

# N. RELATIONSHIP OF PARENTAL TOBACCO USE, PEER INFLUENCE, SELF-ESTEEM, AND TOBACCO USE AMONG YEMENI-AMERICAN ADOLESCENTS: MID-RANGE THEORY TESTING

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## OBJECTIVE

The purpose of this study was to identify and describe relationships between selected predictors and tobacco use behavior in Yemeni-American adolescents (14–18 years of age) by examining the personal and environmental factors of parental and peer tobacco use and the psychological factors of self-esteem and experimentation of tobacco use. A mid-range theory on Yemeni American Adolescents-Tobacco Use (YAA-TU), substructured from Pender's Health Promotion Model (HPM), was tested.<sup>1</sup>

## BACKGROUND

Adolescence is a period characterized by challenges for youth around the globe. Because of the profound physical, behavioral, and social transitions that characterize this period, adolescents often experience ambiguity. While adolescents are more independent and competent than children, they are not yet fully members of adult society.<sup>2</sup> Much of the young person's time and energy is spent striving for autonomy and personal independence; a process that normally proceeds until the individual becomes free emotionally, financially, and intellectually.<sup>3</sup>

Central to the youth's development and formation of identity is the creation of a self-image. Within this process of construction, tobacco use may be used to facilitate the creation and management of a self-image and it may differ by ethnicity.<sup>4,5</sup> Given the diversity of cultural groups in the United States, we need to examine factors that predict to-

bacco use and its avoidance in these unique populations.

A rapidly growing cultural group in the United States, particularly in Michigan, is the peoples of the Middle East, including Yemeni Americans. Few data exist about tobacco use behaviors among adolescents in this group of Middle Eastern descent. Approximately 12,000 Yemeni Americans live in the Detroit metropolitan area; 28% are under the age of 18 years.<sup>6,7</sup> The socioeconomic status (SES) and educational level of most are characterized by low family income, poor education, and unskilled labor.

Few prevalence data are available on different forms of tobacco use in Yemeni-American adolescents. For adolescents in general, estimates indicate the number of adolescents who will try smoking a cigarette by the time they complete high school range from 65.3% to 70.2%, and that over one third of the students who ever try cigarette smoking will become daily smokers.<sup>8</sup> An estimated 2000 persons under age 18 will become a smoker each day.<sup>9</sup>

Tobacco use among current teens in the Arab countries is also reported as being high. Prevalence data indicated that cigarette smoking among teens in the Middle East ranges from 33% to 58%.<sup>10</sup> Recent data from ACCESS report a ratio of smoking among Arab teens as high as 23%.<sup>11</sup> In 1997, the tobacco use prevalence among Yemeni adults in Yemen was 60% among men and 29% among women.<sup>12</sup> In 1991, a school-based study was conducted in Sirra District (Aden Governorate) in Yemen, which found that 7.1% of the total number of the secondary schools' students were smokers.<sup>13</sup> Bawazeer, Hattab, and Morales conducted a study in Aden

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Governorate of 1000 secondary-school students attending classes during the study period. The smoking rate was 19.6% for all students studied (21.9% males and 15.5% females).<sup>14</sup> The age between 15 and 19 years was the most common age to start tobacco use among all of those who have ever smoked. Most (56.4%) female smokers started at age 14 years or younger, while 58.2% of male smokers started at age 15 years or older.

Generally, the prevalence of tobacco use increases with age.<sup>15</sup> Most regular tobacco use begins around the age of 14 years,<sup>16</sup> and adolescents are significantly more likely to smoke if they are male.<sup>17,18</sup> Regarding gender and smoking among Arab adolescents in the Middle East, one study found that the lowest prevalence was among Arab females.<sup>19</sup> This statistic is changing, however; cigarette use is increasing among females in both the Middle East,<sup>20</sup> and the United States.<sup>21</sup>

Adolescents with lower SES were found much more likely to smoke and to initiate its use at an earlier age than their middle and upper-middle class counterparts.<sup>22,23</sup> Family income, or SES, is one of the environmental circumstances that affect and correlate with the adolescent's self-esteem, with increasing SES levels associated with higher self-esteem.<sup>24</sup> Smoking has consistently been shown to be more common among those with less education, poorer school achievement, and poorer school attendance.<sup>15,25</sup> Other studies indicated that high school students' self-reported grades in school were associated with higher self-esteem.<sup>26</sup>

