SELF-ESTEEM AND CONFORMITY AMONG TAIWANESE ADOLESCENT NON-SMOKERS, LIGHT-SMOKERS, AND HEAVY-SMOKERS.

by

Yu-hwa Chiang

A Thesis Submitted to the Faculty of the

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF ARTS

In the Graduate College

THE UNIVERSITY OF ARIZONA

1 9 9 2

STATEMENT BY AUTHOR

This thesis has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his or her judgement the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: Yu-hwa Hsiang

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

Glen I. Nicholson — 3/13/92

Glen I. Nicholson
Professor of Educational Psychology

Date

ACKNOWLEDGEMENT

I would like to express my sincere appreciation to the following persons for their guidance and assistance in the completion of this study: Dr. G.I. Nicholson, Chairman, Dr. D. Sabers, and Dr. M.W. Kahn.

To my family I extend the gratitude that cannot be expressed in words. The consistent love and caring support they have provided over the years have been my source of strength and determination.

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

Two hundred and nine Taiwanese 10th, 11th, and 12th grade students were appraised with regard to the number of cigarettes smoked daily, self-esteem status, and conformity tendency. A one-way ANOVA demonstrated that the more cigarettes adolescents smoke, the lower their self-esteem scores tend to be. Heavy smokers have the lowest self-esteem scores and non-smokers the highest, whereas light smokers fall in between. There are no apparent differences in tendency to conform among the three groups as determined by a one-way ANOVA. The Pearson Product Moment Correlation Coefficient supports the general research finding that there is a negative correlation between self-esteem and conformity.

INTRODUCTION

Human beings have been smoking cigarettes for a long time, and they probably will continue to smoke for the indefinite future. Cigarettes are easy to carry, and smokers can enjoy them without elaborate preparation. Many persons, especially youngsters, do not view cigarettes as dangerous because they are a legal drug. However, cigarette smoking can be damaging to the human body. The perilous effects of smoking were firmly established in two reports from the Surgeon General's Office (U.S. Dept. of Health, Education, and Welfare, 1964; 1979). Smoking is highly correlated to lung cancer, mouth cancer, emphysema, and heart disease. The death rate of lung cancer is ten times higher for those who smoke than for nonsmokers. A direct causal relationship between smoking and the above diseases cannot be established. However, research overwhelmingly proves a lethal linkage between smoking and the above diseases. Even the cigarette manufacturers' own research shows the same results. Therefore, scientific evidence for the danger of cigarette smoking is really indisputable.

Since the publication of the reports of the Surgeon General, the U.S. Government has zealously publicized the hazards of cigarettes, and the proportion of the population

that smoke has been declining. A special study by the Department of Health and Human Services in 1987 reported that the smoking persons in the general population of the United States dropped to 29% compared to 40% in 1965.

Data from the Taiwan Tobacco & Wine Monopoly Bureau showed that there was a downward trend in the proportion of the general population who smoke, from 33.3% in 1984 to 28.68% in 1988. However, in 1988, the government removed the tariff on imported cigarettes and the number in the smoking population rose again. The latest survey of the Taiwan Tobacco & Wine Monopoly Bureau, in 1990, revealed that the proportion of the population who smoke had risen to 32.5%. That is slightly higher than the proportion in the United States.

A survey in 1987 showed that 25.6% of the teenage boys and 6.7% of the teenage girls smoked. For those who smoke regularly, 29.6% smoked fewer than 5 cigarettes per day; 19.7% smoked 6-10 cigarettes daily; 6.2% smoked 16-20 cigarettes daily; and 7.2% smoked more than 20 cigarettes per day (Wong, Huang, & Yeh, 1987). Ma et al. (1990) reported 32.8 percent of the adolescent population have tried smoking and 7.74 percent are regular smokers. For the regular smokers, the average number of cigarettes smoked

weekly is 13.04 (Ma et al., 1990). The percentage of smoking adolescents in Taiwan is higher than the one in the United States which is around 11.8% (U.S. Dept. of Commerce, 1990). One article compared the smoking cultures in both countries and found two factors contributing to the higher smoking rate among Taiwan adolescents. First, cigarette sales contribute substantially to government revenue. Consequently, the anti-smoking attitudes in Taiwan are weaker. Second, even adult smoking is considered "bad" by many persons in the United States. But adult smoking is acceptable in the Taiwan culture. It is harder, therefore, to persuade adolescents not to smoke (Chen & Winder, 1985).

Imported cigarettes are much cheaper than the native-made ones; therefore, adolescents who don't have much money have easily become a big market for the imported product. One study showed that 12.15% adolescents started smoking after the imported cigarettes became available in the market. And 62.5% of the smoking adolescents switched to imported cigarettes (Ma et al., 1990). All these data make the factors associated with adolescent smoking worthy of investigation.

In the United States, most adolescents are exposed to smoking through family, peers, and mass media. Studies of

the reasons adolescents smoke can be generally categorized into extra-personal influences and intra-personal influences. Extra-personal influences include family (Castro, Maddahian, Newcomb, & Bentler, 1987; McCubbin, Needle, & Wilson, 1985; Murphy & Price, 1988; Peterson & Peterson, 1986), peer pressure (Eiser, 1985; Loken, 1982; Newman, 1984; Pulkkinen, 1983; Reardon, Sussman, & Flay, 1989; Urberg, Shyu, & Liang, 1990), and mass media (Burton, Johnson, Uutela, & Vartiainen, 1990; Gritz, 1984; Johnson, Pentz, Weber, & Dwyer, 1990; Sussman, Brannon, Flay, & Gleason, 1986; Ward, 1971), whereas the intra-personal influences correlate with academic achievement (Bewley & Bland, 1977; Hover & Gaffney, 1988; Marston, Jacobs, Singer, & Widaman, 1988), anxiety (Nesbitt, 1973; Piers & Harris, 1969; Rosenberg, 1969), rebelliousness (Hansen, Malotte, Collins, & Fielding, 1987; McAlister, Krosnick, & Milburn, 1984; Smith & Fogg, 1978; Wingard, Huba, & Bentler, 1980), neuroticism, extraversion (Chassin, 1984; Cherry & Kiernan, 1976; Eysenck, 1980; Kay, Lyons, Newman, Mankin, & Loeb, 1978; Segal, 1983), self-esteem (Bry, McKeon, & Pandina, 1982; Bry, 1983; Chassin, 1984; Kaplan, 1975; Pandina & Schuele, 1983; Rees & Wilborn, 1983; D. Samuels & M. Samuels, 1974), and conformity (Chassin, Presson, Sherman, Montello, & McGrew, 1986; deVries & Kok, 1986; Hays,

DiMatteo, Downey, Stacy, & Widaman, 1986; Stein, Newcomb, & Bentler, 1987).

