

## ORTHODOX RELIGIOSITY AS A FACTOR IN THE PREVENTION OF SMOKING IN STUDENTS OF THE AMERICAN COLLEGE OF GREECE AGED 13-18 YEARS

By

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### ABSTRACT

This multi-level empirical study conducted on a sample of 500 pupils attending the Gymnasium and Lyceum of the American College of Greece investigates the role of religiosity in preventing the use of tobacco products among adolescents aged 13-18 years. The research shows that religiosity in adolescence can, albeit indirectly, create "a protective shield" in the personality of young people and keep them away from the "shackles" of smoking habits and behavior by acting proactively and, at the same time, as a deterrent. Meanwhile, smoking prevention interventions in the family, the school and the wider social environment are of great importance and significance —however, charged with religious, moral and general spiritual axes— towards protecting teenagers from harmful addictive substances.

### INTRODUCTION

#### **1. General.**

In November 2015, in the scientific Journal, "*American Psychologist*"<sup>1</sup> of the *American Psychological Association*, a relevant article was published on the prevention of smoking in adolescence, according to which every day 4,000 adolescents try to smoke a cigarette for the first time, and every year 400,000 of them become systematic smokers. In addition, one in three youngsters who become regular smokers will die of diseases related to smoking in his/her adult life.

According to this scientific publication of the APA, smoking continues to be the main preventable cause of death in the United States of America, killing over 400,000 people each year, i.e. more than those who die from AIDS, automobile accidents, drugs, fire and homicide or suicide.

Recently, in the framework of raising awareness among the student population about the harmful effects of smoking, the Greek Ministry of Education, CEDE (the Central Association of Greek Municipalities) and the Athens Medical Association conducted a study of Gymnasium students, the results of which

were presented at an event marking World No Tobacco Day on May 31, 2016 at the “*Akis Argyriadis*” Hall at the University of Athens.

The above-mentioned Panhellenic study of smoking in schools was conducted implementing the anonymous completion of questionnaires by 51,084 students in A and B Gymnasium in 3,000 classes at 1,267 schools in Greece. The students who took part in this study, from March 15 to May 15, 2016, also watched audio-visual material aimed at informing them about the risks of smoking and the development of resistance against this harmful habit.

The data from the recent study by the Ministry of Education, CEDE and the Athens Medical Association sounds the alarm about the dangers of smoking in the Gymnasia of our country. 30% of students are passive smokers in their homes and 40% in enclosed public spaces. Indeed, 60% of those who are “victims” of passive smoking in enclosed public spaces report that they had a feeling of discomfort due to the intensity of the phenomenon.

From the study, it also came to light that 16.7% of students have tried the harmful habit from the tender age of 12 to 14 years. One in 10 students of A and B Gymnasium is an active smoker, according to the definition of WHO (*World Health Organization*) and, of those, 15% are very regular smokers, i.e. they smoke almost every day.

The smoking habit, indeed, is stronger among boys than among girls, as one in five boys has tried smoking. Moreover, there is a significant differentiation according to the amount of money available to students. Children who receive up to 5 euros a week from their parents are in a much lower percentile of active smokers (6.7%) as compared to children who receive 6 or more euros a week. Then, the percentage of active smokers nearly doubles, approaching 11.3%.

It is emphasized that 40% of the children who tried smoking did so between the ages of 8 and 11, which demonstrates the need to aim the anti-smoking policy at young ages, when students are more malleable but also vulnerable to bad influences. Moreover, friends, relatives, siblings and parents who smoke are reported to be the most important factors in spreading this habit of smoking, whereas “curiosity” is mentioned as the predominant reason why students have tried some tobacco product.

Finally, the percentages linking smoking with entertainment (60%) or fashion (40%) are also significant. Indeed, a proportion over 60% of students report that they saw someone smoking on campus and the majority of students report that it is not difficult to buy cigarettes at this age, which ought to be of concern

the Government —as, in any case, this is implemented in other countries— regarding the enforcement of the law for the protection of minors.

This study is divided into a theoretical and a practical (empirical) part, so that the reader can be better informed and have a more complete picture of the subject in question.

## **2. Religions and smoking.**

### **A. General.**

Tobacco has always been linked to the history of Religion. According to Native Americans, tobacco was a gift from the gods. Shamans used tobacco for their supernatural powers. Moreover, the Mayas believed that some gods were fanatical smokers and, when they rubbed stones together to light their tobacco, they caused lightning on earth. In addition, fumes are known to have inspired the Oracle of Delphi and the holy men of Native Americans.

On the other hand, however, although it may seem paradoxical, contradictory or even coincidental, the war against smoking historically has its beginnings in religiosity, particularly the Christian Clergy, though some Clerics happen to be smokers. Of course, the representatives of all the world's religious beliefs have rallied against this harmful habit. At a Conference that took place on March 3, 1999 at the headquarters of the *World Health Organization* in Geneva on the subject of "*Tobacco and Religion*," the conclusions drawn are indicative of the above-mentioned involvement in the global anti-smoking campaign. Without exception, all of the participants in the proceedings of the *World Conference* stood against smoking, citing smokers' being deprived of inner freedom as the main argument for stopping the use of tobacco.

Specifically, the findings of each Religion are summarized as follows:

- **Orthodox Christianity.**

According to Orthodox Christianity, as unique personalities, people possess the precious gift of free will and choice. Orthodox Christians see campaigns against tobacco and smoking on an axis of personal liberation and emancipation from an oppressive habit (*addiction*), which threatens the quality and length of a person's life<sup>2</sup>. Therefore, for the Orthodox Church (e.g. from Saint Nicodemus the Hagiorite, who describes smoking as "*the devil's incense*"<sup>3</sup>), smoking is deprecated (a) as a kind of untamed "passion," and (b) as a pathological biological habit and, thus, as indirect suicide or harm of our fellow humans (passive smokers)<sup>4</sup>.

- **Roman Catholicism.**

The Roman Catholic Church gives greater emphasis to the notion of the pleasure of smoking<sup>5</sup> and has taken an official position against smoking through the Pontiff himself. In the *Bull of Indiction* of the Great Jubilee of 2000, Pope John Paul II called upon Christians to abstain from smoking for one day in order to collect money for the therapy of all those suffering from the AIDS epidemic. The Pontiff confirmed the harmful effects of the consumption of tobacco<sup>6</sup>.

- **Protestantism.**

The position of Protestantism vis-à-vis smoking varies, as is the case with the many offshoots of Protestantism. For example, whereas Mormons, Seventh Day Adventists, Mennonites, Quakers, the Salvation Army, Calvinists, etc. disapprove of smoking, others approve of it<sup>7</sup>. Nevertheless, some African Americans, putting aside their various confessional Christian differences, attempt with significant success to carry out a program, including religious-ethical values, to stop smoking<sup>8</sup>.

- **Buddhism.**

Buddhism teaches the role of freedom in man's life. Freedom imposes a way of life without addictions, with spiritual clarity and conscientious vigilance. The problem of using and abusing tobacco by vulnerable youths has its roots in the lack of prohibition of tobacco products. In a society of interdependencies and free (unrestrained) communication, the smoker should understand that the habit of smoking not only harms him biologically, but also dramatically reduces his (moral-psychological) freedom<sup>9</sup>. Therefore, empirical research has shown that the teaching of Buddhism on the *quenching* of a desire (passion or urge) can be implemented satisfactorily with regard to the smoking addiction<sup>10</sup>.

- **Hinduism.**

In Hinduism, tobacco is presented as a dependence opposed to maintaining health. Tobacco is a barrier to the achievement of the Hindu goal of a spiritual life. Hinduism gives particular significance to the "*heart*," which is regarded as the central healing symbol and god's holy "place." Smoking causes a number of cardiac diseases, so that it directly attacks this holy center of the heart. The use of tobacco today must be restricted, not only because of its side effects, but also out of concern for others<sup>11</sup>.

- **Islam.**

Having both a spiritual and a legal tradition, Islam's primary concern is the protection of the psychosomatic integrity of the individual. Although until the beginning of the 20<sup>th</sup> century, most Muslim judges considered smoking harmless to health, it then taught —based on some expansive interpretations of the verses of the Quran— that smoking is opposed to Islamic teaching<sup>12</sup>. Muslims should respect the Scriptures and protect their body, which is a gift from God. The messages for Muslims about avoiding harmful and addictive tobacco are clear, on an axis of responsibility, religious duty and consciousness. Thus, particularly during moments of prayer, smoking is prohibited<sup>13</sup>.

- **Judaism.**

Both ancient (see *Halakhah*) and medieval Judaism (see Moses Ben Naḥman, Ibn Ezra, etc.) see health as a blessing and illness as a punishment from God<sup>14</sup>. According to the Jewish philosopher Maimonides (1135-1204), a healthy body is the prerequisite for a healthy soul<sup>15</sup>. Thus, Judaism proposes the use of preventive methods and the utilization of common sense to deal with the dependence on tobacco. The use of tobacco products harms the body, which is a divine property (Hafetz Hayim)<sup>16</sup>, disturbing its balanced development. It is each person's responsibility to avoid harming his body and soul.

- **Bahaism.**

In the Baha'is Belief, a synergistic, "scientific" and anti-dogmatic religion of eastern (Islamic) origin (which, however, has now spread to the USA and Europe and promotes the elimination of gender discrimination and of class prejudices), smoking is discouraged as unhealthy and impure. Societies with religious underpinnings and solid value structures play a determinative role in forming health-conscious behaviors, as they provide incentives for becoming free of smoking<sup>17</sup>.

Therefore, we see that, despite the "secular" (as opposed to, for example, sacred tobacco), smoking per se remains morally indifferent or the related views on the part of the religions vary<sup>18</sup>. Indeed, some other, older Religions applauded it, while most Religions, including Christianity, disapprove of it.

## B. Smoking and Psychology (of Religion).

At the end of the 1970s, Dr. C. Tracy Orleans, Assistant Professor of Medical Psychology/Psychiatry at Duke University Medical Center, along with three Associates, the three of whom were smokers (Dr. Tracy herself smoked a pack a day), began research programs into “quitting” smoking cigarettes. She later went to the Fox Chase Cancer Center in Philadelphia, where she offered her services to pregnant smokers, African Americans<sup>19</sup>, the elderly and athletes who were addicted to smoking.

This anti-smoking campaign was followed by many people all across America so that, 50 years later, the number of smokers has fallen from 54% to 18%<sup>20</sup>.

In reality, psychologists had been interested in getting involved in stopping the addiction to smoking since 1964 (*Surgeon General's Report on Smoking and Health*). This addiction was ascertained in the 1940s, based on experiments using nicotine on animals. Since then, psychologists have worked to find anti-incentives for smoking (given that, apart from the tobacco companies, they are also working against fashion<sup>21</sup>, the habit that is found particularly among many ethnic minorities, addiction, various psychotherapeutic myths and prejudices about supposed stress relief, anxiety or even schizophrenia, etc.<sup>22</sup>) and, indeed, special cases of patients (mental illnesses<sup>23</sup>, HIV/AIDS, cancer, rheumatoid arthritis, obesity, Type 2 diabetes, etc.)<sup>24</sup>. In 2014, the *Journal Monitor on Psychology* devoted one of its issues (45/3) to the 50-year contribution of Psychology to the treatment of smoking.

Specifically, on the relationship between smoking and the *Psychology of Religion*, today various philosophical, ethical and psychological views, as well as scientific theories and research, have shown that *religiosity* (and, indeed, “internal” religiosity), as well as *spirituality*<sup>25</sup>, generally (mainly as ethos-action and experience) acts as a deterrent against antisocial and unhealthy behaviors<sup>26</sup>. The founder of *Analytical Psychology*, Swiss psychiatrist Carl Jung<sup>27</sup>, based on his psychotherapeutic experience, emphasizes, as does Alfred Adler<sup>28</sup> (and later, Viktor Frankl<sup>29</sup> with his *Logotherapy*), the importance in life of pursuing a goal. As he points out, the essential purpose (meaning) of life can only be found in religion. Likewise, the well-known philosopher and psychiatrist Karl Jaspers<sup>30</sup> claims that religious sentiment, accompanied by moral serenity and hope, is the most basic means of Psychotherapy.

