were used to test each of these hypotheses, with all decisions on the statistical significance of the findings made using an alpha level of .05.

The first hypothesis investigates the relationship between the three problem behavior outcomes of smoking, alcohol use, and delinquency and sensation seeking, psychological problem behaviors, values orientation, and to each other. The results from the bivariate correlation analyses among possible predictors and the problem behavior outcomes (smoking, alcohol use, and delinquency) are reported in Table 22.

Table 22

Intercorrelations Between Predictor Variables and Problem Behavior Outcome Variables

<i>Variables</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>
1. Age														
2. Gender ^a														
3. School band level ^b														
4. Sensation seeking	.07**	-.10***	.02	1.00										
5. Internalizing problem behavior	.07*	.18***	-.09***	.14***	1.00									
6. Externalizing problem behavior	.00	.02	-.02	.38***	.68***	1.00								
7. Values Orientation: Openness to change	-.03	-.04	-.20***	.28***	.09***	.15***	1.00							
8. Values Orientation: Self-transcendence	-.03	.12***	-.25***	-.11***	.06*	-.07**	.62***	1.00						
9. Values Orientation: Conservation	.04	.03	-.20***	-.21***	-.01	-.15***	.53***	.80***	1.00					
10. Values Orientation: Self-enhancement	.04	-.02	-.17***	.12***	.13***	.20***	.66***	.50***	.53***	1.00				
11. Values Orientation: Hedonism	.15***	.13***	-.28***	.09***	.13***	.13***	.59***	.56***	.46***	.52	1.00			
12. Problem behavior: Smoking ^c	.04	-.06*	.28***	.23***	.07	.18***	-.06*	-.14***	-.13***	-.07**	-.14***	1.00		
13. Problem behavior: Alcohol use ^d	.14***	-.04	.13***	.29***	.12***	.18***	.09***	-.08**	-.08**	.02	.03	.30***	1.00	
14. Problem behavior: Delinquency	-.01	-.04	.10***	.31***	.30***	.51***	.02	-.12***	-.20***	.02	.04	.23***	.23***	1.00

Note. ^aGender: 0 = male, 1 = female. ^bSchool band level: 1 = band one, 3 = band three. ^cSmoking behavior: 0 = Never smokers, 1 = Not-current smokers, 2 = Current smokers. ^dAlcohol use: 0 = Never drinkers, 1 = Not-current drinkers, 2 = Current drinkers.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

H_{01a}: There will be a positive relationship between sensation seeking and the problem behavior outcome of smoking, alcohol use, and delinquency. As sensation seeking increases, smoking, alcohol use, and delinquency will also increase.

H_{01b}: There will be a positive relationship between psychological problem behavior, both internalizing and externalizing problem behavior, and the problem behavior outcome of smoking, alcohol use, and delinquency. As internalizing and externalizing problem behavior increases, smoking, alcohol use, and delinquency will also increase.

H_{01c}: There will be a positive relationship between the values orientation of hedonism, openness to change, and self-enhancement, and the three problem behavior outcomes of smoking, alcohol use, and delinquency. As the values orientation of hedonism, openness to change, and self-enhancement increases, smoking, alcohol use, and delinquency will also increase.

H_{01d}: There will be a negative relationship between the values orientation of conservation and self-transcendence, and the three problem behavior outcomes of smoking, alcohol use, and delinquency. As the values orientation of conservation and self-transcendence increases, smoking, alcohol use, and delinquency will decrease.

H_{01e}: There will be a positive relationship between the three problem behavior outcomes of smoking, alcohol use, and delinquency. As smoking increases, alcohol use and delinquency will also increase.

For the outcome variable of smoking behavior, it is positively and significantly correlated (all at $p \leq .001$) with school band level ($r = .28$), total sensation seeking score ($r = .23$), and externalizing problem behavior ($r = .18$). Smoking behavior is negatively and significantly correlated with gender ($r = -.06, p \leq .05$), and the values orientation of openness to change ($r = -.06, p \leq .05$), self-transcendence ($r = -.14, p \leq .001$), conservation ($r = -.13, p \leq .001$), self-enhancement ($r = -.07, p \leq .01$), and hedonism ($r = -.14, p \leq .001$).

For the outcome variable of alcohol use behavior, it is positively and significantly correlated (all at $p \leq .001$) with age ($r = .14$), school band level ($r = .13$), total sensation seeking score ($r = .29$), externalizing ($r = .18$) and internalizing ($r = .12$) problem behavior, and the values orientation of openness to change ($r = .09$). Alcohol use is negatively and significantly

correlated (all at $p \leq .01$) with the values orientation of self-transcendence ($r = -.08$) and conservation ($r = -.08$).

For the outcome variable of delinquency, it is positively and significantly correlated (all at $p \leq .001$) with school band level ($r = .10$), total sensation seeking score ($r = .31$), and externalizing ($r = .51$) and internalizing ($r = .30$) problem behavior. Delinquent behavior is negatively and significantly correlated (all at $p \leq .001$) with the values orientation of self-transcendence ($r = -.12$) and conservation ($r = -.20$).

All problem behavior outcome variables were positively and significantly associated (all at $p \leq .001$) with one another such that higher levels of one problem behavior was associated with higher levels of the other two. That is, as alcohol use increased, so did smoking ($r = .30$) and delinquent behaviors ($r = .23$). Furthermore, as smoking behavior increased, so did delinquent behavior ($r = .23$).

The second hypothesis seeks to determine whether the three problem behavior outcomes of smoking, alcohol use, and delinquency could be predicted based on various demographic and study variables. The results from the regression analyses are presented next.

H_{02a}: Delinquent behavior will be predicted based on age, gender, school band level, etc.

Linear regression was used to assess the relative contribution of potential predictors of delinquency. Only variables that were associated with delinquency in bivariate analyses (Table 22: alcohol use, smoking, school band level, total score of sensation seeking, externalizing and internalizing problem behavior score, and the values orientation of conservation and self-transcendence) were included in the regression analysis. The overall model was significant ($F(8, 1228) = 69.27, p = .00$) and accounted for approximately 31 percent of the total variance in

delinquency ($R^2 = .31$). In the multivariate analyses, smoking, alcohol use, school band level, total score of sensation seeking, externalizing problem behavior score, and the values orientation of conservation were all significant predictors of delinquency. While only internalizing problem behavior score and the values orientation of self-transcendence were not significant predictors. Odds ratio and significance are presented in Table 23.

Table 23

Summary of Linear Regression Analysis for Variables Predicting Delinquency (N = 1236)

Predictor	B	SE B	B
Smoking	.75	.06	.06*
Alcohol use	.54	.09	.09***
School band level	.35	.06	.06*
Sensation seeking	.10	.03	.11***
Externalizing problem behavior	.30	.02	.44***
Internalizing problem behavior	-.02	.02	-.27
Values Orientation: Conservation	-.58	.28	-.08*
Values Orientation: Self-transcendence	-.10	.25	-.03
R^2		.31 ^a	
F for change in R^2		69.27***	

Note. ^a R^2 = total explained variance.

* $p < .05$. ** $p < .01$. *** $p \leq .001$.

H_{02b}: Smoking behavior will be predicted based on age, gender, school band level, etc.

H_{02c}: Alcohol use behavior will be predicted based on age, gender, school band level, etc.

To assess percent of variance accounted for in the three level categorical measure of smoking (Never smoker, Not-current smoker, and Current smoker), multinomial logistic regression analysis included measures significantly associated with the smoking behavior (alcohol use, delinquency, gender, school band level, total score of sensation seeking, externalizing and internalizing problem behavior score, and the values orientation of conservation, hedonism, openness to change, self-enhancement, and self-transcendence). For smoking behavior, regression analyses found that school band level, sensation seeking, externalizing problem behaviors, values orientation of openness to change, and alcohol use were all predictive of smoking behavior. Specifically, sensation seeking, externalizing problem behaviors, school band level, and alcohol use were reliable predictors of current smokers from never smokers, while the values orientation of openness to change, school band level, and alcohol use were reliable predictors of not-current smokers from never smokers. The model ($X^2(22, 1237) = 244.24, p = .00$) correctly classified 93.4% of the observations. Nagelkerke R² indicated that the model explained 40% of the total variance in smoking. Results are presented in Table 24.

To assess percent of variance accounted for in the three level categorical measure of alcohol use (Never drinker, Not-current drinker, Current drinker), logistic regression analysis included measures significantly associated with the alcohol measure (smoking, delinquency, age, school band level, total score of sensation seeking, externalizing and internalizing problem behavior score, and the values orientation of conservation, openness to change, and self-

transcendence). For alcohol use, regression analyses found that age, school band level, sensation seeking, internalizing problem behaviors, values orientation of openness to change, and self-transcendence, and the problem behavior outcomes of smoking and delinquency, were all predictive of alcohol use behavior. Specifically, age, sensation seeking, internalizing problem behaviors, school band level, values orientation of openness to change and self-transcendence, and smoking and delinquency were reliable predictors of current drinkers from never drinkers, while the school band level, sensation seeking, age, and smoking behavior were reliable predictors of not-current drinkers from never drinkers. The model ($X^2(26, 1237) = 259.65, p = .00$) correctly classified 70.6% of the observations. Nagelkerke R^2 indicated that the model explained 23.5% of the total variance in alcohol use. Results are presented in Table 25.

Table 24

Summary of Multinomial Logistic Regression Analysis for Variables Predicting Smoking Behavior (N = 1237)

Predictor	Smoking Behavior ^a					
	Never smokers vs Not-current smokers			Never smokers vs Current smokers		
	<i>B</i>	<i>SE B</i>	<i>Exp β</i>	<i>B</i>	<i>SE B</i>	<i>Exp β</i>
Delinquency	.01	.04	1.01	.01	.03	1.02
Sensation seeking	.12	.05	1.12	.14	.04	1.15***
Externalizing problem behavior	-.02	.04	.98	.06	.03	1.06*
Internalizing problem behavior	.02	.03	1.02	-.03	.02	.98
Values Orientation: Conservation	.03	.51	1.03	.50	.38	1.65
Values Orientation: Openness to change	-.88	.40	.41*	.07	.29	1.07
Values Orientation: Self-enhancement	.41	.34	1.51	-.16	.25	.85
Values Orientation: Self-transcendence	.01	.48	1.01	-.31	.36	.74
Values Orientation: Hedonism	.14	.26	1.15	-.38	.22	.68
School band level						
Band one	-1.51	.52		-2.77	.48	.06***
			.22**			
Band three	0 ^b			0 ^b		
Gender						
Male	-.06	.47	.95	-.18	.33	.83
Female	0 ^b			0 ^b		
Alcohol use						
Never drinkers	-1.56	.55	.21**	-2.22	.42	.11***
Not-current drinkers	.56	.55	1.75	-.70	.49	.50
Current drinkers	0 ^b			0 ^b		
Constant	-3.37	1.37		-2.68	.95	
χ^2			244.24***			
<i>Df</i>			6.00			

Note. ^aThe reference category for smoking behavior is *Never smokers*. ^bThis parameter is set to zero because it is redundant.

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

Table 25

Summary of Multinomial Logistic Regression Analysis for Variables Predicting Alcohol Use
($N = 1237$)

Predictor	Alcohol Use ^a					
	Never drinkers vs Not-current drinkers			Never drinkers vs Current drinkers		
	<i>B</i>	<i>SE B</i>	<i>Exp β</i>	<i>B</i>	<i>SE B</i>	<i>Exp β</i>
Delinquency	.00	.03	1.00	.05	.01	1.05***
Sensation seeking	.08	.03	1.08**	.09	.02	1.09***
Externalizing problem behavior	-.04	.03	.96	-.02	.01	.98
Internalizing problem behavior	.02	.02	1.02	.02	.01	1.02*
Values Orientation: Conservation	-.20	.26	.82	.12	.15	1.19
Values Orientation: Openness to change	.29	.20	1.34	.26	.11	1.30*
Values Orientation: Self-transcendence	.06	.25	1.06	-.32	.14	.73*
Age	.21	.09	1.23*	.20	.05	1.22***
School band level						
Band one	-1.43	.27	.24***	-.40	.16	.67**
Band three	0 ^b			0 ^b		
Smoking behavior						
Never smokers	-1.43	.58	.24*	-2.14	.41	.12***
Not-current smokers	.51	.83	1.67	-.80	.67	.45
Current smokers	0 ^b			0 ^b		
Constant	-4.99	1.59		-3.44	.92	
χ^2			259.65***			
<i>df</i>			22.00			

Note. ^aThe reference category for alcohol use is *Never Drinkers*. ^bThis parameter is set to zero because it is redundant.

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

The third hypothesis predicts that adolescents at each of the two levels of school band would differ on their involvement in smoking, alcohol use, and delinquency. Each of the three problem behavior outcome hypotheses are discussed as follows.

H_{03a} : Adolescents who are studying at the band three level school are more likely to engage in delinquent behaviors than adolescents who are studying at the band one level school. That is, the mean level of delinquent activity will be higher for those studying at the band one level school.

An independent-samples t test was used to compare delinquency scores for students attending a band one level high school to those attending a band three level high school. Band three adolescents ($M = 4.93$, $SD = 6.14$) expressed significantly higher levels of delinquent behaviors than did the band one level adolescents ($M = 3.85$, $SD = 5.19$), $t(1034) = -3.39$, $p = .001$. Since there was a significant Levene's test for equality of variances, equal variances was not assumed. Based on this finding, the null hypothesis of no difference in students attending band one or band three school on delinquent behaviors is rejected. Results are presented in Table 26.

Table 26

Summary of Independent-Samples t Test to Compare Delinquency by School Band Level

Group	N	M	SD	df	t	p
School band level						
Band one	821	3.85	5.19	1034	-3.39	.001
Band three	547	4.93	6.14			

H_{03b} : Adolescents who are studying at the band three level school are more likely to be current smokers than adolescents who are studying at the band one level school.

The study compared smoking behavior (never smokers, not-current smokers, and current smokers) by the band level of the high school (band one versus band three). It was expected that the smoking behavior would vary by high school band level. A statistically significant chi-square test of independence, $\chi^2(2, 1363) = 105.61, p = .00$, indicated that smoking behavior was not independent of school band level, with band three level adolescents more likely to be current smokers ($n = 66, 12.4\%$). Moreover, band three level adolescents were less likely to be in the never smokers category ($n = 446, 83.5\%$) than band one level adolescents ($n = 815, 98.3\%$). Table 27 presents the results of this analysis.

Table 27

Crosstabulation of Smoking by School Band Level

School Band Level	Smoking Behavior Category						Total	
	Never Smokers		Not-current Smokers		Current Smokers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%		
Band one	815	98.3	8	1.0	6	.7	829	100.0
Band three	446	83.5	22	4.1	66	12.4	534	100.0
Total	1261	92.5	30	2.2	72	5.3	1363	100.0

$$\chi^2(2, 1363) = 105.61, p = .00$$

H_{03c} : Adolescents who are studying at the band three level school are more likely to be current alcohol users than adolescents who are studying at the band one level school.

Finally, the study also compared alcohol use (never drinkers, not-current drinkers, and current drinkers) by the band level of the high school (band one versus band three). It was

expected that alcohol use would vary by high school band level. A statistically significant chi-square test of independence, $\chi^2(2, 1350) = 43.54, p = .00$, indicated that alcohol use was not independent of school band level, with current drinkers more likely to be in the band three level school ($n = 66, 12.4\%$). Moreover, band three level adolescents were less likely to be in the never drank alcohol category ($n = 288, 54.2\%$) than band one level adolescents ($n = 573, 70\%$). Table 28 represents the findings of this analysis.

Table 28

Crosstabulation of Alcohol Use by School Band Level

School Band Level	Alcohol Use Category						Total	
	Never Drinkers		Not-current Drinkers		Current Drinkers			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%		
Band one	573	70.0	30	3.7	216	26.4	819	100.0
Band three	288	54.2	54	10.2	189	35.6	531	100.0
Total	861	63.8	84	6.2	405	30.0	1350	100.0

$$\chi^2(2, 1350) = 43.54, p = .00$$

Summary

The results of the statistical analyses used to describe the research sample and to test the three main hypotheses were presented in this chapter. A discussion of what can be derived from these finding is presented in Chapter 5.

Chapter 5: Discussion

The purpose of this study was threefold. The first purpose was to examine the prevalence of problem behaviors, such as smoking behavior, alcohol use, and delinquency among a cross-sectional sample of Hong Kong adolescents studying in high school. In addition, demographic variables were examined in the context of these three problem behavior outcomes. The second purpose was to explore the relationship between the study variables and the three problem behavior outcomes. Specifically, this study examined whether smoking, alcohol use, and delinquent behaviors could be predicted by various study variables such as, demographic characteristics, level of sensation seeking, psychological problem behavior (externalizing and internalizing problem behavior), and values orientation (conservation, openness to change, self-enhancement, self-transcendence, and hedonism). The final purpose was to evaluate the relationship between enrollment in different ability level high schools (band one and three) in Hong Kong and the problem behavior outcomes among these adolescents. That is, whether smoking, alcohol use, and delinquent behaviors were significantly different amongst adolescents from the band one or three high school.

This chapter presents the research findings in the context of four basic objectives. First, the prevalence and rate of problem behaviors (smoking, alcohol use and delinquency) are discussed, with also a focus on their relationship with assessed demographic variables. Second, the main study variables of sensation seeking, psychology problem behaviors, and values orientation are discussed. Third, research findings from the regression analyses and school band level comparisons are discussed, interpreted, and placed in context of the reviewed literature. Finally, the chapter concludes by presenting limitations of the study, providing implications for practitioners, and offers suggestions for future research.

Prevalence and Rate of Problem Behavior Outcomes

The current study reported on the prevalence and rate of problem behavior outcomes in an adolescent population living in Hong Kong. There was a variation in the sample size across the three outcome behaviors of smoking ($N = 1363$), alcohol use ($N = 1350$), and delinquency ($N = 1368$) due to the issue of missing data. Smoking behavior was measured categorically, and among the total sample of 1363 adolescents, 93% never smoked cigarettes or tried once, 2% use to smoke but not currently, and 5% were current smokers. As compared to non-Chinese populations (Netherlands), the current study rates are much lower than those found in the current literature: 50% never smoked/tried, 7% quit smoking, 22% occasionally smoked, and 19% smoked daily ($N = 175$; deLeeuw, Engles, Vermulst, & Scholte, 2009). Prevalence rates in the US (National Survey on Drug Use and Health, 2009) for adolescent (age 12 to 17) smoking in the past month was 11.4% in 2008, this was a decrease from 2002 with a rate of 15.2%. Although there is a discrepancy in rates when compared with adolescents abroad, the current study rates were more similar to Hong Kong rates. A recent government report of smoking by the Hong Kong Census and Statistics Department (2009a) reported 2.4% of youths between the ages of 15 to 19 were daily smokers. One Hong Kong study (Lee et al., 2009) showed rates of heavy smokers at 3.6% (more than 20 cigarettes in the past month), while another study (Griffiths et al., 2006) reported rates as follows: 96.4% never smoked, 3.4% lifetime smoking, 0.2% were current smokers (smoking 5 or more cigarettes a day). Furthermore, 0.4% of males and 0.07% of females were current smokers (Griffiths et al., 2006), which are much lower than rates from the current study (current smokers: 6% males and 4% females). For all past prevalence rates and for the current study, definition of current smokers differed, which most likely contributed significantly to the discrepancy in prevalence rates.

Alcohol use behavior was also a categorical variable, and among the total sample of 1350 adolescents, 64% never tried alcohol or tried once, 6% quit drinking, and 30% were current drinkers. These rates are higher than Hong Kong rates measured in 2000 (HKFYG, 2000), with 20% of adolescents (under 18 years of age) reporting alcohol use. When compared to US prevalence rates (The Center on Alcohol Marketing and Youth, 2006), underage alcohol use is at a lower rate. Monitoring the Future (The Center on Alcohol Marketing and Youth, 2006) reported that approximately one in six eighth-graders drank alcohol in the past month (one in three 10th-graders, and one in two 12th-graders), and were defined as current drinkers. Underage drinking prevalence rate for those ages 12 to 20 was at 28.2% (use in the past month) and by the end of high school, 75% (3 out of 4) of adolescents have used alcohol. Furthermore, the National Survey on Drug Use and Health (2009) reported approximately 10.9 million underage youths (ages 12 to 20) using alcohol in the past month and 7.2 million underage youths binge drinking (drinking 5 or more drinks at a time at least once in the past month).

Delinquent behaviors was a continuous variable that measured frequency of behaviors such as, cheating on tests/homework, making fun of or picking on others, shoplifting from a store, lying to a teacher, staying out all night without permission, or carrying a weapon at school. The current study's measure of delinquency was taken from Jessor et al.'s (2003) study, and comparing delinquency *T*-score rates, the rates for the current sample was 50.00, which is lower than US rates (52.32), but higher than rates in Mainland China (47.94). The gender differences in *T*-scores also mirrored these results, with Hong Kong adolescent male and female scores falling in between the U.S. scores (higher than Hong Kong) and Mainland China scores (lower than Hong Kong). In another study comparing 2142 high school students from Mainland China (i.e., Guangzhou) and Hong Kong, students from Hong Kong had significantly higher self-reported

delinquent behaviors (Cheung, Ngai, & Ngai, 2007). The mean level of delinquency for students in Guangzhou was 5.5 ($SD = 10.5$) while the mean for students in Hong Kong was 10.3 ($SD = 14.5$).

Correlational analyses showed a positive correlation between all three problem behavior outcomes, such that, as behavior increases in one problem behavior, behavior also increases with respect to the other two. For example, as delinquency increased, so did smoking and alcohol use behaviors. This confirmed Jessor's Problem Behavior Theory and past research on the covariance of problem behaviors (Arnett, 1998; Biglan et al., 2003; Biglan & Severson, 2003; Biglan & Wang, 2003; Donovan & Jessor, 1985; Griffiths et al., 2006; Kalman, Kim, DiGirolamo, Smelson, & Ziedonis, 2009; Magid et al., 2009; Piko & Kovács, 2009; Roberts et al., 2007; Weitzman & Chen, 2005). Furthermore, regression analyses found that problem behaviors of smoking, alcohol use and delinquent behavior, all predict each other.

Demographic Factors and the Problem Behavior Outcomes

Gender, age, country of origin, involvement in extracurricular/community activities, and employment status were assessed and analyzed in terms of the three problem behavior outcomes: smoking, alcohol use, and delinquency. School band level was also a demographic variable that was assessed as a function of the problem behavior outcomes. This will be discussed more extensively later in the chapter as it was one of the main hypotheses of this study.

For gender, results showed that there was no statistical difference between males and females as a function of smoking behavior, alcohol use, or delinquency. Although the mean for delinquent behaviors was higher in males, and there were more males in the current smokers and drinkers categories, this was not statistically significant. While the results did not indicate statistical significance, this is still consistent with past research that has found problem behavior

profiles to differ according to gender (Griffiths et al., 2006; Krantz, Lynch, & Russell, 2002; Roberts et al., 2007; Zweig, Lindberg, & McGinley, 2001), with males reporting on average, more problem behaviors than females. Roberts et al., (2007) found that males were more likely to have disruptive and substance use disorders while females exhibited fewer disorders (i.e., substance use, conduct behavior). With respect to delinquency, current study data was not consistent with past research in Hong Kong that found that females engaged in higher rates of certain delinquent behaviors (Davis et al., 1998; Feldman et al., 1991; Hui & Cheung, 1996; Lau & Leung, 1992a; 1992b). Notably, past literature may be outdated and current norms show no gender differences. For example, the current study confirms other research that examined the statistical significance of gender differences in which results found negligible gender differences (Ausems, Mesters, van Breukelen, & De Vries, 2009; deLeeuw et al, 2009; Hahm, Lahiff, & Guterman, 2004; Vaccaro & Wills, 1998). Furthermore, in a study (Hahm et al., 2004) examining gender differences in smoking and alcohol use among Asian Americans, results also did not find any gender differences in binge drinking and smoking.

Age was independent of delinquent behaviors, which is not consistent with past literature where older adolescents tend to engage in more problem behaviors, such as smoking (Audrain-McGovern et al., 2009; Faeh, Viswanathan, Chiolero, Warren, & Bovet, 2006; Lam et al., 2001a; 2001b) and delinquency (Declercq, Markey, Vandist, & Verhaeghe, 2009). Statistical analysis was not performed on the relationship between age and smoking and alcohol use due to a very small frequency in some of the behavior categories. Recent longitudinal research (Audrian-McGovern et al., 2009) on adolescent smoking behavior found that at baseline 5% of adolescents (10th graders; $N = 947$) were smoking daily, 7% smoking weekly, and 13% smoked at least once per month. Follow up data collection was at one and two years post-high school, and results

showed that daily smoking increased to 10%, weekly to 15%, and smoked at least once a month to 25%.