The extra-personal influences that affect Taiwanese adolescent smoking include socioeconomic status (Ma et al., 1990; Huang, 1982), family (Wu, 1988; Huang; 1982; Chen, 1985; Hu, 1988), peer relationship (Huang, 1982), and teachers' smoking behavior (Lin, 1985; Liu, 1988). Intra-personal influences consist of lower academic achievement (Ma et al., 1990; Wong, 1986), and rebelliousness (Lin & Wu, 1985). One study asked smoking adolescents to list the main reasons they smoked. It found that the three main reasons given for smoking were 1) boredom 2) curiosity, and 3) a feeling that smoking is a sign of maturity (Wong, Huang, & Yeh, 1987). Another study (Lin & Wu, 1985) had similar results; the four main reasons given by adolescents were: 1) curiosity, 2) relaxation, or getting rid of a boring feeling, 3) maturity, and 4) enjoyment.

Most of the studies concerning the relationship between adolescent smoking behavior and intra-personal influences compare the two dichotomous groups, non-smokers and smokers. Little attention has been given to any further differences between continuous smokers, namely light-smokers and heavy-smokers. And almost no study has been done in investigating

the difference between the self-esteem and conformity among adolescent non-smokers, light-smokers, and heavy-smokers. In this paper, the impact of the two intra-personal influences, self-esteem and conformity, will be examined along with the interrelationship between them. The purpose of this study is threefold: 1) to find if there are differences in self-esteem among the Taiwanese adolescent non-smokers, light-smokers, and heavy smokers; 2) to find if there are differences in conformity among Taiwanese adolescent non-smokers, light-smokers, and heavy-smokers, and 3) to determine the relationship between conformity scores and self-esteem scores for Taiwanese adolescents.

REVIEW OF THE LITERATURE

Relationship between self-esteem and adolescent smoking

Kaplan (1975) proposed a general theory of deviant behavior in which he stated that negative self-attitude is a common antecedent to deviant behavior. The negative self-attitudes are cumulated through the course of people's lives. Because these persons with negative self-attitude are constantly under stressful negative attitude, they are motivated to seek an alternative to enhance their lives. Kaplan rationalized that deviant behavior is a method by which adolescents with low self-esteem can enhance their self-attitude. Furthermore, Kaplan theorized that differences in self-esteem levels were found to be associated with differences in drug abuse level. Therefore, the people with higher self-esteem would not exhibit much deviant behavior, whereas people with lower self-esteem would exhibit more deviant behavior (Kaplan, 1975).

Studies investigating this theory produced conflicting results. Some support Kaplan's theory. Drug abuse groups were identified as defensive, lacking self-esteem and self-confidence. Nonusers were less defensive and generally had a positive self-concept (Segal, Rhenberg, & Sterling, 1975).

Self-esteem scores of high school students were found to be inversely related to indices of maladaptive behavior (Richman, Brown, & Clark, 1984). Self-esteem showed low, but significant negative relationships with substance abuse ranging from -0.09 to -0.18 (Dielman, Leech, Lorenger, & Horvath, 1984; Dielman, Campanelli, Shope, & Butchart, 1987). However, other studies did not show the same results. Self-esteem was not related to drug use (Hays, Stacy, Widaman, DiMatteo, & Downey, 1986). Drug abuse is meagerly related to personal dissatisfaction. Adolescent drug abusers do not turn to drugs out of self-despair (Stokes, 1974).

Since, according to Kaplan's theory, smoking by adolescent is viewed as a deviant behavior, the theory would predict that there is a difference in self-esteem between non-smokers and smokers. Again research shows different results. Adolescents who smoke tended to have lower self-esteem than non-smoking adolescents (Dielman, Leech, Lorenger, & Horvath, 1984; Penny & Robinson, 1986; Tucker, 1984; 1985). Low self-esteem may be important in developing the smoking habit among young adolescents (Murphy & Price, 1988). The use of cigarettes is more likely to happen among adolescents with low self-esteem (Friedman, 1989). Other studies, however, show the opposite findings. One research reported higher level of self-esteem among the users than

the nonusers (Lapp, 1984). Other studies discovered that there is no statistically significant difference in self-esteem level among smokers with different usage levels (R. Jessor & S. L. Jessor, 1977; Kandel, 1978; Labouvie & McGee, 1986).

The above studies investigated the self-esteem in two groups; smokers and non-smokers. If one wants to investigate this problem in terms of three groups, namely, non-smokers, light-smokers, and heavy-smokers, then, from Kaplan's theory, it can be further rationalized that there may be a difference in self-esteem between light-smokers and heavy smokers because their different level of smoking is an indicator of their different level of self-esteem. It might be argued that the light-smokers have higher self-esteem than the heavy smokers because the light smokers' cigarette consumption is lower than the heavy smokers. There is a scarcity of research supporting this proposition.

However, some researchers produced contrary findings to the above assumption. In the specific area of smoking, one study demonstrated that continuous heavy smokers do not necessarily have lower self-esteem. Ahlgren et al.(1982) divided the adolescent smoking behavior into four groups: the nonsmoker, quitter, beginning smoker, and the continuing

smoker. They reported that the continuous smokers had higher self-esteem than the beginning smokers.

> Means of the four self-esteem scales differ markedly among categories of smoking behavior... means for non-smokers were highest on all four scales and means for beginning smokers were lowest. Means for quitters and continuing smokers were almost indistinguishable, lying midway between the non-smokers and the beginning smokers." (Ahlgren et al., 1982, p. 332)

Research by McAlister (1983) observed there were no significantly different effects in the groups of subjects with low or high estimates of self-image. Other researchers indicate that heavy smokers demonstrate subjective competence and self-esteem concerning their smoking behavior (deSommer & Defares, 1984). Research completed by Brown (1973) found that heavy smokers had the highest independence level (6.6), as compared to the average smoker (5.2), and nonsmoker(3.5). Since it has been generally accepted that independence is positively related to self-esteem (Cammaert & Larsen, 1985; Deci & Ryan, 1987; deMan, 1982; Kawash, Kerr, & Clewes, 1985; Newcomb, 1987), it appears justifiable to say that heavy-smokers do not necessarily have lower self-esteem than the light-smokers.

The first hypothesis was formulated to test Kaplan's theory with regard to the relationship between adolescent smoking and self-esteem. The non-smokers have a higher self-esteem index than the light-smokers. The heavy smokers have the lowest self-esteem among the three groups.

Relationship between conformity and adolescent smoking

"When in Rome, do as the Romans do." Observation indicates that conformity is a natural behavior of human beings. In a classic study by Sherif (1936), groups generated norms naturally in a fairly unstructured circumstance. Each individual of the group would follow the norms even though he or she was not in a group setting.

The two terms conformity and peer pressure are usually used interchangeably; however, there is a need to distinguish between conformity and peer pressure. Conformity means one's modifying his or her behavior to be consistent with the standards set by others. Peer pressure means activities of various types to force persons to conform to peer norms. Observations show that people experience peer pressure from outside but not all persons conform under the pressure. Whether one will conform depends upon that individual. A person with higher conformity tendency is more

likely to perceive peer pressure and will yield to peer pressure more. A person with lower tendency to conform sometimes does not even feel peer pressure; if he or she is aware of this pressure, he or she usually likes to stand out as an individual and seldom yields to peer pressure easily.

