Modeling Smoking in Front of Children:
Parental Perceptions Regarding the Impact of
Modeled Smoking and Anti-Smoking Communication

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ABSTRACT

Are parents aware of, and do they believe in, their ability to influence whether their children become smokers? This study proposes to determine the perception parents have of their power of persuasion over their children in keeping these children from developing a smoking habit. Literature review has set precedence for indicating that parents do indeed have a strong influence over their children in this area. However it is not known if parents themselves are aware of their power and how to use it. This descriptive, base-line study seeks to determine the extent to which parents believe in their influence with the long term goal of designing an anti-smoking campaign that draws on the power of parental influence. A sample of elementary school parents will be questioned. Informational analysis will determine if the data obtained can be used to better understand the perceptions of parents who smoke.

BACKGROUND STATEMENT

It is no longer a myth or a little known fact: smoking leads to serious disease and death. In Tobacco Control: Present and Future Robert West tells us that approximately 5 million individuals died tobacco related deaths in 2006. He goes on to purposely state the obvious: the best way to change that statistic for the better is to obliterate the manufacturing of tobacco products. The political forces of the government, however, are not willing to stop the big cigarette companies. West outlines alternative ideas for reducing tobacco deaths, beginning with aiming education and influence at children, the smokers of tomorrow (West 1-2).

Hundleby and Mercer cite parental affection, concern and involvement as positive influences in keeping children from abusing tobacco, drugs and alcohol (160). Conversely, but predictably, Garmiene, Zemaitiene, and Zaborskis conducted a long-term study of families in Lithuania over the time period from which the children were six years old to the time they reached adolescence and concluded that lack of family time coupled with parental modeling of smoking and alcohol were strong indicators in the prevalence of children experimenting with and becoming abusers of cigarettes and alcohol indicating that parents do negatively influence their children through their bad habits (2-8). Therefore, while it is absolutely important to target children, it is just as important, if not more so, to target parents. Hence the goal of this study is to determine parental perception of their own influence in the tobacco use of their children.

LITERATURE REVIEW

Adolescent smoking has been described as consisting of several stages: never smoke, preparatory, trial, experimental, regular use, nicotine addiction (Li). Research has shown that the behavior of family members, including parents and older siblings, is a strong indicator as to whether children will exhibit any of the stages above, eventually transitioning to full fledged smoking (Bricker et al. 131). Furthermore, studies have also shown that communicating with children about smoking-regardless of whether the parent is a smoker-is a valid intervention in an effort to keep adolescents from smoking (Harakeh et al, "Parental Rules" 869).

A separate study, also by Harakeh et al., regarding the theory of planned behavior, shows that parents would benefit if they knew how much influence they

really do exert over their children's decisions to smoke or not smoke (Parental Factors 958). Kodl and Mermenstein declare that:

> A parent's sense of efficacy to influence his or her child's smoking by, for example, discussing the issue is likely to be related both to a parent's own smoking experiences and to the types of parenting they engage in. To date, no study has examined parental self-efficacy in relation to antismoking socialization and to child smoking. (19)

Parental modeling, coupled with parental concern, has the greatest positive impact on whether middle school students begin smoking –even parents who smoke, but impart great concern to their children are effective in reducing the prevalence of their children becoming smokers (Kalesan 404). Sargent and Dalton proved that parental disapproval of smoking does indeed factor into whether adolescents smoke (1260).

A literature review revealed that parents do influence adolescent smoking regardless of whether the parent smokes or not. However, there are seemingly few if any studies that indicate whether or not parents are aware of their power in this area. The closest study found includes a look at self-efficacy of parental influence (Kodl and Mermelstein). Kodl and Mermelstein sought to compare tobacco attitudes and experience of parents to the tobacco attitudes and experiences of their children and found a strong correlation. My study aims to find out how parents view their role in educating their children about the dangers of smoking. Kodl and Mermelstein use a parental efficacy scale as a

questionnaire to determine whether parents are confident in their own influence over their children. A similar scale will be included in this study, altered to be specific towards tobacco use of adolescents.

The rhetorical theory is that parents are unaware of their influence over their children's use of tobacco. This study seeks to find out to what extent parents are aware of their influence in order to communicate to parents how they can be a larger factor in the war on tobacco use.

OBJECTIVES

In determining whether parents are aware of their influence over the formation of the smoking habits of their children, it is hoped that the results of this study can be used to design more effective anti-smoking campaigns that will reach out to parents and teach them that they have more influence than they know, and encourage them to use that influence.