Country of origin was only related to smoking behaviors and alcohol use, where adolescents who were native to Hong Kong were more likely to be in the current smokers and drinkers categories. Country of origin was not related to delinquency. Delinquency may not be statistically related to the country of origin due to the disproportionate number of adolescents in the sample who were not native to Hong Kong. About 79% of the sample was Chinese originally from Hong Kong, while the rest of the sample was either Chinese from Mainland China (20%) or from other countries (1%). Tam and Lam (2005) examined delinquency and country of origin, and found that local-born adolescents in Hong Kong were more likely to report delinquent behaviors, as compared to migrant adolescents who were originally from Mainland China and had been living in Hong Kong for less than 7 years. Of noteworthy, this study found that as the length of residence in Hong Kong increases, the profiles of the migrant adolescents became more like local-born adolescents (ex., lower self-esteem and higher incidences of delinquency), suggesting the process of acculturation, specifically, a negative assimilation to their current social environment. These migrant adolescents start to incorporate mainstream local-born adolescents' thinking, values, and behaviors.

Involvement in extracurricular/community activities and employment status were not related to delinquency. Statistical analysis was not performed on the relationship between extracurricular/community activities and employment status with smoking and alcohol use due to a very small frequency in some of the behavior categories. The research literature itself is inconsistent in its stance on the benefits of organized extracurricular/community activities (Guest & Schneider, 2003; McNeal, 1999). Hence, studies have distinguished between the various

activities and its effects on problem behaviors. Research that studied extracurricular such as sports (especially team sports), has shown increases in alcohol use (frequency and binge drinking), problems with alcohol use (drinking and driving), and delinquency, especially in males (Fauth, Roth, & Brooks-Gunn, 2007; Gardner, Roth, & Brooks-Gunn, 2009; Guest & McRee, 2009; Mays & Thompson, 2009; Metzger, Crean, & Forbes-Jones, 2009). Others studies have found that delinquency decreases with involvement in athletics (Pate, Strost, Levin, & Dowda, 2000; Ripke, Huston, & Casey, 2006; Wichstrøm & Wichstrøm, 2009). In a study by Wichstrøm and Wichstrøm's (2009), this longitudinal study on a sample of 3251 adolescents found that participation in athletics such as team sports (as compared to individual sports) and endurance sports were associated with less tobacco and cannabis use. Verkooyen, Nielsen, and Kremers (2009) surveyed 16 to 22 year olds, and found that sports activity (outside of school time) was negatively related to smoking (i.e., involvement in sports activity was linked to less smoking behavior).

With alcohol use, gender differences may be linked to the fact that participating in male athletics is frequently associated with the tendency to socialize and attend parties where alcohol is present. With regard to age of initiation, adolescents who participated in sport activities were less likely to report alcohol use at 12 years or younger, as compared to male non-athletes (Mays & Thompson, 2009). May and Thompson's (2009) study also compared female athletes to non-athletes, female athletes were less likely to report any lifetime alcohol use, current use, and early use (12 years or younger). Other studies have shown that participation in nonathletic activities is associated with less delinquency (Hoffmann & Xu, 2002), since most structured activities (church groups, volunteering, chess club) are generally assumed to be beneficial for adolescents, especially with adult supervision.

Although this study did not statistically test the relationship between employment status and smoking, those who had a job were more likely to report smoking daily. These results are similar to the research by Ramchand, Ialongo, and Chilcoat (2007), who examined the effects of paid employment and cigarette smoking on a sample of 799 adolescents who had been followed since the first grade (predominantly African American youths). Results showed a significant relationship between working for pay and tobacco use. At approximately the 10th grade follow up time point, amount of time spent working and current smoking exhibited a positive relationship. Thus, increase in time spent working also showed an increase in smoking and also earlier initiation of tobacco use. This effect was especially notable when the adolescents worked more than 10 hours per week. When comparing adolescents who were not working, those who started work one year after the 10th grade follow up and those who worked over 2 consecutive follow ups, were also more likely to smoke at an earlier age.

Main Study Variables

Sensation seeking. Gender differences as a function of sensation seeking were also examined in the current study. On overall sensation seeking, males were significantly more likely to engage in novel, experience-seeking behaviors than females. This result is consistent with past literature, where sensation seeking levels of males were higher than females (Ke et al., 2007; Rosenblitt, Soler, Johnson, & Quadagno, 2001; Roth, Schumacher, & Brähler, 2005; Wang et al., 2000; Zuckerman, 2007; Zuckerman, 1994; Zuckerman et al., 1978). Difference in school band level as a function of sensation seeking were also examined, and on overall sensation seeking, there were no difference between band one and band three level adolescents.

Correlational analyses showed that as overall sensation seeking score increases, so does involvement in smoking (current smokers), alcohol use (current drinkers), and delinquent

behaviors. These results confirm the current literature on the positive correlation between sensation seeking and problem behaviors (Audrain-McGovern et al., 2004; Audrain-McGovern et al., 2009; Brunelle, Douglas, Pihl, & Stewart, 2009; Duangpatra, Bradley, & Glendon, 2009; Dunlop & Romer, 2009; Flory & Manuck, 2009; Kreek et al., 2005; Maldonado-Molina, Piquero, Jennings, Bird, & Canino, 2009; Ravert et al., 2009; Ray et al., 2009). In a study by Ravert et al. (2009), among 1690 college students from nine US colleges and universities, sensation seeking was found to be a reliable risk factor that was associated with various problem behaviors (i.e., substance use, impaired driving).

In a clinical trial to test the efficacy of an alcohol treatment program found that those who were low in sensation seeking and impulsivity, and had a short DRD4 genotype (genetic marker for sensation seeking trait) were more likely to reduce their drinking behavior outcome (Ewing, LaChance, Bryan, & Hutchison, 2009). Another study examined delinquency among Puerto Rican children and adolescents and found that sensation seeking and delinquency were robust factors in determining trajectories of delinquent offenders (Maldonado-Molina et al., 2009). Finally, Brunelle et al. (2009) examined 32 incarcerated female offenders and 32 matched female controls, and found that sensation seeking was a significant independent predictor of delinquent behavior (i.e., incarceration status).

Psychological problem behaviors. The prevalence of psychological problem behaviors as measured by the Youth Self Report found that current study *T*-scores of internalizing, externalizing, and total problem behaviors (scores ranging from 50.80 to 52.06) were higher than the standardized norms in the US (total problem behavior score of 44.2) and in Hong Kong (scores ranging from 48.4 to 48.7: Leung et al., 2006; Leung et al., 2008; Velhurst et al., 2003). When examining the gender and school band level differences as a function of psychological

problem behaviors (internalizing and externalizing problem behaviors), there were differences in gender and school band level only with internalizing problem behaviors. Females had significantly higher internalizing problem behavior scores than males. In the literature, a gender difference does exist for internalizing problem behaviors where females have exhibited more internalizing type problem behaviors, such as anxious/depressed, somatic complaints, and withdrawn symptoms (Davis et al., 2004; Fröjd et al., 2008; Leung et al., 2009; Mazza et al., 2009; Owens & Shippee, 2009). In a 2009 Hong Kong study of adolescents (age 12 to 18 years; $N = 1099$) by Leung et al., they found that adolescent females showed higher levels of depressive symptoms than males. Davis et al. (2004) found that Hong Kong adolescent females reported significantly more symptoms of depression and anxiety than males ($N = 710$).

Analyses on school band level, found that adolescents studying at the band one level school had higher internalizing problem behaviors. With regard to school band level (ability grouping), the research literature has produced results examining symptoms of internalizing problem behaviors (Cheng & Chan, 2008; Cheung & Rudowicz, 2003a; 2003b; Hui, 2000; Kemp & Watkins, 1996; Salili & Lai, 2003; Wong & Watkins, 2001). With regard to high ability schools (band one level), students attending these schools have less conduct behavioral problems, and have higher educational expectations (Hallinan, 1994; 1996; Kerckhoff & Glennie, 1999). Adolescents who attend these high ability schools tend also to have higher anxiety levels, more concerns with academic achievement (with more attribution to personal deficiencies), higher performance and achievement goals, and lower self-concepts than students from other ability level schools (Hui, 2000; Kemp & Watkins, 1996; Salili & Lai, 2003; Wong & Watkins, 2001; Zeidner & Schleyer, 1999). This may offer an explanation to why adolescents studying at high ability level schools exhibit poorer psychological well-being, specifically with

internalizing type problem behaviors (Cheng & Rudowicz, 2003a; 2003b). This is not to say that adolescents studying at a lower ability level school are immune from symptoms of internalizing problems. Research comparing school band levels has found that adolescents studying at a lower ability level school exhibited low self-efficacy, less learning strategies, low levels of positive attitude, motivation, and were anxious (Salili & Lai, 2003).

Analyses examining externalizing problem behaviors found no difference among males and females, and also no difference among adolescents attending a band one or band three level school. However, correlational analyses did find a positive relationship between externalizing problem behaviors and the three problem behavior outcomes, such that as externalizing problem behaviors increase, so does the behavior of smoking, alcohol use, and delinquency. With respect to delinquency and externalizing problem behaviors, many of the behaviors measured were exactly the same on both scales (e.g., shoplifting, vandalism, etc); hence, a strong correlation among these two variables.

In examining problem behavior outcomes, internalizing problem behaviors were positively related to alcohol use and delinquency, such that as internalizing problem behaviors increased, so did alcohol use and delinquency. Results were similar to those found in Mazza et al. (2009) where internalizing problems were related to alcohol use, and in a review of the literature by Blatt and Luyten (2009) that internalizing problems were positively related to delinquency. Smoking was not correlated with internalizing problem behaviors, which is not consistent with the results of a Hong Kong study (Lam et al., 2001a; 2001b) where results suggested that adolescents who reported depressive symptoms were also more likely to initiate smoking behavior and were less likely to quit smoking.

Values Orientation. All four of the higher order values orientation (conservation, openness to change, self-enhancement, and self-transcendence) and the basic values of hedonism were examined with respect to gender and school band level. Values orientation as a function of gender showed only significant differences in the values orientation of self-transcendence and hedonism, with females reporting higher self-transcendence and hedonistic orientations. Self-transcendence incorporates the two basic values orientation of universalism and benevolence. Those who report high universalistic traits are those who place high value on understanding, appreciation, tolerance, and protection for the welfare of all people for nature (Schwartz, 2006). Those who report high benevolence traits are those who place high value on preserving and enhancing the welfare of people with whom they have close contact with. Benevolence is more of an internally motivated trait as compared to conformity, where cooperation is valued to prevent negative consequences for themselves. Those who report high hedonistic traits are those who place high value on personal pleasure and sensuous gratification.

Society typically socializes males and females with different roles. These dissimilarities in gender roles, expectations, and motivations tend to also be expressed as different values orientation profiles. Specifically, according to Schwartz' Values Theory, males tend to attribute more importance to the basic values of power, achievement, hedonism, stimulation, and self-direction, while females tend to place more value on benevolence, universalism, conformity, and security values. These differences in values priority hold true cross-culturally (across 70 countries, including China and Hong Kong), although there are some variations in the degree or size of differences with respect to the values of conformity and tradition (Schwartz & Rubel, 2005). The results from this study do confirm the literature's findings that females significantly place higher values priority to the values orientation of benevolence and universalism, but does

not confirm the gender differences for hedonism. This study found that females place significantly place higher values priority to hedonistic traits, which goes against past findings that males tend to report more hedonistic values.

When school band level was examined, there were differences with all five values orientations, with band one level adolescents reporting higher levels of conservation, openness to change, self-enhancement, self-transcendence, and hedonistic values orientation. Individuals who have higher educational achievement and more educational experiences tend to be have more intellectual openness, flexibility in thinking, and are more self-directed. These traits are highly similar to the values orientation of self-enhancement (basic values: achievement-self success/ambition and power-social status/prestige, control over others and resources) and openness to change, which is made up of the basic values of stimulation (high values on excitement, novelty, and challenge in life) and self-direction (high values on independent thought and action, independent choice, creativity, and exploration).

Theoretically, the findings support Schwartz's (1992) theory of the interrelationships between values: the circular model. This circular model has been supported by more than 200 studies in over 70 countries (Bardi et al., 2009; Lee et al., 2008; Maio et al., 2009; Schwartz & Rubel, 2005; Vecchione et al., 2009). The correlations between the values orientation were consistent with Schwartz' theory structure (Schwartz, 1992) that a values orientation is more correlated to those that are adjacent to them, than those that are opposite or further away. For example, values orientation of conservation and openness to change were more strongly correlated to the values of self-enhancement and self-transcendence than to each other. The values orientations of self-enhancement and self-transcendence were more strongly correlated to the values of conservation and openness to change than to each other.

The four higher-order values orientations are organized as two pairs of conflicting dimensions (conservation vs. openness to change and self-transcendence vs. self-enhancement). The values that are directly opposite to each other in the values circle are not antonyms, but are in contradiction to each other based on their conflicting motivations. If one's motivations are conflicting, this usually leads to opposite judgments or behaviors; thus, if one's motivations are compatible, this often leads to the same behavior or judgment. For example (Bardi et al., 2009), if your supervisor asks you to do something that goes against your beliefs or judgment, there are two opposing paths that you may go: comply or not comply. If you choose not to comply, then you would satisfy your value of self-direction but go against your values of security and conformity. On the other hand, if you choose to comply, then you satisfy your values of security and conformity (adjacent to each other) while going against your values of self-direction (opposite values in the circle). Thus, pursuing differing values has psychological, social, and practical consequences that may be harmonious or conflicting with one another. Consequently, if one places high importance on holding values that are opposite to each other, it is certain that this will bring on internal conflict and may lead to diminished coping and overall well-being. Since band one level students had significantly higher levels of each values orientation than those students from the band three level school, this may certainly be linked to the fact that band one level students reported more internalizing problem behaviors. In addition, holding opposite values may produce social and practical problems, since behavior may become inconsistent which others may find to be quite frustrating and annoying. This may be especially valid for adolescents. In the current study, although correlations between values orientations are consistent with Schwartz's circular model, all correlations were still in the positive direction; thus, possibly indicating internal conflict among its responders.

High endorsement of achievement values has been found to correlate with anxiety, stress and emotional instability (Yik & Tang, 1996). According to Schwartz, higher values placed on openness to change, should coincide with a decrease in values priority placed with conformity (restraint of actions and impulses that upset or harm others and violate social expectations/norms), tradition (respect, commitment, acceptance of customs/thoughts of traditional culture/religion), and security (safety, harmony, stability of society, of relationships, and of oneself), which comprises the values orientation of conservation. This finding may not hold true cross culturally and was not found in the current study. Hong Kong adolescents are also faced with the traditional Chinese values of Confucius that place high priority on conformity, tradition and security. The basic values orientation of hedonism shares many of the traits of both openness to change and self-enhancement, and thus explains the high endorsement in all three values orientation.

Correlational analyses were performed on values orientation and the outcomes of smoking, alcohol use, and delinquency. With respect to smoking behavior, there was a negative relationship between the five values orientation (conservation, openness to change, self-enhancement, self-transcendence, and hedonism) and smoking, that is, current smokers were less likely to endorse high values on all five values orientation. Alcohol use was negatively correlated with the values orientation of conservation, and self-transcendence, and positively related to openness to change. Delinquency was negatively related to both conservation and self-transcendence, such that as delinquent behaviors increased, so the endorsement of values priority on obedience, tradition, social order, social justice, equality, and helpfulness decrease.

Predictors of Problem Behavior Outcomes

The current study investigated predictors of problem behavior outcomes (smoking, alcohol use, and delinquency) within an adolescent population living in Hong Kong. Linear and multinomial logistic regression analyses were used, with demographic variables, overall sensation seeking score, psychological problem behavior score (internalizing and externalizing behaviors), and values orientation as the predictor variables.

For delinquency, the following variables when entered into the linear regression equation were found to be predictors of delinquent behaviors: school band level, overall sensation seeking score, externalizing problem behavior score, values orientation of conservation, and the problem behavior outcomes of smoking and alcohol use. These variables accounted for a total of 31% of the variance explaining delinquency. Based on these findings, school band level, sensation seeking, externalizing problem behavior, values orientation of conservation, smoking behavior, and alcohol use may be predictive of delinquency and in the present study could identify delinquent adolescents accurately. Similar conclusions were drawn by several studies regarding the importance of these predictors as factors related to delinquency (Davis et al., 1998; Donohew et al., 2000; Goff & Goddard, 1999; Kalichman et al., 2002; Zuckerman, 1994). However, internalizing problem behavior score and the values orientation of self-transcendence, although correlated with delinquency, were not significant predictors of these behaviors.

For smoking behavior, multinomial logistic regression analyses found that school band level, sensation seeking, externalizing problem behaviors, values orientation of openness to change, and alcohol use all predictive of smoking behavior. Specifically, sensation seeking, externalizing problem behaviors, school band level, and alcohol use were reliable predictors of current smokers from never smokers, while the values orientation of openness to change, school

band level, and alcohol use were reliable predictors of not-current smokers from never smokers. Similar conclusions were drawn by several studies regarding the importance of these predictors as factors related to smoking behavior (Davis et al., 1998; Donohew et al., 2000; Goff & Goddard, 1999; Kalichman et al., 2002; Kalman et al., 2009; Magid et al., 2009; Saraceno et al., 2009; Weitzman & Chen, 2005; Whiteside & Lynam, 2009; Zuckerman, 1994).

The study's significant predictor variables accounted for a total of 40.0% of the variance explaining smoking behavior category, and was able to correctly classify 93.4% of the observations. However, the present study failed to find predictive significance with the variables of delinquency, internalizing problem behaviors, gender, and the values orientations of conservation, self-enhancement, self-transcendence, and hedonism, suggesting that these variables do not differentiate between the smoking behavior categories. Magid et al. (2009) found that internalizing problem behaviors (i.e., negative affect) was a significant predictor of smoking behavior, which this study did not confirm.

For alcohol use, multinomial logistic regression analyses found that age, school band level, sensation seeking, internalizing problem behaviors, values orientation of openness to change and self-transcendence, and the problem behavior outcomes of smoking and delinquency, were all predictive of alcohol use behavior. Specifically, sensation seeking, internalizing problem behaviors, school band level, values orientation of openness to change and self-transcendence, and smoking and delinquency were reliable predictors of current drinkers from never drinkers, while the school band level, sensation seeking, age, and smoking behavior were reliable predictors of not-current drinkers from never drinkers. In comparison to the literature, similar conclusions were drawn by several studies regarding the importance of these predictors as a factor related to alcohol use (Davis et al., 1998; Donohew et al., 2000; Goff & Goddard, 1999;

Kalichman et al., 2002; Piko & Kovács, 2009; Saraceno et al., 2009; Weitzman & Chen, 2005; Whiteside & Lynam, 2009; Zuckerman, 1994), while Skeer et al. (2009) found that internalizing problem behaviors were not significant predictors of alcohol use disorders.

The study's significant predictor variables accounted for a total of 23.5% of the variance explaining alcohol use behavior category, and was able to correctly classify 70.6% of the observations. However, the present study failed to find predictive significance with the variables of externalizing problem behaviors, and the values orientation of conservation, suggesting that these variables do not differentiate between the alcohol use behavior categories.

School Banding and Problem Behavior Outcomes

When examining the differences between adolescents who attend a band one or band three level school, there were significant findings with all three of the problem behavior outcomes. Adolescents studying at a band three level school were significant more likely to be categorized as current smokers and drinkers, and also reported more delinquent behaviors.

For adolescents, the majority of the day is spent at school; hence, the school itself may become a significant risk or protective factor for the engagement of problem behaviors. School climate and attachment to school and teachers have been found to serve as protective factors against involvement with problem behaviors (Fitzpatrick, Piko, & Wright, 2005; Simons-Morton, Davis Crump, Haynie, & Saylor, 1999). The question of whether these results are related to higher ability students or better teaching methods, could not be determined in this current study nor other studies (Salili & Lai, 2003), as the variable of school band level may have been confounded with the ability levels as well as the socioeconomic background of the students (which could not be measured in this study due to missing data). However, it can be construed that higher ability level schools provide students with a more optimum learning

environment and the majority of students are of higher ability (Salili & Lai, 2003). The issues that lower ability level schools face are further complicated by inadequate resources and facilities, lack of quality teachers, in addition to negative peer group influences. Maehar and Midgely (1996) found that in North America, poor school environments do have an affect on student learning, performance, and motivation, and also have students of lower socioeconomic backgrounds. Furthermore, school drop out rates, and learning and behavioral problems are more prevalent in lower ability level schools (Raffini, 1993).

Implications of Findings

There are a number of important implications that must be addressed. First, the findings add to a slow-growing literature illustrating how cultural and individual values may be good predictors of engagement in adolescent problem behaviors of smoking, alcohol use, and delinquency (especially in Hong Kong adolescents). Second, these findings suggest that Hong Kong students who attend a band one level school or a band three level school are significantly different in their propensity to engage in problem behaviors. Overall, this information may be useful to clinicians (i.e., psychologist, counselors, and social workers), teachers, teacher educators, and school administrators when working with or helping adolescents.

This study highlights the importance of values orientation in predicting adolescents' problem behavior. From a practical standpoint, the design of clinical interventions might benefit from the knowledge that altering or instilling values is a more effective approach to reducing problem behaviors than are direct attempts to control the behavior itself. Although intuitively, this might be apparent, numerous existing programs including juvenile delinquency programs continue to exercise an authoritarian approach to controlling youths' behavior (Greenwood, 2008), and place little if any emphases on building youths' relationships with individuals who

might provide positive guidance to youths (i.e., individuals who are supportive of youths, but who also endorse mainstream values).

Understanding a person's core values provides insight about how values may act as motivators for behavior change. Much research on values and health behavior change has been conducted in the context of motivational interviewing (MI), a patient-centered directive counseling method that enhances intrinsic motivation to change by helping individuals explore and resolve behavioral ambivalence (Miller & Rollnick, 1991; 2002). This method of counseling was first used in substance abusers, and since then, has been used in numerous settings, such as HIV prevention, smoking cessation, diet and exercise, and medication adherence (Hettema, Steele, & Miller, 2005). Motivational Interviewing has been shown to be effective in facilitating behavior change in over 70 clinical trials (Hettema et al., 2005) and has a specific component of the therapy that focuses on an individual's values and its discrepancies with behavior.

Furthermore, with respect to the ability of changing an individual's values orientation, studies in the field of values have found that merely reminding or activating a value ("priming") can increase an individual's behavior in pursuit of that particular motive or value (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001; Hertel & Kerr, 2001; Macrae & Johnston, 1998; Maio et al., 2009). For example, in one particular study, when the value of 'helpfulness' was primed, participants were more likely to offer help to an experimenter during a minor lab accident, as compared to those participants who were not primed (Macrae & Johnson, 1998). This also confirms the fact that in guiding adolescents through behavior change, targeting values may be a great way to indirectly change behavior without as much resistance.

With respect to prevention and intervention practices, it is essential to take individual differences into account when investigating adolescents' behaviors and needs. Prevention and

intervention programs must pay attention to the population they target and consider the possible student differences. In order to best serve students, schools may want to conduct research on their own students to determine effective intervention based on the unique needs of their students. Certainly, intervention to target those with externalizing problem behaviors may not be effective for adolescents with internalizing problem behaviors. Furthermore, throughout high school, risk assessments should be regularly completed to determine the particular student needs within schools.

This sample represented a population that is often underrepresented in similar research. The adolescents were from high and low ability level schools, thus this study's distinction between adolescents attending different ability level schools uniquely contributed to the current research literature. Across all three problem behaviors studied in this research, band three level adolescents (low ability school) had significantly more current smokers and alcohol users and more delinquency. In a Hong Kong study by Davies and colleagues (2004), positive school environments, as typically found in band one level schools, was found to be a protective factor in preventing adolescents from engaging in delinquent behaviors. These schools foster both psychological and intellectual development. Adolescents at high risk for delinquency were found to attend less favorable school environments (band three level schools).

For those adolescents who engage in problem behaviors, they must be given the opportunity to perceive that they are losing a lot because they are engaging in these risks. Adolescents must be given a greater opportunity to feel that they have something to lose by engaging in risk behavior. Those who perceive that they have little to lose (no hope because they are attending a low ability school), may be more likely to participate in risky activities. It is possible that programmatic efforts to stimulate an adolescent's thinking and interest in academic

pursuits may be one of the most salient interventions we can provide. This is to ensure that adolescents' experimentation with smoking, alcohol, and delinquent behaviors as part of normal development does not evolve into anti-social lifestyles which may limit their growth into adulthood. Programs that involve working with youth to increase the salience of opportunities that are incompatible with problem behaviors are encouraged. Similarly, several programs that emphasize positive youth development have proven to effectively reduce adolescent risk behavior, including Raising Healthy Children (Catalano et al., 2003), the Seattle Social Development Project (Hawkins et al., 2007; Oesterie, Hill, Hawkins, & Abbott, 2008), and Strengthening Families Program (Molgaard, Kumpfer, & Spoth, 1994).

Finally, this study has its implications for teachers, teacher educators, and school administrators. The ability to identify protective factors and screen for risk factors or problem behaviors will improve their ability to educate, counsel, and refer adolescents when needed. Furthermore, school administrators and teachers need to be aware of the problem behaviors that may be specific to their schools at a particular point in time. For example, in lower ability level schools (band three), problematic behaviors of smoking, alcohol use, and delinquency may be more salient than in higher ability level schools (band one) where internalizing psychological problem behaviors may be more prevalent.