Most adolescents feel, consciously or subconsciously, that some kind of peer pressure is pushing them to conform to peer norms. Adolescence is a time when young people are especially sensitive to what their peers think of them. When children are still young, parents make most decisions for them. As children reach adolescence, they often turn to their peers for assistance in decision making. The unit of social life of adolescents is a small group which provides the youngster a feeling of social security, or "belongingness." Obviously, one of the deepest of adolescent needs is the support and approval of peers. It is within the peer group that the adolescent has the possibility of developing a sense of identity, security, and power (Erikson, 1963; Goodman, 1956; Newman & Newman, 1976). Any deviations from the group are painful; therefore, adolescents are more likely to conform because they cannot afford to be deserted. So peer relationships are very important in the decisions of adolescents (Adams, Ryan, Hoffman, Dobson, & Nielsen, 1984; Bernt, 1979; Bixenstine,

Decorte, & Bixenstine, 1976; Brown, Clasen, & Eicher, 1986; Hartup, 1983; Sherman, Presson, Chassin, Corty, & Olshavsky, 1983).

Many studies have investigated the relationship between adolescent smoking and conformity. However, no theory directly addresses this issue. R. Jessor and S. L. Jessor (1977) proposed a transition proneness theory. Adolescents are highly susceptible to influence around them during the turning point of their psychological development. Adolescence is a period of change and adjustment wherein concurrent expectation from society and culture accompany the adolescents' physical growth. In this stage, they are uncommonly tolerant of deviant behavior and therefore are likely to experiment with many different problem behaviors, including drugs, alcohol, and delinquency. "The greater the transition proneness, the greater the likelihood of occurrence of transition-marking behavior" (R. Jessor & S. L. Jessor, 1977, p.166). R. Jessor and S. L. Jessor did not explicitly indicate that the adolescents with more transition proneness were more likely to conform. However, data from their research show that there is a positive correlation between peer approval and adolescent problem behavior. The correlation between peer approval, model problem behavior, and adolescent multiple problem behavior

index generally runs through .49 to .67. "...the greater the perception of friends approval and friends models, the more likely is problem behavior" (Jessor & Jessor, 1977, p.125). If an adolescent in the transition stage is highly susceptible to influence from outside and to experiment, then it is justifiable to say that this person is more likely to conform under peer pressure and exhibit deviant behavior.

Some researchers tend to support this position. Kandel and Lesser (1972) found that the adolescent drug users were more inclined to bow to peer pressure than the non-users. The pressure represents a constant pressure from the social milieu. In adolescence, increasing peer influences replaces previous parental influence (Flay, d'Avernas, Best, Kersall, & Ryan, 1983). Conformity is a consistent predictor of involvement with drug use (Jessor, 1983; Polich, Ellickson, Reuter, & Kahan, 1984). Susceptibility to peer pressure correlates highly with adolescent substance abuse. Drug-using adolescents seek drug-using peers; and drug-using peers encourage even more drug use among their friends (Dielman, Campanelli, Shope, & Butchart, 1987).

Adolescent smokers tend to have more smoker friends and are more likely to have positive attitudes toward smoking

(Barton, Chassin, Presson, & Sherman, 1982; Chassin, Presson, Sherman, Montello, & McGrew, 1986; Clasen & Brown, 1985; Kandel, 1978). Adolescents were presented hypothetical dilemmas in which they could choose between two alternatives, one peer-approved action, the other adult-approved action. The results indicate that smokers tended to choose peer-approved action (Aitken, 1980). Adolescents who smoke as compared to non-smokers, were more sensitive to peer pressure because of a greater dependence on the positive regard of their own age group compared with those adolescents who did not smoke (Penny & Robinson, 1986). The transition from beginning smoking to continuing smoking happens more in those adolescents who have more smoking friends. Adolescents hardly ever smoke their first cigarette alone. Most of the time, the first cigarette smoking is offered and prompted by a friend in a social situation (Biglan & Litchtenstein, 1984). In the interview conducted by Friedman et al. (1985), 88% of the adolescents reported that their first cigarette was in a social situation. These friends tend to have more positive attitudes toward smoking and higher level of peer support for smoking (Chassin, Presson, Sherman, Montello, & McGrew, 1986). Covington and Omelich, (1988) reported that adolescents will be more likely to smoke if they react to the pressure of others; therefore, they themselves feel less accountable and have a

plausible excuse for the negative effects of smoking. Regular smokers are relatively insensitive to peer pressure compared to nonsmokers, experimental smokers, and ex-smokers.

Other studies, however, do not endorse this claim. Castro, Maddahian, Newcomb, and Bentler, (1987) reported that, for many adolescents, smoking is an essential part of their self image as a rebel. Therefore, they argue that smoking actually is an indicator of nonconformity. Nonconformity is an antecedent of affiliation with smoking friends. Eiser and van der Plight (1984) reported that (1) smokers are more likely than nonsmokers to reject the school discipline and values, (2) smoking adolescents do not necessarily feel more peer pressure to smoke, (3) instead, they choose to belong to the smoking group even though overall smoking is not a popular activity in the adolescent population. Therefore, the adolescents choose to belong to a certain group in order to differentiate themselves from others and achieve a distinct "social identity." Eiser (1985) reported the following:

> Smoking may thus become part of the social identity of an adolescent....What this may imply is a different view of the power of the group over the individual adolescent. The general assumption has been that the

> group's acceptance or rejection of an individual is contingent on the individual's following the group's norms ... this amounts to saying that the group has "reward" and "coercive" power over the individual. So it may. But just as important may be the "referent" power of the group. This applies if the group's standards are adopted by the individual as a frame of reference for self-evaluation. In other words, what becomes important is not how the group shows its approval of you, but how much you approve of yourself in the light of how you match up to the rest of the group. (Eiser & van der Pligt, 1984, p. 452)

With regard to the difference of conformity between the light-smokers and heavy-smokers, no research was found investigating this area.

The second hypothesis was formulated; there are differences in conformity among adolescent non-smokers, light-smokers, and heavy-smokers. Non-smokers have the lowest conformity tendency, heavy-smokers have the highest conformity tendency, and the light-smokers fall between.

Interrelationship between self-esteem and conformity

As indicated above, almost everyone experiences pressure to conform in some way during adolescence. Some conform under peer pressure, some don't. Conformers and nonconformers certainly have different traits. Self-esteem is one personal trait that the researchers have designated as a distinguishing feature between conformer and nonconformer.

It has been hypothesized that there is an inverse relationship between conformity and self-esteem in which people with low self-esteem are more likely to conform and people with high self-esteem are less likely to conform. The people with higher self-esteem are more comfortable in talking out their own beliefs even though the group opinion is different. They are less likely, therefore, to conform and more willing to disagree.

Studies of self-esteem and conformity have found an inverse relationship. In 1952, Asch's experiment showed that individuals who felt competent in the behavior being examined were not as influenced by the false group consensus as those who felt less competent (Asch, 1952). Another group of researchers found a negative correlation (-0.42) between

self-esteem and conformity (Martin, Makinster, & Pfaadt, 1983). Santee and Maslach (1982) found that self-esteem was inversely related to conformity with those people who show low individuation and low in public self-consciousness. Larson, (1972) found that whether an adolescent is influenced by his parents or friends is determined by the adolescent's self-concept. The data reveal that an adolescent who is seldom influenced by parents or friends usually has a characteristics of self-assurance, for example, familiar with characteristics of future roles and statuses and sufficiently independent to make decisions on his own.