Indeed, the significance of *religiosity* (and/or of *spirituality*) is regarded by most psychologists as invaluable in moral and social life, mental health and the balanced development of an individual's personality. *Religiosity* is the strongest

deterrent against a person's selfish tendencies and the corruption of morals. At the same time, it gives meaning to life and ensures feelings of security and self-esteem, which are a basic prerequisite for mental equilibrium<sup>31</sup>. Faith in the existence of and in the supreme power of a higher Being provides a person with trust (*self-confidence*), security, courage, meaning and hope<sup>32</sup>.

Today, numerous specialized scientific studies and articles in reputable American (*American Psychological Association*) and European Journals, mainly in Protestant countries, dealing with relationships of *identity, personality, religiosity/spirituality* and *mental health* (including remedies for addictions, as well as the longevity which this entails)<sup>33</sup>, have shown that there is a relevancy and a correlation between childhood and adolescent religiosity and smoking.

According to research by King and Furrow<sup>34</sup>, religiosity can act as a barrier to negative peer pressure, proposing an ethical and positive life model, without behaviors and habits that are harmful to one's health.

In addition, in a scientific article in *ELSEVIER Social Science & Medicine* 2006<sup>35</sup>, a correlation between the adolescents' decision to experiment with smoking and their individual and collective religiosity is shown. Specifically, individual *religiosity* appears to discourage the uptake of smoking during adolescence, but not to contribute to limiting or stopping it when there is already a dependence on it. Generally, *religiosity* acts protectively, according to this study, not only in the prevention of smoking in adolescence, but also in preventing the use of other addictive substances, such as alcohol or marijuana. High levels of individual *religiosity* and regular participation in the church community, in the context of collective worship, inversely correlate with low levels of use of tobacco products.<sup>36</sup>

In another scientific Journal of ELSEVIER, the "*Journal of Economic Behavior & Organization*<sup>37</sup>," there is a reference to the dangerous, unhealthy behaviors of adolescents who are not religious, particularly with regard to the use of tobacco at 21%, marijuana at 18% and other illegal addictive substances at 17%<sup>38</sup>.

In summary, we see that there are many scientific indications of the relationship between religiosity/spirituality and the choice of a healthy lifestyle in adolescence. Studies agree on the positive influence of religiosity and/or spirituality on young people's life attitude and behavior, which is related to health and *well-being*.

However, why does smoking in particular contravene *religiosity*, when nearly all the (at least the natural, archaic and primitive) Religions used tobacco? First of all, we must point out a general, but fundamental, principle, which applies to the Religions (and which, among other things, is adopted by

M. Eliade), that any act, idea, concept, phenomenon, situation, object or thing that is used for *secular* purposes (survival, reproduction, decoration, etc.), such as food or sex, does not have the same meaning or significance when it is used in *sacred* rituals. According to this logic, non-religious smoking may, for example, be sacrilegious.

Particularly in Christian morality and spirituality, and indeed as this was understood (piously, for the most part) in the West, smoking in adolescence was not considered to offend God directly, but indirectly, i.e. that is “damages” or destroys the general image of the “good child,” who ought to believe, to respect and to obey God’s commandments, which, according to the then-prevailing social and cultural environment, coincide with the laws of Nature and therefore with Society and/or the State (see Natural Theology, Humanism, Romanticism, Deism, Pragmatism, etc.). Thus, because smoking was associated to such a degree with a breach of God’s will, both the laws of Physiology (human hygiene), the smoker was seen as a (secular, social and moral) “daredevil,” who in the worst case wants to commit sacrilege, and—in the best case—to provoke; even more so if it was some adolescent!

A slightly deeper theological explanation of an anti-smoking stance and behavior is the idea that the smoker is committing (consciously or unconsciously) indirect suicide<sup>39</sup>, which, for Christianity and not only, is considered, as we know, a great sin. In addition, the smoker is theologically disapproved of because he demonstrates his unfaithfulness to God, seeking refuge and comfort (from any anxiety and the adversities of life) in tobacco instead of asking for help from God. Finally, another—somewhat more theologically (spiritually) developed argument—is that the smoker is deprived of self-control of his passion (*addiction*)<sup>40</sup>.

In any case, an ad hoc relationship between *religiosity/spirituality*, *identity* and *personality* with the prevention of the use of tobacco products in adolescence has not been sufficiently clarified scientifically<sup>41</sup>. Particularly in our country, there is an enormous “research gap” as far as the specific topic is concerned. That is why, with this study, we will attempt to highlight—more or less—this relationship.



## PART ONE

### ADOLESCENCE

#### 1. General.

*Adolescence* is what we call the development stage in an individual's life which begins biologically with changes in psychology at puberty and ends psychologically with the integration of sexuality<sup>42</sup>. Adolescence includes an extended period of development (about 7 to 8 years), which is defined chronologically from age 11 to 18 for girls, and for boys from age 12 or 13 to about 18. It is not always easy to determine the time as it is not fixed for all children.

The most important developmental goal of adolescence, according to the views of many modern child psychologists, is intense reflection and searching for self-identification<sup>43</sup>, finding the meaning and purpose of one's life<sup>44</sup>, as well as the need to shape one's mental *identity*<sup>45</sup> definitively. Indeed, the development of the identity of the Ego is regarded as an essential prerequisite for the later formation of fundamental interpersonal relationships and for the individual's smooth integration into society<sup>46</sup>.

Moreover, during the period of adolescence, the foundations of the subject's personality are laid, i.e. his/her moral, social, cultural and spiritual consciousness, which enjoins the person to do good and to avoid bad, both for himself and for others.

#### 2. The mental and spiritual development of the adolescent.

##### A. General.

The mental and spiritual development of the adolescent is directly linked with his "religious socialization"<sup>47</sup>. This is certainly due not only to (cultural) socialization<sup>48</sup> or psychological and/or ideological consolidation (of his mental identity), but also, and much more, to the adolescent's normal distancing from his parents and his bio-mental need (see *Attachment theory*) to create relationships – bonds (e.g. with his peers or with the opposite sex)<sup>49</sup>. A lack of relationships will inevitably lead the adolescent to unhappiness, as well as to risk-taking and *isolation*<sup>50</sup>.

Turning to God, committing to a Religion or forming a religious (and/or spiritual) personality happens gradually during adolescence, under the influence of his/her family, school, his/her wider social and cultural environment<sup>51</sup>,

church community (congregation) and various religious influences that the adolescent embraces.

During the first phase of adolescence, young people experience a kind of “*religious awakening*,” which leads them to doubt and to questions about the Divine (*Numen*). These metaphysical and spiritual doubts and questions are a key feature of this period and often develop into disputes which, however, have an expiration date<sup>52</sup>. The adolescent questions God, Christ, the Saints, prayer, collective worship, and criticizes religious beliefs about sin, ethics and the afterlife. However, this does not necessarily imply the loss of (religious) faith, but perhaps should be seen as an agonizing (logical) effort to strengthen it<sup>53</sup>.

The age of thirteen is marked by changes in thinking, just as in the school curriculum. The adolescent forms his/her own image of God and his religious experiences are a function of his biological age. In any case, the majority of children in the preadolescent phase revise the anthropomorphic image of God.

At the age of fourteen, the image of God is perceived in a purely abstract and intangible way, whereas —near the end of adolescence— the image of God as an idealized spiritual being is strengthened.

### **B. Adolescent identity and “identity crisis.”**

The most significant developmental goal of adolescence appears to be the individual’s need for definitive formation of his/her whole *identity*, since this is regarded as an essential prerequisite for later formation of meaningful interpersonal relationships. An unstable *identity* or the lack thereof leaves the individual prey to momentary urges, lead to confusion of roles and are the main cause of most behavioral disorders in adolescents<sup>54</sup>.

It is not at all accidental that the prime age for both religious “commitment”<sup>55</sup> and of the uptake of the use of legal or illegal addictive substances is adolescence. One of the main developmental traits of adolescence is (adventurous) “exploration,” the adolescent’s intense desire to have new experiences, to experiment with new situations and to try out new kinds of behavior, even if these are dangerous for his health or life. The influence and impact of parents and family subside and are replaced by the influence mainly of peers.

Thus, it is an indisputable fact that adolescent people experiment with a variety of alternative possibilities and spending a lot of time forming a functional *identity* for their Ego. The adolescent, for example, appears to be religiously faithful and, at the same time, unfaithful or, at one moment, religious

or devout and, at the next, indifferent toward religion, brave and, at the same time, cowardly<sup>56</sup>.

As is well-known, according to Eric Erickson, during adolescence, the so-called “*identity crisis*” of the Ego takes place counter to “role confusion,” whereas in middle age the so-called “*integrity crisis*” of the Ego<sup>57</sup> takes place.

This “*identity crisis*” is accompanied by a series of unpleasant symptoms, such as anxiety, introversion, boredom, nervousness and restlessness, excessive shyness, increased emotionalism, a tendency to melancholy, low self-esteem, the feeling of disappointment, internal and interpersonal conflicts and defeatism, and to deal with all this the adolescent adopts –unconsciously– a series of psychological “*defense mechanisms*.”

The formation of a stable *identity* is a function of childhood experiences and of the type of society (cultural environment) in which the individual can act. For example, in *closed societies*, in which the roles of minors are clear and alternatives are limited, the formation of the identity of the Ego is easy for the youngster<sup>58</sup>. On the other hand, in *open societies*, in which the roles of minors are more unclear, but also more complex and demanding, the clarification of a “*life plan*” is a more difficult and time-consuming matter<sup>59</sup>.

### 3. Moral conscience and adolescence.

#### A. General.

The criterion of ethical and unethical acts and intentions is the so-called “moral law” within us, which is also known as “moral conscience” (see *Superego*). Moral conscience is not a feeling, i.e. a pleasant or unpleasant feeling, but the crystallization of a person’s knowledge regarding what is morally right or morally wrong, morally good and morally bad.

The commands and prohibitions of parents, teachers, the Church, and so on are internalized by the child and the adolescent, determining from on the “musts” for the rest of his adult life<sup>60</sup>. The mechanisms for internalizing the rules of the social environment have such an effect on the formation of the individual’s personality that the commands and prohibitions that concern him/her become his/her “property” and “experience” from then on, whereas (unconsciously) they are considered to have been his/her from the beginning, forgetting their initial origin. Representatives of this particular theory are the Sophists, Francis Bacon, John Locke, John Stuart Mill, David Hume, Herbert Spencer, Julien Offray de La Mettrie, etc.

In any case, today's psycho-sociological theory, based mainly in Evolutionary Biology (see "*struggle for survival*"), is considered to be the most persuasive because, from its nature, the child does not appear to tend towards goodness and moral conformity, but towards its egocentric satisfaction and pleasure.

Theologically, this latter position is explained on the basis of, first, the "corruption" of human nature due to Original Sin and, second, the type and degree of the effect of the (social) environment.

### **B. Religion and Ethics.**

Every Religion —naturalist, moral, revelatory, mystical, positive, etc.— has a certain Ethic. However, there is also (sociological, humanistic, political, ecological, eudemonistic, relativistic, nihilist, etc.) Ethic beyond Religions. In any case, every specific (religious) Ethic in every era obviously blends —to a larger or smaller degree— with the natural, humane, national, social and, generally, with cultural norms and customs.