In teacher education, the changing contexts of the adolescent and their family must be considered in its impact on adolescent learning and growth. Moreover, there is a need to reduce the stigmatization and discrimination against adolescents from lower ability level high schools, and to provide them with a more supportive school environment. As such, as trivial as it sounds, adolescents and their parents must also be educated on how to ask for help, especially in a culture where asking for external guidance is considered to be a source of family shame and

disgrace. In a culture where parents place high importance and give much attention to their adolescent's education, the school may be a great entry point for providing parents with assistance, especially those parents who would otherwise be reluctant to obtain professional help. Consequently, a supportive school environment is needed for parents and adolescents. In such an environment, student or family problems may be revealed or detected, but more importantly, where guidance and assistance is readily available.

Furthermore, the context of the guidance should be different depending on the school, where in higher ability level schools, there should be a focus on internalizing problem behaviors (i.e., depression, anxiety), while in lower ability level schools there should be a focus on academic motivation and the propensity for engagement in problem behaviors. Another crucial point is that in order to foster a positive educational environment for these students, it is advantageous to borrow from Western experience, prevention and intervention strategies, but more importantly, it is imperative that these experiences and strategies must be adapted to suit the Chinese culture within the Hong Kong context.

Limitations of Study

This study has some limitations that should be noted. First, this study did encounter some questionnaire completion issues with certain variables, such as socioeconomical status, GPA, and religious involvement (i.e., significant omissions or multiple responses for the same question). Among those who did not correctly complete these questions, there were no significant differences in gender, school band level, and age. One possibility is that the adolescent did not understand the instructions for that specific question or did not know the actual response to be given (i.e., parent's highest education level or job status). For the questions assessing socioeconomical status (i.e., type of employment, salary, highest level of education completed),

there were nine response choices for each of their parents (mother and father), with both columns side by side, confusion may have arose due to too many response choices and the physical layout of the responses. Future research may also consider having a parent complete these questions.

For the question assessing current GPA (i.e., “What kind of grades do you usually get?”), confusion in response may have also been due to the numerous response categories (i.e., 11 response choices: “Mostly A’s”, “A’s and B’s”, “Mostly A’s and B’s, and some C’s”, “Mostly B’s”, etc). Furthermore, some students may not have been aware of their current GPA, since the questionnaire was given in the month of January, when mid-term exams were just about to begin. More importantly, it would be interesting to find out if there was anything that was remarkable about those students who chose not to answer or chose multiple responses to these questions (i.e., shame/guilt in having lower grades, or in their socioeconomical status).

A single question assessed religious involvement: “How many times have you gone to church or religious or spiritual services during the past six months?” (six response categories). Comprehension of the question may have been the main issue for missing or multiple data. Additional questions should have been incorporated into the questionnaire packet; for example, questions regarding religious involvement that goes beyond asking about frequency (i.e., importance of religious beliefs in their lives, asking for divine guidance or help, and their belief in God or the Divine). In general, future research should also provide question examples to aid in the comprehension of the question.

Another limitation is that this study’s design did not control for the possibility of a social desirability effect (Davis, Thake, & Vilhena, 2009; Ross & Fernández-Esquer, 2005). This is true for both the band one and band three level schools. The questionnaires were anonymous (i.e., teachers were not present, only the research assistant), however, participants may have been

concerned with confidentiality as the questionnaires were completed in a classroom setting surrounded by their peers. For adolescents attending the band one level school (high ability school), where academic achievement and exemplary behavior is expected, they may be more likely to underreport the extent of their involvement in smoking, alcohol use, and delinquency. For adolescents attending the band three level school (low ability school), they may feel pressures of conforming to peer standards of the normalcy of reporting problem behaviors. Therefore, participants in the study may have indicated lower or higher levels of problem behaviors to conform to perceived social norms. Unfortunately, social desirability was not measured in this study; thus, future research should include a measure of social desirability or may have students complete questionnaires in a different location, such as, community centers or at their home (i.e., mail in responses).

Finally, this current study had a large sample size, which may have increased the power to detect statistical differences (i.e., inflating the results), so even very small differences may have been detected. If a smaller sample had been used the same findings may not be observed. This study was mostly exploratory, the combination of these variables have not been examined in this particular sample in the literature; thus, the use of a more stringent p level ($p \leq .01$ as compared to the current level of $p \leq .05$) may be more appropriate for future research. Finally, conducting the study with a different, perhaps smaller, sample may lead to slightly different findings. For example, a high risk-taking sample may be used, such as with other low ability level or alternative schools or in more specific samples such as those who do not attend school (drop outs), are incarcerated, or in clinical treatment for addictions or psychological problem behaviors.

Directions for Future Research

Scientific evidence on the patterns and causes of youth problem behavior, both qualitative and quantitative, is essential for developing rational and effective responses to the problem. While an understanding of the phenomenon of problem behaviors has greatly progressed, there are still gaps that remain in the study of Chinese adolescents (especially those from Hong Kong) and problem behaviors, which future empirical research should complete.

The results of this study reveal some areas for future research that are likely to provide further insight into adolescent problem behavior. First, it is clear that longitudinal studies that begin with children before adolescence and that follow them through to adulthood are imperative. Data on the antecedents to smoking, alcohol use, and delinquency need to be collected before the adolescent has engaged in problem behavior, so that evidence of causal effects may potentially be examined. Furthermore, the effects of developmental growth and life-changing events may have its effect on an adolescent's values system (Bardi et al., 2009), thus further supporting the need for longitudinal research designs.

Second, though the current research utilized the literature in a number of inter-related fields to formulate the essential variables which were to be included in the regression analyses, the list of independent variables did not include several key factors which have been implicated in adolescents' decision to engage in problem behaviors. For example, the literature on adolescent problem behaviors clearly show that peer modeling and the frequency and quality of parental monitoring/supervision and relationships are all strong correlates to problem behavior development (Brook, Brook, Zhang, & Cohen, 2009; Cookston, 1999; Darling, Cumsille, & Martinez, 2008; Duangpatra, Bradley, & Glendon, 2009; Ellickson, Tucker, & Klein, 2008; Hoeve et al., 2009; Jessor et al., 1995; Le et al., 2009; Monahan, Steinberg, & Cauffman, 2009;

Nelis & Rae, 2009). Studies in Hong Kong have shown that negative peer influence is one of the strongest predictors for problem behaviors (i.e., delinquency, smoking, alcohol use, substance use), while family variables were found to be protective against these deviant behaviors (Abdullah & Ho, 2006; Cheung et al., 2007; Cheung, Liu, & Lee, 2005; Cheung & Ngai, 2007; Cheung & Tse, 2008; Davis et al., 2004; Griffiths et al., 2006; Lai, Ho, & Lam, 2004; Leung et al., 2009; Liu & Fung, 2005; Lou & Shek, 2006; Ngai et al., 2007; Shek, 2007; Wong, Lok, Lo, & Ma, 2008). It is possible that critical variables such as these confounded the relationship between current study variables. Thus there is a need for further refinements to this study's theoretical basis for future research.

Third, it would be an interesting expansion of this research to replicate this study with a high risk-taking sample, such as with other low ability level or alternative schools or in more specific samples such as those who do not attend school (drop outs), are incarcerated, or in clinical treatment for addictions or psychological problem behaviors. Those adolescents are at higher risk for participation in problem behaviors and therefore the effects of protective factors and risk factors may be very different for them. Another expansion would be a more intricate study looking specifically at those adolescents who choose not to engage in problem behaviors, abstainers, or those who just experiment with problem behaviors, to identify factors that uniquely protect them from engaging in any problem behaviors.

Fourth, since this research was mostly exploratory all those variables that were significantly correlated with the outcome variables were entered into the regression analysis together as one block. An expansion to the current research should examine precisely each variable's unique contribution to the total variance.

Lastly, it may be interesting in future research to study the relationship between Hong Kong adolescent problem behaviors and a teacher's or parent's contribution to the problem (i.e., stereotypes, parenting style, and teacher/parent personality traits). An interesting point evolving from this research is that lower band level students had significantly more incidences of engagement in problem behavior. Thus, teachers' and parents' perception on adolescent problem behavior should also be examined, especially adolescents attending differing ability level schools. One thought is that teachers' and parents' perceptions of adolescents attending lower ability level schools may have demonstrated some prejudicial stereotypes that could indirectly affect behavior. This may in part be attributed to the constraint that only problematic behavioral cases come to the notice of teachers and parents. Cultural values within Hong Kong schools and family environments seem to be continually evolving and being negotiated. Teachers' and parents' role in their support for the adolescent in changing cultural values may have to be defined and redefined.

Conclusion

The present study contributes to the existing literature in four major ways. First of all, the present study provided current prevalence rates of problem behaviors in a population of Hong Kong adolescents. The findings obtained from this study, both descriptive and statistical, provide a profile of Hong Kong adolescent smoking, alcohol use, and delinquency patterns. Second, the study provided additional support for the theoretical positions of Problem Behavior Theory, Sensation Seeking Theory, and Values Theory in this population of adolescents. Thirdly, the study is the only one to investigate values orientation and problem behaviors in a sample of adolescents in Hong Kong. Lastly, the study is the only one to investigate the difference in

problem behaviors between differing ability level schools in Hong Kong (high and low level school).

Findings emphasize the importance and confirm past literature that school environment (different ability level of school), sensation seeking traits, psychological problem behaviors, and values orientation as significant predictors of problem behavior. Theoretically, this study is among the first to test the predictive value that integrates these predictors in a sample of Hong Kong adolescents. Although several of these relationships have been examined individually in past research, the integration of these factors resulted in valuable insights into which adolescents are more prone to engage in problem behaviors.

Over the past three decades, a great amount has been learned about the nature and causes of adolescent problem behaviors and how to prevent them. This knowledge, although based mainly on research from western culture, provides a foundation from which to develop successful programs to prevent adolescent problem behaviors. However, more attention is merited for the investigation of engagement in problem behaviors in Hong Kong adolescents. Based on the present state of knowledge, the current study findings and recommendations, if implemented, should lead to greater understanding and more effective prevention and treatment of adolescent problem behaviors.

The detrimental effects of adolescent problem behavior are broad and far-reaching, from victims of juvenile crimes to health care providers to school systems, to the adolescent's own family, health, and future. As this study shows, the predictors of problem behavior and means for prevention/intervention remain dramatically underexplored in adolescents living in Hong Kong. This study attempts to take a small but significant step toward enhancing that understanding and to identify directions for future research that may be fruitful in continuing that effort.

APPENDIX A
WAYNE STATE UNIVERSITY
COLLEGE OF EDUCATION

**ADOLESCENT HEALTH AND DEVELOPMENT
QUESTIONNAIRE**

INSTRUCTIONS

1. Please answer the questions in the order they appear in the booklet.
2. Fill in the circle next to your best answer or circle your best answer to each question.
3. There are no right or wrong answers. Please be as truthful as you can.
4. Your answers will be completely confidential. No one but the researchers will ever see your answers. Your name is not on any of the pages.
5. You have the right to skip any question that you do not want to answer.
6. You can stop filling out the questionnaire at any time you wish.

We hope you enjoy taking the questionnaire!

PLEASE GO TO PAGE 1 AND BEGIN ANSWERING THE QUESTIONS.

The following questions are about your background.

1. What sex are you? Male Female
2. How old are you now? 13 14 15 16 17 18 19
3. In what month were you born?

<input type="checkbox"/> Jan	<input type="checkbox"/> March	<input type="checkbox"/> May	<input type="checkbox"/> July	<input type="checkbox"/> Sept	<input type="checkbox"/> Nov
<input type="checkbox"/> Feb	<input type="checkbox"/> April	<input type="checkbox"/> June	<input type="checkbox"/> Aug	<input type="checkbox"/> Oct	<input type="checkbox"/> Dec
4. What grade are you in? Form 1 Form 2 Form 3 Form 4 Form 5
 Form 6 Form 7 Already graduated
5. What kind of grades do you **usually** get?

<input type="checkbox"/> Mostly A's
<input type="checkbox"/> A's and B's
<input type="checkbox"/> Mostly A's and B's, and some C's
<input type="checkbox"/> Mostly B's
<input type="checkbox"/> Mostly B's and C's
<input type="checkbox"/> Mostly B's and C's, and some D's
<input type="checkbox"/> Mostly C's
<input type="checkbox"/> Mostly C's and D's
<input type="checkbox"/> Mostly C's and D's, and some F's
<input type="checkbox"/> Mostly D's
<input type="checkbox"/> Mostly D's and F's
6. Mark below all of the people you are living with this year.

<input type="checkbox"/> Mother	
<input type="checkbox"/> Father	
<input type="checkbox"/> Stepmother	
<input type="checkbox"/> Stepfather	
<input type="checkbox"/> Brothers or stepbrothers.	How many? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 or more
<input type="checkbox"/> Sisters or stepsisters.	How many? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 or more
<input type="checkbox"/> Foster parents	
<input type="checkbox"/> Grandparents	
<input type="checkbox"/> Aunts and/or uncles	
<input type="checkbox"/> Your own child (or children)	How many? <input type="checkbox"/> 1 <input type="checkbox"/> 2 or more
<input type="checkbox"/> Other people.	Who? _____
7. Do your parents live together?

<input type="checkbox"/> Yes
<input type="checkbox"/> No, they're divorced
<input type="checkbox"/> No, they're separated and not living together
<input type="checkbox"/> No, my mother is not alive
<input type="checkbox"/> No, my father is not alive

8. What is your race or ethnic group?

- Chinese from Hong Kong
 Chinese from Mainland China Mainland China Other
 Other What? _____

9. What language is spoken most often in your home?

- Cantonese
 Mandarin
 Other What? _____

10. How many hours a week do you spend working at a paying job?

- None 1-10 Hours 11-20 Hours More Than 20 Hours

11. How many times have you gone to church or religious or spiritual services during the past six months?

- Once a week or more
 2-3 times a month
 About once a month
 About every other month
 Once or twice
 None in the past six months

This section asks about smoking.

12. Have you **ever** smoked a cigarette (not just a few puffs)?

- No, never
 Yes, but only once
 A few times
 More than a few times
- IF YOU MARKED ONE OF THESE TWO CIRCLES,
 SKIP TO NEXT SECTION ON ALCOHOL, QUESTION 16.**

13. Have you smoked cigarettes in the past 12 months?

- No **→ IF NO, SKIP TO QUESTION 16.**
 Once or Twice A Few Times More than a Few Times

14. During the **past month**, how many cigarettes have you smoked on an average day?

- None at all About half a pack a day
 Less than one cigarette a day About a pack a day
 Between 1 and 3 cigarettes a day About 1 ½ packs a day
 Between 4 and 8 cigarettes a day About 2 packs or more a day

15. How old were you when you **first** smoked a cigarette? _____ Years Old

This section is about alcohol.

16. Have you **ever** had a drink of beer, wine, or liquor – **not just a sip or a taste of someone else's drink?**

- Yes No

17. Have you had a drink of beer, wine, or liquor **more than two or three times in your life – not just a sip or a taste of someone else’s drink?**

- Yes No → **IF YOU MARKED NO, SKIP TO QUESTION 22**

18. During the **past six months**, how often did you drink alcohol?

- No → **IF YOU MARKED NO, SKIP TO QUESTION 22**
 Once or twice in the past 6 months
 3-4 times in the past 6 months
 About once a month
 Two or three times a month
 Once a week
 Two or three times a week
 Four or five times a week
 Every day

19. Over the **past six months**, how many times did you drink **four or more** drinks of beer, wine, or liquor when you were drinking?

- Never 2 or 3 days a month
 Once Once a week
 2-3 Times Twice a week
 4-5 Times More than twice a week
 Once a month

20. Over the **past six months**, how many times has each of the following happened **because you had been drinking?**

	Never	Once	Twice	3-4 Times	5 or more Times
a. You’ve gotten into trouble with your parents because you had been drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. You’ve had problems at school or with schoolwork because you had been drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. You’ve had problems with your friends because you had been drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. You’ve had problems with someone you were dating because you had been drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. You’ve gotten into trouble with the police because you had been drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. In the **past six months**, about how many times have you gotten **drunk** or “very very high” on alcohol?

- Never 2 or 3 days a month
 Once Once a week
 2-3 Times Twice a week
 4-5 Times More than twice a week
 Once a month

Think about how you see your future.**I think the chances are:**

	Very Low	Low	About Fifty-Fifty	High	Very High
22. WHAT ARE THE CHANCES THAT:					
22a. You will graduate from high school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22b. You will have a job that pays well?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22c. You will be doing the kind of work that you like?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22d. You will have a happy family life?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22e. You will be respected by other people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**DURING THE PAST SIX MONTHS,
HOW OFTEN HAVE YOU:**

	Never	Once	Twice	3-4 Times	5 or more Times
23a. Cheated on tests or homework?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23b. Shoplifted from a store?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23c. Damaged or marked up public or private property on purpose?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23d. Lied to a teacher about something you did?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23e. Taken something of value that doesn't belong to you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23f. Stayed out all night without permission?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23g. Lied to your parents about where you have been or who you were with?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23h. Hit another student because you didn't like what he or she did?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23i. Carried a weapon, like a knife or gun, at school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23j. Made fun of or picked on other kids because they are different or not part of your group?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24. Last school year, did you get suspended or expelled from school? Yes No
25. Have you ever been a part of a gang or a triad?
 No, Never
 Yes, I am currently involved in a gang/triad.
 Yes, but not anymore.

These next questions are about different types of school and community activities.

26. Do you belong to any school clubs or organizations (besides sports teams), like the drama club, school newspaper, peer counselors, and so on?
 Yes No
 If Yes, about how many hours **a week** do you spend in those activities? _____ hours
27. Do you belong to any community groups (like Boy Scouts or Big Sisters), or to any church groups (like choir, Bible study, or youth group)?
 Yes No
 If Yes, about how many hours **a week** do you spend in those activities? _____ hours
28. Do you do any kind of volunteer work in the community?
 Yes No
 If Yes, about how many hours **a week** do you spend in those activities? _____ hours

Person Profiles IVM

Here we briefly describe some people. Please read each description and think about how much each person is or is not like you. Put an X in the box to the right that shows how much the person in the description is like you.

HOW MUCH LIKE YOU IS THIS PERSON?

	Ver y muc h like me	like me	som e- wha t like me	a little like me	not like me	not like me at all
1. Thinking up new ideas and being creative is important to him. He likes to do things in his own original way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. It is important to him to be rich. He wants to have a lot of money and expensive things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. He thinks it is important that every person in the world be treated equally. He believes everyone should have equal opportunities in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. It's very important to him to show his abilities. He wants people to admire what he does.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. It is important to him to live in secure surroundings. He avoids anything that might endanger his safety.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. He thinks it is important to do lots of different things in life. He always looks for new things to try.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. He believes that people should do what they're told. He thinks people should follow rules at all times, even when no-one is watching.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. It is important to him to listen to people who are different from him. Even when he disagrees with them, he still wants to understand them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. He thinks it's important not to ask for more than what you have. He believes that people should be satisfied with what they have.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. He seeks every chance he can to have fun. It is important to him to do things that give him pleasure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. It is important to him to make his own decisions about what he does. He likes to be free to plan and to choose his activities for himself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. It's very important to him to help the people around him. He wants to care for their well-being.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Being very successful is important to him. He likes to impress other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

HOW MUCH LIKE YOU IS THIS PERSON?

	Ver y muc h like me	like me	som e- wha t like me	a little like me	not like me	not like me at all
14. It is very important to him that his country be safe. He thinks the state must be on watch against threats from within and without.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. He likes to take risks. He is always looking for adventures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. It is important to him always to behave properly. He wants to avoid doing anything people would say is wrong.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. It is important to him to be in charge and tell others what to do. He wants people to do what he says.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. It is important to him to be loyal to his friends. He wants to devote himself to people close to him.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. He strongly believes that people should care for nature. Looking after the environment is important to him.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Religious belief is important to him. He tries hard to do what his religion requires.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. It is important to him that things be organized and clean. He really does not like things to be a mess.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. He thinks it's important to be interested in things. He likes to be curious and to try to understand all sorts of things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. He believes all the worlds' people should live in harmony. Promoting peace among all groups in the world is important to him.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. He thinks it is important to be ambitious. He wants to show how capable he is.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. He thinks it is best to do things in traditional ways. It is important to him to keep up the customs he has learned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Enjoying life's pleasures is important to him. He likes to 'spoil' himself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. It is important to him to respond to the needs of others. He tries to support those he knows.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. He believes he should always show respect to his parents and to older people. It is important to him to be obedient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

HOW MUCH LIKE YOU IS THIS PERSON?

	Ver y muc h like me	like me	som e- wha t like me	a little like me	not like me	not like me at all
29. He wants everyone to be treated justly, even people he doesn't know. It is important to him to protect the weak in society.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. He likes surprises. It is important to him to have an exciting life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. He tries hard to avoid getting sick. Staying healthy is very important to him.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Getting ahead in life is important to him. He strives to do better than others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Forgiving people who have hurt him is important to him. He tries to see what is good in them and not to hold a grudge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. It is important to him to be independent. He likes to rely on himself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Having a stable government is important to him. He is concerned that the social order be protected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. It is important to him to be polite to other people all the time. He tries never to disturb or irritate others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. He really wants to enjoy life. Having a good time is very important to him.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. It is important to him to be humble and modest. He tries not to draw attention to himself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. He always wants to be the one who makes the decisions. He likes to be the leader.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. It is important to him to adapt to nature and to fit into it. He believes that people should not change nature.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for your cooperation!

Sensation Seeking Scale – form V (SSS-V)

Interest and preference test

Directions: Each of the items below contains two choices A and B. Please indicate which of the choices most describes your likes or the way you feel. In some cases you may find items in which both choices describe your likes or feelings. Please choose the one which better describes your likes or feelings. In some cases you may find items in which you do not like either choice. In these cases mark the choice you dislike least. Do not leave any items blank. It is important you respond to all items with only one choice, A or B. We are interested only in your likes or feelings, not in how others feel about these things or how one is supposed to feel. There are no right or wrong answers as in other kinds of tests. Be frank and give your honest appraisal of yourself.

1.	A.	I like “wild” uninhibited parties.
	B.	I prefer quiet parties with good conversation.
2.	A.	There are some movies I enjoy seeing a second or even third time.
	B.	I can’t stand watching a movie that I’ve seen before.
3.	A.	I often wish I could be a mountain climber.
	B.	I can’t understand people who risk their necks climbing mountains.
4.	A.	I dislike all body odors.
	B.	I like some of the earthy body smells.
5.	A.	I get bored seeing the same old faces.
	B.	I like the comfortable familiarity of everyday friends.
6.	A.	I like to explore a strange city or section of town by myself, even if it means getting lost.
	B.	I prefer a guide when I am in a place I don’t know well.
7.	A.	I dislike people who do or say things just to shock or upset others.
	B.	When you can predict almost everything a person will do and say he or she must be a bore.
8.	A.	I usually don’t enjoy a movie or play where I can predict what will happen in advance.
	B.	I don’t mind watching a movie or play where I can predict what will happen in advance.
9.	A.	I have tried marijuana or would like to.
	B.	I would never smoke marijuana.
10.	A.	I would not like to try any drug which might produce strange and dangerous effects on me.
	B.	I would like to try some of the drugs that produce hallucinations.
11.	A.	A sensible person avoids activities that are dangerous.
	B.	I sometimes like to do things that are a little frightening.
12.	A.	I dislike “swingers” (people who are uninhibited and free about sex).
	B.	I enjoy the company of real “swingers.”
13.	A.	I find that stimulants make me uncomfortable.
	B.	I often like to get high (drinking liquor or smoking marijuana).

14.	A.	I like to try new foods that I have never tasted before.
	B.	I order the dishes with which I am familiar so as to avoid disappointment and unpleasantness.
15.	A.	I enjoy looking at home movies, videos, or travel slides.
	B.	Looking at someone's home movies, videos, or travel slides bores me tremendously.
16.	A.	I would like to take up the sport of water skiing.
	B.	I would not like to take up water skiing.
17.	A.	I would like to try surfboard riding.
	B.	I would not like to try surfboard riding.
18.	A.	I would like to take off on a trip with no preplanned or definite routes, or timetable.
	B.	When I go on a trip I like to plan my route and timetable fairly carefully.
19.	A.	I prefer the "down to earth" kinds of people as friends.
	B.	I would like to make friends in some of the "far-out" groups like artists or "punks."
20.	A.	I would not like to learn to fly an airplane.
	B.	I would like to learn to fly an airplane.
21.	A.	I prefer the surface of the water to the depths.
	B.	I would like to go scuba diving.
22.	A.	I would like to meet some persons who are homosexual (men or women).
	B.	I stay away from anyone I suspect of being "gay" or "lesbian."
23.	A.	I would like to try parachute jumping.
	B.	I would never want to try jumping out of a plane, with or without a parachute.
24.	A.	I prefer friends who are excitingly unpredictable.
	B.	I prefer friends who are reliable and predictable.
25.	A.	I am not interested in experience for its own sake.
	B.	I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional, or illegal.
26.	A.	The essence of good art is in its clarity, symmetry of form, and harmony of colors.
	B.	I often find beauty in the "clashing" colors and irregular forms of modern paintings.
27.	A.	I enjoy spending time in the familiar surroundings of home.
	B.	I get very restless if I have to stay around home for any length of time.
28.	A.	I like to dive off the high board.
	B.	I don't like the feeling I get standing on the high board (or I don't go near it at all).
29.	A.	I like to date persons who are physically exciting.
	B.	I like to date persons who share my values.
30.	A.	Heavy drinking usually ruins a party because some people get loud and boisterous.
	B.	Keeping the drinks full is the key to a good party.
31.	A.	The worst social sin is to be rude.
	B.	The worst social sin is to be a bore.