The third hypothesis was formulated: there will be an inverse relationship between self-esteem and conformity in the adolescent population.

METHOD

Definition of the variables

Independent variable

The subjects were divided into non-smokers, light-smokers, and heavy-smokers according to their daily cigarette consumption based on their responses to item No. 11 (See Appendix E).

Non-smokers: 0 cigarette per day
Light-smokers: 1-20 cigarettes per day
Heavy-smokers: over 20 cigarettes per day.

These definitions have been employed in several smoking studies. (Cohen, Lichtenstein, & Prochaska, 1989; Dyer, 1983; Hanks & Antonuccio, 1987)

Dependent variables

Self-esteem: The self-esteem of the subjects was measured by a translation of the Rosenberg Self-esteem Scale (See Appendices A and B). The scale consists of ten statements. Respondents indicate that they strongly agree,

agree, disagree, or strongly disagree with each statement. According to the manual of the Rosenberg Self-esteem Scale, persons with high self-esteem are characterized as: think well of themselves, have self-respect, consider themselves persons of worth, and appreciate their own merits. They nonetheless recognize their own faults but they expect to overcome them. They don't necessarily consider themselves better than others but neither do they consider themselves worse. The term "low self-esteem" means that the individuals lack respect for themselves, consider themselves unworthy, inadequate, or otherwise seriously deficient as human beings (Rosenberg, 1979).

Conformity: Conformity was measured by an adaption of the Jackson Personality Inventory Conformity Subscale (See Appendices C and D). The inventory was developed primarily for administration on population average or above average in education. The wording was simplified by Jackson to fit the average high school students. The conformity subscale contains 20 items, ten true-keyed and ten false-keyed statements. Respondents indicate whether the statement is true or false about them. In the Jackson Personality Inventory, conformity is defined as an individual's sensitivity and responsiveness to social pressure and social norms, especially as they are expressed by particular people

in the person's social environment. It goes considerably beyond superficial observable kinds of conformity, such as might be revealed in a person's dress. A person scoring very low in conformity would be expected not only to remain independent of social pressure, but also at times to resist it more actively (Jackson, 1975).

Translated questionnaires: Both the Rosenberg Self-esteem Scale and the Jackson Personality Inventory Conformity Subscale were translated into Chinese by the investigator (See Appendix E). The translated Chinese versions were translated back to English again several times to ascertain that the Chinese meaning was close to the original English. The final English versions were approved by three objective reviewers.

The complete questionnaire sheets consist of four parts: (1) Direction; (2) No. 1 to No.10 questions were the Rosenberg Self-esteem Scale; (3) No.11 question asked the respondents that "How many cigarettes do you smoke a day?" The respondents had three alternatives, a. zero, b. one to twenty cigarettes, c. more than twenty cigarettes; (4) No. 12 to No. 31 were the Jackson Personality Inventory Conformity Subscale (See Appendix E).

Subjects

The subjects for this study were 214 male adolescents (age 15-18) from a junior college in Taiwan. The student population of the school is quite representative of the general population of junior college students in Taiwan with no evident socioeconomic bias.

Procedures

Volunteer subjects anonymously completed the questionnaires on their own. In the briefing before filling out the questionnaire, the subjects were read the direction. The translated meaning of the direction is as follows, "Thank you for taking time to fill out this questionnaire. This is an anonymous questionnaire investigating respondents' self-esteem, conformity tendency, and smoking behavior. We need your actual age. Your age is _____. There are 31 questions in the questionnaire with boxes following each question. Check the box that fits you the most. Don't spend too much time on one question. What we need is your first response. Please don't talk to your friend when filling out the questionnaire. Usually, you can finish the questionnaire within four to five minutes. Thank your again for your participation and cooperation."

RESULTS

Two hundred and fourteen students took the questionnaire. Two hundred and nine responses are usable. One hundred and fifty five students were classified as non-smokers, forty five students as light-smokers, and nine students as heavy-smokers.

The relationship between self-esteem, conformity scores, and student smoking behavior will be analyzed separately. The correlation coefficients of the three subgroups and the entire group will be discussed.

Self-esteem scores for non-smokers, light-smokers, and heavy-smokers

The Rosenberg self-esteem translation version split-half reliability was 0.66. Table 1 displays the descriptive statistics of the self-esteem scores. The mean for non-smokers is slightly higher than that of the light-smokers. However, these two groups' means are markedly higher than the third group - heavy smokers. There are only meager differences among the three groups' standard deviations. This shows that the groups exhibit similar variabilities. Hypothesis one was tested by using a one-way ANOVA. Table 2

shows the result $F(2,206)=6.552$ $p<0.002$ indicating that there is a significant main effect for smoking amount on self-esteem scores.

Independent groups *t* tests were performed comparing the mean self-esteem scores in following pairs: 1) non-smokers and light-smokers, 2) light-smokers and heavy-smokers, and 3) non-smokers and heavy-smokers. In the first pair, the difference between the two means is not found to be statistically significant. In the second pair, the result found that difference between the two means is statistically significant, $t(52)=2.924$, $p<.01$, indicating that the light-smokers have higher self-esteem scores than the heavy-smokers. The strength of the relationship between different smoking amount and self-esteem scores as indexed by eta^2 was 0.14. In the third pair, the result shows that the difference between the two means is statistically significant, $t(162)=3.58$, $p<0.001$, indicating that the non-smokers have higher self-esteem scores than the heavy-smokers. The strength of the relationship between different smoking among and self-esteem scores is weaker, as indexed by $eta^2=0.07$.

Table 1. Descriptive statistics of self-esteem scores

	Non-smokers	Light-smokers	Heavy-smokers
No. of cases	155	45	9
Minimum score	0	0	0
Maximum score	5	6	3
Mean	3.090	2.911	1.444
Standard deviation	1.326	1.379	1.236

Table 2. ANOVA of Self-esteem scores

Source	Sum of square	DF	Mean Square	F	P
Between	23.321	2	11.661	6.55	0.002
Error	366.620	206	1.780		

Conformity scores for non-smokers, light-smokers, and heavy-smokers.

The translated version of Jackson Personality Inventory Conformity Subscale split-half reliability was 0.67. Table 3 reports the descriptive statistics of the conformity scores obtained by the respondents. There are only small differences among the three groups' standard deviations. This show that the groups exhibited similar variability. Hypothesis two was tested by analysis of variance. The result shows that means of conformity scores among three groups differ negligibly; $F(2,206)=1.591$ $p=0.206$, which is not statistically significant (Table 4). Non-smokers and heavy-smokers are almost the same, both are higher than the light-smoker by meager discrepancy.

Table 3. Descriptive statistics of conformity scores

	Non-smokers	Light-smokers	Heavy-smokers
No. of cases	155	45	9
Minimum score	2	5	9
Maximum score	19	19	19
Mean	14	13.067	13.889
Standard Deviation	3	3.374	3.257

Table 4. ANOVA of Conformity score

Source	Sum of square	DF	Mean square	F	P
Between	30.464	2	15.232	1.59	0.206
Error	1971.689	206	9.571		

Correlation coefficient of three separate groups and the combined whole group.