To be specific, a certain *religiosity* form, according to the findings of (social and/or cultural) Anthropology of Religion, Sociology of Religion<sup>61</sup>, Psychology of Religion —which study the quality and types of conscience— a special type of moral or spiritual conscience (*self-consciousness*): the religious or transcendental (and/or numinous), which, of course, varies in place and time. In fact, this ethic has proven to be related to the so-called "*extrinsic*" religiosity<sup>62</sup>. In other words, religious, moral conscience is neither created automatically nor is it fixed and constant<sup>63</sup>. According to F. Oser and P. Gmünder<sup>64</sup>, religious self-consciousness can function at various levels.

### **C. Adolescent moral consciousness.**

During years 15 to 16 in adolescence, moral judgement develops to a large degree, but its full development usually happens around the age of 18 or later in young people.

In any case, according to Lawrence Kohlberg<sup>65</sup>, who based his work on Jean Piaget's<sup>66</sup> theory of cognitive development:

- Moral development in children and adolescents is parallel to cognitive growth.
- Children and adolescents go through the stages of moral development one by one and always in the same order.
- The stages of moral development are the same in every society.
- Each stage is determined by a particular "moral meditation."

The adolescent at the conventional level, up to the age of 14 to 15, acquires clearer and deeper concepts of morality; for example, he/she has the feeling that the main criterion of morality is intentional and not action itself.

In the post-conventional level, at around 15-16 years of age, the adolescent accepts the principles of morality because he/she is convinced of their correctness. At this level, he/she follows abstract moral principles and is concerned about social, political, metaphysical and religious issues<sup>67</sup>.

## RELIGIOSITY IN YOUTH

### 1. Religiosity in childhood.

*Religiosity*—both in children and in adolescents— follows their psychosomatic development and presupposes their smooth integration into society, a part of which is the church community. Religious experiences, life stances, norms, customs and traditions influence and ultimately mold young people<sup>68</sup> as far as morality and religion are concerned.

The development of a healthy *religiosity* in children of school age is an educational and psychological process which requires the synergy of many factors. However, the desire to comprehend certain religious concepts is already observed in preschool children. These abstract concepts are beyond their mental capabilities and—in quite a few cases— they are capable of retaining abstract terms and combining them with abstract situations.

At *kindergarten age*, according to Piaget, the child's thinking contains elements of Animism and moral necessity, which is why the concept of movement is interpreted by the child in a way that resembles religious thought, since all movements have a purpose and require an essential energy or creative power.

Small children comprehend God anthropomorphically because of their egocentric thinking. Nevertheless, the *anthropomorphic* perception of God does not stop at this point because very often it is observed that, at the same time, children separate God from that which is human and place Him in another dimension<sup>69</sup>. In his work, Piaget refers to cases of "religious" childhood thinking. Allport<sup>70</sup> calls this phenomenon "*verbal realism*" because the child's intellect has not yet discovered the important truth that words and facts are not always the same thing.

At the phase of *school age*, children show interest in God's plan for the world and understand the fact that God protects them; indeed, they show great love for God and for religion. God is seen by the child as a "friend" whose love

surpasses human limits, who helps people to become virtuous and makes humanity happy<sup>71</sup>.

According to J. Fowler<sup>72</sup>, the stages of a child's religious faith are the intuitive/pre-emotional or instinctive (3 or 4 to 7 or 8 years of age) and the mythic (7 or 8 to 12 years of age).

## 2. Religiosity in adolescence.

(Christian) *religiosity*, particularly as a faith and set of values, appears to have a strong influence on faith and on the behavior of adolescent students<sup>73</sup>. According to Orthodox Christian Tradition, the strength of authentic faith, which activates all of a person's psychosomatic powers, is not the exclusive achievement of the individual, but a gift from God. Therefore, religious faith does not function automatically, such as, for example, an electromagnetic force, but acts beneficially on a person's soul, through the Grace of God<sup>74</sup>.

On the other hand, adolescence is the most fervid and critical period of *religiosity*, but also the time during which religiosity changes significantly. After this age, *religiosity* loses its fervid nature, but does not cease to concern and move a person until the end of his/her life. The adolescent, constantly changes and matures spiritually, and with this change and increasing age, religiosity changes and increases<sup>75</sup>.

We can distinguish two main stages of adolescent religiosity<sup>76</sup>:

1. During the first years of adolescence (11-13 years), the adolescent tries to adapt to existing religious beliefs and customs, to internalize them and to embrace them<sup>77</sup>.

2. Coming after this stage, there is a point of religious crisis, that is, a point of denial of tradition, questioning and distancing oneself (14-16 years).

Nevertheless, the existence of any doubts in the adolescent does not necessarily mean the loss of religious faith<sup>78</sup>. On the contrary, in many cases, the lack of doubt could be seen as an irregular situation, which is due either to a limited mental level, or to fear, which is caused by dogmatic religious instruction at home or in school<sup>79</sup>.

Towards the end of adolescence, the young individual is at once possessed of his/her own personal religiosity and is spiritually autonomous. According to J. Fowler<sup>80</sup>, the stage of religious faith of the adolescent corresponds to the so-called *synthetic* (12 or 13 – 17 to 21 years of age), which religious-psychologically

corresponds to *conventional* and *formal faith*, since the adolescent is forming his/her *religiosity* from traditional belief, but doing his/her own processing.

### **3. Religious and ecclesiastical education in today's Greek reality.**

Children's and adolescents' religious education in Greece is safeguarded by Article 3 of the Constitution, which provides that the prevalent Religion in Greece is the Eastern Orthodox Church of Christ, which is inextricably united with the Great Church of Christ in Constantinople. The Greek Church is autonomous and is administered by the Hierarchy of the Holy Synod. Since 1833, the coexistence of the Orthodox Church and Hellenism has determined, the religious color in the Education of Greek children. By tradition, Orthodoxy is identified with the life of the Greek *nation*.

Similarly, the precept of freedom of religious consciousness also derives from the Constitution, and in Greece this is unassailable. The education and training of children and adolescents is one of the main missions of the Greek state and its purpose is the moral, spiritual, professional and natural education of Greek children and, at the same time, the development of their national and religious consciousness<sup>81</sup>.

From the day it is born, the child in Greece enters a process of religious and ecclesiastical socialization<sup>82</sup>. Preschool institutions, whether public or private, must comply with the laws and regulations of relevant Ministries and provide the opportunity to become familiar with the life of ecclesiastic Tradition, through play and with other knowledge.

Religious instruction, if it is mandatory for all students who belong to the Eastern Orthodox Church, has recently been reduced to a one-hour class per week. Students that are the offspring of heterodox or atheist parents are not obliged to attend this class. At private schools, where classes, for example, consist entirely of Roman Catholic children, this instruction is given by a Roman Catholic teacher.

## **SMOKING**

### **1. Abbreviated story of tobacco and smoking.**

The historian Herodotus (485-? BC) describes the inhabitants of Scythia, north of the Black Sea, as inhaling tobacco until they fainted from the burning of unfamiliar leaves. In Thailand, "smoke syringes" made of animal bones, which were used for smoking various plants 10 to even 20 thousand years ago, have

been found! In addition, the Shamans of many Asian tribes were already smoking in the Neolithic Age to put themselves into a trance and to communicate with the transcendental world of spirits. Also, the well-known Pythia, the Oracle of Delphi, before getting to her ambiguous prophecies, inhaled the fumes or chewed on laurel leaves.

The smoking habit, in all likelihood, was transferred to America by Asian tribes, which followed the land bridge during the Miocene Epoch on a migratory course between 20 and 50,000 years ago. This strip of land, which once joined the two continents, sank, creating the Bering Strait, and thus isolated the American Continent from the rest of the world for thousands of years<sup>83</sup>.

When Christopher Columbus (1451-1506) and his crew disembarked on the islands of the Bahamas on October 1492, while discovering the New World, he also discovered tobacco; to welcome them, the natives offered fruit, wooden javelins and dried tobacco leaves with a special aroma to Columbus and his sailors. The sailors were amazed, seeing the natives sucking on a long-lit pipe and blowing smoke out of their nostrils. Their curiosity led Columbus's sailors to imitate the Indians and, after trying it, it was easy to become addicted to smoking the tobacco leaves. The first European smokers, then, were the men of Columbus's crew, who quickly learned from the natives how to smoke the "sacred," as they called the tobacco plant, in a variety of ways. The "admiral of the oceans and the seas" soon understood the value of the bitter tobacco leaves, which were more precious than the spices and gold he was searching for in the New World<sup>84</sup>.

According to anthropologists and historians who have studied the life of the Indians, the sacred origin of tobacco is not disputed. Smoking among the American Natives was directly linked to their deities, Animism, Totemism and Fetishism. In fact, archeologists advocate the view that the cultivation and use of tobacco dates back to 6.000 BC. This view is also reinforced by the discovery of ceramic vessels in Guatemala that date back to the 11<sup>th</sup> century BC and bear a representation of a Mayan smoking a tobacco leaf wrapped cylindrical and tied with thread.

On their return to the Old Continent a year later, in 1493, they brought back the "sacred plant" that the natives used in religious ceremonies, in curing diseases and injuries, and also for their daily enjoyment! The American Natives must have been cultivating tobacco for more than two thousand years because they believed that tobacco cured asthma, bronchitis, migraines, rheumatism and was generally a panacea for all illnesses, exorcising every evil spirit.



At first, the Spanish also regarded tobacco leaves as being endowed with healing properties, and they soon introduced the other European peoples to the practice of smoking. As soon became abusive and, after a century of being universally accepted, smoking acquired adversaries. However, no measure was able to stop the upward trend in the use of tobacco, which, from the end of the 17<sup>th</sup> century, became a regulating factor in the economy of the Ottoman Empire and of European countries.

Jean Nicot, French ambassador in Lisbon (1559-1561), for whom *nicotine* was named, recommended tobacco for its “curative” properties. Indeed, it is said that he sent finely chopped leaves of the *Nicotiana tabacum* variety to Catherine de Medici to relieve her of the migraines from which she suffered. The Queen of France was cured by the very first inhalations and, to show her gratitude to the French ambassador and her savior, she named the tobacco “Nicot’s herb.” This ingenious idea lent glamour and status to tobacco cultivation and to the use of tobacco, which began to spread dramatically, first among the aristocracy and then to the common people. Even Pharmacology books in 1590 refer to tobacco as a therapeutic agent for migraines and other ailments, with the name *Nicotine* in honor of the French ambassador in Portugal<sup>85</sup>.

In the beginning, then, tobacco was used by Europeans for therapeutic reasons, such as for headache, phlegm, anemia, angina pectoris, rheumatism, epilepsy, and even exhaustion. The first European merchants began to exploit tobacco from the New World on a global scale. During the 17<sup>th</sup> century, the use of tobacco increased continually, mainly in the smoking of pipes, cigars, chewing leaves or inhaling powder.

Cigarettes were made for the first time in Brazil in the middle of the 18<sup>th</sup> century and very quickly prevailed as the most popular way of consuming tobacco. Cigarette smoking spread a great deal during World War I among men and, after World War II, among women. Etymologically, this word comes from the Spanish “*cigarro*” or “*zicar*,” which means, “I smoke.” However, deeper etymological roots lead to the word “*cigsigan*” from the Mayan language, and meant tobacco sticks wrapped in corn or palm leaves, which they smoked for hours, in contrast to the duration of smoking today’s cigarettes. In fact, Columbus’s crew observed that, in some cases, smoking a pipe had a special ritualistic significance, since an ornately decorated pipe was smoked in turn by the Indians in treaty councils and friendship and reconciliation events, which is why it was known as the “peace pipe.”

From the handmade cigarettes of the Mayas, the production of cigarettes gradually became mass handmade production and, from the middle of the 19<sup>th</sup>

century, mass industrial production. In the 20<sup>th</sup> century, the building of better machines led to the production of cigarettes at the unbelievable rate of 14,000 cigarettes a minute!