RESEARCH DESIGN

Methodology

The research I propose is a descriptive base-line study about the perceptions of parents regarding how their actions and communication with their children influences future smoking habits. I will use University Heights Elementary School in Hamilton, New Jersey for my sample (see Appendix C for demographic data of the students). I have a directory with the names and addresses of all the students. While the sample is a convenience sample in that it is easily attainable and requires little work to determine the respondents, the study is meant to get a feel for self-efficacy of parents in general. This is a base-line study which may lead the way to more elaborate studies with a bigger, more

diverse probability sampling. The study will employ a structured interview style via a questionnaire which will make sure every respondent will have the exact same questions. The questionnaire will ask questions that will be designed to determine parental self-efficacy in regards to tobacco use by their children and will be loosely based on Bandura's parental self –efficacy scale (Bandura). I will utilize the probability sampling method of systematic sampling. Questionnaires will be mailed to every other address listed in the directory. Dillman's Total Design Method (Bernard 250-253) will be used in order to achieve a high response rate.

Variables

As depicted in Figure 1, the dependent variable (y), also called the outcome variable is: Do parents recognize that their behavior is influential on their children's decisions regarding tobacco use?

Also depicted in Figure 1, the independent variables (x), also called the predictor variables, include the following:

Demographics (A):

- What is the age of the respondent?
- What is the gender of the respondent?
- Does the respondent have children?
- What are the ages of the children? (Using the age range scale as defined by the US Census).
- Has the respondent ever been a smoker? (A smoker is defined as having smoked >= 100 cigarettes in a lifetime ("Cigarette Smoking").

- If the respondent smokes, does s/he hide it from the children?
- Does the respondent's children know s/he smokes?
- Does the respondent discuss smoking with the children? In what way?
- Does the respondent plan on discussing smoking with the children when they reach a particular age? What age?
- Ethnicity and gender of children? (Choices are based on the known demographic data of the school as reported by the NJ Department of Education as shown in Table 5).

Likert Scale Questions modeled after Bandura's Parental Self-Efficacy Scale (Bandura):

- How much can you do to prevent your children from doing things you do not want them to do?
- How much can you do to prevent your children from becoming involved in tobacco use?
- How much could you do if you found your children were using tobacco?

Likert Scale: Aspects of influence over tobacco use by children

- Peer pressure is the reason children smoke.
- Parental smoking is the reason children smoke.
- A parent who smokes cannot forbid a child to smoke.
- Positive peer pressure can keep children from smoking.

- Positive communication from parents can keep children from smoking.
- Parents are the first line of defense against cigarette use in children.
- It is too late to talk about cigarettes if my child has already tried one.
- It is too late to talk about cigarettes if my child is an active smoker.
- It is inevitable that children will experiment with cigarettes.
- Strict parenting regarding cigarettes will make children more apt to try cigarettes.