The relationship between self-esteem and conformity in the entire sample was calculated using the Pearson Product Moment Correlation Coefficient. The result r=-0.237 indicates that the negative relationship between these two variables is significantly different from zero.

The maximum correlation coefficient is 0.963. It is calculated by the following method: 1) sort the self-esteem scores from the lowest to the highest, 2) sort the conformity scores from the lowest to the highest, 3) get a correlation of these two sets of scores.

The correlation coefficients differ when calculated for each subgroup. Both the correlation coefficients between self-esteem and conformity for non-smokers and light-smokers are negative and significantly different from zero. However, the heavy-smokers have a correlation coefficient which is positive but not significantly different from zero. The correlation coefficients of each group can be found in Table 5.

Table 5. Pearson Product Moment Correlation Coefficient between self-esteem and conformity of the subgroups.

	Correlation Coefficient	95% confidence interval
Non-smokers	-0.233	$-.459 \leq r \leq -.078$
Light-smokers	-0.376	$-.603 \leq r \leq -.073$
Heavy-smokers	0.138	$-.584 \leq r \leq .755$

DISCUSSION

Data from the ANOVA of self-esteem scores seem to confirm Kaplan's theory that the more cigarettes a person smokes, the lower his or her self-esteem tends to be. The amount of cigarette smoked a day by a person is associated with his or her self-esteem level. However, this research design cannot fully substantiate Kaplan's rationale that smoking (deviant behavior) is a means for the individual with lower self-esteem to improve their self-esteem. Perhaps smoking, a deviant behavior, makes the students feel that they are inferior to the "normal" students, and hence lower their self-esteem. Or both may be the consequence of third variable.

Conformity ANOVA data do not support either speculation that smoking adolescents have higher conformity tendencies or lower conformity tendencies. There are several reasons to explain this result. First, the sample is from one school. Maybe the school culture operates as a disturbance variable. It is not related to independent variable, however, it influences the dependent variables. Second, the cultural difference may be another disturbance variable. A study reported in the Jackson Personality Inventory Manual (Jackson, 1975, p.14) shows that the average conformity

score for high school students from a community close to Toronto is 9.32, sd=4.06. The average conformity score for this sample is 13.79, sd=3.10. One possible explanation is that Chinese culture emphasizes tradition heavily. Students have been trained to be docile and obey the established rules. Therefore, it is possible that the Chinese students are more conforming than students in the Western culture. Third, the cultural difference also operates in another way. For example, only one person answered question number eight of Rosenberg Self-esteem Scale positively. Two hundred and eight out of two hundred and nine students thought they should respect themselves more. Confucian thought, which is very dominant in the Chinese culture, teaches that people should be humble at all times. So almost all the subjects think they should respect themselves more.

The inverse relationship between self-esteem and conformity which is well-established by other studies was again supported in the entire group in this research.

A few limitations exist in this research. First, there are large discrepancies among the three sample sizes. The results might differ if the three samples were of equal size. Second, the students attending the school were selected by an examination. They are, therefore, limited in

the same ability level. Third, the translation versions of both Rosenberg Self-esteem Scale and Jackson Personality Inventory Conformity Subscale have been thoroughly examined with validity and reliability tests. Therefore, they may not reflect the original meaning fully.

There are many reasons in adolescent smoking, as this writer indicated in previous chapter. In this research, only two factors were examined. More research about these two factors and other factors is needed for further understanding of the adolescent smoking culture.

APPENDIX A

Rosenberg Self-esteem Scale (Original version)

1. On the whole, I am satisfied with myself.
2. At times, I think I am no good at all.
3. I feel that I have a number of good quality.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

APPENDIX B

Rosenberg Self-esteem Scale

(Back translation version)

1. In general, I am satisfied with myself.
2. Sometimes I feel I am good for nothing.
3. I feel I have some merits.
4. What the majority of the people can do, I can do well too.
5. I feel I don't have very much to be proud of.
6. Sometimes, I feel I am really useless.
7. At least, under the circumstance of an equal standpoint with others, I feel I am a valuable person.
8. I hope I can respect myself much more.
9. In conclusion, I am prone to feel I am a failure.
10. I have a positive attitude for myself.

APPENDIX C

Jackson Personality Inventory Conformity Subscale

(Original version)

1. I am very sensitive to what other people think of me.
2. I can't be bothered trying to find out what others think of me.
3. In most situations, I usually agree with the opinions of the group.
4. When I want to purchase something, I rarely consider other people's opinion of it.
5. Before making a decision, I often worried whether others will approve it.
6. I believe in speaking my mind, even if it offends others.
7. It makes me feel uncomfortable to be dressed differently from those around me.
8. I do not worry about what I say when out socially.
9. I often wonder why some people get pleasure out of doing unconventional things.
10. I am not concerned about how many friends I have.
11. My actions are governed by the way people expect me to behave.
12. I seldom concern myself with how other people dress.
13. It causes me a great deal of worry if I think that someone doesn't approve of something I have done.

APPENDIX C

Jackson Personality Inventory Conformity Subscale

(Original version)

(Continued)

14. I do what I please, not what others say I should do.
15. I am very concerned about my popularity.
16. I refuse to behave like everyone else just to please people.
17. I try to act in such way that others will accept me.
18. Generally, I don't concern myself with what other people think of my belief.
19. I try to change things about myself that other people dislike.
20. What the general public thinks does not affect my standards or beliefs.

APPENDIX D

Jackson Personality Inventory Conformity Subscale

(Back translation version)

1. I am very sensitive to how others think of me.
2. I don't try to know what others think of me.
3. Under most circumstances, I usually agree the group's opinion.
4. When I want to buy something, I seldom consider how others think of it.
5. Before making a decision, I worry about if other people will approve my decision.
6. I believe in speaking out my opinion even it offends others.
7. It makes me feel uncomfortable if I wear something differently from the people around me.
8. When I go out socially, I don't worry about what I say.
9. I usually doubt why some people get pleasure from doing untraditional thing.
10. I am not worried about how many friends I have.
11. My behavior is limited by other's expectation toward me.
12. I seldom care about what other people wear.
13. I am quite worried that other people do not agree with my behavior.
14. I do what I want instead of what others tell me to do.

APPENDIX D

Jackson Personality Inventory Conformity Subscale

(Back translation version)

(Continued)

15. I am concerned how popular I am.
16. I refuse to act like other people simply to please them.
17. I try to behave in the way that the others will accept.
18. Usually, I do not care how people view my belief.
19. I try to change what the others don't like about me.
20. Public opinion can not affect my standard or belief.