The cultivation of tobacco reached Greece from the Black Sea and the shores of Asia Minor. The first tobacco farmers appeared in Salonica at the end of the 16<sup>th</sup> century. Soon other cities, such as Kavala, Xanthi, Agrinion and Volos, turned into tobacco towns, as their economic, labor and planning organization relied on the exploitation and trading of tobacco. Following the Greek Revolution in 1821, the production of tobacco is estimated to have been 500 to 600 tons. The upward trend in the cultivation of tobacco is confirmed by the production of 12,000 tons by 1912 and continued after the liberation of Macedonia and Thrace. The statistical data of the next decade, following the Asia Minor Catastrophe, show an explosive increase in tobacco production, which from 28,000 tons in 1922 shot up to 56,000 tons a year later, during the settlement of refugees in 1923<sup>86</sup>.

After World War II, tobacco continued to be a regulatory factor in the Greek economy as the country's most significant exportable product during that tumultuous period of social and fiscal reconstruction. In 1954, our exports reach 151 million dollars, 50% of which came from the export of tobacco. Moreover, over the years, tobacco has been an agricultural product of the paramount importance of an economic and social level.

## **2. Risk factors of smoking.**

Exploring the key question "Why do young people start smoking," mainly because there have been 50 years of research and results documenting the destructive consequences of smoking on the health of smokers have been reported, has been the subject of international scientific literature<sup>87</sup>.

Although different authors use different classifications, we would say that the factors that drive adolescents to smoking are categorized as follows:

### **❖ Socio-demographic factors.**

Age, gender, the family's socioeconomic level, ethnicity and place of residence are included here. Adolescents who begin to smoke at a younger age are more likely to become regular smokers and less likely to be able to quit. In addition, a relatively low social-economic level correlates systematically with increased levels of smoking among adolescents. The role of gender appears to be differentiated from cultural variables with the Western countries demonstrating a higher risk factor among girls, whereas in Eastern countries this is true of boys.

### ◆ Environmental factors.

Influences from the social environment are one of the most stable and powerful factors, which promote experimentation and lead to the uptake of smoking. Influences from the family, smoking among peers, marketing, as well as unhindered access to and availability of tobacco<sup>88</sup> is included here.

a) Family and smoking: Parents are role models for the behavior of their children. On the other hand, family-related risk factors are linked to lack of parental supervision, the absence of limits, loose ties or poor communication among family members, as well as smoking among older siblings.

b) Peers: Smoking among peers has been shown in many studies to be one of the dominant risk factors for the uptake of smoking, experimentation, continuation as well as attitudes towards smoking, surpassing even parental smoking in terms of degree of influence. Taylor and her associates found that adolescents that had even one significant peer who smoked was four times more likely to smoke than those who had no peer that smoked. In addition, the tendency among adolescents to exaggerate in their minds the percentage of their peers who smoke is also a significant element.

c) Marketing, advertising and the Media. Another strong influence for adolescents is the promotion of celebrities from the field of the Performing Arts, smoking flamboyantly in films, music videos, advertising and television series<sup>89</sup>. In addition, although television advertising of cigarettes is prohibited and the tobacco industry denies that it promotes cigarettes among adolescents, in reality they work very hard to recruit young people with deceptive and insidious means, which bear the seal of legality<sup>90</sup>. Posters, for example, that “communicate” positive messages about the use of tobacco promote positive attitudes and expectations about cigarettes, which, in turn, translate into an increase in smoking among adolescents.

### ◆ Individual factors.

Cognitive, psychological and biological factors are included in this category. For example, on a cognitive processing level, beliefs that the use of tobacco has positive social consequences, or that it is relatively safe, as well as the feeling that quitting the smoking habit is easy when it has been established, are linked to both the uptake of smoking and to maintaining it. Psychological traits related to smoking include low self-esteem, limited assertiveness, inability to control one’s behavior and difficulty in managing stress. As far as the biological substratum of tobacco use is concerned, it appears that heredity is linked to

systematic use and addiction, and not with the early stages of using tobacco products. However, the manifestation of genetic predisposition is probably associated with environmental, social and psychological factors.

#### ❖ **Behavioral factors.**

There is a high correlation between reckless behaviors, such as sexual activity, the use of alcohol and other addictive substances, delinquency and smoking among adolescents. Griffin and his associates found that girl that use alcohol regularly were four times more likely to become systematic smokers than girls that did not drink. Moreover, it has been ascertained from relevant scientific research that low school performance and the lack of goal-setting for one's academic and professional future are frequently associated with smoking in adolescence, while, on the contrary, it appears that school attendance and involvement in the athletics act as a protection<sup>91</sup>.

### **3. Adolescent smoking.**

#### **A. Uptake of use of tobacco products in adolescence.**

We could say that the use and abuse of addictive substances is, first of all, a biopsychological developmental phenomenon<sup>92</sup>. Adolescence is a very sensitive developmental period, characterized by remarkable changes in the brain, high levels of emotion, impulsivity and reckless behavior. The plasticity of the adolescent brain, along with relatively immature Neuro-behavioral systems which are necessary for self-control and the regulation of emotion, lend themselves to increased vulnerability to tobacco use<sup>93</sup>.

The adolescent's desire to experiment and to try out new behaviors is part of a normal process of becoming autonomous from his/her parents. Generally, the efforts of adolescents tend towards being popular and accepted by his/her peers, developing a sense of identity, autonomy, independence and maturity and, at the same time, a ("rebellious") way of resisting "authority." Unfortunately, the use of tobacco or alcohol on the part of the adolescent may frequently appear to be a functional way of achieving all of the above-mentioned developmental goals.

Therefore, smoking among adolescents<sup>94</sup> is a multi-factor behavior which is affected by a combination of *biological, social, psychological* and *environmental* variables, which are very often associated with important developmental goals and transitional stages of adolescence. These factors may function either as risk factors<sup>95</sup> or as protective factors.

The causative factors in the uptake of using tobacco products in adolescence are classified in the following categories<sup>96</sup>:

- *Biogenetic* (e.g. adolescents' vulnerability due to accelerated maturation of the brain centers that control rewards and motivations with regard to cognitive functions that exercise self-control<sup>97</sup>).
- *Psychological* (e.g. mental or stress disorders)<sup>98</sup>.
- *Social* (e.g. non-satisfaction of social needs lowers adolescents' self-esteem and makes them vulnerable).
- *Family* (e.g. neglect or overprotectiveness of children by their parents).
- *School* (e.g. poor school performance or school bullying may reduce resistance to addictive substances, such as nicotine).
- *Friends* (e.g. imitation and the bad influence of friends or peer pressure may lead to a choice of behaviors contrary to one's health).
- *Ignorance* (e.g. stress and insecurity about the future in combination with ignorance of the dangers may drive adolescents to the use of addictive substances).

### **B. Developmental stages of addiction to smoking in adolescence.**

Despite the intensifying efforts of governments, agencies and organizations to control and restrict smoking<sup>99</sup> through campaigns, special labels on tobacco products, prevention programs, legal and tax measures and other actions, adolescence continues to "produce" millions of new smokers per year globally.

Adolescence is the developmental stage in which experimentation with smoking typically begins and, as a teenager goes through this period, the likelihood of his/her starting to smoke is increased. The later the uptake of smoking takes place, the less likely the adolescent is to become addicted to smoking. Most smokers start to smoke before age 18, a percentage of 88.2%, the average age of uptake being 15 to 16 years.

The transition from being a non-smoker to becoming an addicted smoker is not a one-dimensional event, but a process that goes through different stages, which have been described by many researchers.

According to the review by Mayhew<sup>100</sup> and her associates on the developmental stages of smoking addiction, the following categorization<sup>101</sup> is suggested:

➤ *The pre-contemplation stage*: In this phase, young people have not started thinking seriously about smoking, either because they do not see any benefit in

it, or because they consider the negative effects to be a very significant reason to resist *peer pressure*.

➤ *The preparatory stage*: In this phase, non-smokers begin to form beliefs and perceptions on the usefulness of smoking, and their resistance to peer pressure and to the Media decreases.

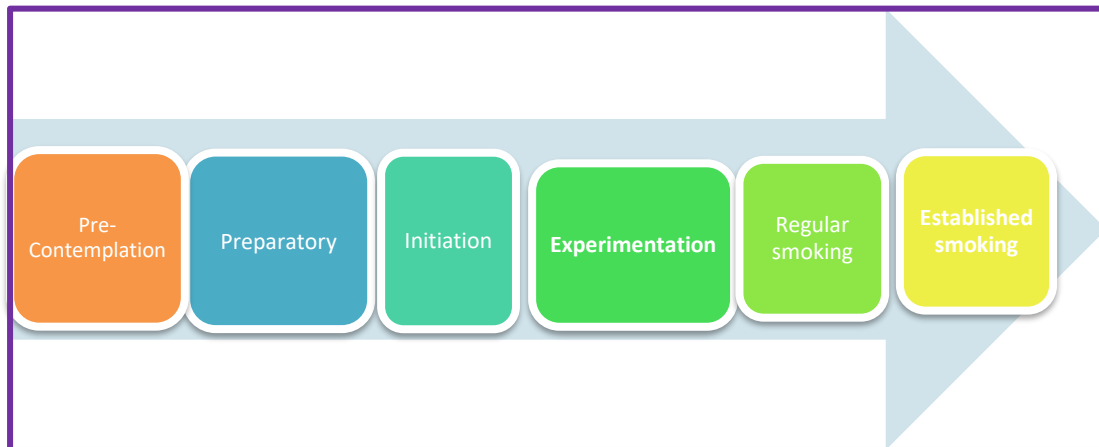
➤ *The initiation stage*: This phase refers to the period of time when adolescents smoke their first cigarette or take their first “puffs.” In this stage, peers have much greater influence than parents.

➤ *The experimental stage*: In this phase, there is a gradual increase in the frequency of smoking. Adolescents do not simply experiment with tobacco, but also with their image of themselves as smokers. They begin to “weigh” the potential benefits and negative consequences of being a smoker.

➤ *The regular smoking stage*: At this point, young people smoke infrequently, but on a regular basis, and in the context of social relationships and situations. Here, for example, we have the so-called “social smokers,” who may smoke only at weekends at gatherings and social events. Smokers in this phase emphasize the “communicative” benefits of smoking.

➤ *The established smoking stage*: In this phase, the adolescent is now addicted to smoking and finds it very difficult to quit, as he/she has become dependent, biologically, psychologically and chemically, to tobacco. Usually at this stage, smokers use tobacco products on a daily basis and see smoking as an escape from their problems and emotions they find it difficult to deal with.

Despite this, it is important to understand that there is a differentiation in the developmental course which every smoker follows. Moreover, there is quite a broad age range during which people start smoking, and the speed with which there will be a transition from one stage to the next depends upon many factors, biological, psychological and social.