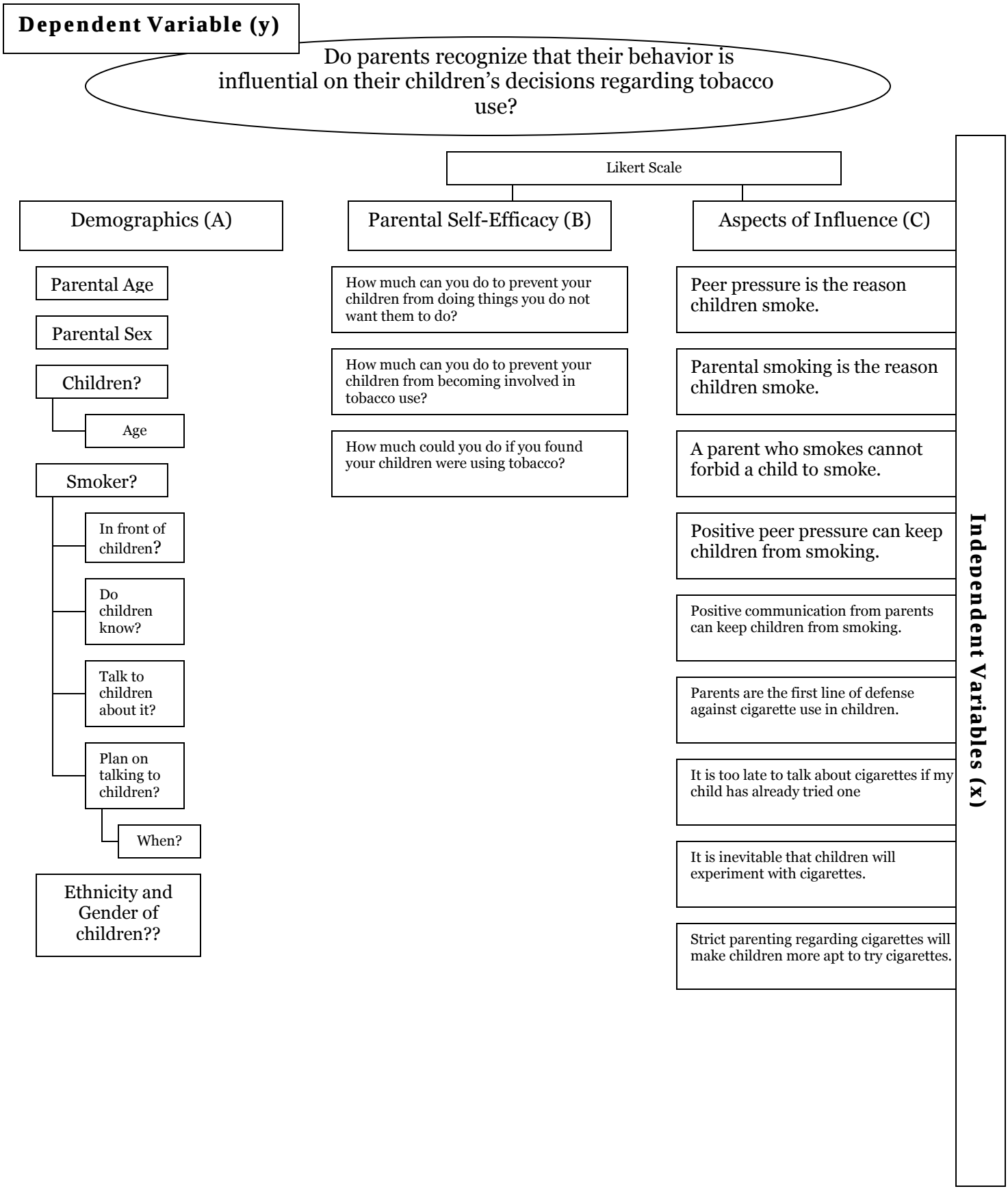

Figure 1 Efficacy and Influence Model

Validity

Content. Are the right questions being asked of parents? Will the questions serve to demonstrate whether parents are aware of their own influence? The questions in Appendix B have been designed only to find out what parents feel are indicators in whether their child will smoke. Figure 1 illustrates the direct correlation of variables to questions.

Before using these questions, a test group will be used to decide if the questions are understandable as well as relevant.

Construct. Does the design of the instrument effectively measure parental awareness of their influence over their children's decision regarding tobacco use? The literature review revealed that parents do influence adolescent smoking regardless of whether the parent smokes or not. It also showed that if parents know how much influence they have, they would be better positioned to combat tobacco use. The instrument for this study is specifically built to determine parental self-efficacy and borrows from Bandura's scale (Bandura). Furthermore, literature review, specifically, but not limited to Harekah et al's "Parental Rules and Communication: their Association with Adolescent Smoking," has inspired the Aspects of Influence section of the questionnaire.

Criterion. Criterion validity holds if a different instrument yields the same results. Use of a parental self-efficacy scale has been successful in numerous studies. "Anti-Tobacco Socialization in Homes of African-American and White Parents, and Smoking and Nonsmoking Parents," by Clark et al. used questions similar to the Aspects of Influence section of my Parental Perception

Questionnaire. For example, Clark et al. used a Likert scale for the following questions:

- All kids will try tobacco, it's a part of growing up.
- If parents forbid teens to use tobacco, they will only want it more (Clark et al. 334).

Kodl and Mermelstein assessed parental self-efficacy with questions about parental confidence in ability to prevent their child from smoking, enforce house rules about smoking, and talk to their child about smoking (22).

Reliability.

Reliability refers to the ability to trust the results. Can we trust the answers to the questions in the questionnaire? Are the answers consistent? The structure of the questionnaire, after garnering demographic data, questions self-efficacy, or the trust the parents have in themselves. It continues by questioning their ideals and perceptions in dealing with their children. A high level of self-efficacy should be reflected in a high level of security in the aspects of influence. Therefore internal consistency points to reliability – the answers given should follow a pattern. If instead they are haphazard, that is, if a parent claims high self-efficacy, but low influence, then consistency has been jeopardized.

Sampling Plan

The sampling plan uses University Heights Elementary School in Hamilton, NJ (see Appendix C for specific demographics of the school):

•The student directory, which separates the students by classroom and then lists them alphabetically indicates that there are 404 students – (I have not accounted for siblings and how that number will reduce the number of parents

available to draw my sample from, so the numbers here are simply based on the total students until I do further investigation).