Appendix E

Rosenberg Self-esteem Scale and Jackson Personality Inventory Conformity Subscale (Chinese version)

首先很感謝你花時間填寫這份問卷調查，這是一份有關目前...
順從傾向及吸煙行為的不計名問卷，我們須要你的實際年齡，
家系：_____。下列共有十個句子，每個句子後都有表示意見的方格，
請在最代表你意見的方格內打勾，不要花太多時間在同一問題上，我們
要的是你的第一印象，作答時，請勿和同學討論，正常狀況下，你只須
4~5分鐘來填完問卷。再次謝謝你的參與與合作。

		非常同意	同意	不同意	非常不同意
1.	大體來說，我對自己很滿意。	□	□	□	□
2	有時候，我覺得自己一無是處。	□	□	□	□
3	我覺得自己有一些優點。	□	□	□	□
4.	大多數人能做的事我也能做。	□	□	□	□
5	我覺得自己沒有很多可以值得驕傲的。	□	□	□	□
6	有時我覺得自己真的很沒用。	□	□	□	□
7	在和別人立足點相等的狀況下，我覺得自己是個有價值的人。	□	□	□	□
8	我希望我能更尊重我自己。	□	□	□	□
9	總之，我有覺得自己是失敗者的傾向。	□	□	□	□
10	我以積極的態度面對自己。	□	□	□	□

11. 目前我每天抽煙的數量是 1. □ 0根 2 □ 1~20根 3. □ 20根以上。

		對	不對
12	別人對我的看法，我會非常敏感。	□	□
13	我不會試著去知道別人對我的想法。	□	□
14.	大多數狀況下，我通常同意團體的意見。	□	□
15	當我想買一樣東西時，我很少考慮別人的看法。	□	□

Appendix E

Rosenberg Self-esteem Scale and

Jackson Personality Inventory Conformity Subscale

(Chinese version)

(Continued)

		對	不對
16.	在做決定前，我會擔心別人是否贊同我的決定。	☐	☐
17.	我相信要講出我自己的想法，即使會侵犯到別人。	☐	☐
18.	和我周遭的人穿著不一樣會讓我不舒服。	☐	☐
19.	在外的社交場合，我不會擔心自己的言論。	☐	☐
20.	我常懷疑，為什麼有人會從做反傳統的事中得到樂趣。	☐	☐
21.	我不擔心我有多少朋友。	☐	☐
22.	我的行為受制於別人對我的期望。	☐	☐
23.	我很少在意別人的穿著。	☐	☐
24.	我很擔心別人不贊成我的行為。	☐	☐
25.	我隨欲而行，而非照別人告訴我該做的去做。	☐	☐
26.	我很關心自己受歡迎的程度。	☐	☐
27.	我拒絕為了討好別人而和他們有一樣的行為。	☐	☐
28.	我試著照別人會接受的方式而行。	☐	☐
29.	通常我不管別人對我的觀念有什麼看法。	☐	☐
30.	別人不喜歡我的地方，我會試著改變。	☐	☐
31.	大眾的想法不能影響我的標準或觀念。	☐	☐

REFERENCES

Adams, G. R., Ryan, J. H., Hoffman, J. J., Dobson, W. R., & Nielson, E. D. (1984). Ego identity status, conformity behavior, and personality in late adolescence. Journal of Personality and Social Psychology, 47(5), 1091-1104.

Ahlgren, A., Garvin, J., Hochhauser, M., & Norem, A. A. (1982). Antecedents of smoking among pre-adolescents. Journal of Drug Education, 12(4), 325-340.

Aitken, P. P. (1980). Peer group pressures, parental controls and cigarette smoking among 10 to 14 year olds. British Journal of Social and Clinical Psychology, 19, 141-146.

Asch, S. E. (1952). Social psychology. Englewood Cliffs, N.J.: Prentice-Hall.

Barton, J., Chassin, L., Presson, C. C., & Sherman, S. J. (1982). Social image factors as motivators of smoking initiation in early and middle adolescence. Child Development, 53, 1499-1511.

Bernt, T. J. (1979). Developmental changes inconformity to peers and parents. Developmental Psychology, 15, 606-616.

Bewley, B. R., & Bland, J. M. (1977). Academic performance and social factors related to cigarette smoking by

school children. British Journal of Preventive and Social Medicine, 31, 18-24.

Biglan, A., & Lichtenstein, E. (1984). A behavior-analytic approach to smoking acquisition: Some recent findings. Journal of Applied Social Psychology, 14, 207-223.

Bixenstine, V. E., Decorte, M. S., & Bixenstine, B. A. (1976). Conformity to peer-sponsored misconduct at four grade levels. Developmental Psychology, 12, 226-236.

Brown, B. B. (1973). Additional characteristic EEG differences between smokers and nonsmokers. In W. L. Dunn (Ed.), Smoking Behavior: Motives & Incentives (pp. 67-78). Washington, DC: V.H. Winston & Sons.

Brown, B. B., Clasen, D. R., & Eicher, S. A. (1986). Perceptions of peer pressure, peer conformity dispositions, and self-reported behavior among adolescents. Developmental Psychology, 22(4), 521-530.

Bry, B. H. (1983). Predicting drug abuse: Review and Reformulation. Internal Journal of Addiction, 18, 223-233.

Bry, B. H., McKeon, P., & Pandina, R. J. (1982). Extent of drug use as a function of number of risk factors. Journal of Abnormal Psychology, 91, 273-279.

Burton, D., Johnson, C. A., Uutela, A., & Vartiainen, E. (1990). Media use patterns among Finnish and American

youth; Implications for smoking intervention. Family and Community Health, 13(1), 73-81.

Cammaert, L. P., & Larson, C. C. (1985). For women on social assistance: A brief, intensive, effective group counselling program. Special Issue: Women in groups and aggression against women. International Journal of Women's Studies, 8(4), 310-318.

Castro, F. G., Maddahian, E., Newcomb, M. D., & Bentler, P. M. (1987). A multivariate model of the determinants of cigarette smoking among adolescents. Journal of Health and Social Behavior, 28(3), 273-289.

Chassin, L. (1984). Adolescent substance use and abuse. Advanced Child Behavioral Analytical Therapy, 3, 99-152.

Chassin, L., Presson, C. C., Sherman, S. J., Montello, D., & McGrew, J. (1986). Changes in peer and parent influence during adolescence: Longitudinal versus cross-sectional perspectives on smoking initiation. Developmental Psychology, 22(3), 327-334.

Chassin, L., Presson, C., Sherman, S. J., Corty, E., & Olshavsky, R. W. (1984). Predicting the onset of cigarette smoking in adolescents: a longitudinal study. Journal of Applied Psychology, 14(3), 224-243.

Chen, S. C. (1985). [View students' smoking from theory of reasoned action]. Unpublished master's thesis, National Taiwan Normal University, Taipei, Taiwan.

Chen, Z. L., & Winder, W. (1985). [Comparison of smoking behavior in Taiwan and the United States]. Health Education, 56, 28-30.

Cherry, N., & Kiernan, K. (1976). Personality scores and smoking behavior: A longitudinal study. British Journal of Preventative and Social Medicine, 30, 123-131.

Clasen, D. R., & Brown, B. B. (1985). The multidimensionality of peer pressure. Journal of Youth and Adolescence, 14, 451-468.

Cohen, S., Lichtenstein, E., & Prochaska, J. D. (1989). Debunking myths about self-quitting: Evidence from 10 prospective studies of persons who attempt to quit smoking by themselves. American Psychologist, 44, 1355-1365.