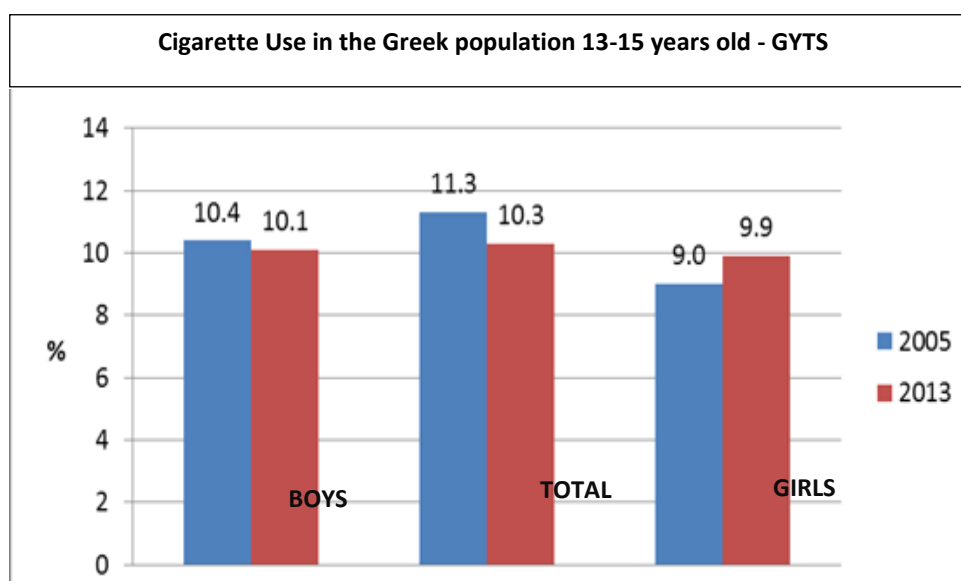


**Figure 1. The developmental stages of smoking addiction**

### **C. Development and specific consequences of using tobacco products on youngsters 13 – 18 years of age.**

#### **1) The development of the young user of tobacco products.**

- Smoking is one of the greatest dangers to public health for the young people of our country. At least 90% of smokers smoked their first cigarette before the age of 20. Among individuals who have been smoking since the age of 15, boys have an average age of smoking uptake of 13.7 and girls 13 years of age.
- According to the recent results of the *Global Youth Tobacco Survey* (GYTS, 2013) on the Greek population of adolescents aged 13 to 15:
  - ✓ 16.9% of boys, 12.9% of girls and 15.0% of youngsters overall, smoke.
  - ✓ 10.3% of boys, 9.9% of girls and 10.1% of youngster's overall smoke cigarettes.
  - ✓ 2.5% of boys, 1.3% of girls and 1.9% of youngsters overall use non-smoking tobacco products.
  - ✓ 18.0% of boys, 13.8% of girls and 16% of youngster's overall use tobacco products.



*The above data are presented as main findings of the GYTS study, which was conducted in our country in 2013 by the National School of Public Health and the Department of Epidemiology of the University of Thessalia, on a sample of 4,618 individuals with a response rate of 87.7%.*

As for adolescents' exposure to passive smoking, the study reports that 56.7% of youngsters are exposed to passive smoking at home, while 67.4% of youngsters are exposed to passive smoking in enclosed public spaces. Lastly, a significant finding is the high percentage of access and availability of tobacco products in these years. Specifically, a percentage of 67.9% of adolescents who smoke say that they bought cigarettes from a shop or a kiosk and, among those, a percentage of 87.3% report no difficulty in the purchase due to their age.

Many students consider that they can quit smoking whenever they want to. The reality, however, demonstrates that this is not the event. Of regular smokers of Gymnasium-Lyceum age, 60% are trying to quit with less than 1/8 succeeding after 30 or more days<sup>102</sup>. Young people underestimate the power of the addiction. Among the students that consider that they will quit smoking in the near future, in the next five years, a significant percentage is having great difficulty in quitting. In general terms, one in three adolescent smokers will die of diseases related to smoking.

Moreover, young people who smoke are more likely to go on to using alcohol, marijuana and other drugs in the future, compared to non-smokers. It is



noted that tobacco and alcohol, which are legal addictive substances, are the entry portal to illegal addictive substances, i.e. illegal drugs.

Adopting the smoking habit by young people is responsible for the lethal dynamic of tobacco, which is well documented and is summarized as follows:

- In the overwhelming majority of Western European countries, it is the primary cause of loss of life.
- It is estimated that in the European Union approximately 650,000 people die every year as a result of smoking. This means that smoking is responsible for approximately 15% of all deaths in the countries of the European Union.
- According to some estimations, at least 80,000 deaths are noted every year due to passive smoking.
- In the USA, more deaths are attributed to smoking-related diseases than to those caused by alcohol, crack, heroin, murder, suicide, automobile accidents and AIDS combined<sup>103</sup>.

## **2) The specific consequences of smoking on the health of young people.**

Most studies to date focus on investigating the increase in heart disease, lung cancer and/or other types of cancer<sup>104</sup> due to chronic smoking.

The truth, however, is that smoking causes a plethora of other effects on people's health<sup>105</sup>:

- Tobacco and nicotine change the color of the teeth (the teeth acquire a brownish-yellow tinge, and spots may also appear on them). In addition, smokers are more likely to experience Periodontics' disease and tooth loss compared to non-smokers.
- For decades now, it has been well recognized that smoking causes chronic cough, phlegm, emphysema and bronchitis.
- Smokers are not only more prone to influenza, but feel more dangerous symptoms of this particular ailment.
- Smoking causes blockage of airways, decreased pulmonary function and slows the development of lung function in adolescents.
- Adolescent smokers produce twice the amount of phlegm and suffer from shortness of breath nearly three times more than non-smoking adolescents. When they reach C Lyceum, young people who started smoking in C Gymnasium more frequently report cough with phlegm or blood, shortness of breath, wheezing, and more frequently visit specialists regarding their physical and mental health compared to their non-smoking peers.
- Smoking harms the performance and endurance of adolescent athletes.

- The heart of an adolescent smoker beats about 2 or 3 more times per minute and is therefore more distressed.
- The first signs of heart disease and stroke may be found in adolescents who smoke.
- Smoking is associated with hearing loss, sight troubles and increased headaches.
- Many people wrongly think that smoking relieves stress. Unfortunately, this is an illusion. This illusion results from withdrawal syndrome, which occurs when a smoker stops smoking, and which is expressed as irritability and tension.
- Smokers' breath, clothing and homes smell bad.
- Smokers' sense of olfactory perception is brought down.

#### **D. Extra features and misconceptions about smoking in the adolescent population.**

A closer look at the issue of tobacco use and addiction shows personal, social and cultural features as opposed to other addictive substances. From a socio-cultural point of view, we see that smoking may be a socially accepted habit, with tobacco products having easy access and great availability, advertising and promotion. However, from the individual point of view, and given its widespread nature, smoking is very often used as a means of seeking pleasure, concentration and/or self-confidence, as a means of "belonging" to a group, as a means of expression or a feeling of liberation, independence, rebellion and coming of age<sup>106</sup>.

Certain misconceptions are also widespread and contribute to this dependence on tobacco. The main ones refer to the misrepresentation of basic – objective facts regarding smoking, such as the strong addictive action of the cigarette, while others involve social factors<sup>107</sup>.

### **4. Effectiveness of adolescent smoking prevention strategies.**

#### **A. Definition and significance of prevention.**

Smoking by children and adolescents is a habit seen in all cultures, indeed with an upward trend in the developing countries, despite the fact that it has proven to be the greatest risk to their health and the number one predictable causative factor of illness and mortality worldwide.

Pathological dependence implies a need for increasing doses of the addictive substance (see tolerance) and changes in the individual's behavior when the levels of the addictive substance decrease in the blood (see withdrawal syndrome). The deep study and analysis of the causes that turn young people towards the fake world of psychoactive or psychotropic substances, which act on the central nervous system, enhancing or weakening its functions, determine the foundations of preventive treatment of their use before they reach the critical point of physical or mental dependence.

The various substances that cause addiction in the user and serious damage to his/her health are divided into legal and illegal substances. Unfortunately, nicotine falls under the legal addictive substances and is available and is used freely by adults, but is forbidden to minors. Often, however, the distinction of substances into legal and illegal appears to be based on only one criterion: political and economic interests, and not the degree of risk of the substance of the public health.

According to the original proposal of the Institute of Medicine in 1994, in order to determine a classification of interventions, prevention was seen as ongoing care which included – in addition to prevention – treatment and maintenance<sup>108</sup>.

The concept of prevention refers to the set of standards that are projected and prepared before the manifestation of a conduct. Prevention of illegal and legal substance use refers to sharing with the ingredients that constitute a person vulnerable, and reinforcing the factors that strengthen and protect him/her, bestowing to the avoidance or postponement of uptake of use of addictive substances and the expression of dependence.

According to what has been said so far, prevention is intervention before the appearance of a disorder, and is categorized as **universal**, **selective** and **indicated**, whereas most health professionals have abandoned the typology that distinguished prevention into primary, secondary and tertiary because, according to guidelines of the *National Center for Monitoring Drugs*<sup>109</sup>, “the criterion that differentiates prevention interventions is the target group to which the intervention is directed and not the target itself or its content.”<sup>110</sup>

➤ *Universal Prevention*: Universal prevention interventions focus on the general population, aimed at deterring or delaying the uptake of a situation (e.g. smoking, addictive substance use).

➤ *Selective Prevention*: Selective prevention interventions are aimed at specific groups within the general population for whom there is a high risk of

manifesting problems (e.g. child users, families living in depressed areas, or with a high crime rate).

➤ Indicated *Prevention*: Indicated prevention interventions are directed at individuals who have already started to demonstrate early signs of problem behavior or are in the early stages of high-risk behavior.

## **B. Preventive interventions for smoking in adolescence.**

### **1) General.**

The prevention of smoking should be a central component of any comprehensive scheme for controlling tobacco. Such efforts usually focus on young people, since the uptake of smoking, as observed above, takes place during adolescence. In reality, about 90% of adult tobacco users began smoking before the age of 18, while 99% started by the age of 26, which means that prevention must focus on the 12- to 25-year age group.

As preventive interventions for smoking attempt to reinforce the protective and weaken the causative risk factors mentioned earlier, there are a variety of categories of preventive interventions, which include the following areas: school, family, community, Media and legislative initiatives.

Preventive interventions implemented in the school context are aimed at students while, at the same time, they raise awareness, educate and support teachers and parents.

Preventive interventions that take place at school target students and are directed at the prevention of smoking (as easily as more broadly preventing the economic consumption of illegal and legal substances) can be grouped in interventions regarding:

- informing and raising awareness of students about smoking,
- student participation in creative activities (e.g. theater groups, music, creative play) as an alternative way of raising awareness of students about smoking,
- skills training in the context of changing students' attitudes and behavior regarding smoking.

Of all the interventions that have been implemented in Greek schools, there are few that have been sufficiently documented and systematically evaluated, as – in any case – the evaluation of preventing the use of addictive substances in Greece is a special undertaking that requires reinforcement.

## **2) In the household surroundings.**

Interventions that focus on parents and the family represent another field of application which can aid in the prevention of smoking, as parents' smoking behavior is depicted to be a substantial factor in the smoking habits of teenagers.

Interventions in the family are usually aimed at changing perceptions regarding smoking, at stopping the smoking habit in parents and other members of the family who act as role models, and at reinforcing and improving communication and interaction within the family<sup>111</sup>.

Such programs include training and education about smoking, sending and distributing informative material to parents, participating in support networks with other parents, aimed at changing school policy and developing communication skills and, more generally, skills related to parenting and coping with children's behavior.

For most interventions, the theoretical framework is founded on cognitive-behavioral theory, social learning theory and family system theory.

The position of parents must be characterized by moderation; it should not be either too indulgent or too tyrannical. Great flexibility in parents leads to irresponsibility in children, whereas excessive strictness brings about the opposite results, driving adolescents to reactionary behavior or to a more passive attitude<sup>112</sup>.

## **3) In the school surroundings.**

### **a. General.**

Over nearly the last 40 years, the school environment has been at the center of efforts at preventing smoking behavior in adolescents<sup>113</sup>.

In recent years, significant efforts have been made in our country to inform students about smoking and avoiding it by various agencies. In this effort, Centers for Prevention, which develop information interventions all around the country, have been in the forefront even since the last decade, responding to the demands of schools (Elementary, Gymnasium, General and Vocational Lyceums) with reliable prevention material based on scientific data<sup>114</sup>.

Since the 2014-2015 school year, Greek education has included the institution of the so-called "Social School." One of the major development themes of the "Social School" is the prevention of addiction to tobacco. Its main implementation structure is Parents' Schools, which operate in the schools of every

Prefecture and, in cooperation with the other agencies involved, they target all parents (<http://socialschool.gr/>).

### **b. Health teaching in Greek Education.**

Health education is the type of education that aims to shape whole and cultivated people, capable of protecting their psychosomatic equilibrium, through adequate information, training and guidance. Thus, pathological situations are prevented as far as possible, because prevention is set on a psychological and social basis and not on a legislative one. Besides, no legislative intervention can be successful without the aid of Health Education<sup>115</sup> first.