- If n=z2 (P)(Q)/(confidence interval)2, where z=1.96 and P and Q are both estimated at .5 since there is no previous data, with a 95% confidence interval, I get 385.
- I then use 385 in the finite population correction, n'=n/1+(n-1/N),

with my known population of 404 to get 197 as my sample size (Bernard 173).

- I will use a systematic sampling in that I will pick every other name out of the directory (404/197 is approximately 2). My questionnaire will ask for input from only one guardian thereby assessing fairly for families that have only one adult present.

Informational Analysis. The constant validity check includes dependence on a knowledgeable informant to compare results against (Bernard 420). I consider myself a knowledgeable informant in that I am a parent of young children and have a very definite idea of how to communicate with them about tobacco, but am not altogether confident that my methods will be successful.

In order to analyze the collected responses, a table will be used to visually layout the results. As Table 1 shows, each question from sections A (Demographics), B (Parental Self-Efficacy) and C (Aspects of Influence) will be coded (A1, A2, A3, …B1, B2, B3….C1, C2, c3 etc). The demographic answers will be coded as shown in Table 2. In addition, the Likert Scale classifications will be numbered (Table 3).

Demographics (A)	
A1	How old are you?
A2	What gender are you?
A3	Do you have children?
A4	How old are your children?
A5	Have you ever been a smoker?
A6	Do you smoke in front of your children?
A7	Do your children know you smoke?
A8	Do you currently talk to your children about smoking?
A9	Do you plan on discussing smoking with your children when they reach a certain age? What age?
Parental Self Efficacy (B)	
B1	How much can you do to prevent your children from doing things you do not want them to do?
B2	How much can you do to prevent your children from becoming involved in tobacco use?
B3	How much could you do if you found your children were using tobacco?
Aspects of Influence (C)	
C1	Peer pressure is the reason children smoke.
C2	Parental smoking is the reason children smoke.
C3	A parent who smokes cannot forbid a child to smoke.
C4	Positive peer pressure can keep children from smoking.
C5	Positive communication from parents can keep children from smoking.
C6	Parents are the first line of defense against cigarette use in children.
C7	It is too late to talk about cigarettes if my child has already tried one
C8	It is inevitable that children will experiment with cigarettes.
C9	Strict parenting regarding cigarettes will make children more apt to try cigarettes.

Table 1 Variable Coding

Demographics		
Gender	Male	1
	Female	2
Yes/No	Yes	1
	No	2
Age	Under 5 yrs	1
	5-9 yrs	2
	10-14 yrs	3
	15-19 yrs	4

Table 2 Demographic Corresponding Numbers

Parental Self-Efficacy Scale				
1	2	3	4	5
Nothing	Very Little	Some Influence	Quite a bit	A Great Deal
Aspects of Influence				
1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Table 3 Likert Scale Corresponding Numbers

Once the results have been gathered, the coded numbers will be tabulated in SPSS where the descriptive statistics of mean, mode, range, and standard deviation will be determined. A low standard deviation will indicate a close correlation of the results, while a large standard deviation will indicate a relatively large variation in results.

The demographics as depicted in Table 5 are gathered in question A10 and will allow the data to be grouped to see if specific ethnic groups have a significantly different efficacy and influence profile that other ethnic groups. A paired sample test would be the best tool to determine such differences.

In addition, a regression analysis will determine internal validity of the data in that it will compare the variation in each independent variable. Ideally, the strength of the model will hold if the independent variables have similar variation.

POSSIBLE PROBLEMS

Response rate for my questionnaires is a potential major problem as well as whether the questions effectively measure my construct.

POTENTIAL SOLUTIONS

To solve for response rate, the Dillman Total Design Method, as described by Bernard (250-254) will be used. The literature review will help to build the instrument that will inform the building of the questionnaire. Pre-testing my questionnaire will help to determine whether questions need to be reworded.

TIME LINE

Table 3 outlines a tentative schedule for this research proposal. It identifies targets that are subject to change as needed. Note that Phase 6 is based on Dillman's Total Design Method (Bernard 250-253).

Phase	Duration	Description
1	3 weeks	Identify and Refine Topic/Literature Review
2	3 weeks	Design Research/Create Questionnaire/Determine Sample
3	1 week	Test Questionnaire/Refine Questionnaire
4	2 weeks	Create Database with Sample Addresses/Have Questionnaires Printed
5	1 week	Mail Questionnaires
6	2 weeks	Mail Postcards to Sample Requesting return of Questionnaires (2x – second follow-up to include copy of questionnaire)
7	3 weeks	Analyze Data/Make Recommendations

Table 4 Timeline of Research and Analysis

SIGNIFICANCE

Previous studies have indeed reported perceptions of parents. However none have been in the interest of designing anti-smoking campaign material. In addition, none of the studies I have found have focused on parents of elementary school specifically – my sample group represents a much younger base of children than most studies.