32.	A.	A person should have considerable sexual experience before marriage.
	B.	It's better if two married persons begin their sexual experience with each other.
33.	A.	Even if I had money, I would not care to associate with flighty rich persons in the "jet set."
	B.	I could conceive of myself seeking pleasures around the world with the "jet set."
34.	A.	I like people who are sharp and witty even if they do sometimes insult others.
	B.	I dislike people who have their fun at the expense of hurting the feelings of others.
35.	A.	There is altogether too much portrayal of sex in movies.
	B.	I enjoy watching many of the "sexy" scenes in movies.
36.	A.	I feel best after taking a couple of drinks.
	B.	Something is wrong with people who need liquor to feel good.
37.	A.	People should dress according to some standard of taste, neatness, and style.
	B.	People should dress in individual ways even if the effects are sometimes strange.
38.	A.	Sailing long distances in small sailing crafts is foolhardy.
	B.	I would like to sail a long distance in a small but seaworthy sailing craft.
39.	A.	I have no patience with dull or boring persons.
	B.	I find something interesting in almost every person I talk to.
40.	A.	Skiing down a high mountain slope is a good way to end up on crutches.
	B.	I think I would enjoy the sensations of skiing very fast down a high mountain slope.

Below is a list of items that describe kids. For each item that describes you now or within the past 6 months, please circle the 2 if the item is very true or often true of you. Circle the 1 if the item is somewhat or sometimes true of you. If the item is not true of you, circle the 0.

0 = Not True 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	1	2	1. I act too young for my age	0	1	2	40. I hear sounds or voices that other people think aren't there (describe): _____
0	1	2	2. I have an allergy (describe): _____				_____
			_____				_____
0	1	2	3. I argue a lot	0	1	2	41. I act without stopping to think
0	1	2	4. I have asthma	0	1	2	42. I would rather be alone than with others
0	1	2	5. I act like the opposite sex	0	1	2	43. I lie or cheat
0	1	2	6. I like animals	0	1	2	44. I bite my fingernails
0	1	2	7. I brag	0	1	2	45. I am nervous or tense
0	1	2	8. I have trouble concentrating or paying attention	0	1	2	46. Parts of my body twitch or make nervous movements (describe): _____
0	1	2	9. I can't get my mind off certain thoughts (describe): _____				_____
			_____				_____
0	1	2	10. I have trouble sitting still	0	1	2	47. I have nightmares
0	1	2	11. I'm too dependent on adults	0	1	2	48. I am not liked by other kids
0	1	2	12. I feel lonely	0	1	2	49. I can do certain things better than most kids
0	1	2	13. I feel confused or in a fog	0	1	2	50. I am too fearful or anxious
0	1	2	14. I cry a lot	0	1	2	51. I feel dizzy
0	1	2	15. I am pretty honest	0	1	2	52. I feel too guilty
0	1	2	16. I am mean to others	0	1	2	53. I eat too much
0	1	2	17. I daydream a lot	0	1	2	54. I feel overtired
0	1	2	18. I deliberately try to hurt or kill myself	0	1	2	55. I am overweight
0	1	2	19. I try to get a lot of attention				56. Physical problems without known medical cause:
0	1	2	20. I destroy my own things	0	1	2	a. Aches or pains (not headaches)
0	1	2	21. I destroy things belonging to others	0	1	2	b. Headaches
0	1	2	22. I disobey my parents	0	1	2	c. Nausea, feel sick
0	1	2	23. I disobey at school	0	1	2	d. Problems with eyes (describe): _____
0	1	2	24. I don't eat as well as I should				_____
0	1	2	25. I don't get along with other kids				_____
0	1	2	26. I don't feel guilty after doing something I shouldn't				_____
0	1	2	27. I am jealous of others	0	1	2	e. Rashes or other skin problems
0	1	2	28. I am willing to help others when they need help	0	1	2	f. Stomachaches or cramps
0	1	2	29. I am afraid of certain animals, situations, or places, other than school (describe): _____	0	1	2	g. Vomiting, throwing up
			_____	0	1	2	h. Other (describe): _____
			_____				_____
0	1	2	30. I am afraid of going to school	0	1	2	57. I physically attack people
0	1	2	31. I am afraid I might think or do something bad	0	1	2	58. I pick my skin or other parts of my body (describe): _____
			_____				_____
0	1	2	32. I feel that I have to be perfect				_____
0	1	2	33. I feel that no one loves me	0	1	2	59. I can be pretty friendly
0	1	2	34. I feel that others are out to get me	0	1	2	60. I like to try new things
0	1	2	35. I feel worthless or inferior	0	1	2	61. My school work is poor
0	1	2	36. I accidentally get hurt a lot	0	1	2	62. I am poorly coordinated or clumsy
0	1	2	37. I get in many fights	0	1	2	63. I would rather be with older kids than with kids my own age
0	1	2	38. I get teased a lot				_____
0	1	2	39. I hang around with kids who get in trouble				_____

0 = Not True 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	1	2	64. I would rather be with younger kids than with kids my own age	0	1	2	85. I have thoughts that other people would think are strange (describe): _____
0	1	2	65. I refuse to talk				_____
0	1	2	66. I repeat certain actions over and over (describe): _____				_____
			_____				_____
0	1	2	67. I run away from home	0	1	2	86. I am stubborn
0	1	2	68. I scream a lot	0	1	2	87. My moods or feelings change suddenly
0	1	2	69. I am secretive or keep things to myself	0	1	2	88. I enjoy being with other people
0	1	2	70. I see things that other people think aren't there (describe): _____	0	1	2	89. I am suspicious
			_____	0	1	2	90. I swear or use dirty language
			_____	0	1	2	91. I think about killing myself
0	1	2	71. I am self-conscious or easily embarrassed	0	1	2	92. I like to make others laugh
0	1	2	72. I set fires	0	1	2	93. I talk too much
0	1	2	73. I can work well with my hands	0	1	2	94. I tease others a lot
0	1	2	74. I show off or clown	0	1	2	95. I have a hot temper
0	1	2	75. I am shy	0	1	2	96. I think about sex too much
0	1	2	76. I sleep less than most kids	0	1	2	97. I threaten to hurt people
0	1	2	77. I sleep more than most kids during day and/or night (describe): _____	0	1	2	98. I like to help others
			_____	0	1	2	99. I am too concerned about being neat or clean
			_____	0	1	2	100. I have trouble sleeping (describe): _____
			_____				_____
0	1	2	78. I have a good imagination	0	1	2	101. I cut classes or skip school
0	1	2	79. I have a speech problem (describe): _____	0	1	2	102. I don't have much energy
			_____	0	1	2	103. I am unhappy, sad, or depressed
			_____	0	1	2	104. I am louder than other kids
			_____	0	1	2	105. I use alcohol or drugs for nonmedical purposes (describe): _____
0	1	2	80. I stand up for my rights				_____
0	1	2	81. I steal at home				_____
0	1	2	82. I steal from places other than home				_____
0	1	2	83. I store up things I don't need (describe): _____				_____
			_____	0	1	2	106. I try to be fair to others
			_____	0	1	2	107. I enjoy a good joke
0	1	2	84. I do things other people think are strange (describe): _____	0	1	2	108. I like to take life easy
			_____	0	1	2	109. I try to help other people when I can
			_____	0	1	2	110. I wish I were of the opposite sex
			_____	0	1	2	111. I keep from getting involved with others
			_____	0	1	2	112. I worry a lot

美國韋恩州大學

教育學院

青少年健康與發展問卷調查

作答指引

1. 請跟隨本冊子問題次序作答。
2. 請圈出或在圈內填寫每題最佳答案。
3. 答案絕對沒有錯對之分，只要反映真實即可。
4. 所有提供的資料是絕對保密。除本調查的研究員外，其他人是不會知道作答內容。您的名字也不會在報告書的任何一頁上出現。
5. 如果你不想回答某些題目，您是有權跳答下一題。
6. 你也可以隨時停止作答。

希望你會喜歡參予這次調查
請由第一頁開始作答。

下列問題是關於你的背景

1. 你的性別是 男⁽¹⁾ 女⁽²⁾
2. 你的年齡是 13 歲
14 歲
15 歲
16 歲
17 歲
18 歲
19 歲
3. 你在那一個月份出生？
一月 三月 五月 七月 九月 十一月
二月 四月 六月 八月 十月 十二月
4. 現在你唸中學哪一班？
中一 中二 中三 中四
中五 中六 中七 已中學畢業⁽⁸⁾
5. 你大部份的成績是？
大多數是 A ⁽¹¹⁾
有 A 也有 B ⁽¹⁰⁾
大多數是 A 和 B，也有些是 C ⁽⁹⁾
大多數是 B ⁽⁸⁾
大多數是 B 和 C ⁽⁷⁾
大多數是 B 和 C，也有些是 D ⁽⁶⁾
大多數是 C ⁽⁵⁾
大多數是 C 和 D ⁽⁴⁾
大多數是 C 和 D，也有些是 F ⁽³⁾
大多數是 D ⁽²⁾
大多數是 D 和 F ⁽¹⁾

6. 今年和你同住的有(請圈出所有同住的親人)

 母親 父親 繼母 繼父 兄弟或者繼兄弟。有多少人？ 1 2 3 4 5 或以上 姐妹或者繼姊妹。有多少人？ 1 2 3 4 5 或以上 養父或養母 祖父母 姑母和叔叔 你自己有多少個孩子？ 1 2 或以下 其他人。他們是誰？ _____

7. 你的父母是同住嗎？

 是的⁽¹⁾ 不，他們已離婚⁽²⁾ 不，他們已分居，不一起生活⁽³⁾ 不，我的母親已離世⁽⁴⁾ 不，我的父親已離世⁽⁵⁾

8. 你的族裔是甚麼？

 生於香港的中國人⁽¹⁾ **如果你圈了以上的答案，請跳到第 9 題 繼續 回答。 非生於香港的中國人： 來自中國⁽²⁾ 來自國外⁽³⁾ 如非中國人請說明來自甚麼地方⁽⁴⁾， _____ 國籍 _____

8a. 你移居香港有多少年？ _____

9. 你在家中最慣常講的是那一種語言？

- 廣東話⁽¹⁾
 普通話⁽²⁾
 其他⁽³⁾ _____

10. 每一星期，你會花多少時間在有薪的工作上？

- 沒有工作⁽⁰⁾
 1-10 個小時⁽¹⁾
 11-20 個小時⁽²⁾
 超過 20 個小時⁽³⁾

11. a) 父母親的教育水平？

- | 父 | 母 | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 小學尚未畢業 ⁽¹⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 小學已畢業但未有升讀中學 ⁽²⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 有升讀中學，但沒有畢業 ⁽³⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 中學已畢業，但未有升讀大學(或同等程度的學府) ⁽⁴⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 中學畢業後接受過職業訓練 ⁽⁵⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 有升讀大學，但沒有畢業 ⁽⁶⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 大學畢業 ⁽⁷⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 有研究院的教育程度 ⁽⁸⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 我不大清楚 ⁽⁹⁾ |

11.b) 父親親的職業情況？

- | 父 | 母 | |
|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | 經理,行政人員 ⁽¹⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 從商 ⁽²⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 專業人仕(如：教師,醫生,律師,會計師) ⁽³⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 文員,辦公室白領 ⁽⁴⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 服務行業(服務員),推銷員 ⁽⁵⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 從事漁農業(農夫,漁夫) ⁽⁶⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 保姆 ⁽⁷⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 清潔工作者 ⁽⁸⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 建築工人 ⁽⁹⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 工廠工人 ⁽¹⁰⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 我不清楚 ⁽¹¹⁾ |
| <input type="checkbox"/> | <input type="checkbox"/> | 其他 ⁽¹²⁾ _____ |

12. 在過去 6 個月期間你會參與多少次教堂或一些宗教靈修活動？

- 在過去 6 個月一次也沒有過⁽⁰⁾
- 一兩次(六個月內)⁽¹⁾
- 大約隔月一次⁽²⁾
- 大約一個月一次⁽³⁾
- 一個月 2-3 次⁽⁴⁾
- 一周一次或以上⁽⁵⁾

以下問題是關於吸煙

13. 你有沒有試過吸完一支煙(並非只吸幾口)？

- 沒有,從未試過⁽⁰⁾ ****如果你圈了兩個以上的答案,請跳答下一部分有關酒精的第 17。**
- 有,只試過一次⁽¹⁾
- 有幾次⁽²⁾
- 超過幾次⁽³⁾

14. 在過去 12 個月你有沒有試過吸煙？

- 沒有 (請跳答第 16 題)⁽⁰⁾
 有試過一兩次⁽¹⁾
 有幾次⁽²⁾
 超過幾次⁽³⁾

15. 在過去一個月，你平均每天吸多少支煙？

- 一支也沒有⁽⁰⁾
 一日不到一支煙⁽¹⁾
 一日 1 至 3 支煙⁽²⁾
 一日 4 至 8 支煙⁽³⁾
 大約每日半包⁽⁴⁾
 大約每日一包⁽⁵⁾
 大約一日一包半⁽⁶⁾
 大約一日兩包或以上⁽⁷⁾

16. 你第一次吸煙時，你的年歲是多少？ _____ 歲

這個部分是關於喝酒習慣

17. 你是否會喝過啤酒，葡萄酒或烈酒？(只喝一口或試飲的不算)

- 沒有⁽⁰⁾ 有⁽¹⁾

18. 你是否會喝過啤酒，葡萄酒或烈酒兩至三次？

(只喝一口或試飲的不錯) **若答沒有，請跳到第 23 題繼續回答。

- 沒有⁽⁰⁾ 有⁽¹⁾

19. 在過去六個月內，你有幾經常喝酒？

一次也沒有⁽⁰⁾ **若答一次也沒有，請跳答第 23 題繼續作答。

在過去六個月內有一至兩次⁽¹⁾

在過去六個月內有三至四次⁽²⁾

大約一個月一次⁽³⁾

一個月兩至三次⁽⁴⁾

一周一次⁽⁵⁾

一周兩至三次⁽⁶⁾

一周四至五次⁽⁷⁾

每天⁽⁸⁾

20. 在過去的六個月，當你喝酒時，有多少次是會喝上四杯或以上的呢？

沒試過⁽⁰⁾

一次⁽¹⁾

2-3 次⁽²⁾

4-5 次⁽³⁾

一個月一次⁽⁴⁾

一個月兩至三次⁽⁵⁾

每周一次⁽⁶⁾

每周兩次⁽⁷⁾

每周兩次以上⁽⁸⁾

21. 在過去的六個月，有幾多次因你喝酒而發生以下情況？

沒有⁽⁰⁾ 一次⁽¹⁾ 兩次⁽²⁾ 3-4次⁽³⁾ 5次以上⁽⁴⁾

- | | | | | | |
|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. 因你一直喝酒，
與父母發生衝突 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. 你因喝酒而在功課
或學校內出現問題 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. 因為你一直喝酒
而與朋友出現問題 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. 因為你一直喝酒而與你
正在約會的人出現問題 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. 因為你一直喝酒
而與警察發生問題 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

22. 在過去六個月內，你是否有喝醉或興奮？

- | | |
|---|---|
| <input type="checkbox"/> 沒試過 ⁽⁰⁾ | <input type="checkbox"/> 一個月兩至三天 ⁽⁵⁾ |
| <input type="checkbox"/> 一次 ⁽¹⁾ | <input type="checkbox"/> 每周一次 ⁽⁶⁾ |
| <input type="checkbox"/> 二至三次 ⁽²⁾ | <input type="checkbox"/> 每周兩次 ⁽⁷⁾ |
| <input type="checkbox"/> 四至五次 ⁽³⁾ | <input type="checkbox"/> 每周兩次以上 ⁽⁸⁾ |
| <input type="checkbox"/> 一個月一次 ⁽⁴⁾ | |

23. 想一想，你自己的將來是怎樣的？我認為很大機會是：

非常低⁽¹⁾ 低⁽²⁾ 一半⁽³⁾ 高⁽⁴⁾ 非常高⁽⁵⁾

- | | | | | | |
|----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. 你會中學畢業 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. 你將有一份好收入的工作 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. 你將從事你喜歡的工作 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. 你將會有一個美滿的
家庭生活 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. 你會受人尊重嗎？ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

24. 在過去的六個月內你幾經常：

	從沒有 ⁽⁰⁾	一次 ⁽¹⁾	二次 ⁽²⁾	三至四次 ⁽³⁾	五次或以上 ⁽⁴⁾
a. 考試或功課作弊	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. 有店內偷竊？	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. 曾經將公共或私人的地方加以破壞或塗污？	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. 對一名教師撒謊 隱瞞自己的事	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. 曾拿取不屬於自己的東西	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. 未得父母同意 晚上不回家	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. 向父母隱瞞你去過的地方及與你在一起的人	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. 因為某同學做過一些你不喜歡的事，你會動手打他	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. 在校內曾攜帶如刀仔、或有攻擊性的武器。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. 取笑或愚弄一些與自己不同或沒有埋你堆的人？	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. 上個學年，你有沒被停課或是給學校開除？

否⁽⁰⁾ 是⁽¹⁾

26. 你有沒有參加過黑幫或三合會活動？

不，從未⁽⁰⁾

是的，我目前涉及黑幫或三合會。⁽¹⁾

曾經是，但現在沒有了。⁽²⁾

以下問題是有關不同類形的學校及社區活動

27. 你屬於任何學校學會或組織(除運動隊以外), 像劇社、校報、同儕輔導等等

否⁽⁰⁾ 是⁽¹⁾

如果答是, 那一周內, 你花在那些活動的時間_____小時

28. 你屬於任何社團組織(像童子軍或者大姐姐計劃一樣), 或者到任何宗教小組(像詩班, 讀經小組, 或青年團契組織)?

否⁽⁰⁾ 是⁽¹⁾

如果答是, 那一周內, 你花在那些活動的時間_____小時

29. 你有參與任何種類志願社區工作嗎?

否⁽⁰⁾ 是⁽¹⁾

如果答是, 那一周內, 你花在那些活動的時間_____小時

人生價值觀調查

在這份問卷中，我們簡單地描述了一些人。請詳細閱讀每一段描寫人物的句子後，選擇這個人與您相似的程度。

1. 想出新主意、發揮創意對他來說很重要。他喜歡以自己獨創的方式做事。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
2. 富有對他來說很重要。他想要有很多錢和貴重的東西。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
3. 他認為世界上每個人都被平等的對待是很重要的。他相信人在生活中應該享有平等的機會。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
4. 表現自己的能力對他來說很重要。他希望受人敬佩。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
5. 生活在安全的環境裡對他來說很重要。他會盡量避免危及他安全的任何事。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
6. 他覺得嘗試生活中不同的事物是很重要的。他總是尋求嘗試新的事物。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
7. 他認為人們應該照別人說的來做。他認為即使在沒有人注意的情況下，人們也應該隨時遵守規定。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
8. 聆聽與他不同的意見對他來說很重要。就算他不同意別人所說的，他也會試著去了解別人的意見。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
9. 他認為不強求超出你所能擁有的是很重要。他相信人應該知足。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
10. 他把握每個享樂的機會。做能帶給他樂趣的事對他來說很重要。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
11. 自己的事由自己做決定對他來說很重要。他喜歡自由的做計劃,選擇自己想做的事
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
12. 幫助他身邊的人對他來說非常重要。他想要關心他們的福利。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
13. 非常成功對他來說很重要。他喜歡令人留下印象。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
14. 國家安全對他來說很重要。他認為政府必須防範來自國內外的威脅。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
15. 他喜歡接受風險,他總是在尋求冒險經歷。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我

16.行為舉止合宜對他來說很重要。他避免去做別人認為是不對的事。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
17.有權責與發號司令對他來說很重要。他希望別人照他說的去做。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
18.對朋友忠誠對他來說很重要。他希望為親近的人付出。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
19.他強烈的認為人們應該要保護大自然。照顧生態環境對他來說很重要。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
20.宗教信仰對他來說很重要。他盡力的去遵守宗教的規範。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
21.事物整潔有序對他來說很重要。他不喜歡把事情弄得一團亂。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
22.他認為對凡事都感興趣是很重要的。他好奇而且喜歡尋根問底。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
23.他認為世人都應該和諧地相處。促進世界各族群間的和平對他來說很重要。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
24.他認為具有雄心大志很重要。他想要證明他的能力。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
25.他認為最好是遵從傳統的方法做事。遵照習俗慣例對他來說很重要。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
26.享受生活的樂趣對他是很重要的。他喜歡'寵愛'自己。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
27.回應他人所需對他來說很重要。他努力幫助他認識的人。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
28.他認為他應該隨時尊重父母和長者。恭順對他來說很重要。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
29.他希望所有人都能夠受到公平的對待，即使是他不認識的人。保護社會上弱勢的人對他來說很重要
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
30.他喜歡驚喜。刺激有趣的生活對他來說很重要。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
31.他盡力避免生病。保持健康對他來說很重要。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
32.上進心對他來說很重要。他努力去做得比別人好。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我

33. 原諒曾經傷害過他的人對他來說很重要。他盡量去想別人好的方面, 而不去怨恨別人。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
34. 獨立對他來說很重要。他喜歡靠自己。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
35. 政局穩定對他來說很重要。他關心社會秩序有否受到保護。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
36. 時刻對別人有禮貌對他來說很重要。他盡量不去打擾或是惹惱別人。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
37. 他很想享受生活。過得寫意對他來說很重要。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
38. 謙虛與謹慎對他來說很重要。他盡量不引起別人的注意。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
39. 他總希望成為決策者。他喜歡做領袖。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我
40. 適應大自然的環境對他來說很重要。他認為人不應改變大自然。
<input type="checkbox"/> 非常像我 <input type="checkbox"/> 像我 <input type="checkbox"/> 有點像我 <input type="checkbox"/> 僅有一點點像我 <input type="checkbox"/> 不像我 <input type="checkbox"/> 完全不像我

By Wayne 11 Jan, 2006

興趣及取向測驗

以下每題有兩項選擇，A 或 B。請你選出對你所喜愛的或你感覺的描述。在某些情況下你會發現兩項選擇都描述出你所喜愛的或你的感覺。請選其中較恰當的描述。又在某些情況下你可能發現兩項選擇都沒有描述出你所喜愛的或你的感覺。請選擇其中較不會令你反感的一項。請不要漏空任何一條。

每題你只能選擇一個答案，或 A，或 B。我們只對你所喜愛的或你的感覺感興趣，請勿以別人對這些事情如何感覺或一個人應當如何來感覺作答。問卷沒有對或錯的答案。請坦白地選出你的回應。

興趣與性向測驗

1. A. 我喜歡“狂野”派對。
B. 我喜歡安靜的聚會，大家可以好好的談談話。
2. A. 有些我喜歡的電影，我會看二、三次。
B. 我不可以忍受同一套電影看完再看。
3. A. 我時常希望成為一個攀山者。
B. 我不明白為什麼有些人要冒險攀山。
4. A. 我不喜歡任何體味。
B. 我喜歡一些身體的自然體味。
5. A. 經常見到一些熟悉的面孔令我覺得乏味。
B. 我喜歡與熟的朋友在一起，那種舒服的熟悉感。

6. A. 我喜歡獨自去一個新城市探險，甘願冒迷路的險。
B. 如果我在一個陌生的地方，我會找人帶路。
7. A. 我不喜歡某些人做些事來唬嚇人，或者做些令人不好受的事。
B. 如果我可以完全估計到別人的行為與說話，我會覺得很悶。
8. A. 如果我一早就知道橋段，我不會享受這樣的電影或劇集。
B. 我不介意看一些早料到結局的電影或劇集。
9. A. 我試過 / 想試試吸食大麻。
B. 我永遠不會去吸食大麻。
10. A. 我不會試任何含有危險性或效用不明的藥物。
B. 我想試試一些令人產生幻覺的藥。
11. A. 聰明人會避免危險的活動。
B. 我有時會做一些稍為驚嚇性的事。
12. A. 我不喜歡“開放”的人 (在性生活上沒有約束的人)。
B. 我喜歡一些比較開放的人。
13. A. 我覺得“刺激物”會令我不舒服。
B. 我時常會追求亢奮刺激 (喝酒或吸食大麻)。
14. A. 我喜歡試新口味。
B. 我只點一些熟悉的菜式，以免失望或引起不愉快的感覺。
15. A. 我享受家庭影院，攝錄片或旅行幻燈片。
B. 看別人的家庭影院、攝錄片或旅行幻燈片令我覺得很悶。

16. A. 我會試學滑水。
B. 我不會試滑水。
17. A. 我會試試滑浪。
B. 我不會去試滑浪。
18. A. 我會喜歡一些沒有預設路線或行程的旅程。
B. 如果我去旅行，我會詳細計劃路線及行程表。
19. A. 我喜歡結交「踏實」型的朋友。
B. 我喜歡跟一些「另類」的人像藝術家或「龐客」(Punks)。
20. A. 我不會想駕駛飛機。
B. 我希望學駕駛飛機。
21. A. 我喜歡在水面上多過潛入裏面。
B. 我喜歡潛水。
22. A. 我希望認識一些同性戀的人(男或女)。
B. 我避開一些有同性戀嫌疑的人。
23. A. 我希望試試跳降落傘。
B. 我不想從飛機跳出來，有沒有降落傘都沒有分別。
24. A. 我比較喜歡一些變化多的人。
B. 我比較喜歡可靠及可估計的人。
25. A. 我對經歷沒有興趣。
B. 我喜歡刺激的經歷及感覺雖然有時它們有些可怕、非傳統及甚至犯法。