The theoretical framework in interventions for the prevention of smoking in schools through Health Education Programs in Greece includes the following approaches:

➤ *Rational or Information-deficit approaches.* These approaches, which began to be implemented in the mid-1970s, focus on increasing people's knowledge about the negative effects and health risks involved in smoking, in a way that arouses concern and fear.

➤ *Psycho-emotional approaches or Social Competence.* The theoretical background of these interventions is based on the Social Learning Theory of A. Bandura<sup>116</sup>, according to which adolescents learn to use substances through imitation<sup>117</sup>, which is influenced by their knowledge, attitudes and skills, before the uptake of using addictive substances. In addition, ideas from the *Problem Behavior Theory*<sup>118</sup> by R. Jessor are incorporated. Agreeing to this theory, problematic behavior such as smoking is the outcome of three independent elements which interact with one another:

1. The personality system, which includes the adolescent's values, expectations, perceptions and attitudes.
2. The environmental organization, which includes the tightest and most remote social influences, such as allies, family and expectations for social control and documentation.
3. The behavior system, which includes both problematic behaviors and conventional ones which come in conflict with one another.

In each of the three systems above, there are variables that either induce problematic behavior or monitor and protect adolescents from involvement in problematic behaviors.

One's susceptibility to the use of substances increases even more when one possesses inadequate personal and social skills and has low self-esteem.

Thus, these approaches go beyond the informative character, equally they are directed at influencing beliefs, positions, purposes and norms related to smoking through cognitive-behavioral techniques, emphasizing the strengthening of self-esteem and building values. Personal and social skills include goal setting, decision making, problem solving, stress management, assertiveness and the cognitive skills needed to resist interpersonal influences and the Media<sup>119</sup>.

➤ *Approaches focused on social influences.* These approaches support their content on Bandura's "Social Learning" Theory, on McGuire's *Persuasive Communications Theory* and on Evans's *Theory of Psychological Inoculation*. According to this theoretical framework, smoking among adolescents is the result of social influences from their peers and the Media, from persuasive advertisements or exposure to smokers that are role models for students. A key point of this approach lies in the so-called psychological absolutism (see *indoctrination*) against messages and situations that favor smoking. In this category of interventions, the goal is for the students to learn to resist these through the acquirement of skills, such as recognizing advertising tactics, pressure from friends, communication techniques and assertiveness.

➤ *Combination Approaches.* In this type of preventive interventions, we find programs whose theoretical background is seen in approaches to the development of social competence, as presented above, and in approaches that focus on social influences.

➤ *Approaches focused on school policy.* Strategies considered to be efficient are those that:

1. can they be implemented,
2. are strictly prohibitive for all hours and in all school spaces, and
3. have a clear purpose and goals.

The above findings are in agreement with the recommendations of the *National Institute for Health and Care Excellence*<sup>120</sup> in Great Britain, as well as with the latest report of the *US Surgeon General* in 2012, which propose that schools develop rules and comprehensive strategies for smoking that will be part of a broader and multilevel approach to smoking prevention. These principles should apply to all, both instructors and pupils, as well as administrative staff and visitors.

➤ *Multilevel approaches.* These approaches include activities aimed not only at the school context, but also on the family and the wider community. These include actions that concern changes in school policy on smoking, changes in government policy on taxing, selling and availability and economic consumption of tobacco products, as well as information campaigns in the Media.

In closing, the intake and maintenance of the smoking habit are a multifaceted phenomenon. For this cause, efforts at prevention should be aimed at a broad range of causative agents.

As far as program implementation is concerned, what must be underlined is the importance of staying faithful to the methodology of a well-documented program, as only in this way can its quality and effectiveness be ensured.

Finally, for there to be an effective reduction in uptake, prevalence and intensity of smoking in adolescents, individual approaches<sup>121</sup> are not sufficient. Coordinated, complex interventions are needed, ones that combine school programs, involvement of parents, programs for cessation of smoking, campaigns in the Media, faithful implementation of legislation on smoking<sup>122</sup>, increases in the price of tobacco as a result of increases in taxation, clear school policies on smoking and changes on the community, national and international level so that modern societies can create future generations that are free of smoking<sup>123</sup>.

#### **4) In the broader social environment.**

The recognition that one's decision to smoke is made in a broader social context has led to the maturation and execution of interventions outside the school, in the broader community. Among the interventions in a wider social context, we could include numerous coordinated activities which support the fight against smoking, such as policies and legislation (e.g. the age limit for purchasing cigarettes), regulatory measures taken by a community or an entire society to prohibit smoking in public places, taxation and price increases, media campaigns and specialized school programs<sup>124</sup>.

Moreover, tobacco industry advertising, media influences, easy access to tobacco products and the degree of smoking in public places are social influences which have a significant impact on the smoking behavior of adolescents. Therefore, an integrated strategy for the prevention of smoking should include these components, since the final goal is to change behaviors and social norms, to encourage the creation of a social environment that will be supportive of prevention and a deterrent to dependence. The evaluation of interventions that are aimed at these risk factors have proven to be effective, which is why they



have been adopted and are now part of a broader policy in many countries around the world.

## RELATIONSHIP OF RELIGIOSITY AND SMOKING

### 1. General.

At first glance, the relationship between religiosity and smoking may seem irrelevant. Nevertheless, because both religious-historically as well as religious-psychotherapeutically—including the cessation of smoking as a kind of sacrifice for some passion, or the miraculous cessation of smoking through the invocation of Saints (see, for example, that of Saint Paeseos in recent testimonies)—there appears to be a correlation with various studies, we are called upon to look more closely at this relationship<sup>125</sup>.

The comparatively modern term religiosity is basically composed of five factors: dogma (beliefs), ethos, experience, “congregation” and worship. If we wish to correlate these five factors with smoking, we may draw the following possibilities: a) smoking contradicts or does not contradict Christian Theology, Anthropology and Weltanschauung (in this case, Orthodox teaching), b) smoking contradicts or does not contradict the specific religion (Orthodox Christianity) Ethical (e.g. religious piety, spiritual attitude, Holy Canons, etc.), c) smoking facilitates or does not facilitate religious life and spiritual experiences, d) smoking contributes positively or negatively to religious (Christian) congregating (e.g. Church attendance), and e) smoking is related or is not related to (Christian Orthodox) divine worship (in contrast to, for example, the use of incense).

From the point of view of purely Dogmatic (Christian) Theology and Canon Law, smoking is an irrelevant act. However, from the point of view of (Christian) Ethic, it is not officially mentioned even in the Holy Scripture or by the Fathers and Holy Canons as a sin. All, particularly eastern, peoples smoked, as did the Saints of the Orthodox Church. Nevertheless, due to (1) the entirely private satisfaction of a pleasure<sup>126</sup>, (2) the victory and domination over reason by a passion, (3) the semiotics of an unremitting, self-satisfied, arrogant, provocative, indifferent and lackadaisical attitude and behavior, and (4) the harm to physical health (see indirect suicide), smoking was considered indirectly as disrespect towards one’s parents, one’s elders and God, first by the Calvinist King of England James I<sup>127</sup>, (5) its function as a substitute for God’s consolation and relief from anxiety (see related argument in the words of the venerable Saint Ambrose of the holy Optina Monastery, and 6) the interconnection—at

least initially— of smoking with marginal, anti-government and illegal groups (due to the ban imposed by the English king).

Moreover, from the point of view of religious (Christian) experience, smoking makes it unmanageable to induce spiritual experiences because it diffuses and blurs the idea. Then, from the point of view of collective prayer (participation in church), smoking, which turns the smoker towards himself and his “lifestyle” (if, for example, it was allowed during the Divine Liturgy), it would distract him from God, the Saints and the other brothers “in Christ.”<sup>128</sup> Finally, from the point of view of divine worship, individual smoking as personal pleasure would replace its theological symbolism as prayer, which rises pure to the Lord.

The relationship between religiosity and smoking behavior has not been officially and systematically investigated in Greece, whereas, on the contrary, the foreign literature is full of scientific articles on the subject.

Agreeing to a scientific article in the reputable *Journal of American College Health*, religiosity is generally negatively linked to the measure, frequency and age of uptake of smoking. In addition, religiosity appears to dilute the possibility of smoking, even in the face of proven risk factors. Relevant scientific research on a sample of adolescents and adults shows that strong religious feelings and powerful religious beliefs weaken the relationship between negative life experiences and the frequency of smoking<sup>129</sup>.

Irrespective of the type or strain of religion, religious beliefs provide the individual with the mental and spiritual capability to recognize, understand and deal with difficult life experiences, both in adolescence and in adulthood<sup>130</sup>.

At the same time, some studies have shown the indirect consequences of religiosity in the condition of people’s health, through the promotion of positive behaviors for health, such as a healthy diet and physical exercise, as well as the prevention of unhealthy behaviors, such as smoking and the use of addictive substances.

These data reinforce the opinion that there should be coordinated efforts to incorporate religiosity and, indeed, the Orthodox religion, in the prevention of smoking because this would contribute generally to changes in learning ability, attitude and behavior with respect to this harmful substance abuse.

## 2. In adolescents.

A significant element in the prevention of dangerous behaviors in adolescence appears to be religiosity, which acts protectively, encouraging teens to assume a healthy style of life without addictions.

The goal of an interesting study by the Medical School of the University of Tabriz in Iran was to correlate smoking and other high-risk behaviors with parental support and *religiosity*. The stopping points of this work demonstrated that the supportive function of the family and strong religious feelings prevent and deter smoking behavior, in contrast with social isolation and religious indifference, which are reported to be heralds of the adoption of high-risk behaviors.

Another study, which was conducted in four US states on a sample of 4,569 young people with equal participation of black people and white people, has shown that frequent participation in religious ceremonies and activities is linked to a low smoking rate<sup>131</sup>.

In central Mexico a special study was conducted on the relationship of so-called “intrinsic” and “extrinsic” religiosity (according to G. Allport<sup>132</sup>) in adolescents with the use of addictive substances, focused on cigarettes and alcohol. The answers indicate that teens who have a strong intrinsic and extrinsic religiosity have lower percentages of addictive substance use and, in particular, cigarettes and alcohol.

Moreover, in western China another study was held out on the relationship between religiosity and the utilization of tobacco products by Muslims and non-Muslims. This study showed that participation in religious activities and ceremonies and a high level of religiosity were inversely proportional to the use of tobacco products among Muslims. Nevertheless, no correlation was found among non-Muslims<sup>133</sup>.

Furthermore, in São Paulo, Brazil, a “door-to-door” study was carried out on 383 young people 18 years of age. This study also demonstrated high religiosity as a factor in controlling the use of tobacco and alcohol<sup>134</sup>.

In summation, in Bosnia and Herzegovina, a study was carried out with a sample of 1,036 teenagers aged 17 to 18 (of whom 435 were boys and 601 were girls), targeted at highlighting the prognostic factors of smoking in adolescence. The survey found that religiosity is a strong precautionary factor in smoking, and indeed in a country where tobacco is grown systematically and has taken on a substantial part in the national economy since the 17<sup>th</sup> century.

Finally, a study that was carried out with 252 African Americans aged 18 to 44 on the relationship between religiosity and smoking, showed that

participation in religious activities and ceremonies, functions as a stress reducer and promotes *a positive sense of well-being*, without the stressful conditions that encourage smoking<sup>135</sup>. In fact, the prevention of smoking in teenagers due to stressful situations was also supported by other fields.

Religious beliefs and values provide believers with a valuable mechanism for *coping* with their negative emotions, which are caused by the anxieties of everyday life, physical and mental pain and/or the loss of a loved one. To boot, the religious beliefs of African Americans generally promote sobriety and discourage or prohibit the use of tobacco.