Covington, M. V., & Omelich, C. L. (1988). I can resist anything but temptation: Adolescent expectations for smoking cigarettes. Journal of Applied Social Psychology, 18(3), 203-227.

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. Special Issue: Integrating personality and social psychology. Journal of Personality and Social Psychology, 53(6), 1024-1037.

deMan, A. F. (1982). Autonomy control variation and self-esteem: Additional findings. Journal of Psychology, 111(1), 9-13.

deSommer, K. L., & Defare, P. B. (1984) [Risky smoking behavior: Subjective competence, self-esteem, and health]. Gedrag-Tijdschrift voor psychologie, 12(1-2), 82-100.

deVries, H., & Kok, G. J. (1986). From determinants of smoking behavior to the implications for a prevention program. Health Education Research, 1(2), 85-94.

Dielman, T. E., Campanelli, C., Shope, J. T., & Butchart, A. T. (1987). Susceptibility to peer pressure, self-esteem, and health locus of control as correlates of adolescent substance abuse. Health Education Quarterly, 14(2), 207-221.

Dielman, T., Leech, S., Lorenger, A., & Horvath, W. (1984). Health locus of control and self-esteem as related to adolescent health behavior and intentions. Adolescence, 19(76), 935-950.

Dyer, N. (1983). Smokers' luck: Can a "shocking" programme change attitudes to smoking? Addictive Behavior, 8(1), 43-46.

Eiser, J. R. (1985). Smoking: The social learning of an addiction. Journal of Social and Clinical Psychology, 3(4), 446-457.

Eiser, J. R., & van der Pligt, J. (1984). Attitudinal and social factors in adolescent smoking: In search of peer group influence. Journal of Applied Psychology, 66, 399- 414.

Erickson, E. (1963). The challenge of youth. Carden City, N.Y.: Doubleday Anchor.

Eysenck, H. J. (1980). The causes and effects of smoking. London, Great Britain: Billing and Sons.

Flay, B., d'Avernas, J., Best, J. A., Kersall, M., & Ryan, K. (1983). Cigarette smoking: Why young people do it and ways of preventing it. In P. J. McGrath & P. Firestone (Eds.), Pediatric and adolescent behavioral medicine (pp. 132-183). New York: Springer-Verlag.

Friedman, H. L. (1989). The health of adolescents: Beliefs and behavior. Social Science and Medicine, 29(3), 309-315.

Friedman, L. S., Lichtenstein, E., & Biglan, A. (1985). Smoking onset among teens: An empirical analysis of initial situations. Addictive Behaviors, 10(1), 1-13.

Goodman, P. (1956). Growing up absurd. New York: Random House.

Gritz, E. R. (1984). Cigarette smoking by adolescent females: Implications for health and behavior. Women and Health, 9(2-3), 103-115.

Hansen, W. B., Malotte, C. K., Collins, L., & Fielding, J. E. (1987). Dimensions and psychosocial correlates of adolescent alcohol use. Journal of Alcohol and Drug Education, 32(2), 19-31.

Hanks, D. T., & Antonuccio, D. O. (1987). Physician modeling influences on patient smokers. Addictive Behaviors, 12(3), 257-262.

Hartup, W. W. (1983). Peer relations. In E. M. Heatherington & P. H. Mussen (Eds.), Handbook of Child Psychology (Vol.4) Socialization, personality and social development. (pp. 103-196). New York: Wiley.

Hays, R. D., DiMatteo, M. R., Downey, R., Stacy, A. W., & Widaman, K. F. (1986). Multistage path models of adolescent alcohol and drug use: A reanalysis. Journal of Drug Issues, 16(3), 357-369.

Hover, S. J., & Gaffney, L. R. (1988). Factors associated with smoking behavior in adolescent girls. Addictive Behaviors, 13(2), 130-145.

Hu, J. Y. (1988). [Smoking behavior and counseling strategy]. Counseling and Guidance, 34, 16-18.

Huang, S. C. (1982). [The incentives and role models for junior high school students' smoking]. Unpublished master's thesis. National Taiwan Normal University. Taipei, Taiwan.

Jackson, D. N. (1975). Jackson personality inventory manual. London, Ontario: Research Psychologists Press.

Jessor, R. (1983). A psychosocial perspective on adolescent substance use. In Litt, I.F. (Ed.) Adolescent substance abuse: Report of the fourteenth Ross Roundtable. Columbus, Ohio: Ross Laboratories.

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

Johnson, C. A., Pentz, M. A., Weber, M. D., & Dwyer, J. H. (1990). Relative effectiveness of comprehensive community programming for drug abuse prevention with high-risk and low-risk adolescents. Journal of Consulting and Clinical Psychology, 58(4), 447-456.

Kandel, D. B. (1978). Antecedents of adolescent initiation into stages of drug use: A developmental analysis. In D. Kandel (Ed), Longitudinal research on drug use. Washington, DC: Hemisphere Publishing Corporation.

Kandel, D. B., & Lesser, G. S. (1972). Youth in two worlds. San Francisco, Ca.: Jossey-Bass.

Kaplan, H. B. (1975). Self-attitudes and deviant behavior. Pacific Palisades, Ca.: Goodyear Publishing Company.

Kaplan, H. B. (1977). Increase in self-rejection and continuing/discontinued deviant response. Journal of Youth and Adolescence, 6(1), 77-87.

Kawash, G. F., Kerr, E. N., & Clewes, J. L. (1985). Self-esteem in children as a function of perceived parental behavior. Journal of Psychology, 119(3), 235-242.

Kay, E. J., Lyons, A., Newman, W., Mankin, D., & Loeb, R. C. (1978). A longitudinal study of personality correlates of marijuana use. Journal of Consulting and Clinical Psychology, 46, 470-477.

Labouvie, E. W., & McGee, C. R. (1986). Relation of personality to alcohol and drug use in adolescence. Journal of Consulting And Clinical Psychology, 54(3), 289-293.

Lapp, J. (1984). Psychotropic drug and alcohol use by Montreal college students: Sex, ethnic and personality correlates. Journal of Alcohol and Drug Education, 30(1), 18-26.

Larson, L. E. (1972). The influence of parents and peers during adolescence: The situation hypothesis revisited. Journal of Marriage and the Family, 34, 67-74.

Lin, C. N. (1985). [Smoking and Quitting]. Health Education, 34, 21-24.

Lin, W. S., & Wu, J. L. (1985). [Smoking in high schools]. Health Education, 56, 21-24.

Liu, K. T. (1988). [How to guide the smoking students]. Counseling and Guidance, 34, 1.

Loken, B. (1982). Heavy smokers', light smokers', and nonsmokers' beliefs about cigarette smoking. Journal of Applied Psychology, 67(5), 616-622.

Ma, A. P., Huang, S. H., Chen, C. L., Yeh, Y. H., Lin, C. L., & Yao, M. L. (1990). A research about the Taipei Junior high school students' smoking behavior as well as their family factors and friendship with peers. John Tung Foundation, Taipei, Taiwan.