26. A. 好的藝術品在於它的清晰、體態上的平衡美與及顏色的配合。
B. 我時常在現代畫中發現“撞色”及不規則形態的美。
27. A. 我喜歡在家的熟悉環境中。
B. 要我長期留在家中我會感覺不安。
28. A. 我喜歡高台跳水。
B. 我不喜歡站在高跳板上的感覺 (我甚至不會走近)。
29. A. 我喜歡跟外表有吸引力的人約會。
B. 我喜歡跟價值觀相似的人約會。
30. A. 豪飲通常會搞壞一個派對的氣氛，因為有些人會喧鬧生事。
B. 好的聚會是讓賓客可以盡情豪飲。
31. A. 社交禮儀最要命的是無禮。
B. 社交禮儀最要命的是悶死人。
32. A. 一個人婚前應該有相當的性經驗。
B. 夫婦婚後才經驗性比較好。
33. A. 就算我有錢，我也不會跟一些暴發戶來往。
B. 我會想像自己與暴發戶一起四處尋樂。
34. A. 我喜歡牙尖嘴利的人，雖然他們會侮辱別人。
B. 我不喜歡拿別人的感覺來開玩笑。
35. A. 電影中實在有太多性的描述。
B. 我喜歡看電影中的性愛場面。

36. A. 幾杯落肚我會感覺很好。
B. 要靠酒來振奮的人不對勁。
37. A. 我們穿衣要有一定的品味、清潔、及款式的要求。
B. 我們該有個人的穿衣方式，有時甚至可以比較奇特。
38. A. 以小船長途航行是愚蠢的事。
B. 我希望以精巧幹練的小船遠征。
39. A. 我對沉悶的人沒有耐性。
B. 我發覺所有跟我談過的人都有一些有趣的地方。
40. A. 由高山滑雪下去是最容易有足傷的結局。
B. 我會享受由高山滑下的感覺。

以下是一系列有關青少年的描述。請根據你現在或過往六個月內的情況，評定下列每一項對你描述之準確程度：

非常準確或經常準確，請圈 2；

接近或間中準確，請圈 1；

不準確，請圈 0。

0 = 不準確			1 = 接近或間中準確			2 = 非常準確或經常準確		
0	1	2	1. 我行爲幼稚，與年齡不符	0	1	2	23. 我在學校不聽話	
0	1	2	2. 我身體患有敏感病。請描述： _____	0	1	2	24. 我胃口欠佳，吃得不好	
0	1	2	3. 我經常爭辯	0	1	2	25. 我與其他年青人合不來	
0	1	2	4. 我有哮喘病	0	1	2	26. 我做了不應做的事也不感到內疚	
0	1	2	5. 我的行爲舉止像異性	0	1	2	27. 我妒忌別人	
0	1	2	6. 我喜愛動物	0	1	2	28. 當別人有需要時，我願意幫助	
0	1	2	7. 我愛誇口	0	1	2	29. 我害怕某些動物、場合或地方(不包括學校)。請描述： _____	
0	1	2	8. 我很難集中注意力	0	1	2	30. 我害怕上學	
0	1	2	9. 我腦海中老是重複想著某些事情，不能擺脫。請描述： _____	0	1	2	31. 我害怕自己會產生壞念頭或做壞事	
0	1	2	10. 我不能安坐	0	1	2	32. 我覺得自己必須十全十美	
0	1	2	11. 我過份倚賴大人	0	1	2	33. 我覺得沒有人喜歡我	
0	1	2	12. 我覺得孤單寂寞	0	1	2	34. 我覺得別人存心為難我	
0	1	2	13. 我感到糊裏糊塗，或茫然不知所措	0	1	2	35. 我覺得自己無用或自卑	
0	1	2	14. 我經常哭泣	0	1	2	36. 我身體經常意外受傷	
0	1	2	15. 我頗誠實	0	1	2	37. 我經常與人打架	
0	1	2	16. 我對別人刻薄，斤斤計較	0	1	2	38. 我經常被人戲弄	
0	1	2	17. 我經常做白日夢	0	1	2	39. 我喜歡和惹事生非的年青人來往	
0	1	2	18. 我故意傷害自己或企圖自殺	0	1	2	40. 我聽到別人認為不存在的聲音或人聲。請描述： _____	
0	1	2	19. 我要求別人經常注意自己	0	1	2	41. 我行事衝動，不經三思	
0	1	2	20. 我破壞自己的東西	0	1	2	42. 我喜歡獨處多過與人一起	
0	1	2	21. 我破壞別人的東西	0	1	2	43. 我說謊或欺騙	
0	1	2	22. 我不聽父母的話					

0 = 不準確	1 = 接近或間中準確	2 = 非常準確或經常準確
0 1 2	44. 我咬指甲	0 1 2 62. 我動作不協調或笨拙
0 1 2	45. 我神經過敏或緊張	0 1 2 63. 我較喜歡和年紀比我大的年青人一起
0 1 2	46. 我身體某部分抽搐或做出緊張的動作。請描述： _____	0 1 2 64. 我較喜歡和年紀比我小的年青人一起
0 1 2	47. 我發惡夢	0 1 2 65. 我拒絕與人交談
0 1 2	48. 我不受其他年青人喜歡	0 1 2 66. 我不斷重複某些動作。 請描述：_____
0 1 2	49. 有些事情我比大部分青年人做得好	0 1 2 67. 我離家出走
0 1 2	50. 我過度恐懼或焦慮	0 1 2 68. 我經常尖叫
0 1 2	51. 我感到頭暈	0 1 2 69. 我很密實，有事不會說出來
0 1 2	52. 我過於感到內疚	0 1 2 70. 我看到別人認為不存在的東西。 請描述：_____
0 1 2	53. 我吃得過多	0 1 2 71. 我很自覺或容易感到尷尬
0 1 2	54. 我感到過份疲勞	0 1 2 72. 我放火
0 1 2	55. 我身體過胖	0 1 2 73. 我的手藝很好
	56. 病因不明的症狀	0 1 2 74. 我炫耀自己或扮小丑
0 1 2	a. 身體痛楚（除頭痛外）	0 1 2 75. 我很害羞
0 1 2	b. 頭痛	0 1 2 76. 我比大多數年青人睡得少
0 1 2	c. 作嘔、作悶	0 1 2 77. 我比大多數年青人在白天和/或晚間睡得多。請描述： _____
0 1 2	d. 眼睛有毛病，請描述： _____	0 1 2 78. 我有豐富的想像力
0 1 2	e. 出疹或其他皮膚病	0 1 2 79. 我有言語問題。請描述： _____
0 1 2	f. 胃痛或胃抽筋	0 1 2 80. 我會堅持自己應有的權利
0 1 2	g. 嘔吐	0 1 2 81. 我在家裏偷竊
0 1 2	h. 其他，請描述： _____	0 1 2 82. 我在家外偷竊
0 1 2	57. 我攻擊他人身體	0 1 2 83. 我收藏自己不需要的東西。請描述： _____
0 1 2	58. 我抓弄皮膚或身體其他部份。 請描述： _____	
0 1 2	59. 我可以頗友善	
0 1 2	60. 我喜歡嘗試新事物	
0 1 2	61. 我功課差	

0 = 不準確	1 = 接近或間中準確	2 = 非常準確或經常準確
0 1 2	84. 我有些行為別人會覺得古怪。 請描述： _____	0 1 2 108. 我喜歡隨遇而安
0 1 2	85. 我有些想法別人會覺得古怪。 請描述： _____	0 1 2 109. 在能力範圍內，我盡量幫助別人
0 1 2	86. 我很固執	0 1 2 110. 我想變成異性
0 1 2	87. 我的情緒或感受會突然變化	0 1 2 111. 我盡量避免與人深入交往
0 1 2	88. 我喜歡與別人在一起	0 1 2 112. 我有很多憂慮
0 1 2	89. 我多疑	
0 1 2	90. 我詛咒別人或講粗口	除上述項目外，請在下面描述任何有關你的感受，行為或興趣。
0 1 2	91. 我想到自殺	_____
0 1 2	92. 我喜歡引人發笑	0 1 2 2n. 沒有父母允許，我擅自飲酒。 請描述：_____
0 1 2	93. 我說話過多	0 1 2 4n. 我不能從頭到尾做完一件事
0 1 2	94. 我常戲弄他人	0 1 2 5n. 沒有甚麼事情令我有趣
0 1 2	95. 我的脾氣暴躁	0 1 2 28n. 我在家、學校或其他地方犯規
0 1 2	96. 我對性的問題想得太多	0 1 2 54n. 我無故感到過份疲勞
0 1 2	97. 我恐嚇要傷害他人	0 1 2 56dn. 病因不明的症狀： 眼睛有毛病(不包括可用 眼鏡矯正之問題)請描述： _____
0 1 2	98. 我喜歡幫助別人	0 1 2 75n. 我過份害羞或膽怯
0 1 2	99. 我過份注意清潔整齊	0 1 2 78n. 我注意力分散或容易分心
0 1 2	100. 我睡得不好。請描述： _____	0 1 2 83n. 我收藏過多自己不需要的東西。請描述：_____
0 1 2	101. 我曠課或逃學	_____
0 1 2	102. 我的精力不足	0 1 2 99n. 我有吸煙，嚼煙草或索鼻煙
0 1 2	103. 我悶悶不樂或沮喪	0 1 2 105n. 我濫用藥物(不包括酒精或煙草)。請描述： _____
0 1 2	104. 我比其他年青人更吵鬧	_____
0 1 2	105. 我喝酒或濫用藥物。請描述： _____	_____
0 1 2	106. 我盡量以公道待人	_____
0 1 2	107. 我喜歡好的笑話	_____


APPENDIX B

**WAYNE STATE
UNIVERSITY**

HUMAN INVESTIGATION COMMITTEE
101 East Alexandrine Building
Detroit Michigan 48201
Phone: (313) 577-1628
FAX: (313) 993-7122
<http://hic.wayne.edu>

NOTICE OF EXPEDITED APPROVAL

To: Phebe Lam
Pediatrics
UPC Jefferson

From: Ellen Barton, Ph.D. 
Chairperson, Behavioral Institutional Review Board (B3)

Date: October 30, 2007

RE: HIC #: 107407B3E
Protocol Title: Values and Risk Behaviors in Hong Kong Adolescents
Sponsor:
Coeus #: 0710005339

Expiration Date: October 29, 2008

Risk Level/Category: No greater than minimal risk.

The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited Review* (Category 7*) by the Chairperson/designee for the Wayne State University Behavioral Institutional Review Board (B3) for the period of 10/30/2007 through 10/29/2008. This approval does not replace any departmental or other approvals that may be required.

- Information Sheet for 13-17 Year Olds (English and Chinese Versions)
- Information Sheet for 18 and 19 Year Olds (English and Chinese versions)
- Parental Permission/Research Informed Consent (English and Chinese versions)

-
- Federal regulations require that all research be reviewed at least annually. You may receive a "Continuation Renewal Reminder" approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval *before* the expiration date. Data collected during a period of lapsed approval is unapproved research and can *never* be reported or published as research data.
 - All changes or amendments to the above-referenced protocol require review and approval by the HIC **BEFORE** implementation.
 - Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the HIC Policy (<http://www.hic.wayne.edu/hicpol.html>).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the HIC office must be contacted immediately.
2. Forms should be downloaded from the HIC website at each use.

*Based on the Expedited Review List, revised November 1998

APPENDIX C

Research Information

Title of Study: *Values and Risk Behaviors in Hong Kong Adolescents*

Principal Investigator (PI): *Phebe Lam*
Wayne State University-College of Education
(313) 745-4213

Purpose:

You are being asked to be in a research study that is examining the relationship between an adolescents values, personality and risk behaviors because you attend a high school in Hong Kong and are between the ages of 13 to 19 years. This study is being conducted at Wayne State University and at two high schools in Hong Kong.

Study Procedures:

If you take part in the study, you will be asked to fill out a questionnaire that will ask general questions about yourself, your values, your personality, and your risk behaviors. At anytime, you will have the choice to not answer the questions or to skip questions. You will fill out the questionnaire only one time at your school. It will take about 45 to 60 minutes for you to complete the questionnaire.

Benefits:

As a participant in this research study, there may be no direct benefit for you; however, information from this study may benefit other people now or in the future.

Risks:

By taking part in this study, you may feel uncomfortable thinking about and answering questions about your personality or risk behaviors. If you do, you can stop completing the questionnaire.

Costs:

There will be no costs to you for participation in this research study.

Compensation:

You will not be paid for taking part in this study.

Confidentiality:

All information collected about you during the course of this study will be kept without any identifiers. This means that you will not put your name on the questionnaire so you cannot be identified. The school and teachers will not know that you are participating in this study, and will not know what you answered on the questionnaire.

If you choose not to participate in the study, you may stay in the classroom and complete your homework or read a book. Your teacher will not be in the room. Once the research staff has reviewed the study with you, they will also leave the classroom. Once you have completed the questionnaire, you will place the questionnaire in the box provided by the research staff.

Voluntary Participation /Withdrawal:

Taking part in this study is voluntary, you may stop answering the questions at anytime.

Questions:

If you have any questions about this study now or in the future, you may contact Phebe Lam or one of her research team members at the following phone number (313) 745-4213. If you have questions or concerns

Submission/Revision Date: August 8, 2008

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Protocol Version #: 1.0

HIC Date: 12/06

about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Participation:

By completing the questionnaire you are agreeing to participate in this study.

APPROVAL PERIOD

OCT 30 '07 OCT-29 '08

HUMAN INVESTIGATION COMMITTEE

Submission/Revision Date: August 8, 2008
Protocol Version #: 1.0

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HIC Date: 12/06

研究資訊

研究題目：香港青少年的價值觀和危險行為

主研究員：
Phebe Lam
韋恩州立大學教育學院
電話：(313) 745-4213

目的：

我們現在請求你參加一項科學研究。該研究旨在發現青少年價值觀、人格和危險行為之間的關係。由於你是一名正在香港高中就讀的、年齡介於 13 至 19 歲之間的學生，所以你被選中參與這項研究。這項研究將在韋恩州立大學和香港的兩所高中內展開。

研究程式：

如果你參與這項研究，我們將請你填寫一份調查問卷。該問卷會問你一些一般問題和有關你的價值觀、人格以及危險行為的問題。在任何時候，你都有權不回答或者回避這些問題。你將僅在學校內來完成這份問卷一次即可。你完成這份問卷所需要的時間大致為 45 到 60 分鐘。

益處：

作為這項研究的參與人，這項研究或許並不會給你帶來直接的益處。但從這項研究中收集的資訊現在或者將來或可以使其他人受益。

風險：

參加這項研究時，你或許會對考慮和回答有關人格和危險行為的問題感到不快。在這種情況下，你可以停止回答這份問卷。

價格：

如果參加這項研究，你不用支付任何費用。

報酬：

如果參加這項研究，你將不會得到報酬。

保密性：

提交/修改日期：2008 年 8 月 8 日 頁數：第二頁/共兩頁
草稿版本號：1.0

HIC 日期：12/06

在研究過程中收集到的所有有關你的資訊都不會記錄你的身份。也就是說，你不會在調查問卷上留下自己的姓名，所以你的身份也就不會被人所知。學校和老師都將不會知曉你是否參與了這項研究，也不會知曉你在問卷中回答了什麼。

如果你選擇不參與這項研究，你可以留在教室中看書或者寫作業。你的老師不會進入教室。當研究人員說明完相關事項後，他們也會離開教室。當你完成調查問卷後，你要把調查問卷放進研究人員提供的盒子中。

自願參與/自願退出：

你是否參與這項研究是完全自願的。你可以在任何時候停止回答問卷。

問題：

如果你現在或者將來對這項研究有任何問題，你可以聯繫 Phebe Lam 或者她所在研究團隊中的其他研究人員。你可以用電話的方式與他們聯絡。他們的電話是(313) 745-4213。如果你對做為調查參與者的權利有任何問題或者想法，可以與我們校內的人類調查委員會的主席聯繫，電話是(313) 577-1628。如果你無法聯絡到研究人員，或者想與除研究人員外的其他人聯絡，你可以致電(313) 577-1628 來詢問問題、反應情況或投訴。

參與：

填寫調查問卷就表明你同意參加這項研究。

APPROVAL PERIOD
OCT 30 '07 OCT-29 '08
HUMAN SUBJECTS INVESTIGATION COMMITTEE

提交/修改日期: 2008 年 8 月 8 日 頁數: 第二頁/共兩頁
草稿版本號: 1.0

HIC 日期: 12/06

Research Information for Ages 18 to 19 Years

Title of Study: *Values and Risk Behaviors in Hong Kong Adolescents*

Principal Investigator (PI): *Phebe Lam*
Wayne State University-College of Education
(313) 745-4213

Purpose:

You are being asked to be in a research study that is examining the relationship between an adolescents values, personality and risk behaviors because you attend a high school in Hong Kong and are between the ages of 13 to 19 years. This study is being conducted at Wayne State University and at two high schools in Hong Kong.

Study Procedures:

If you take part in the study, you will be asked to fill out a questionnaire that will ask general questions about yourself, your values, your personality, and your risk behaviors. At anytime, you will have the choice to not answer the questions or to skip questions. You will fill out the questionnaire only one time at your school. It will take about 45 to 60 minutes for you to complete the questionnaire.

Benefits:

As a participant in this research study, there may be no direct benefit for you; however, information from this study may benefit other people now or in the future.

Risks:

By taking part in this study, you may feel uncomfortable thinking about and answering questions about your personality or risk behaviors. If you do, you can stop completing the questionnaire.

Costs:

There will be no costs to you for participation in this research study.

Compensation:

You will not be paid for taking part in this study.

Confidentiality:

All information collected about you during the course of this study will be kept without any identifiers. This means that you will not put your name on the questionnaire so you cannot be identified. The school and teachers will not know that you are participating in this study, and will not know what you answered on the questionnaire.

If you choose not to participate in the study, you may stay in the classroom and complete your homework or read a book. Your teacher will not be in the room. Once the research staff has reviewed the study with you, they will also leave the classroom. Once you have completed the questionnaire, you will place the questionnaire in the box provided by the research staff.

Voluntary Participation /Withdrawal:

Taking part in this study is voluntary, you may stop answering the questions at anytime.

Questions:

If you have any questions about this study now or in the future, you may contact Phebe Lam or one of her research team members at the following phone number (313) 745-4213. If you have questions or concerns

Submission/Revision Date: August 8, 2008

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HIC Date: 12/06

about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Participation:

By completing the questionnaire you are agreeing to participate in this study.

APPROVAL PERIOD

OCT 30 '07 OCT 29 '08

HUMAN INVESTIGATION COMMITTEE

Submission/Revision Date: August 8, 2008
Protocol Version #: 1.0

Page 2 of 2

HIC Date: 12/06

研究資訊(年齡 18 至 19 歲)

研究題目：香港青少年的價值觀和危險行為

主研究員：

Phebe Lam

韋恩州立大學教育學院

電話：(313) 745-4213

目的：

我們現在請求你參加一項科學研究。該研究旨在發現青少年價值觀、人格和危險行為之間的關係。由於你是一名正在香港高中就讀的、年齡介於 13 至 19 歲之間的學生，所以你被選中參與這項研究。這項研究將在韋恩州立大學和香港的兩所高中內展開。

研究程式：

如果你參與這項研究，我們將請你填寫一份調查問卷。該問卷會問你一些一般問題和有關你的價值觀、人格以及危險行為的問題。在任何時候，你都有權不回答或者回避這些問題。你將僅在學校內來完成這份問卷一次即可。你完成這份問卷所需要的時間大致為 45 到 60 分鐘。

益處：

作為這項研究的參與人，這項研究或許並不會給你帶來直接的益處。但從這項研究中收集的資訊現在或者將來或可以使其他人受益。

風險：

參加這項研究時，你或許會對考慮和回答有關人格和危險行為的問題感到不快。在這種情況下，你可以停止回答這份問卷。

價格：

如果參加這項研究，你不用支付任何費用。

報酬：

如果參加這項研究，你將不會得到報酬。

保密性：

提交/修改日期：2008 年 8 月 8 日

頁數：第二頁/共兩頁

草稿版本號：1.0

HIC 日期：12/06

在研究過程中收集到的所有有關你的資訊都不會記錄你的身份。也就是說，你不會在調查問卷上留下自己的姓名，所以你的身份也就不會被人所知。學校和老師都將不會知曉你是否參與了這項研究，也不會知曉你在問卷中回答了什麼。

如果你選擇不參與這項研究，你可以留在教室中看書或者寫作業。你的老師不會進入教室。當研究人員說明完相關事項後，他們也會離開教室。當你完成調查問卷後，你要把調查問卷放進研究人員提供的盒子中。

自願參與/自願退出：

你是否參與這項研究是完全自願的。你可以在任何時候停止回答問卷。

問題：

如果你現在或者將來對這項研究有任何問題，你可以聯繫 Phebe Lam 或者她所在研究團隊中的其他研究人員。你可以用電話的方式與他們聯絡。他們的電話是(313) 745-4213。如果你對做為調查參與者的權利有任何問題或者想法，可以與我們校內的人類調查委員會的主席聯繫，電話是(313) 577-1628。如果你無法聯絡到研究人員，或者想與除研究人員外的其他人聯絡，你可以致電(313) 577-1628 來詢問問題、反應情況或投訴。

參與：

填寫調查問卷就表明你同意參加這項研究。

APPROVAL PERIOD

OCT 30 '07 OCT 20 '08

HUMAN INVESTIGATION COMMITTEE

提交/修改日期: 2008 年 8 月 8 日

頁數: 第二頁/共兩頁

草稿版本號: 1.0

HIC 日期: 12/06

Parental Permission/Research Informed Consent
 Title of Study: *Values and Risk Behaviors in Hong Kong Adolescents*

Purpose:

You are being asked to allow your child to be in a research study at their school that is being conducted by Phebe Lam in the College of Education-Theoretical and behavioral Foundations department from Wayne State University (Detroit Michigan, USA). The purpose of the study is to examine the relationship between values, personality, and risk behaviors in Hong Kong adolescents. Your child has been selected because he/she is a student studying at a Hong Kong high school and is between the ages of 13 to 19.

Study Procedures:

If you decide to allow your child to take part in the study, your child will be asked to answer a questionnaire that will ask general questions about them, their values, personality, and their risk behaviors. For example:

- 1) General questions about them ("How old are you?", "What grade are you in?")
- 2) Values questions: ("How important is it for you to behave properly?")
- 3) Personality questions: ("Are you shy?")
- 4) Risk behavior questions: ("Have you ever smoked a cigarette?")

At anytime, your child has the option of not answering the questions or skipping questions. They will be completing the questionnaire only one time at their school. The total time for your child to complete the questionnaire should be approximately 45 to 60 minutes. If you want to review the questionnaire that your child will be completing, the office of your child's school will have a copy.

Benefits:

There may be no direct benefits for your child; however, information from this study may benefit other people now or in the future.

Risks:

By taking part in this study, your child may feel uncomfortable thinking about and answering questions about their personality or risk behaviors. If they do, they can stop completing the questionnaire.

Costs:

There are no costs to you or your child to participate in this study.

Compensation:

You or your child will not be paid for taking part in this study.

Confidentiality:

All information collected about your child during the course of this study will be kept without any identifiers. This means that your child will not put their name on the questionnaire so they cannot be identified. The school and teachers will not know what your child answered on the questionnaire, or even if your child is participating in this study.

Voluntary Participation /Withdrawal:

Your child's participation in this study is voluntary and he/she can stop answering the questions at anytime.

Submission/Revision Date: 10-29-2007

Page 1 of 2

Participants Initials _____

Form date. 012/06

Title of Study: Values and Risk Behaviors in Hong Kong Adolescents

Questions:

If you have any questions about this study now or in the future, you may contact Phebe Lam or one of her research team members at the following phone number (313) 745-4213 or by email at plam@med.wayne.edu. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Participation:

If you do not contact the principal investigator (PI) within a 2-week period, to state that you do not give permission for your child to be enrolled in the research trial, your child will be enrolled into the research. You may contact the PI by phone at (313) 745-4213; by email at plam@med.wayne.edu; or by fax at (852) 23369197.

Optional Tear Off

If you do not wish to have your child participant in the study, you may fill out the form and return it to your child's teacher.

I do not allow my child _____ to participate in this research study.	
Name	
_____ Printed Name of Parent	
_____ Signature of Parent	_____ Date

父母許可/研究知情同意書

研究題目：香港青少年的價值觀和危險行為

目的：

我們現在請求您允許您的孩子參加在其學校內進行的一項科學研究。來自韋恩州立大學教育學院理論與行為基礎系的 Phoebe Lam (位於美國密歇根州底特律市) 將從事這項研究。該研究致力於發現香港青少年價值觀、人格以及危險行為之間的關係。由於您的孩子是一名正在香港高中就讀的、年齡介於 13 至 19 歲之間的學生，所以他/她被選中參與這項研究。

研究程式：

如果您決定允許您的孩子參與這項研究，我們將請他/她填寫一份調查問卷。該問卷會問他們一些一般問題和有關他們價值觀、人格以及危險行為的問題。例子：

1. 一般的問題 (“您的年齡?”, “您就讀那年級?”)
2. 價值觀的問題 (“正當的行為對您有多重要?”)
3. 人格的問題 (“您害羞嗎?”)
4. 危險行為的問題 (“您有沒有吸煙過?”)