From this brief survey of studies on the relationship between religiosity and smoking in adolescence, it was seen that the deterrent role of religious beliefs and values on the formation of attitudes towards smoking and behavior among young people has been scientifically documented in studies in different countries and this is the case mainly due to dealing with anxiety through religion-spirituality, and not by smoking.

## PART TWO

### OBJECTIVE AND HYPOTHESES

#### 1. Aims and purposes of this study.

This study has multiple objectives and purposes. First of all, the basic objective of this study is to demonstrate the role of religiosity in the prevention, as well as cessation, of smoking during adolescence. Secondly, this study may reveal — along with a plethora of recent studies — the significance of *religiosity* in maintaining physical, mental and spiritual health in people and in human societies.

The main aim of this work is to determine the potential correlation between religiosity and smoking attitudes and behaviors among Gymnasium and Lyceum students, aged 13 to 18, and to demonstrate the element of religiosity in Greece as a possible preventive variable in smoking during adolescence.

At the same time, it aims to verify or refute previous relevant research that has been carried out mainly in European countries or in America since, as we have said, in Greece no such research has been carried out.

Specifically, the objectives of this study are the following:

- to provide the scientific corpus with more data regarding the relationship between religiosity and the use of tobacco products in adolescence;

- to contribute to the discovery of parameters which may intervene between religiosity/spirituality and smoking during adolescence;
- to grasp the various aspects of religiosity/spirituality which are due to differences in gender, age, education, the social, cultural and religious environment;
- to point out any differences in religiosity/spirituality and the smoking habits among Gymnasium and Lyceum students;
- to identify any correlation between religiosity/spirituality and parents' level of education and smoking among their children during adolescence; and
- to reveal the relationship between religious consistency or indifference and smoking among adolescents and their tolerance of passive smoking.

## **2. Hypotheses of this study.**

The title of this diploma thesis was given following certain hypotheses and indications, which we are called upon empirically either to confirm or to set aside through the relevant research process.

So, in this thesis we will investigate, first of all, as its main hypothesis the existence of a relationship between religiosity/spirituality and smoking, since we must necessarily include other (secondary) hypotheses on the current data from our country during adolescence.

The adolescent –in the midst of seeking and consolidating his/her mental identity— is rising in terms of faith, spirituality and ethics. The significance of religiosity appears to be invaluable for his/her mental health as well as his/her social life more broadly.

Indeed, religious faith during adolescence may function as a lever of resistance to pressure which is often exercised by peers with respect to adopting the smoking behavior as a means of enhancing one's self-esteem.

Hence, in this study, we hypothesize that:

- there is a relationship between religiosity / spirituality and the prevention of smoking in adolescence;
- there is a relationship between parents' high level of education and the low degree of their children's dependence on smoking;
- there is a relationship between smoking among parents, siblings and friends and smoking among adolescents;
- there is a relationship between commitment or indifference to religion and the degree of young people's dependence on smoking; and

- there is a relationship between parents' high level of education and their children's level of religiosity/spirituality.

## METHODOLOGY

### 1. General.

As a research method we generally followed the empirical measurement of different variables, relevant to our subject, which are internationally recognized today by the science of Psychology.

### 2. The research sample.

In an empirical study, the choice of the sample is crucial. The sample must be representative, to a satisfactory degree, of the population being surveyed. The primary components that influence the level of representativeness of the sample are the size of the sample and the way of taking it.

The sample for this survey consisted of students of Pierce – The American College of Greece. Specifically, a random sample was selected from all grades of the Gymnasium and Lyceum students who freely wished to take part in this research.

Equally for the size of the sample, it is obvious that the larger the sample, the more its representativeness increases, since the maximum size coincides with the research population.

In this case, 500 questionnaires were distributed to A, B and C Gymnasium students and A, B and C Lyceum students of Pierce – The American College of Greece. Of the 500, only 17 were invalid or partially filled in. This is a particularly satisfying number for further quantitative and psychometric analysis.

### 3. Consent of directors, students, parents and defenders.

Initially, the questionnaire was submitted to the Gymnasium and Lyceum Directors for approval, along with an accompanying text that informed them about the use of the survey.

Then it was sent electronically to the parents of the Gymnasium and Lyceum students by the respective Directors, accompanied by a letter that pointed out the purpose of the study and asked the parents who did not agree with the content of the questions to say so that their child would not proceed to complete the questionnaire.

#### 4. Psychometric instruments.

##### A. General.

To conduct the empirical research, three psychometric instruments was used:

➤ Questionnaire that includes: (a) demographic questions in order to collect and process personal information regarding age, gender, school grade, as well as the educational level of their father and mother, data which were essential not only for this specific study<sup>136</sup> but also for any corresponding empirical study, and (b) the recording of adolescents' attitudes and behaviors towards smoking, with partial units on the first trial, the frequency of smoking among the responding students<sup>137</sup>, the smoking habits of their family, friends, and school environment, the smoking in enclosed public places, the effect of the environment on the students' smoking habits, their knowledge about the harmful consequences of smoking and their views regarding legislation on protection against passive smoking, which emerged from the study by the Biomedical Research Foundation, Academy of Athens Health Education Programs for smoking in schools, under the scientific supervision of Professor of the Physiology of Breathing, P. Bechraki, in the context of the *"Operational Program for the Development of Human Resources 2007-2013"* (ESPA 2007-2013), and

➤ Questionnaire on Gymnasium and Lyceum students' integration in the church community and their degree of commitment or indifference. These items (e.g. faith, prayer<sup>138</sup>, attending church<sup>139</sup>, etc.), which, in the appropriate form, explore Greek Orthodox Christian religiosity, were judged to be essential, on one hand because they include the variable of religiosity, which is in the title of our study and, on the other hand, because they capture, as far as possible, the main manifestations of religiosity, given that a) our study was not conducted on or through religiosity per se and b) we did not want the overall Questionnaire to take up too much space. The above-mentioned Questionnaire came out of a combination of items from the doctoral dissertation of the psychiatrist and theologian G. Markantonakis (Athens, 2002) on the subject: *"Collection and rendering in the Greek language of approximately 200 scales for measuring religiosity"* (pp. 258-268) and the doctoral dissertation of Associate Professor at the School of Theology of the University of Athens, S. Tsitsigkos (Athens 2010) on the subject: *"The concept of religiosity among university students and its relationship with personality traits and the formation of their identity"* (pp. 253-272).

All of the psychometric tools used in this study are adapted and weighted for Greek reality, and particularly for adolescents.

### **B. Validity and reliability of questionnaires.**

Before the completion of the questionnaires began and during the experimental planning, there was a “pilot” measurement to check the progress of the study regarding the comprehension of the questions from students or regarding the time needed to complete the questionnaire.

For this function, two random students from the school were used. During the “pilot” study, the results were encouraging. The questions were read by the students while, at the same time, it was affirmed that no more than 20 minutes were required to fill out the questionnaire. The following is the analysis of the questionnaires which certifies their validity:

- Boys and girls, divided proportionately at approximately 50-50%, according to the actual distribution of the population of Greece.
- All grade levels of the Gymnasium and the Lyceum.
- All performance levels in their classes.
- Every social class and economic status.
- Every level of parents’ education.
- Smokers, both systematic and occasional, or non-smokers.
- Smokers who have tried one or more types of smoking.
- The children of smokers and non-smokers.
- Siblings and friends of smokers and non-smokers.
- Those with or without knowledge of the harmful effects of smoking on the health of smokers, both active and passive.
- Those with or without inhibitions about demonstrating their smoking habits to their parents and their family environment.
- Students who declare themselves to be committed or not committed regarding their religious obligations.
- Students who declare their interest in religion or their indifference toward religion.

Finally, there followed a check on the reliability of all the questions, in order to respond to the basic hypotheses of the study. The internal consistency of the questionnaire was estimated using Cronbach’s alpha and was calculated at 0.627, while the correlation check among the questions was 0.604. Therefore, the internal reliability test of the questionnaire is within the desired levels with the minimum of 0.308 and the maximum at 0.642.



Side by side, the relevant factor analysis and reliability tables are shown.

#### Commonalities

	Initial	Extraction
Do you think that smoking improves the 'image' of those who smoke?	1,000	,426
Do you think smoking in front of parents is disrespectful?	1,000	,392
If one of your best friends offered you a cigarette, would you smoke it?	1,000	,499
Do you think smoking is addictive?	1,000	,397
Do you know that smoking can cause breathing problems even among young people?	1,000	,468
Do you know that smoking can cause cardiovascular problems, strokes and cancer?	1,000	,497
Does smoking cause premature ageing of the skin, compared to non-smokers?	1,000	,446
Does smoking restrict the performance and endurance of teen athletes?	1,000	,308
Do you concur with the implementation of legislation to ban smoking in public spaces?	1,000	,419
Do you think that smoking is disrespectful to God?	1,000	,422
Do you consider that you are devoted to your religious duties?	1,000	,642
Are you praying for something you want (material goods, health, school grades, etc.)?	1,000	,594
Do the views of others (religious or other) affect your demeanor?	1,000	,360
Are you indifferent to religion?	1,000	,635

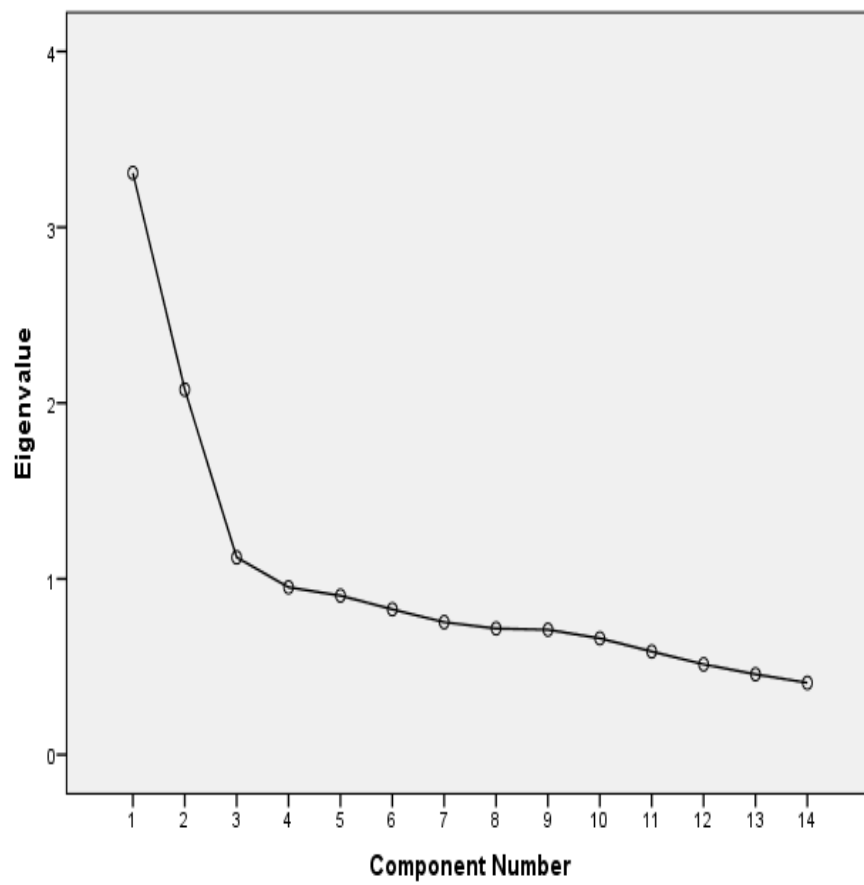
#### Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance
1	3,309	23,633	23,633	3,309	23,633
2	2,077	14,833	38,467	2,077	14,833
3	1,122	8,014	46,481	1,122	8,014
4	,952	6,801	53,282		
5	,904	6,460	59,742		
6	,827	5,905	65,648		
7	,754	5,383	71,030		
8	,718	5,125	76,156		
9	,711	5,076	81,231		
10	,661	4,724	85,955		
11	,587	4,190	90,145		
12	,514	3,670	93,815		
13	,457	3,266	97,081		
14	,409	2,919	100,000		

**Total Variance Explained**

Component	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings		
	Cumulative %	Total	% of Variance	Cumulative %
1	23,633	2,358	16,846	16,846
2	38,467	2,080	14,857	31,703
3	46,481	2,069	14,778	46,481
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				

Extraction Method: Principal Component Analysis.