Martin, J. D., Mckinster, J. G., & Pfaadt, N. K. (1983). Intercorrelations among white space responses on Rorschach, ego strength, conformity, and self-esteem. Perceptual and Motor Skills, 57, 743-748.

Marston, A. R., Jacobs, D. F., Singer, R. D., & Widaman, K. F. (1988). Adolescents who apparently are invulnerable to drug, alcohol, and nicotine use. Adolescence, 23(91), 593-598.

McAlister, A. L. (1983). Social psychological approaches. Monograph of National Institute on Drug Abuse Research, (Serial No. 47).

McAlister, A. L., Krosnick, J. A., & Milburn, M. A. (1984). Causes of adolescent cigarette smoking: Tests of a structural equation model. Social Psychology Quarterly, 47(1), 24-36.

McCubbin, H. I., Needle, R. H., & Wilson, M. (1985). Adolescent health risk behaviors: Family stress and

adolescent coping as critical factors. Special issue: the family and health care. Journal of Applied Family and Child Studies, 34(1), 51-62.

Murphy, N. T., & Price, C. J. (1988). The influence of self-esteem, parental smoking, and living in a tobacco production region on adolescent smoking behaviors. Journal of School Health, 58(10), 401-405.

Nesbitt, P. D. (1973). Smoking, psychological arousal and emotional response. Journal of Personality and Social Psychology, 25(1), 137-144.

Newcomb, M. D. (1987). Cohabitation and marriage: A quest for independence and relatedness. Applied Social Psychology Annual, 7, 128-156.

Newman, I. M. (1984). Capturing the energy of peer pressure: Insights from a longitudinal study of adolescent cigarette smoking. Journal of School Health, 54(4), 146- 148.

Newman, P. R., & Newman, B. M. (1976). Early adolescence and its conflict: Group identity vs. alienation. Adolescence, 10, 127-136.

Pandina, R. J., & Schuels, J. A. (1983). Psychological correlates of alcohol and drug use of adolescent students and adolescents in treatment. Journal of Student Alcohol, 44, 950-973.

Penny, G. N., & Robinson, J. O., (1986). Psychological resources and cigarette smoking in adolescents. British Journal of Psychology, 77, 351-357.

Peterson, C. C., & Peterson, J. L. (1986). Children and cigarettes: The effect of a model who quits. Journal of Applied Developmental Psychology, 7(4), 293-306.

Piers, E. V., & Harris, D. B. (1969). Manual for the Piers-Harris Children's Self Concept Scale: The Way I Feel About Myself. Los Angeles: Western Psychological Services.

Polich, J. M., Ellickson, P. L., Reuter, P., & Kahan, J. P. (1984). Strategies for controlling adolescent drug use. Santa Monica, Ca: The Rand Corporation.

Pulkkinen, L. (1983). Youthful smoking and drinking in a longitudinal perspective. Journal of Youth and Adolescence, 12(4), 253-283.

Reardon, K. K., Sussman, S., & Flay, B. R. (1989). Are we marketing the right message: Can kids "just say 'no'" to smoking? Communication Monographs, 36(4), 307-324.

Rees, C. D., & Wilborn, B. L. (1983). Correlates of drug abuse in adolescents: A comparison of families of drug abusers with families of nondrug abusers. Journal of Youth Adolescence, 12, 55-63.

Richman, C. L., Brown, K. P., & Clark, M. L. (1984). The relationship between self-esteem and maladaptive

behaviors in high school students. Social Behavior and Personality, 12(2), 177-185.

Rosenberg, C. M. (1969). Young drug addicts: Background and personality. The Journal of Nervous and Mental Disease, 148(1), 65-73.

Rosenberg, M. (1979). Conceiving the self. New York: Basic Books.

Samuels, D., & Samuels, M. (1974). Low self-concept as a cause of drug abuse. Journal of Drug Education, 4(4), 421-438.

Santee, R. T., & Maslach, C. (1982). To agree or not to agree: Personal dissent amid social pressure to conform. Journal of Personality and Social Psychology, 42(4), 690-700.

Segal, B. (1983). Psychological aspects of drug-taking behavior. International Journal of Addiction, 18, 611-615.

Segal, B., Rhenberg, G., & Sterling, S. (1975). Self-concept and drug and alcohol use in female college students. Journal of Alcohol and Drug Education, 20(3), 17-22.

Sherif, M. (1936). The psychology of group norms. New York: Harper and Row.

Sherman, S. J., Presson, C. C., Chassin, L., Corty, E., & Olshavsky, R. (1983). The false consensus effect in estimates of smoking prevalence underlying mechanisms.

Personality and Social Psychology Bulletin, 9(2), 197-207.

Smith, G. M., & Fogg, C. P. (1978) Psychological predictors of early use, late use, and nonuse of marijuana among teenage students. In D. B. Kandel (Ed.). Longitudinal research in drug use: Empirical findings and methodological issues (pp. 101-113). Washington, DC: Hemisphere.

Stein, J. A., Newcomb, M. D., & Bentler, P. M. (1987). Personality and drug use: Reciprocal effects across four years. Personality and Individual Difference, 8(3), 419-430.

Stokes, J. P. (1974). Personality traits and attitudes and their relationship to student drug using behavior. The International Journal of the Addictions, 9(2), 267-287.

Sussman, S., Brannon, B. R., Flay, B. R., & Gleason, L. (1986). The television, school and family smoking prevention/cessation project II. Formative evaluation of television segments by teenagers and parents: Implications for parental involvement in drug eduction. Health Education Research, 1(3), 185-194.

Taiwan Tobacco & Wine Monopoly Bureau, (1984, 1988, 1990). [Yearly report]. Taiwan Tobacco & Wine Monopoly Bureau, Taipei, Taiwan.

Tucker, L. A. (1984). Psychological differences between adolescent smoking intenders and nonintenders. The Journal of Psychology, 118(1), 37-43.

Tucker, L. A. (1985). Physical, psychological, social and lifestyle differences among adolescents classified according to cigarette intention status. Journal of School Health, 55(4), 127-130.

Urberg, K. A., Shyu, S. J., & Liang, J. (1990). Peer influence in adolescent cigarette smoking. Addictive Behaviors, 15(3), 247-255.

U.S. Dept. of Commerce, Bureau of the Census. (1990). Statistical Abstract of the United States, 110th ed. Washington, D.C.: U.S. Government Printing Office.

U.S. Dept. of Health, Education, and Welfare. (1979,1964). Smoking and health: A report of the Surgeon General. Washington, D.C.: U.S. Government Printing Office.

Ward, S. (1971). Television advertising and the adolescent. Clinical Pediatrics, 10(8), 462-464.

Wingard, J. A., Huba, G. J., & Bentler, P. M. (1980). A longitudinal analysis of personality structure and adolescent substance use. Personality and Individual Difference, 1, 259-272.

Wong, S. Y. (1986). [On students' smoking]. Counseling and Guidance in High School, 25(8), 6-9.

Wong, G. G., Huang, H. Y., & Yeh, Y. H. (1987). [Adolescent smoking in public]. John Tung Foundation, Taipei, Taiwan.

Wu, Y. C. (1988). [Drug abuse in adolescence]. Counseling and Guidance, 34, 2-8.