在任何時候，您的孩子都有權不回答或者回避任何問題。他們將僅在其學校內來完成這份問卷一次即可。完成這份問卷所需要的時間大致為 45 到 60 分鐘。如果您想閱讀您的孩子填寫的問卷，其學校的辦公室將會提供一份影本給您。

益處：

這項研究或許並不會給您的孩子帶來直接的益處。但從這項研究中收集的資訊現在或者將來或可以使其他人受益。

風險：

參加這項研究時，您的孩子或許將會對考慮和回答有關其人格和危險行為的問題感到不快。在這種情況下，他們可以停止回答這份問卷。

價格：

如果參加這項研究，您和您的孩子均不用支付任何費用。

報酬：

如果參加這項研究，您和您的孩子將不會得到報酬。

提交/修改日期：2007 年 10 月 29 日

頁數：第一頁/共兩頁

參與人姓名縮寫 _____

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研究題目：香港青少年的價值觀和危險行為

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參與人姓名縮寫 _____

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REFERENCES

- Abdullah, A. S. M., & Ho, W. W. N. (2006). What Chinese adolescents think about quitting smoking: A qualitative study. *Substance Use & Misuse, 41*, 1735-1743.
- Abdullah, A. S., Fielding, R., & Hedley, A. J. (2002). Patterns of cigarette smoking, alcohol use and other substance use among Chinese university students in Hong Kong. *The American Journal on Addictions, 11*, 235-246.
- Achenbach, T. M. (1991). *Manual for the Youth Self-Report and 1991 Profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.
- Arnett, J. (1992a). Reckless behavior in adolescence: A developmental perspective. *Developmental Review, 12*, 391-409.
- Arnett, J. (1992b). Socialization and adolescent reckless behavior: A reply to Jessor. *Developmental Review, 12*, 391-409.
- Arnett, J. J. (1998). Risk behavior and family role transitions during the twenties. *Journal of Youth and Adolescence, 27*, 301-320.
- Arnett, J. J. (1999). Adolescent storm and stress, reconsidered. *American Psychologist, 54*, 317-326.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469-480.
- Arnett, J. J., & Jensen, L. A. (1994). Socialization and risk behavior in two countries: Denmark and the United States. *Youth & Society, 26*, 3-22.

- Audrain-McGovern, J., Rodriguez, D., Epstein, L. H., Cuevas, J., Rodgers, K., & Wileyto, E. P. (2009). Does delay discounting play an etiological role in smoking or is it a consequence of smoking? *Drug and Alcohol Dependence, 103*, 99-106.
- Audrain-McGovern, J., Rodriguez, D., Tercyak, K. P., Cuevas, J., Rodgers, K., & Patterson, F. (2004). Identifying and characterizing adolescent smoking trajectories. *Cancer Epidemiology & Biomarkers Prevention, 13*, 2023-2034.
- Ausems, M., Mesters, I., van Breukelen, G., & De Vries, H. (2009). Smoking among Dutch elementary schoolchildren: Gender-specific predictors. *Health Education Research, 24*, 818-828.
- Baillet, D., Joireman, J., Daniels, D., & George-Falvy, J. (2008). Empathy and the Schwartz Value System: A test of an integrated hypothesis. *Individual Differences Research, 6*, 269-279.
- Bardi, A., Calogero, R. M., & Mullen, B. (2008). A new archival approach to the study of values and value-behavior relations: Validation of the value lexicon. *Journal of Applied Psychology, 93*, 483-497.
- Bardi, A., Lee, J. A., Hofmann-Towfigh, N., & Soutar, G. (2009). The structure of intraindividual value change. *Journal of Personality and Social Psychology, 97*, 913-929.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology, 81*, 1014-1027.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*, 56-95.

- Benjet, C., Borges, G., Medina-Mora, M. E., Blanco, J., Zambrano, J., Orozco, R., Fleiz, C., & Rojas, E. (2007). Drug use opportunities and the transition to drug use among adolescents from the Mexico City metropolitan area. *Drug and Alcohol Dependence, 90*, 128-134.
- Bentler, P. M., & Newcomb, M. D. (1986). Personality, sexual behavior, and drug use revealed through latent variable methods. *Clinical Psychology Review. Special Issue: Personality assessment in the 80's: Issues and advances, 6*, 363-385.
- Berger, R. J. (1989). Female delinquency in the emancipation era: A review of the literature. *Sex Roles, 21*, 375-399.
- Biglan, A., Flay, B., & Foster, S. L. (2003). *The prevention of drug abuse*. New York, NY: Kluwer Academic/Plenum Publishers.
- Biglan, A., Metzler, C. W., Wirt, R., & Ary, D. V. (1990). Social and behavioral factors associated with high-risk sexual behavior among adolescents. *Journal of Behavioral Medicine, 13*, 245-261.
- Biglan, A., & Severson, H. H. (2003). *The prevention of tobacco use*. New York, NY: Kluwer Academic/Plenum Publishers.
- Biglan, A., Wang, M. C., & Walberg, H. J. (2003). *Preventing youth problems*. New York, NY: Kluwer Academic/Plenum Publishers.
- Blatt, S. J., & Luyten, P. (2009). A structural-developmental psychodynamic approach to psychopathology: Two polarities of experience across the life span. *Development and Psychopathology, 21*, 793-814.
- Bobo, J. K., & Husten, C. (2000). Sociocultural influences on smoking and drinking. *Alcohol Research & Health, 24*, 225-232.

- Bond, M. H. (1986). Mutual stereotypes and the facilitation of interaction across cultural lines. *International Journal of Intercultural Relations, 10*, 259-276.
- Bond, M. H., & Chi, V. M. (1997). Values and moral behavior in mainland China. *Psychologia: An International Journal of Psychology in the Orient Special Issue: Psychological Studies from Hong Kong, 40*, 251-264.
- Bond, M. H., & Hewstone, M. (1988). Social identity theory and the perception of intergroup relations in Hong Kong. *International Journal of Intercultural Relations, 12*, 153-170.
- Bronfenbrenner, U. (1979). Developmental ecology through space time: A future perspective. In Moen, P., Elder, G. G., Luscher, K., (eds.). *Examining Lives in Context* (pp. 619-647). Washington, DC: American Psychological Association.
- Brook, J. S., Brook, D. W., Zhang, C., & Cohen, P. (2009). Pathways from adolescent parent-child conflict to substance use disorders in the fourth decade of life. *The American Journal on Addictions, 18*, 235-242.
- Brunelle, C., Douglas, R. L., Pihl, R. O., & Stewart, S. H. (2009). Personality and substance use disorders in female offenders: A matched controlled study. *Personality and Individual Differences, 46*, 472-476.
- Bryant, A. L., & Zimmerman, M. A. (2002). Examining the effects of academic beliefs and behaviors on changes in substance use among urban adolescents. *Journal of educational psychology, 94*, 621-637.
- Bubeck, M., & Bilsky, W. (2004). Value structure at an early age. *Swiss Journal of Psychology, 63*, 31-41.

- Burke, J. D., Loeber, R., White, H. R., Stouthammer-Loeber, M., & Pardini, D. (2007). Inattention as a key predictor of tobacco use in adolescence. *Journal of Abnormal Psychology, 116*, 249-259.
- Calogero, R. M., Bardi, A., & Sutton, R. M. (2009). A need basis for values: Associations between the need for cognitive closure and value priorities. *Personality and Individual Differences, 46*, 154-159.
- Caspi, A., Begg, D., Dickson, N., Harrington, H., Langley, J., Moffitt, T. E., & Silva, P. A. (1997). Personality differences predict health-risk behaviors in young adulthood: Evidence from a longitudinal study. *Journal of personality and social psychology, 73*, 1052-1063.
- Catalano, R. F., Mazza, J. J., Harachi, T. W., Abbott, R. D., Haggerty, K. P., & Fleming, C. B. (2003). Raising healthy children through enhancing social development in elementary school: Results after 1.5 years. *Journal of School Psychology, 41*, 143-164.
- Census and Statistics Department (C&SD). (2009a). Hong Kong monthly digest of statistics: Pattern of smoking. [Web page]. Census and Statistics Department Web site. Available at: <http://www.censtatd.gov.hk/home/index.jsp> . Accessed on August 28, 2009.
- Census and Statistics Department (C&SD). (2009b). Population and vital events. [Web page]. Census and Statistics Department Web site. Available at: <http://www.censtatd.gov.hk/home/index.jsp> . Accessed on August 28, 2009.
- Center for Disease Control and Prevention. (2006) Youth Risk Behavior Surveillance-United States, 2006. *Morbidity and Mortality Weekly Report, 55*, 1-108.
- Center for Disease Control and Prevention. (2007). Suicide trends among youths and young adults aged 10—24 years—United States, 1990-2004. [Web page]. CDC Web site.

Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5635a2.htm>.

Accessed on September 10, 2007.

- Centre for Health Protection (CHP). (2006). Report of Behavioural Risk Factor Survey. [Web page]. CHP Web site. Available at: www.chp.gov.hk . Accessed on August 20, 2009.
- Chan, W. S. C., Law, C. K., Liu, K. Y., Wong, P. W. C., Law, Y. W., Y., & Yip, P. S. F. (2009). Suicidality in Chinese adolescents in Hong Kong: The role of family and cultural influences. *Social Psychiatry and Psychiatric Epidemiology*, *44*, 278-284.
- Chang, L., Arkin, R. M., Leong, F. T., Chan, D. K. S., & Leung, K. (2004). Subjective overachievement in American and Chinese college students. *Journal of Cross-Cultural Psychology*, *35*, 152-173.
- Chen, S. X., Bond, M. H., Chan, B., Tang, D., & Buchtel, E. E. (2009). Behavioral manifestations of modesty. *Journal of Cross-Cultural Psychology*, *40*, 603-626.
- Chen, S. X., Chan, W., Bond, M. H., & Stewart, S. M. (2006). The effects of self-efficacy and relationship harmony on depression across cultures: Applying level-oriented and structure-oriented analyses. *Journal of Cross-Cultural Psychology*, *37*, 643-658.
- Cheng, R. W., Lam, S., & Chan, C. J. (2008). When high achievers and low achievers work in the same group: The roles of group heterogeneity and processes in project-based learning. *British Journal of Educational Psychology*, *78*, 205-221.
- Cherpitel, C. J., Meyers, A. R., & Perrine, M. W. (1998). Alcohol consumption, sensation seeking and ski injury: A case-control study. *Journal of studies on alcohol*, *59*, 216-221.
- Cheung, C., & Rudowicz, E. (2003a). Academic outcomes of ability grouping among junior high school students in Hong Kong. *Journal of Educational Research*, *96*, 241-254.

- Cheung, C., & Rudowicz, E. (2003b). Underachievement and attributions among students attending schools stratified by student ability. *Social Psychology of Education, 6*, 303-323.
- Cheung, C., & Tse, J. W. (2008). Hong Kong children's posited "vulnerability" to social influence on substance abuse. *Substance Use & Misuse, 43*, 1544-1558.
- Cheung, C., Liu, S. Y., & Lee, T. (2005). Parents, teachers, and peers and early adolescent runaway in Hong Kong. *Adolescence, 40*, 403-424.
- Cheung, C., Ngai, N., & Ngai, S. S. (2007). Family strain and adolescent delinquency in two Chinese cities, Guangzhou and Hong Kong. *Journal of Child & Family Studies, 16*, 626-641.
- Clark, D. B., Parker, A. M., & Lynch, K. G. (1999). Psychopathology and substance-related problems during early adolescence: A survival analysis. *Journal of Clinical and Child Psychology, 28*, 333-341.
- Cloninger, C. R., Sigvardsson, S., & Bohman, M. (1996). Type I and type II alcoholism: An update. *Alcohol Health & Research World, 20*, 18-23.
- CNN. (2004). *U.S. President/ National/ Exit Poll*. Retrieved December 13, 2009, from <http://www.cnn.com/ELECTION/2004/pages/results/states/US/P/00/epolls.0.html>
- Cohen, A. (2009). A value based perspective on commitment in the workplace: An examination of Schwartz's Basic Human Values Theory among bank employees in Israel. *International Journal of Intercultural Relations, 33*, 332-345.
- Cookston, J. T. (1999). Parental supervision and family structure: Effects on adolescent problem behaviors. *Journal of Divorce & Remarriage, 32*, 107-122.

- Cooper, M. L., Peirce, R. S., & Huselid, R. F. (1994). Substance use and sexual risk taking among black adolescents and white adolescents. *Health Psychology, 13*, 251-262.
- Cornelius, J. R., Clark, D. B., Reynolds, M., Kirisci, L., & Tarter, R. (2007). Early age of first sexual intercourse and affiliation with deviant peers predict development of SUD: A prospective longitudinal study. *Addictive Behaviors, 32*, 850-854.
- Costa, F. M., Jessor, R., & Turbin, M. S. (2007). College student involvement in cigarette smoking: The role of psychosocial and behavioral protection and risk. *Nicotine & Tobacco Research, 9*, 213-224.
- Costa, F. M., Jessor, R., Donovan, J. E., & Fortenberry, J. D. (1995). Early initiation of sexual intercourse: The influence of psychosocial unconventionality. *Journal of Research on Adolescence, 5*, 93-121.
- Costello, E. J. (2007a). Psychiatric predictors of adolescent and young adult drug use and abuse. *Drug and Alcohol Dependence, 88*, S1-S3.
- Costello, E. J. (2007b). Psychiatric predictors of adolescent and young adult drug use and abuse: What have we learned?. *Drug and Alcohol Dependence, 88*, S97-S99.
- Crum, R. M., Juon, H., Green, K. M., Robertson, J., Fothergill, K., & Ensminger, M. (2006). Educational achievement and early school behavior as predictors of alcohol-use disorders: 35-year follow-up of the Woodlawn study. *Journal of Studies on Alcohol, 67*, 75-85.
- Darling, N., Cumsille, P., & Martínez, M. L. (2008). Individual differences in adolescents' beliefs about the legitimacy of parental authority and their own obligation to obey: A longitudinal investigation. *Child Development, 79*, 1103-1118.

- Davies, C., Tang, C., & Ko, J. (2004). The impact of peer, family and school on delinquency: A study of at-risk Chinese adolescents in Hong Kong. *International Social Work, 47*, 489-502.
- Davis, C. G., Thake, J., & Vilhena, N. (in press). Social desirability biases in self-reported alcohol consumption and harms. *Addictive Behaviors*.
- Davis, C., Tang, C., & Ko, J. (1998). Exploring current behaviors and social service needs for Chinese juvenile delinquents in Hong Kong. *Children and Youth Services Review, 20*, 733-745.
- Declercq, F., Markey, S., Vandist, K., & Verhaeghe, P. (2009). The youth psychopathic trait inventory: Factor structure and antisocial behaviour in non-referred 12-17-year-olds. *Journal of Forensic Psychiatry & Psychology, 20*, 577-594.
doi:10.1080/14789940802651757
- Deeds, O., Stewart, S. M., Bond, M. H., & Westrick, J. (1998). Adolescents between cultures: Values and autonomy expectations in an international school setting. *School Psychology International, 19*, 61-78.
- Degenhardt, L., Coffey, C., Moran, P., Carlin, J. B., & Patton, G. C. (2007). The predictors and consequences of adolescent amphetamine use: Findings from the Victoria Adolescent Health Cohort Study. *Addiction, 102*, 1076-1084.
- deLeeuw, R. N. H., Engels, R., C., M., E., Vermulst, A. A., & Scholte, R. H. J. (2009). Relative risks of exposure to different smoking models on the development of nicotine dependence during adolescents: A five-wave longitudinal study. *Journal of Adolescent Health, 45*, 171-178.

- DiLorio, C., Dudley, W. N., Soet, J. E., McCarty, F. (2004). Sexual possibility situations and sexual behaviors among young adolescents: The moderating role of protective factors. *Journal of Adolescent Health, 35*, 528.e11.
- Dollinger, S. J., & Kobayashi, R. (2003). Value correlates of collegiate alcohol abuse. *Psychological reports, 93*, 848-850.
- Donohew, L., Clayton, R. R., Skinner, W. F., & Colon, S. (1999a). Peer networks and sensation seeking: Some implications for primary socialization theory. *Substance use & misuse, 34*, 1013-1023.
- Donohew, L., Palmgreen, P., & Lorch, E. P. (1994). Attention, need for sensation, and health communication campaigns. *American Behavioral Scientist, 38*, 310-322.
- Donohew, L., Zimmerman, R., Cupp, P. S., Novak, S., Colon, S., & Abell, R. (2000). Sensation seeking, impulsive decision-making, and risky sex: Implications for risk-taking and design of interventions. *Personality and Individual Differences, 28*, 1079-1091.
- Donohew, R. L., Hoyle, R. H., Clayton, R. R., Skinner, W. F., Colon, S. E., & Rice, R. E. (1999b). Sensation seeking and drug use by adolescents and their friends: Models for marijuana and alcohol. *Journal of studies on alcohol, 60*, 622-631.
- Donovan, J. E., & Jessor, R. (1985). Structure of problem behavior in adolescence and young adulthood. *Journal of consulting and clinical psychology, 53*, 890-904.
- Donovan, J. E., Jessor, R., & Costa, F. M. (1988). Syndrome of problem behavior in adolescence: A replication. *Journal of consulting and clinical psychology, 56*, 762-765.
- Donovan, J. E., Jessor, R., & Costa, F. M. (1991). Adolescent health behavior and conventionality-unconventionality: An extension of problem-behavior therapy. *Health Psychology, 10*, 52-61.

- Duangpatra, K. N. K., Bradley, G. L., & Glendon, A. I. (2009). Variables affecting emerging adults' self-reported risk and reckless behaviors. *Journal of Applied Developmental Psychology, 30*, 298-309.
- Duangpatra, K. N. K., Bradley, G. L., & Glendon, A. I. (2009). Variables affecting emerging adults' self-reported risk and reckless behaviors. *Journal of Applied Developmental Psychology, 30*, 298-309.
- Dubow, E. F., Arnett, M., Smith, K., & Ippolito, M. F. (2001). Predictors of future expectations of inner-city children: A 9-month prospective study. *Journal of Early Adolescence, 21*, 5-28.
- Dunlop, S. M., & Romer, D. (2009, August 13, in press). Adolescent and young adult crash risk: Sensation seeking, substance use propensity and substance use behaviors. *Journal of Adolescent Health*. Retrieved December 13, 2009, from <http://www.sciencedirect.com.proxy.lib.wayne.edu/science>
- Ellickson, P. L., Hays, R. D., & Bell, R. M. (1992). Stepping through the drug use sequence: Longitudinal scalogram analysis of initiation and regular use. *Journal of Abnormal Psychology, 101*, 441-451.
- Ellickson, P. L., Tucker, J. S., & Klein, D. J. (2008). Reducing early smokers' risk for future smoking and other problem behavior: Insights from a five-year longitudinal study. *Journal of Adolescent Health, 43*, 394-400.
- Ewing, S. W. F., LaChance, H. A., Bryan, A., & Hutchison, K. E. (2009). Do genetic and individual risk factors moderate the efficacy of motivational enhancement therapy? Drinking outcomes with an emerging adult sample. *Addiction Biology, 14*, 356-365.

- Faeh, D., Viswanathan, B., Chiolero, A., Warren, W., & Bovet, P. (2004). Clustering of smoking, alcohol drinking and cannabis use in adolescents in a rapidly developing country. *BioMed Central*, available at: <http://www.biomedcentral.com/1471-2458/6/169> .
- Fauth, R. C., Roth, J. L., & Brooks-Gunn, J. (2007). Does the neighborhood context alter the link between youth's after-school time activities and developmental outcomes? A multilevel analysis. *Developmental Psychology*, *43*, 760-777.
- Feather, N. T. (1980a). Similarity of values systems within the same nation: Evidence from Australia and Papua New Guinea. *Australian Journal of Psychology*, *32*, 17-30.
- Feather, N. T. (1980b). Value systems and social interaction: A field study in a newly independent nation. *Journal of Applied Social Psychology*, *10*, 1-19.
- Feather, N. T. (1988). Values, valences, and course enrollment: Testing the role of personal values within an expectancy-valence framework. *Journal of educational psychology*, *80*, 381-391.
- Feldman, S. S., & Rosenthal, D. A. (1991). Age expectations of behavioural autonomy in Hong Kong, Australian and American youth: The influence of family variables and adolescents' values. *International Journal of Psychology*, *26*, 11-23.
- Feldman, S. S., & Rosenthal, D. A. (1991). Age expectations of behavioral autonomy in Hong Kong, Australia and American youth: The influence of family variables and adolescents' values. *International Journal of Psychology*, *26*, 1-23.
- Feldman, S. S., Rosenthal, D. A., Mont-Reynaud, R., Leung, K., & Lau, S. (1991). Ain't misbehavin': Adolescent values and family environments as correlates of misconduct in Australia, Hong Kong, and the united states. *Journal of Research on Adolescence*, *1*, 109-134.

- Fite, P. J., Colder, C. R., & O'Connor, R. M. (2006). Childhood behavior problems and peer selection and socialization: Risk for adolescent alcohol use. *Addictive Behaviors, 31*, 1454-1459.
- Fitzpatrick, K. M., Piko, B. F., & Wright, D. R. (2005). A tale of two cities: Health-compromising behaviors between Hungarian and American youth, *Annals of Sociology of Children, 10*, 189-212.
- Flory, J. D., & Manuck, S. B. (2009). Impulsiveness and cigarette smoking. *Psychosomatic Medicine, 71*, 431-437.
- Fortenberry, J. D., Costa, F. M., Jessor, R., & Donovan, J. E. (1997). Contraceptive behavior and adolescent lifestyles: A structural modeling approach. *Journal of Research on Adolescence, 7*, 307-329.
- Fröjd, A. A., Nissinen, E. S., Pelkonen, M. U. I., Marttunen, M. J., Koivisto, A., & Kaltiala-Heino, R. (2008). Depression and school performance in middle adolescent boys and girls. *Journal of Adolescence, 31*, 485-498.
- Gandal, N., Roccas, S., Sagiv, L., & Wrzesniewski, A. (2005). Personal value priorities of economists. *Human Relations, 58*, 1227-1252.
- Gardner, M., Roth, J., Brooks-Gunn, J. (2009). Sports participation and juvenile delinquency: The role of the peer context among adolescent boys and girls with varied histories of problem behavior. *Developmental Psychology, 45*, 341-353.
- Goff, B. G., & Goddard, H. W. (1999). Terminal core values associated with adolescent problem behaviors. *Adolescence, 34*, 47-60.
- Goldberg, M. E. (2003). American media and the smoking-related behaviors of Asian adolescents. *Journal of Advertising Research, 43*, 2-11.

- Grant, B. F. & Dawson, D. (1997). Age of 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.
- Grant, B. F., Hasin, D. S., Chou, P., Stinson, F. S., & Dawson, D. A. (2004). Nicotine dependence and psychiatric disorders in the United States: Results from the National Epidemiological Survey on Alcohol and Related Conditions. *Archives of General Psychiatry, 61*, 1107-1115.
- Greenwood, P. (2008). Prevention and intervention programs for juvenile offenders. *The Future of Children, 18*, 185-210.
- Griffiths, S., Lau, J. T. F., Chow, J. K. W., Lee, S. S., Kan, P. Y. M. Y., & Lee, S. (2006). Alcohol use among entrants to a Hong Kong university. *Alcohol & Alcoholism, 41*, 560-565.
- Guest, A., & Schneider, B. (2003). Adolescents' extracurricular participation in context: The mediating effects of schools, communities, and identity. *Sociology of Education, 76*, 89-109.
- Hahm, H. C., Lahiff, M., & Guterman, N. B. (2004). Asian American adolescents' acculturation, binge drinking, and alcohol- and tobacco-using peers. *Journal of Community Psychology, 32*, 295-308.
- Hall, W., Degenhardt, L., & Teesson, M. (2009). Reprint of "understanding comorbidity between substance use, anxiety and affective disorders: Broadening the research base". *Addictive Behaviors, 34*, 795-799.
- Hallinan, M. T. (1994). School differences in tracking effects on achievement. *Social Forces, 72*, 799-820.