Parental tobacco use behaviors influence the development of tobacco use among adolescents and increase the odds of an adolescent being at a higher rather than lower smoking stage.<sup>27,28</sup> Adolescents whose friends use tobacco are also more likely to have tried tobacco themselves than adolescents whose peers are not smokers.<sup>23,29</sup>

A number of studies reported ado-

lescent boys to have higher self-esteem than adolescent girls,<sup>24,28</sup> and that self-esteem increases with age.<sup>30,31</sup> Low self-esteem has been identified as a possible antecedent to tobacco use,<sup>32</sup> and is inversely associated with it.<sup>33,34</sup> Eckhardt, Woodruff, and Elder noted that tobacco experimentation accounted for 25% of the variance in tobacco use in a sample of more than 2000 middle/junior high school students.<sup>35</sup>

In this study, it was proposed in a mid-range theory derived from Pender's Health Promotion Model that the personal factors of age, sex, family income, and educational performance and the environmental factors of parental and peer tobacco use would have direct effects on tobacco use, self-esteem, and experimentation with tobacco.<sup>1</sup>

### Hypotheses

- Older and male Yemeni-American adolescents will have higher self-esteem.
- Yemeni-American adolescents in families with higher socioeconomic status and higher educational performance will have higher self-esteem and less tobacco use.
- Yemeni-American youths with parents and peers who smoke will have higher experimentation with tobacco.
- Male and older Yemeni-American youths will have higher tobacco use.
- Yemeni-American youths with poorer self-esteem will report higher use of tobacco.
- Yemeni-American youths who have experimented with tobacco will report higher use of it.

### METHODS

This field survey used a descriptive correlational design with a convenient sample of 297 Yemeni-American adolescents who attended one of two high schools or a teen's health clinic in a suburb of a midwestern city, ages ranging from 14 to 18 years with a mean age of 15.73 years (SD=1.28). Study measures

included the Demographic and Cultural Information Scale, Rosenberg Self-Esteem Scale, Family and Friends Tobacco Use Scale, Tobacco Use Intention Scale, and Tobacco Use Questionnaire.

### RESULTS

A multiple regression analysis for continuous variables and a series of logistic regressions for dichotomous variables were performed among the personal, environmental, and social predictors to determine the status of tobacco use. The majority of the sample was males (66.3%). The yearly income of 46.8% of the families ranged from \$20,000 to \$40,000. The majority of the adolescents (56.9%) reported an overall grade point average of B. Approximately one fifth of these adolescents had at least one parent who used tobacco; 20% reported at least one of their closest five friends used tobacco products. In the survey of 297 adolescents, 39.1% had tried tobacco.

Findings revealed that educational performance ( $P=.001$ ) and family income ( $P=.01$ ) had significantly positive effects on self-esteem, and that peer influence had a significantly indirect effect on tobacco use ( $P=.001$ ). Age ( $P=.03$ ), parental smoking ( $P=.01$ ), and experimentation with tobacco ( $P=.01$ ) had significantly positive effects on tobacco use, while educational performance had a significantly negative effect ( $P=.04$ ) on it. The amount of variance accounted for by these factors was 39.0%.

The proposed mid-range model of Yemeni-American Adolescent-Tobacco Use (YAA-TU) in this study provided a general conceptualization of the relationships to be examined in the adolescent population, rather than simply testing a causal model.

### CONCLUSIONS

The results in this study are congruent with the tenets posed in Pender's

Health Promotion Model (HPM) that emphasize the significance of the cognitive-perceptual factors as mediating variables in regulating behavioral outcomes.<sup>1</sup> The variable of age had both direct and indirect effects on adolescents' tobacco use through the mediating effect of tobacco experimentation, which indicated that modifying factors directly influence the cognitive-perceptual factors and indirectly influence health promotion behavior.<sup>1</sup>

## IMPLICATIONS

These findings have implications for nursing and medical practice in the assessment and planning of culturally sensitive interventions to prevent tobacco use in Yemeni-American adolescents. Health professionals need to be aware of similarities and differences with the dominant culture when they are interacting with minority populations. Services rendered by nurses will inevitably be more effective when they provide culturally competent care. Health professionals must understand problems and stresses associated with immigration and provide assessments based on the individual's health beliefs. These findings add to the growing body of theoretical knowledge in nursing and the value of mid-range theory testing.

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