The significance of my study is to enable the redesign and refocus of communication with parents on a different level; hopefully, the results of the study will enable parents and encourage them to become more prevalent in the fight to save the health of their children.

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APPENDIX A

Informed Consent Form

Questionnaire on:
Parental Perception of their Influence over Children's Smoking Habits.

Your signature on this Informed Consent Form signifies your agreement to participate in this study. The purpose of this study is to determine whether parents are aware of the power they possess to influence their children, particularly to keep children from tobacco use, in order to create better anti-smoking campaign material to keep children from smoking.

Your participation is requested to help us gather information from parents of elementary aged children. Your name will not be included on the questionnaire and your responses will be completely anonymous. You should mail this form back in the envelope provided and mail the questionnaire back separately in the larger envelope provided to maintain anonymity.

Your participation is completely voluntary and you may even choose to not answer every question provided. You may withdraw from the study even after signing the consent form. This form is not a contract, but rather an indication that you understand what your participation entails.

You may contact the researcher, Julie Angarone, regarding the study, at any time at jaa36@njit.edu or 609-258-5864.

If you understand and agree to participate, please sign below.

Signature of Participant	Date
Signature of Researcher	Date

APPENDIX B

Parental Perception of their Influence over Children's Smoking Habits.

Please answer all of the following questions:

A1	How old are you?		
A2	What gender are you?	☐ M	☐ F
A3	Do you have children?	☐ Y	☐ N
A4	How old are your children? (Check all that apply)	☐ Under 5 years ☐ 5-9 years ☐ 10-14 years ☐ 15-19 years	
A5	Have you ever been a smoker? (A smoker is defined as having smoked at least 100 cigarettes in a lifetime.)	☐ Y	☐ N
A6	Do you smoke in front of your children?	☐ Y	☐ N
A7	Do your children know you smoke?	☐ Y	☐ N
A8	Do you currently talk to your children about smoking?	☐ Y	☐ N
A9	Do you plan on discussing smoking with your children when they reach a certain age? What age?	☐ Y	☐ N
A10	Please indicate the gender and ethnicity of your chid(ren). Check all that apply.	☐M ☐white ☐black ☐hispanic ☐native american ☐asian	☐F ☐white ☐black ☐hispanic ☐native american ☐asian

Please rate the following aspects of self-efficacy:

		Nothing	Very Little	Some Influence	Quite a bit	A Great Deal
B1	How much can you do to prevent your children from doing things you do not want them to do.					
B2	How much can you do to prevent your children from becoming involved in tobacco use?					
B3	How much could you do if you found your children were using drugs or alcohol?.					

Please rate the following aspects of parental influence over adolescent tobacco use:

		Strongly Aree	Aree	Neutral	Disagree	Strongly Disagre
C1	Peer pressure is the reason children smoke.					
C2	Parental smoking is the reason children smoke.					
C3	A parent who smokes cannot forbid a child to smoke.					
C4	Positive peer pressure can keep children from smoking.					
C5	Positive communication from parents can keep children from smoking.					
C6	Parents are the first line of defense against cigarette use in children.					
C7	It is too late to talk about cigarettes if my child has already tried one.					
C8	It is too late to talk about cigarettes if my child is an active smoker.					
C9	It is inevitable that children will experiment with cigarettes.					
C10	Strict parenting regarding cigarettes will make children more apt to try cigarettes.					

Thank you for your participation. Please return this questionnaire in the envelope provided.

APPENDIX C

According to the New Jersey Department of Education, the demographic data for University Heights Elementary School in Hamilton Township, New Jersey is summarized in Table 2. This data is current as of June, 2006. http://www.state.nj.us/njded/data/enr/enr06/stat_doc.htm

PROG_NAME	WHITE M	WHITE F	BLACK M	BLACK F	HISP M	HISP F	NAT_AM M	NAT_AM F	ASIAN M	ASIAN F
Kindergarten	36	27	4	1	1	2	0	0	0	2
Grade 1	22	26	2	0	1	1	0	0	0	0
Grade 2	28	27	1	3	0	1	0	0	3	0
Grade 3	26	23	1	0	1	0	0	0	1	1
Grade 4	25	25	2	0	1	1	0	0	0	3
Grade 5	32	30	1	0	0	2	0	0	1	1
Total	169	158	11	4	4	7	0	0	5	7

Table 5. Demographic Data of University Heights Elementary School