- Hallinan, M. T. (1996). Track mobility in secondary school. *Social Forces*, 74, 983-1002.
- Hawkins, J. D., Smith, B. H., Hill, K. G., Kosterman, R., Catalano, R. F., & Abbott, R. D. (2007). Promoting social development and preventing health and behavior problems during the elementary grades: Results from the Seattle Social Development Project. *Victims & Offenders. Special Issue on Early Intervention*, 2, 161-181.
- Henry, B., Feehan, M., McGee, R., Stanton, W., Moffitt, T. E., & Silva, P. (1993). The importance of conduct problems and depressive symptoms in predicting adolescent substance use. *Journal of Abnormal Child Psychology*, 21, 469-480.
- Hertel, G., & Kerr, N. L. (2001). Priming in-group favoritism: The impact of normative scripts in the minimal group paradigm. *Journal of Experimental Social Psychology*, 37, 316-324.
- Hettema, J., Steele, J., & Miller, W. R. (2005). Motivational interviewing. *Annual Review of Clinical Psychology*, 1, 91-111.
- Ho, S. S. M., & Chan, R. S. Y. (2009). Social harmony in Hong Kong: Level, determinants and policy implications. *Social Indicators Research*, 91, 37-58.
- Ho, T. P., Leung, P. W. L., Hung, S. F., Lee, C. C., & Tang, C. P. (2000). The mental health of the peers of suicide completers and attempters. *Journal of Child Psychology and Psychiatry*, 41, 301-308.
- Hoeve, M., Dubas, J. S., Eichelsheim, V. I., van der Laan, P. H., Smeenk, W., & Gerris, J. R. M. (2009). The relationship between parenting and delinquency: A meta-analysis. *Journal of Abnormal Child Psychology: An official publication of the International Society for Research in Child and Adolescent Psychopathology*, 37, 749-775.
- Hoffmann, J. P., & Xu, J. (2002). School activities, community service, and delinquency. *Crime & Delinquency*, 48, 568-591.

- Hong Kong Education City (HKEdCity). (2008). School profiles. [Web page]. HKEdCity Web site. Available at: <http://www.hkedcity.net/> . Accessed on September 1, 2008.
- Hong Kong Police Force. (2009). Criminal statistics comparison [Web page]. HKPF Web site. Available at: <http://www.police.gov.hk/hkp-home/english/statistics/compare09.htm> . Accessed on August 23, 2009.
- Houck, C. D., Lescano, C. M., Brown, L. K., Tolou-Shams, M., Thompson, J., DiClemente, R., Fernandez, M. I., Pugatch, D., Schlenger, W. E., & Silver, B. J. (2006). "Islands of risk": Subgroups of adolescents at risk for HIV. *Journal of pediatric psychology, 31*, 619-629.
- Hui, E. K. P. (2000). Personal concerns and their causes: Perceptions of Hong Kong Chinese adolescent students. *Journal of Adolescence, 23*, 189-203.
- Hui, S., & Cheung, S. (1996). Teenage sex workers: The psychosocial characteristics of underage karaoke girls in Hong Kong. *Bulletin of the Hong Kong Psychological Society, 36*, 47-67.
- Hunt, M. K., & Hopko, D. R. (2009). Predicting high school truancy among students in the Appalachian south. *The Journal of Primary Prevention, 30*, 549-567.
- Huselid, R. F., & Cooper, M. L. (1994). Gender roles as mediators of sex differences in expressions of pathology. *Journal of abnormal psychology, 103*, 595-603.
- Hwang, A., Francesco, A. M., & Kessler, E. (2003). The relationship between individualism-collectivism, face, and feedback and learning processes in Hong Kong, Singapore, and the united states. *Journal of Cross-Cultural Psychology, 34*, 72-90.
- Inglehart, R. (2006). *Political culture*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

- Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review. Special Issue: Looking forward, looking back: Continuity and change at the turn of the millennium*, 65, 19-51.
- Ivanova, M. Y., Achenbach, T. M., Rescorla, L. A., Dumenci, L., Almqvist, F., Bilenberg, N., Bird, H., Broberg, A. G., Dobrea, A., Döpfner, M., Erol, N., Forns, M., Hannesdottir, H., Kanbayashi, Y., Lambert, M. C., Leung, P., Minaei, A., Mulatu, M. S., Novik, T., Oh, K. J., Roussos, A., Sawyer, M., Simsek, Z., Steinhausen, H-C., Weintraub, S., Metzke, C. W., Wolanczyk, T., Zilber, N., Zukauskienė, T., & Verhulst, F. C. (2007). The generalizability of the Youth Self-Report syndrome structure in 23 societies. *Journal of Consulting and Clinical Psychology*, 75, 729-738.
- Jackson, K. M., Sher, K. J., Cooper, M. L., & Wood, P. K. (2002). Adolescent alcohol and tobacco use: Onset, persistence and trajectories of use across two samples. *Addiction*, 97, 517-531.
- Jessor, R. (1987). Problem-behavior theory, psychosocial development, and adolescent problem drinking. *British Journal of Addiction. Special Issue: Psychology and addiction*, 82, 331-342.
- Jessor, R. (1991). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Journal of Adolescent Health. Special Issue: Adolescents at risk*, 12, 597-605.
- Jessor, R. (1992). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Developmental Review*, 12, 374-390.
- Jessor, R. (1998). New perspectives on adolescent risk behavior. In R. Jessor (Ed.), *New perspectives on adolescent risk behavior* (pp. 1-10). New York, NY: Cambridge University Press.

- Jessor, R. (2002). Adolescent Health and Development Questionnaire (PDF): The U.S./China cross national study. [Web page]. Richard Jessor Web site. Available at: http://www.colorado.edu/ibs/jessor/questionnaires/coding_guide_ahdq3.pdf. Accessed on December 15, 2006.
- Jessor, R., & Jessor, S. L. (1977). Problem behavior and psychosocial development: A longitudinal study of youth. New York, NY: Academic. Retrieved October 18, 2007, from PsycINFO database.
- Jessor, R., Costa, F. M., Krueger, P. M., & Turbin, M. S. (2006). A developmental study of heavy episodic drinking among college students: The role of psychosocial and behavioral protective and risk factors. *Journal of Studies on Alcohol*, 67, 86-94.
- Jessor, R., Donovan, J. E., & Costa, F. M. (1986). Psychosocial correlates of marijuana use in adolescence and young adulthood: The past as prologue. *Alcohol, Drugs & Driving*, 2, 31-49.
- Jessor, R., Donovan, J. E., & Costa, F. M. (1991). *Beyond adolescence: Problem behavior and young adult development*. New York, NY: Cambridge University Press.
- Jessor, R., Graves, T. D., & Hanson, R. C. (1968). *Society, personality, and deviant behavior: A study of a tri-ethnic community*. Oxford, England: Holt, Rinehart, + Winston. Retrieved October 18, 2007, from PsycINFO database.
- Jessor, R., Turbin, M. S., & Costa, F. M. (1997). Predicting developmental change in risky driving: The transition to young adulthood. *Applied Developmental Science*, 1, 4-16.
- 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, 329-360.

- Jessor, R., Van Den Bos, J., Vanderryn, J., Costa, F. M., & Turbin, M. S. (1995). Protective factors in adolescent problem behavior: Moderator effects and developmental change. *Developmental Psychology, 31*, 923-933.
- Jessor, R., Van Den Bos, J., Vanderryn, J., Costa, F. M., & Turbin, M. S. (1997). *Protective factors in adolescent problem behavior: Moderator effects and developmental change*. Washington, DC: American Psychological Association.
- Jiang, L. P., & Nguyen, H. H. (2009). Misconduct among Chinese American adolescents: The role of acculturation, family obligation, and autonomy expectations. *Journal of Cross-Cultural Psychology, 40*, 649-666.
- Johnson, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006). Monitoring the Future national results on adolescent drug use: Overview of key findings, 2005. [Web page]. National Institute of Drug Abuse Web site. Available at: <http://monitoringthefuture.org/pubs/monographs/overview2005.pdf> . Accessed on August 28, 2009.
- Jones, J. C. (1973). Strategies for divergent thinking. *College Student Journal, 7*, 48-51.
- Kahn, J. A., Kaplowitz, R. A., Goodman, E., & Emans, S. J. (2002). The association between impulsiveness and sexual risk behaviors in adolescent and young adult women. *Journal of Adolescent Health, 30*, 229-232.
- Kalichman, S. C., Weinhardt, L., DiFonzo, K., Austin, J., & Luke, W. (2002). Sensation seeking and alcohol use as markers of sexual transmission risk behavior in HIV-positive men. *Annals of Behavioral Medicine, 24*, 229-235.
- Kalman, D., Kim, S., DiGirolamo, G., Smelson, D., & Ziedonis, D. (2009 in press). Addressing tobacco use disorder in smokers in early remission from alcohol dependence: The case

for integrating smoking cessation services in substance use disorder treatment programs. *Clinical Psychology Review*.

Kamphaus, R. W., & Frick, P. J. (1996). *Clinical assessment of child and adolescent personality and behavior*. Needham, MA: Allyn & Bacon.

Kandel, D. B., & Davies, M. (1996). High school students who use crack and other drugs. *Archives of General Psychiatry*, 53, 71-80.

Kaplow, J. G., Curran, P. J., Angold, A., & Costello, E. J. (2001). The perspective relation between dimensions of anxiety and the initiation of adolescent alcohol use. *Journal of Clinical and Child Psychology*, 30, 316-326.

Kashdan, T. B., & Yuen, M. (2007). Whether highly curious students thrive academically depends on perceptions about the school learning environment: A study of Hong Kong adolescents. *Motivation and Emotion*, 31, 260-270.

Ke, X., Ye, X., Xu, Y., Shen, M., Gao, X., Zhang, Y., Livesley, W. J., Jang, K. L., & Wang, W. (2007). Sensation seeking scales and traits delineating personality disorders in a sample of Chinese students. *Personality and Individual Differences*, 42, 271-278.

Kemp, S., & Watkins, D. (1996). Self-esteem and academic streaming in Hong Kong. *The Journal of Social Psychology*, 136, 651-653.

Kendell, C., Afable-Munsuz, A., Speizer, I., Avery, A., Schmidt, N., & Santelli, J. (2005). Understanding pregnancy in a population of inner-city women in New Orleans--Results of qualitative research. *Social Science & Medicine*, 60, 297-311.

Kerckhoff, A., & Glennie, E. (1999). The Matthew Effect in American education. *Research in Sociology of Education and Socialization*, 12, 35-66.

- Kim, J. H., Lee, S., Chow, J., Lau, J., Tsang, A., Choi, J., & Griffiths, S. M. (2008). Prevalence and the factors associated with binge drinking, alcohol abuse, and alcohol dependence: A population-based study of Chinese adults in Hong Kong. *Alcohol and Alcoholism, 43*, 360-370.
- Krantz, S. R., Lynch, D. A., & Russell, J. M. (2002). Gender-specific profiles of self-reported adolescent HIV risk behaviors. *JANAC: Journal of the Association of Nurses in AIDS Care, 13*, 25-33.
- Kreek, M. J., Nielsen, D. A., Butelman, E. R., & LaForge, K. S. (2005). Genetic influences on impulsivity, risk taking, stress responsivity and vulnerability to drug abuse and addiction. *Natural Neuroscience, 8*, 1450-1457.
- Kurman, J. (2003). Why is self-enhancement low in certain collectivist cultures: An investigation of two competing explanations. *Journal of Cross-Cultural Psychology, 34*, 496-510.
- Kurman, J., Yoshihara-Tanaka, C., & Elkoshi, T. (2003). Is self-enhancement negatively related to constructive self-criticism? *Journal of Cross-Cultural Psychology, 34*, 24-37.
- Lai, J., Liu, F., & Zhehg, G. (2009). A three-generation perspective analysis of the emotional value of children of adolescents, mothers, and grandmothers. *Chinese Journal of Clinical Psychology, 17*, 260-262.
- Lai, M. K., Ho, S. Y., & Lam, T. H. (2004). Perceived peer smoking prevalence and its association with smoking behaviours and intentions in Hong Kong Chinese adolescents. *Addiction, 99*, 1195-1205.
- Lam, T. H., Chung, S. F., Betson, C. L., Wong, C. M., & Hedley, A. J. (1998). Tobacco advertisements: One of the strongest risk factors for smoking in Hong Kong students. *American Journal of Preventive Medicine, 14*, 217-223.

- Lam, T. H., Stewart, S. M., & Ho, L. M. (2001a). Smoking and high-risk sexual behavior among young adults in Hong Kong. *Journal of Behavioral Medicine, 24*, 503-518.
- Lam, T. H., Stewart, S. M., Ho, L. M., & Youth Sexuality Study Task Force. (2001b). Prevalence and correlates of smoking and sexual activity among Hong Kong adolescents. *Journal of Adolescent Health, 29*, 352-358.
- Lam, T. H., Stewart, S. M., Leung, G. M., Lee, P. W. H., Wong, J. P. S., & Ho, L. M. (2004a). Depressive symptoms among Hong Kong adolescents: Relation to atypical sexual feelings and behaviors, gender dissatisfaction, pubertal timing, and family and peer relationships. *Archives of Sexual Behavior, 33*, 487-496.
- Lam, T. H., Stewart, S. M., Yip, P. S. F., Leung, G. M., Ho, L. M., Ho, S. Y., & Lee, P. W. H. (2004b). Suicidality and cultural values among Hong Kong adolescents. *Social Science & Medicine, 58*, 487-498.
- Lan, G., Ma, Z., Cao, J., & Zhang, H. (2009). A comparison of personal values of Chinese accounting practitioners and students. *Journal of Business Ethics, 88*, 59-76.
- Lau, S., & Leung, K. (1992a). Relations with parents and school and Chinese adolescents' self-concept, delinquency, and academic performance. *British Journal of Educational Psychology, 62*, 193-202.
- Lau, S., & Leung, K. (1992b). Self-concept, delinquency, relations with parents and school and Chinese adolescents' perception of personal control. *Personality and Individual Differences, 13*, 615-622.
- Le, T. N., Goebert, D., & Wallen, J. (2009). Acculturation factors and substance use among Asian American youth. *Journal of Primary Prevention, 30*, 453-473.

- Lee, A., & Tsang, K. K. (2004). Healthy schools research support group. Youth risk behaviour in a Chinese population: A territory wide youth risk behavioral surveillance in Hong Kong. *Public Health, 118*, 88-95.
- Lee, A., Lee, N., Tsang, C. K. K., Wong, W. C. W., Cheng, K. F. F., Wong, S. Y. S., & Wong, C. S. (February, 2005). Youth Risk Behavior Survey in two regions and four places (2003/04). *Journal of Primary Care and Health Promotion, Special Issue*, 2-47.
- Lee, A., Wong, S. Y. S., Tsang, K. K., Ho, G. S. M., Wong, C. W., & Cheng, F. (2009). Understanding suicidality and correlates among Chinese secondary school students in Hong Kong. *Health Promotion International, 24*, 156-165.
- Lee, F. W. (2000). Teens of the night: The young night drifters in Hong Kong. *Youth & Society, 31*, 363-384.
- Lee, J. A., Soutar, G., & Louviere, J. (2008). The Best-Worst Scaling approach: An alternative to Schwartz's Values Survey. *Journal of Personality Assessment, 90*, 335-347.
- Leung, K., & Bond, M. H. (Eds.). (2009). *International and cultural psychology series*. New York: Springer Science & Business Media.
- Leung, P. W. L., Kwong, S. L., Tang, C. P., Ho, T. P., Hung, S. F., Lee, C. C., Hong, S. L., Chiu, C. M., & Liu, W. S. (2006). Test-retest reliability and criterion validity of the Chinese version of CBCL, TRF, and YSR. *Journal of Child Psychology and Psychiatry, 47*, 970-973.
- Leung, P. W., L., Hung, S-F., Ho, T-P., Lee, C-C., Liu, W-S., Tang, C-P., & Kwong., S-L. (2008). Prevalence of DSM-IV disorders in Chinese adolescents and the effects of an impairment criterion: A pilot community study in Hong Kong. *European Child Adolescent Psychiatry, 17*, 452-461.

Leung, S. S. K., Stewart, S. M., Wong, J. P. S., Ho, D. S. Y., Fong, D. Y. T., & Lam, T. H.

(2009). The association between adolescents' depressive symptoms, maternal negative affect, and family relationships in Hong Kong; Cross-sectional and longitudinal findings. *Journal of Family Psychology, 23*, 636-645.

Lewis, M. A., Phillippi, J., & Neighbors, C. (2007). Morally based self-esteem, drinking motives, and alcohol use among college students. *Psychology of Addictive Behaviors, 21*, 398-403.

Lim, L. L., & Chang, W. C. (2009). Role of collective self-esteem on youth violence in collective culture. *International Journal of Psychology, 44*, 71-78.

Liu, C. K. M., & Fung, H. H. (2005). Gang members' social network composition and psychological well-being: Extending socioemotional selectivity theory to the study of gang involvement. *Journal of Psychology in Chinese Societies. Special Issue: Psychology of Aging in Chinese Societies, 6*, 89-108.

Liu, X., Tein, J., & Zhao, Z. (2004). Coping strategies and behavioral/emotional problems among Chinese adolescents. *Psychiatry research, 126*, 275-285.

Lo, C. C., & Globetti, G. (1999). Gender differences in the drinking patterns of American and Hong Kong adolescents: A cross-cultural study. *International Journal of Comparative Sociology, 40*, 307-331.

Loeber, R., Farrington, D. P., Stouthammer-Loeber, M., & Van-Kammen, W. B. (1998). Multiple risk factors for multiproblem boys: Co-occurrence of delinquency, substance use, attention deficit, conduct problems, physical aggression, covert behavior, depressed mood, and shy/withdrawn behavior. In: Jessor, R., ed. *New Perspectives on Adolescent Risk Behavior*. New York, NY: Cambridge University Press.

- Loh, V. W. Q., & Shek, D. T. L. (2006). Alcohol use and abuse amongst adolescents in Hong Kong. *International Journal of Adolescent Medicine and Health, 18*, 69-79.
- Luk, C. L., & Bond, M. H. (1993). Personality variation and values endorsement in Chinese university students. *Personality and Individual Differences, 14*, 429-437.
- Lyons, S. T., Duxbury, L., & Higgins, C. (2007). An empirical assessment of generational differences in basic human values. *Psychological Reports, 101*, 339-352.
- Macrae, C. N., & Johnston, L. (1998). Help, I need somebody: Automatic action and inaction. *Social Cognition, 16*, 400-417.
- Maer, M. L., & Midgley, C. (1996). Transforming school cultures. Boulder, CO: Westview Press.
- Maggs, J. L., Frome, P. M., Eccles, J. S., & Barber, B. L. (1997). Psychosocial resources, adolescent risk behaviour and young adult adjustment: Is risk taking more dangerous for some than others? *Journal of adolescence, 20*, 103-119.
- Magid, V., Colder, C. R., Stroud, L. R., Nichter, M., Nichter, M., & TERN Members. (2009). Negative affect, stress, and smoking in college students: Unique associations independent of alcohol and marijuana use. *Addictive Behaviors, 34*, 973-975.
- Maior, G. R., Pakizeh, A., Cheung, W-Y., & Rees, K. J. (2009). Changing, priming, and acting on values: Effects via motivational relations in a circular model. *Journal of Personality and Social Psychology, 97*, 699-715.
- Maldonado-Molina, M. M., Piquero, A. R., Jennings, W. G., Bird, H., & Canino, G. (2009). Trajectories of delinquency among Puerto Rican children and adolescents at two sites. *Journal of Research in Crime and Delinquency, 46*, 144-181.

- Mason, W. A., & Windle, M. (2002). Reciprocal relations between adolescent substance use and delinquency: A longitudinal latent variable analysis. *Journal of Abnormal Psychology, 111*, 63-76.
- Maxwell, K. (2002). Friends: The role of peer influence across adolescent risk behaviors. *Journal of Youth and Adolescence, 31*, 267-277.
- Mays, D., & Thompson, N. J. (2009). Alcohol-related risk behaviors and sports participation among adolescents: An analysis of 2005 Youth Risk Behavior Survey Data. *Journal of Adolescent Health, 44*, 87-89.
- Mazza, J. J., Abbott, R. D., Fleming, C. B., Harachi, T. W., Cortes, R. C., Park, J., Haggerty, K. P., & Catalano, R. F. (2009). Early predictors of adolescent depression: A 7-year longitudinal study. *The Journal of Early Adolescence, 29*, 664-692.
- McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality. Special Issue: The five-factor model: Issues and applications, 60*, 175-215.
- McCrae, R. R., Costa, P. T., Jr., Terracciano, A., Parker, W. D., Mills, C. J., De Fruyt, F., & Mervielde, I. (2002). Personality trait development from age 12 to age 18: Longitudinal, cross-sectional and cross-cultural analyses. *Journal of personality and social psychology, 83*, 1456-1468.
- McMorris, B. J., Hemphill, S. A., Toumbourou, J. W., Catalano, R. F., & Patton, G. C. (2007). Prevalence of substance use and delinquent behavior in adolescents from Victoria, Australia and Washington State, United States. *Health Education & Behavior, 34*, 634-650.

- McNeal, R. B. (1999). Participation in high school extracurricular activities: Investigating school effects. *Social Science Quarterly*, 80, 291-309.
- Merton, R. K. (1957). *Social theory and social structure (rev. ed.)*. New York, NY: Free Press.
- Metzger, A., Crean, H. F., & Forbes-Jones, E. L. (2009). Patterns of organized activity participation in urban, early adolescents. Associations with academic achievement, problem behaviors, and perceived adult support. *Journal of Early Adolescence*, 29, 426-442.
- Miller, W. R., & Rollnick, S. (1991). *Motivational Interviewing: Preparing People to Change Addictive Behaviors*. New York, NY: Guilford Press.
- Miller, W. R., & Rollnick, S. (2002). *Motivational Interviewing (2nd Edition): Preparing People for Change*. New York, NY: Guilford Press.
- Moffit, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674-701.
- Molgaard, V., Kumpfer, K. L. & Spoth, R. (1994). The Iowa Strengthening Families Program for Pre and Early Teens. Ames, IA: Iowa State University.
- Molina, B. S. G., & Pelham, W. E. (2003). Childhood predictors of adolescent substance use in longitudinal study. *Journal of Abnormal Psychology*, 112, 497-507.
- Monahan, K. C., Steinberg, L., & Cauffman, E. (2009). Affiliation with antisocial peers, susceptibility to peer influence, and antisocial behavior during the transition to adulthood. *Developmental Psychology*, 45, 1520-1530.
- MSNBC. (2008). *Pope arrives in U.S., set to stress moral values*. Retrieved December 13, 2009, from <http://www.msnbc.msn.com/id/24123048/>

Nagel, L., Mayton, D. M., & Walner, T. (1995). Value differences across tobacco use levels. *Health Values: The Journal of Health Behavior, Education & Promotion*, 19, 39-44.

National Institute of Justice. (2000). Study shows substantial levels of drug use among arrestees across the nation. [Web page]. Web site. Available at: <http://www.ojp.usdoj.gov/newsroom/2000/nij00156.htm>. Accessed on December 6, 2006.

National Institute on Alcohol Abuse and Alcoholism. (2007). Alcohol alert: Alcohol and tobacco. [Web page]. Web site. Available at: <http://pubs.niaaa.nih.gov/publications/AA71/AA71.pdf> . Accessed on August 28, 2009.

National Survey on Drug Use and Health. (2009). Trends in tobacco use among adolescents: 2002 to 2008 [Web page]. SAMHSA Web site. Available at: <http://www.oas.samhsa.gov/2k9/152/152Trends.htm> . Accessed October 20, 2009.

Nelis, S. M., & Rae, G. (2009). Brief report: Peer attachment in adolescents. *Journal of Adolescence*, 32, 443-447.

Newcomb, M. D., & McGee, L. (1991). Influence of sensation seeking on general deviance and specific problem behaviors from adolescence to young adulthood. *Journal of personality and social psychology*, 61, 614-628.

Ng, P., Chan, K., & Ho, W. (2008). A study on mental health of secondary school students in three metropolitan cities in China: Hong Kong, Shanghai, and Beijing. *International Journal of Adolescent Medicine and Health*, 20, 53-62.

Ngai, N., & Cheung, C. (2005). Predictors of the likelihood of delinquency: A study of marginal youth in Hong Kong, China. *Youth & Society*, 36, 445-470.

- Ngai, N., Cheung, C., & Ngai, S. S. (2007). Cognitive and social influences on gang involvement among delinquents in three Chinese cities. *Adolescence, 42*, 381-403.
- Norman, R. M. G., Sorrentino, R., Windell, D., & Manchanda, R. (2008). Are personal values of importance in the stigmatization of people with mental illness? *Canadian Journal of Psychiatry, 53*, 848-856.
- Oesterle, S., Hill, K. G., Hawkins, J. D., & Abbott, R. D. (2008). Positive functioning and alcohol-use disorders from adolescence to young adulthood. *Journal of Studies on Alcohol and Drugs, 69*, 100-111.
- Owens, T. J., & Shippee, N. D. (2009). Depressed mood and drinking occasions across high school: Comparing the reciprocal causal structures of a panel of boys and girls. *Journal of Adolescence, 32*, 763-780.
- Pardini, D. A., Lochman, J., & Wells, K. (2004). Negative emotions and alcohol use initiation in high-risk boys: The moderating effect of good inhibitory control. *Journal of Abnormal Child Psychology, 32*, 519-533.
- Pardini, D., White, H. R., & Stouthammer-Loeber, M. (2007). Early adolescent psychopathology as a predictor of alcohol use disorder by young adulthood. *Drug and Alcohol Dependence, 88S*, S38-S49.
- Parks, L., & Guay, R. P. (2009). Personality, values, and motivation. *Personality and Individual Differences, 47*, 675-684.
- Pate, R. R., Strost, S. G., Levin, S., & Dowda, M. (2000). Sports participation and health-related behaviors among US youth. *Archives of Pediatric and Adolescent Medicine, 154*, 904-911.

- Petersen, A. C., Richmond, J. B., & Leffert, N. (1993). Social changes among youth: The United States experience. *Journal of Adolescent Health, 14*, 632-637.
- Peterson, P. L., Hawkins, J. D., Abbott, R. D., & Catalano, R. F. (1994). Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *Journal of Research on Adolescence, 4*, 203-227.
- Piko, B. F., & Kovács, E. (2009). Do parents and school matter? protective factors for adolescent substance use. *Addictive Behaviors, 25*, 53-56.
- Pillutla, M. M., Farh, J., Lee, C., & Lin, Z. (2007). An investigation of traditionality as a moderator of reward allocation. *Group & Organization Management, 32*, 233-253.
- Prince-Gibson, E., & Schwartz, S. H. (1998). Value priorities and gender. *Social psychology quarterly, 61*, 49-67.
- Prinstein, M. J., & La Greca, A. M. (2009). Childhood depressive symptoms and adolescent cigarette use: A six-year longitudinal study controlling for peer relations correlates. *Health Psychology, 28*, 283-291.
- Raffini, J. P. (1993). *Winners without losers; Structure and strategies for increasing student motivation*. Boston, MA: Allyn & Bacon.
- Ramchand, R., Ialongo, N. S., & Chilcoat, H. D. (2007). The effect of working for pay on adolescent tobacco use. *American Journal of Public Health, 97*, 2056-2062.
- Ravert, R. D., Schwartz, S. J., Zambonanga, B. L., Kim, S. Y., Weisskirch, R. S., & Bersamin, M. (2009). Sensation seeking and danger invulnerability: Paths to college students risk-taking. *Personality and Individual Differences, 47*, 763-768.

- Ray, L. A., Bryan, A., MacKillop, J., McGeary, J., Hesterberg, K., & Hutchison, K. E. (2009). The dopamine D4 receptor (4) gene exon III polymorphism, problematic alcohol use and novelty seeking: Direct and mediated genetic effects. *Addiction Biology, 14*, 238-244.
- Rego, A., & Cunha, M. P. (2009). How individualism-collectivism orientations predict happiness in a collectivistic context. *Journal of Happiness Studies, 10*, 19-35.
- Resnick, G., & Burt, M. R. (1996). Youth at risk: Definitions and implications for service delivery. *American Journal of Orthopsychiatry, 66*, 172-188.
- Ripke, M., Huston, A., & Casey, D. M. (2006). Low-income children's activity participation as a predictor of psychosocial and academic outcomes in middle childhood and adolescence. In A. Huston & M. Ripke (Eds), *Developmental contexts in middle childhood: Bridges to adolescence and adulthood* (pp. 260-282). New York, NY: Cambridge University Press.
- Roberts, B. W., Caspi, A., & Moffitt, T. E. (2001). The kids are alright: Growth and stability in personality development from adolescence to adulthood. *Journal of personality and social psychology, 81*, 670-683.
- Roberts, R. E., Roberts, C. R., & Xing, Y. (2007). Rates of DSM-IV psychiatric disorders among adolescents in a large metropolitan area. *Journal of Psychiatric Research, 41*, 959-967.
- Rokeach, M. (1973). *The nature of human values*. New York, NY: Free Press.
- Rokeach, M. (2003). *Long-range experimental modification of values, attitudes, and behavior*. New York, NY: McGraw-Hill.
- Rosenbaum, E., & Kandel, D. B. (1990). Early onset of adolescent sexual behavior and drug involvement. *Journal of Marriage & the Family, 52*, 783-798.
- Rosenblitt, J. C., Soler, H., Johnson, S. E., & Quadagno, D. M. (2001). Sensation seeking and hormones in men and women: Exploring the link. *Hormones and Behavior, 40*, 396-402.

- Rosenthal, D. A., Bell, R., Demetriou, A., & Efklides, A. (1989). From collectivism to individualism? the acculturation of Greek immigrants in Australia. *International Journal of Psychology, 24*, 57-71.
- Ross, M. W., & Fernández-Esquer, M. E. (2005). Ethnicity in sexually transmitted infections and sexual behaviour research. *The Lancet, 365*, 1209-1210.
- Roth, M., Schumacher, J., & Brähler, E. (2005). Sensation seeking in the community: Sex, age and sociodemographic comparisons on a representative German population sample. *Personality and Individual Differences, 39*, 1261-1271.
- Rotter, J. B. (1960). Some implications of a Social Learning Theory for the prediction of goal directed behavior from testing procedure. *Psychological Review, 67*, 301-316.
- Sagiv, L., & Schwartz, S. H. (1995). Value priorities and readiness for out-group social contact. *Journal of Personality and Social Psychology, 69*, 437-448.
- Sagiv, L., & Schwartz, S. H. (2004). Values, intelligence and client behavior in career counseling: A field study. *European Journal of Psychology of Education. Special Issue: Values, Interests and Attitudes within Vocational Behavior, 19*, 237-254.
- Salili, F., & Lai, M. K. (2003). Learning and motivation of Chinese students in Hong Kong: A longitudinal study of contextual influences on students' achievement orientation and performance. *Psychology in the Schools. Special Issue: Psychoeducational and Psychosocial Functioning of Chinese Children, 40*, 51-70.
- Saraceno, L., Munafó, M., Heron, J., Craddock, N., & van den Bree, M. B.M. (2009). Genetic and non-genetic influences on the development of co-occurring alcohol problem use and internalizing symptomatology in adolescence: A review. *Addiction, 104*, 1100-1121.

- Schmid, B., Hohm, E., Blomeyer, D., Zimmermann, U. S., Schmidt, M. H., Esser, G., & Laucht, M. (2007). Concurrent alcohol and tobacco use during early adolescence characterizes a group at risk. *Alcohol and Alcoholism*, 42, 219-225.
- Schwartz, S. (1996). *Value priorities and behavior: Applying a theory of integrated value systems*. Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc.
- Schwartz, S. H. (1992). *Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries*. San Diego, CA, US: Academic Press.
- Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues*, 50, 19-45.
- Schwartz, S. H. (2005). Chapter 7. A proposal for measuring value orientations across nations. Accessed from Dr. S. H. Schwartz by email.
- Schwartz, S. H. (2006). Basic human values: An overview. Available at: <http://www.fmag.unict.it/Allegati/convegno%207-8-10-05/Schwartzpaper.pdf>. Accessed on June 18, 2004.
- Schwartz, S. H. (2007). Basic human values: Theory, methods, and application. *Risorsa Uomo: Rivista di Psicologia del Lavoro e dell' Organizzazione*, 13, 261-283.
- Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, 32, 268-290.
- Schwartz, S. H., & Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality*, 38, 230-255.
- Schwartz, S. H., & Rubel, T. (2005). Sex differences in value priorities: Cross-cultural and multimethod studies. *Journal of personality and social psychology*, 89, 1010-1028.

- Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology, 32*, 519-542.
- Seto, M. C., Lalumière, M. L., & Quinsey, V. L. (1995). Sensation seeking and males' sexual strategy. *Personality and Individual Differences, 19*, 669-675.
- Shedler, J., & Block, J. (1990). Adolescent drug use and psychological health: A longitudinal inquiry. *American Psychologist, 45*, 612-630.
- Shek, D. T. L. (1997a). Family environment and adolescent psychological well-being, school adjustment, and problem behavior: A pioneer study in a Chinese context. *Journal of Genetic Psychology, 158*, 113-128.
- Shek, D. T. L. (1997b). Parent-child relationship and parental well-being of Chinese parents in Hong Kong. *International Journal of Intercultural Relations, 21*, 459-473.
- Shek, D. T. L. (1997c). The relation of family functioning to adolescent psychological well-being, school adjustment, and problem behavior. *Journal of Genetic Psychology, 158*, 467-479.
- Shek, D. T. L. (2004a). Beliefs about causes of poverty and psychological well-being of parents and adolescents experiencing economic disadvantage in Hong Kong. *American Journal of Family Therapy, 32*, 239-254.
- Shek, D. T. L. (2004b). Beliefs about the causes of poverty in parents and adolescents experiencing economic disadvantage in Hong Kong. *Journal of Genetic Psychology, 165*, 272-291.
- Shek, D. T. L. (2004c). Chinese cultural beliefs about adversity: Its relationship to psychological well-being, school adjustment and problem behaviour in Hong Kong adolescents with

- and without economic disadvantage. *Childhood: A Global Journal of Child Research*, 11, 63-80.
- Shek, D. T. L. (2007). After-school time and perceived parental control processes, parent-adolescent relational qualities, and psychological well-being in Chinese adolescents in Hong Kong. *Family Therapy*, 34, 107-126.
- Simons-Morton, B. G., Davis Crump, A., Haynie, D. L., & Saylor, K. E. (1999). Student-school bonding and adolescent problem behavior. *Health Education Research*, 14, 99-107.
- Skeer, M., McCormick, M. C., Normand, S. T., Buka, S. L., & Gilman, S. E. (2009). A prospective study of familial conflict, psychological stress, and the development of substance use disorders in adolescence. *Drug and Alcohol Dependence*, 104, 65-72.
- Soontiens, W. (2007). Chinese ethnicity and values: A country cluster comparison. *Cross Cultural Management: An International Journal*, 14, 321-335.
- SPSS Inc. (2009). SPSS Base 17.0 for Windows User's Guide. SPSS Inc., Chicago IL.
- Stallworth, J., Roofe, M., Clark, L. F., Ehiri, J. E., Mukherjee, S., Person, S., & Jolly, P. E. (2004). Predictors of sexual involvement among adolescents in rural Jamaica. *International Journal of Adolescent Medicine and Health*, 16, 165-178.
- Steinberg, L. (2008). *Adolescence (8th ed.)*. New York: McGraw-Hill College.
- Stewart, S. M., Bond, M. H., Deeds, O., Westrick, J., & Wong, C. M. (1999). Predictors of high school achievement in a Hong Kong international school. *International Journal of Psychology*, 34, 163-174.
- Stewart, S. M., Bond, M. H., McBride-Chang, C., Fielding, R., Deeds, O., & Westrick, J. (1998). Parent and adolescent contributors to teenage misconduct in western and Asian high

- school students in Hong Kong. *International Journal of Behavioral Development*, 22, 847-869.
- Stigler, J. W., Smith, S., & Mao, L. (1985). The self-perception of competence by Chinese children. *Child development*, 56, 1259-1270.
- Stouthammer-Loeber, M., Wei, E., Loeber, R., & Masten, A. S. (2004). Desistance from persistent serious delinquency in the transition to adulthood. *Development and Psychopathology. Special Issue: Transition from Adolescence to Adulthood*, 16, 897-918.
- Sung, M., Erkanli, A., Angold, A., & Costello, E. J. (2004). Effects of age at first substance use and psychiatric comorbidity on the development of substance use disorders. *Drug and Alcohol Dependence*, 75, 287-299.
- Tam, F. W., & Taki, M. (2007). Bullying among girls in Japan and Hong Kong: An examination of the frustration-aggression model. *Educational Research and Evaluation*, 13, 373-399.
- Tam, V. C., & Lam, R. S. (2005). Stress and coping among migrant and local-born adolescents in Hong Kong. *Youth & Society*, 36, 312-332.
- Tang, C. S. K., Wong, C. S. Y., & Schwarzer, R. (1996). Psychosocial differences between occasional and regular adolescent users of marijuana and heroin. *Journal of Youth and Adolescence*, 25, 219-239.
- The Center on Alcohol Marketing and Youth. (2006). Underage drinking in the United States: A status report, 2005 [Web page]. CAMY Web site. Available at: <http://camy.org/research/status0306/status0306.pdf> . Accessed October 20, 2009.
- The Hong Kong Federation of Youth Groups. (1999). [Web page]. HKFYG Web site. Available at: <http://www.hkfyg.org.hk/yr/english/yr-jys-e.html> . Accessed on December 6, 2006.

- The Hong Kong Federation of Youth Groups. (2000). [Web page]. HKFYG Web site. Available at: <http://www.hkfyg.org.hk/yr/english/yr-jys-e.html>. Accessed on December 6, 2006.
- The Hong Kong Federation of Youth Groups. (2005). [Web page]. HKFYG Web site. Available at: <http://www.hkfyg.org.hk/yr/english/yr-jys-e.html>. Accessed on December 6, 2006.
- The White House. (2009a). *Your weekly address*. Retrieved December 13, 2009, from <http://www.whitehouse.gov/the-press-office/remarks-president-address-nation>
- The White House. (2009b). *Speeches and remarks*. Retrieved December 13, 2009, from <http://www.whitehouse.gov/the-press-office/remarks-president-address-nation>
- Tillfors, M., El-Khoury, B., Stein, M. B., & Trost, K. (2009). Relationships between social anxiety, depressive symptoms, and antisocial behaviors: Evidence from a prospective study of adolescent boys. *Journal of Anxiety Disorders, 23*, 718-724.
- Toler, C. (1975). The personal values of alcoholics and addicts. *Journal of clinical psychology, 31*, 554-557.
- Trad, P. V. (1993). The ability of adolescents to predict future outcome: I. assessing predictive abilities. *Adolescence, 28*, 533-555.
- Trim, R. S., Meehan, B. T., King, K. M., & Chassin, L. (2007). The relation between adolescent substance use and young adult internalizing symptoms: Findings from a high-risk longitudinal sample. *Psychology of Addictive Behaviors, 21*, 97-107.
- Tsai, Y. (2002). Aboriginal nurses' beliefs, attitudes, and values about sexuality in Taiwan. *Western Journal of Nursing Research, 24*, 803-814.
- Vaccaro, D., & Wills, T. A. (1998). Stress-coping factors in adolescent substance use: Test of ethnic and gender differences in samples of urban adolescents. *Journal of Drug Education, 28*, 257-280.

- Vecchione, M., Casconi, T., & Barbaranelli, C. (2009). Assessing the circular structure of the Portrait Values Questionnaire. *European Journal of Psychological Assessment, 25*, 231-238.
- Verhulst, F. C., Achenbach, T. M., van der Ende, J., Erol, N., Lambert, M. C., Leung, P. W. L., Silva, M. A., Zilber, N., & Zubrick, S. R. (2003). Comparisons of problems reported by youths from seven countries. *American Journal of Psychiatry, 160*, 1479-1485.
- Verkooijen, K. T., Nielsen, G. A., & Kremers, S. P. J. (2009). Leisure time physical activity motives and smoking in adolescence. *Psychology of Sport and Exercise, 10*, 559-564.
- Walter, H. J., Vaughan, R. D., & Cohall, A. T. (1991). Risk factors for substance use among high school students: Implications for prevention. *Journal of the American Academy of Child & Adolescent Psychiatry, 30*, 556-562.
- Walter, H. J., Vaughan, R. D., Ragin, D. F., & Cohall, A. T. (1993). Prevalence and correlates of AIDS-risk behaviors among urban minority high school students. *Preventive Medicine: An International Journal Devoted to Practice and Theory, 22*, 813-824.
- Wang, W., Wu, Y. X., Peng, Z. G., Lu, S. W., Yu, L., Wang, G. P., Fu, X. M., & Wang, Y. H. (2000). Test of sensation seeking in a Chinese sample. *Personality and Individual Differences, 28*, 169-179.
- Wei, E. H., Loeber, R., & Stouthammer-Loeber, M. (2002). How many of the offspring born to teenage fathers are produced by repeat serious delinquents? *Criminal Behaviour and Mental Health, 12*, 83-98.
- Weinberg, N. Z., Rahdert, E., Colliver, J. D., & Myer, G. D. (1998). Adolescent substance abuse: A review of the past 10 years. *Journal of American Academy of Child and Adolescent Psychiatry, 37*, 252-261.

- Weitzman, E., & Chen, Y. Y. (2005). The co-occurrence of smoking and drinking among young adults in college: National survey results from the United States. *Drug and Alcohol Dependence, 80*, 377-386.
- Whalley, B., & Hyland, M. E. (2009). One size does not fit all: Motivational predictors of contextual benefits of therapy. *Psychology and Psychotherapy: Theory, Research and Practice, 82*, 291-303.
- Whiteside, S. P., & Lynam, D. (2009). Understanding the role of impulsivity and externalizing psychopathology in alcohol abuse: Application of the UPPS impulsive behavior scale. *Personality Disorders: Theory, Research, and Treatment, 5*(1), 69-79.
- Wichstrøm, T., & Wichstrøm, L. (2009). Does sports participation during adolescent prevent later alcohol, tobacco, and cannabis use? *Addiction, 104*, 138-149.
- Wicks-Nelson, R., & Israel, A. C. (2003). *Behavior Disorder of Childhood (5th ed)*. Upper Saddle River, NJ: Prentice Hall.
- Wiesner, M., & Windle, M. (2006). Young adult substance use and depression as a consequence of delinquency trajectories during middle adolescence. *Journal of Research on Adolescence, 16*, 239-264.
- Williams, F. S. (1970). Alienation of youth as reflected in the hippie movement. *Journal of the American Academy of Child Psychiatry, 9*, 251-263.
- Wong, D. S. W., Lok, D. P. P., Lo, T. W., & Ma, S. K. (2008). School bullying among Hong Kong Chinese primary schoolchildren. *Youth and Society, 40*, 355-54.
- Wong, J. P. S., Stewart, S. M., Claassen, C., Lee, P. W. H., Rao, U., & Lam, T. H. (2008). Repeat suicide attempts in Hong Kong community adolescents. *Social Science & Medicine, 66*, 232-241.

- Wong, J. P. S., Stewart, S. M., Ho, S. Y. & Lam, T. H. (2007). Risk factors associated with suicide attempts and other self-injury among Hong Kong adolescents. *Suicide and Life-Threatening Behavior*, 37, 453-466.
- Wong, J. P. S., Stewart, S. M., Ho, S. Y., Rao, U., & Lam, T. H. (2005). Exposure to suicide and suicidal behaviors among Hong Kong adolescents. *Social Science & Medicine*, 61, 591-599.
- Wong, M. S. W., & Watkins, D. (2001). Self-esteem and ability grouping: A Hong Kong investigation of the big fish little pond effect. *Educational Psychology*, 21, 79-88.
- World Health Organization. (2008). 10 facts on adolescent health [Web page]. WHO Web site. Available at: http://www.who.int/features/factfiles/adolescent_health/en/index.html . Accessed August 20, 2009.
- World Health Organization. (2009). Adolescent health and development [Web page]. WHO Web site. Available at: <http://www.searo.who.int/EN/Section13/Section1245.htm> . Accessed August 20, 2009.
- World Health Organization-Child and Adolescent Health and Development. (2006a). Overview of CAH: Adolescents: The sheer numbers [Web page]. WHO-CAH Web site. Available at: http://www.who.int/child-adolescent-health/OVERVIEW/AHD/adh_sheer.htm. Accessed December 6, 2006.
- World Health Organization-Child and Adolescent Health and Development. (2006b). HIV/AIDS and adolescents [Web page]. WHO-CAH Web site. Available at: http://www.who.int/child-adolescent-health/HIV/HIV_adolescents.htm. Accessed December 6, 2006.

- Yik, M. S. M., & Tang, C. S. (1996). Linking personality and values: The importance of a culturally relevant personality scale. *Personality and Individual Differences, 21*, 767-774.
- Yip, P. S. F., & Chiu, L. H. (1998). Teenage attempted suicide in Hong Kong. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 19*, 67-72.
- Yip, P. S. F., Liu, K. Y., Lam, T. H., Stewart, S. M., Chen, E., & Fan, S. (2004). Suicidality among high school students in Hong Kong, SAR. *Suicide and Life-Threatening Behavior, 34*, 284-297.
- Yue, X., & Ho, K. K. (1998). Evaluating educational problems, behavioural problems and intervention strategies in secondary schools in Hong Kong: Views from students, parents and teachers. *Psychologia: An International Journal of Psychology in the Orient, 41*, 226-234.
- Zeidner, M., & Schleyer, E. J. (1999). The Big-Fish-Little-Pond effect for academic self-concept, test anxiety, and school grades in gifted children. *Contemporary Educational Psychology, 24*, 305-329.
- Zucker, R. A., Wong, M. M., Clark, D. B., Leonard, K. E., Schulenberg, J. E., Cornelius, J. R., Fitzgerald, H. E., Homish, G. G., Merline, A., Nigg, J. T., O'Malley, P. M., & Puttler, L. I. (2006). Predicting risky drinking outcomes longitudinally: What kind of advance notice can we get? *Alcoholism: Clinical and Experimental Research, 30*, 243-252.
- Zuckerman, M. (1983). Sensation seeking and sports. *Personality and Individual Differences, 4*, 285-292.
- Zuckerman, M. (1994). *Behavioral Expressions and Biosocial Bases of Sensation Seeking*. New York, NY: Cambridge University Press.

- Zuckerman, M. (2007). *Sensation Seeking and Risky Behavior*. Washington, DC: American Psychological Association.
- Zuckerman, M., & Kuhlman, D. M. (2000). Personality and risk-taking: Common biosocial factors. *Journal of Personality. Special Issue: Personality processes and problem behavior*, 68, 999-1029.
- Zuckerman, M., Eysenck, S. B., & Eysenck, H. J. (1978). Sensation seeking in England and America: Cross-cultural, age, and sex comparisons. *Journal of consulting and clinical psychology*, 46, 139-149. Retrieved October 18, 2007, from PsycINFO database.
- Zuckerman, M., Kolin, E. A., Price, L., & Zoob, I. (1964). Development of a sensation-seeking scale. *Journal of consulting psychology*, 28, 477-482. Retrieved October 18, 2007, from PsycINFO database.
- Zweig, J. M., Lindberg, L. D., & McGinley, K. A. (2001). Adolescent health risk profiles: The co-occurrence of health risks among females and males. *Journal of Youth and Adolescence*, 30, 707-728.

ABSTRACT**VALUES AND PROBLEM BEHAVIORS IN HONG KONG ADOLESCENTS**

by

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The present study examined sensation seeking, psychological problem behaviors, values orientation, and problem behaviors of smoking, alcohol use, and delinquency among Hong Kong adolescents studying in high school of two different ability levels. Adolescents ($N = 1385$) from a band one and band three level high school in Hong Kong were assessed using the Sensation Seeking Scale Form-V (SSS-V), Youth Self Report (YSR), Portrait Values Questionnaire (PVQ), and the Adolescent Health and Development Questionnaire (AHDQ), along with several demographic variables (e.g., age, gender, grade level, employment).

Regression analyses were employed to determine the contribution of the significantly correlated variables in explaining each of the three problem behavior outcomes. For smoking behavior, regression analyses found that school band level, sensation seeking, externalizing problem behaviors, values orientation of openness to change, and alcohol use were all predictive of smoking behavior. Specifically, sensation seeking, externalizing problem behaviors, school band level, and alcohol use were reliable predictors of current smokers from never smokers, while the values orientation of openness to change, school band level, and alcohol use were reliable predictors of not-current smokers from never smokers. These variables accounted for a

total of 40% of the variance explaining smoking behavior category.

For alcohol use, regression analyses found that age, school band level, sensation seeking, internalizing problem behaviors, values orientation of openness to change, and self-transcendence, and the problem behavior outcomes of smoking and delinquency, were all predictive of alcohol use behavior. Specifically, age, sensation seeking, internalizing problem behaviors, school band level, values orientation of openness to change and self-transcendence, and smoking and delinquency were reliable predictors of current drinkers from never drinkers, while the school band level, sensation seeking, age, and smoking behavior were reliable predictors of not-current drinkers from never drinkers. These variables accounted for a total of 23.5% of the variance explaining alcohol use behavior category.

For delinquency, the following variables when entered into the linear regression equation were found to be predictors of delinquent behaviors: school band level, overall sensation seeking score, externalizing problem behavior score, values orientation of conservation, and the problem behavior outcomes of smoking and alcohol use. These variables accounted for a total of 31% of the variance explaining delinquency.

When examining the differences between adolescents who attend a band one or band three level school, there were significant findings with all three of the problem behavior outcomes. Adolescents studying at a band three level school were significantly more likely to be categorized as current smokers and drinkers, and also reported more delinquent behaviors. Implications of the results are discussed in the context of clinical applications and directions for future research.

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- Ondersma, S. J., Svikis, D. S., Grekin, E. R., **Lam, P. K.**, & Connors, V. M. (2009). Development of an indirect screener for perinatal drug use: The Wayne Indirect Drug Use Screener (WIDUS). Poster presented at the 2009 College on Problems of Drug Dependence, Reno, NV.
- Naar-King, S., Rongkavilit, C., Wang, B., Wright, K., Chuenyam, T., **Lam, P.**, & Phanuphak, P. (2008). Transtheoretical model and risky sexual behavior in HIV+ Youth in Thailand. *AIDS Care*, 20, 198-204.
- **Lam, P.**, Naar-King, S., & Wright, K. (2007). Social support, disclosure, and mental health in HIV+ youth. *AIDS Patient Care and STDs*, 21, 20-29.
- Naar-King, S., **Lam, P.**, Wang, B., Wright, K., Parsons, J.T., & Frey, M.A. (2007). Brief report: Maintenance of effects of Motivational Enhancement Therapy to improve risk behaviors and HIV-related health in a randomized controlled trial of youth living with HIV. *Journal of Pediatric Psychology*, 33, 441-445.
- Wright, K., Naar-King, S., **Lam, P.**, Templin, T., & Frey, M. (2007). Stigma Scale Revised: Reliability and validity of a brief measure of stigma for HIV positive youth. *Journal of Adolescent Health*, 40, 96-98.