**Scree Plot**

**Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Do you think that smoking improves the 'image' of those who smoke?	-,596		
Do you think smoking in front of parents is disrespectful?	,506		
If one of your best friends offered you a cigarette, would you smoke it?	-,685		
Do you think smoking is addictive?	,520		
Do you know that smoking can cause breathing problems even among young people?	,486	,482	
Do you know that smoking can cause cardiovascular problems, strokes and cancer?	,436	,530	
Does smoking cause premature ageing of the skin, compared to non-smokers?		,512	
Does smoking restrict the performance and endurance of teen athletes?		,405	
Do you concur with the implementation of legislation to ban smoking in public spaces?	,560		
Do you think that smoking is disrespectful to God?		-,453	
Do you consider that you are devoted to your religious duties?	,624	-,468	
Are you praying for something you want (material goods, health, school grades, etc.)?	,439	-,530	
Do the views of others (religious or other) affect your demeanor?			,525
Are you indifferent to religion?	-,630	,437	

Extraction Method: Principal Component Analysis.<sup>a</sup>

a. 3 components extracted.

**Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Do you think that smoking improves the 'image' of those who smoke?	-,602		
Do you think smoking in front of parents is disrespectful?	,620		
If one of your best friends offered you a cigarette, would you smoke it?	-,628		
Do you think smoking is addictive?			,533
Do you know that smoking can cause breathing problems even among young people?			,568
Do you know that smoking can cause cardiovascular problems, strokes and cancer?			,668
Does smoking cause premature aging of the skin, compared to non-smokers?			,665
Does smoking restrict the performance and endurance of teen athletes?			,555
Do you agree with the implementation of legislation to ban smoking in public places?	,609		
Do you think that smoking is disrespectful to God?	,463		
Do you believe that you are committed to your religious obligations?		,723	
Are you praying for something you want (material goods, health, school grades, etc.)?		,763	
Do the views of others (religious or other) affect your behavior?		,507	
Are you indifferent to religion?		-,725	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. <sup>a</sup>

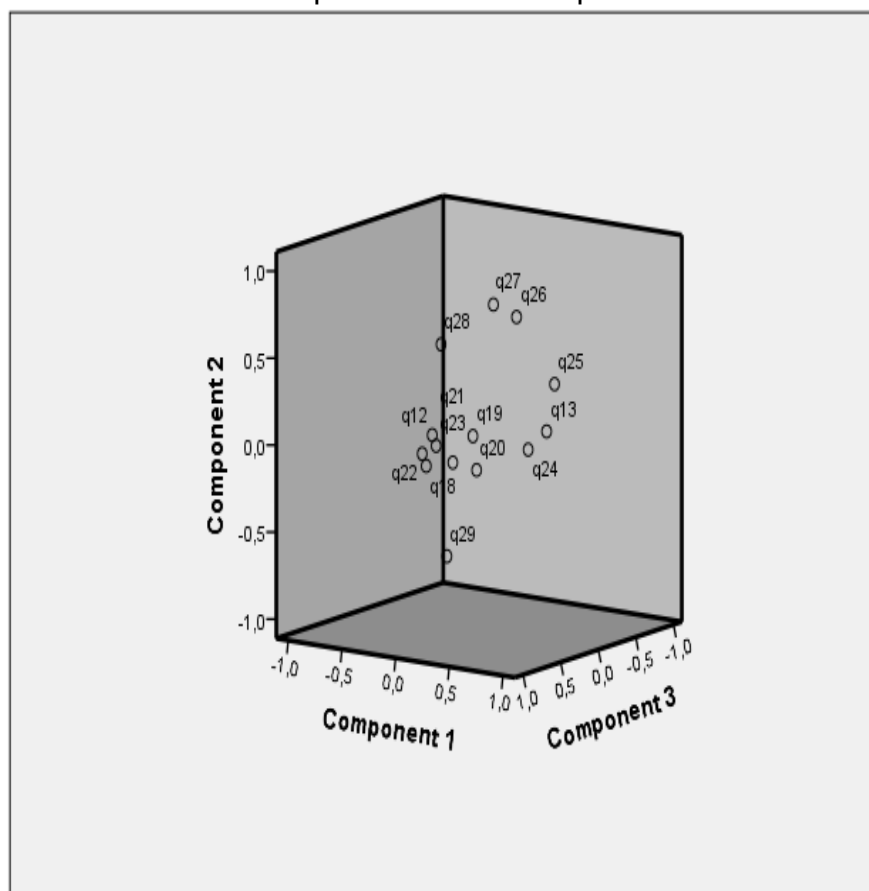
a. Rotation converged in 5 iterations.

**Component Transformation Matrix**

Component	1	2	3
1	,752	,506	,423
2	,006	-,647	,763
3	-,659	,571	,489

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

**Component Plot in Rotated Space****Reliability**

Scale: ALL VARIABLES

**Case Processing Summary**

		N	%	
Cases	Valid		465	96,3
	Excluded <sup>a</sup>		18	3,7
	Total		483	100,0

a. Listwise deletion based on all variables in the process.

Reliability Statistics	
Cronbach's Alpha	N of Items
,592	5

Reliability  
Scale : ALL

VARIABLES

Case Processing Summary			
		N	%
Cases	Valid	474	98,1
	Excluded <sup>a</sup>	9	1,9
	Total	483	100,0

a. Listwise deletion based on all variables in the process.

Reliability Statistics	
Cronbach's Alpha	N of Items
,627	4

Scale: ALL VARIABLES

Case Processing Summary			
		N	%
Cases	Valid	465	96,3
	Excluded	18	3,7
	Total	483	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
,604	5

## Correlation Matrix

				If one of your best friends offered you a cigarette, would you smoke it?		Do you know that smoking can cause breathing problems even among young people?
	Do you think that smoking improves the 'image' of those who smoke?	Do you think smoking in front of parents is disrespectful?			Do you think smoking is ad- dictive?	
Corre- lation	Do you think that smoking improves the 'image' of those who smoke?	1,000	,269	,403	,239	,280
	Do you think smoking in front of par- ents is disrespectful?	,269	1,000	,255	,165	,163
	If one of your best friends offered you a cigarette, would you smoke it?	,403	,255	1,000	,299	,191
	Do you think smoking is addictive?	,239	,165	,299	1,000	,291
	Do you know that smoking can cause breathing problems even among young people?	,280	,163	,191	,291	1,000
	Do you know that smoking can cause cardiovascular problems, strokes and cancer?	,230	,154	,233	,302	,396
	Does smoking cause premature age- ing of the skin, compared to non- smokers?	,082	,017	,082	,261	,258
	Does smoking restrict the perfor- mance and endurance of teen ath- letes?	,159	,076	,085	,168	,235
	Do you concur with the implementa- tion of legislation to ban smoking in public spaces?	,289	,245	,412	,252	,281
	Do you think that smoking is disre- spectful to God?	,145	,236	,194	,040	,032
	Do you consider that you are de- voted to your religious duties?	,196	,240	,369	,172	,110
	Are you praying for something you want (material goods, health, school grades, etc.)?	,109	,172	,173	,040	,014
	Do the views of others (religious or other) affect your demeanor?	-,011	-,036	,024	-,022	-,121
	Are you indifferent to religion?	,260	,215	,345	,186	,102

## Correlation Matrix

	Do you know that smoking can cause cardiovascular problems, strokes and cancer?	Does smoking cause premature ageing of the skin, compared to non-smokers?		Does smoking restrict the performance and endurance of teen athletes?	Do you agree with the implementation of legislation to ban smoking in public places?	
Correlation						
Do you think that smoking improves the 'image' of those who smoke?		,230	,082	,159	,289	,145
Do you think smoking in front of parents is disrespectful?		,154	,017	,076	,245	,236
If one of your best friends offered you a cigarette, would you smoke it?		,233	,082	,085	,412	,194
Do you think smoking is addictive?		,302	,261	,168	,252	,040
Do you know that smoking can cause breathing problems even among young people?		,396	,258	,235	,281	,032
Do you know that smoking can cause cardiovascular problems, strokes and cancer?		1,000	,293	,198	,207	-,110
Does smoking cause premature ageing of the skin, compared to non-smokers?		,293	1,000	,182	,084	-,074
Does smoking restrict the performance and endurance of teen athletes?		,198	,182	1,000	,111	-,098
Do you agree with the implementation of legislation to ban smoking in public places?		,207	,084	,111	1,000	,113
Do you think that smoking is disrespectful to God?		-,110	-,074	-,098	,113	1,000
Do you consider that you are devoted to your religious duties?		,074	-,032	-,003	,191	,312
Are you praying for something you want (material goods, health, school grades, etc.)?		-,007	-,079	,037	,079	,226
Do the views of others (religious or other) affect your demeanor?		-,057	-,032	-,014	,000	,041
Are you indifferent to religion?		,081	,024	-,015	,183	,276

## Correlation Matrix

		Do you believe that you are committed to your religious obligations?	Are you praying for something you want (material goods, health, school grades, etc.)?	Do the views of others (religious or other) affect your demeanor?	Are you indifferent to religion?
Correlation	Do you think that smoking improves the 'image' of those who smoke?	,196	,109	-,011	,260
	Do you think smoking in front of parents is disrespectful?	,240	,172	-,036	,215
	If one of your best friends offered you a cigarette, would you smoke it?	,369	,173	,024	,345
	Do you think smoking is addictive?	,172	,040	-,022	,186
	Do you know that smoking can cause breathing problems even among young people?	,110	,014	-,121	,102
	Do you know that smoking can cause cardiovascular problems, strokes and cancer?	,074	-,007	-,057	,081
	Does smoking cause premature ageing of the skin, compared to non-smokers?	-,032	-,079	-,032	,024
	Does smoking restrain the performance and endurance of teen athletes?	-,003	,037	-,014	-,015
	Do you agree with the implementation of legislation to ban smoking in public places?	,191	,079	,000	,183
	Do you think that smoking is disrespectful to God?	,312	,226	,041	,276
	Do you believe that you are committed to your religious obligations?	1,000	,466	,123	,563
	Are you praying for something you want (material goods, health, school grades, etc.)?	,466	1,000	,140	,487
	Do the views of others (religious or other) affect your behavior?	,123	,140	1,000	,095
	Are you indifferent to religion?	,563	,487	,095	1,000



**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	,804
Bartlett's Test of Approx. Chi-Square	1107,958
Sphericity df	91
Sig.	,000

**Commonalities**

	Initial	Extraction
Do you think that smoking improves the 'image' of those who smoke?	1,000	,426
Do you think smoking in front of parents is disrespectful?	1,000	,392
If one of your best friends offered you a cigarette, would you smoke it?	1,000	,499
Do you think smoking is addictive?	1,000	,397
Do you know that smoking can cause breathing problems even among young people?	1,000	,468
Do you know that smoking can cause cardiovascular problems, strokes and cancer?	1,000	,497
Does smoking cause premature ageing of the skin, compared to non-smokers?	1,000	,446
Does smoking restrict the performance and endurance of teen athletes?	1,000	,308
Do you agree with the implementation of legislation to ban smoking in public places?	1,000	,419
Do you think that smoking is disrespectful to God?	1,000	,422
Do you consider that you are devoted to your religious duties?	1,000	,642
Are you praying for something you want (material goods, health, school grades, etc.)?	1,000	,594
Do the views of others (religious or other) affect your demeanor?	1,000	,360
Are you apathetic to religion?	1,000	,635

Extraction Method: Principal Component Analysis.

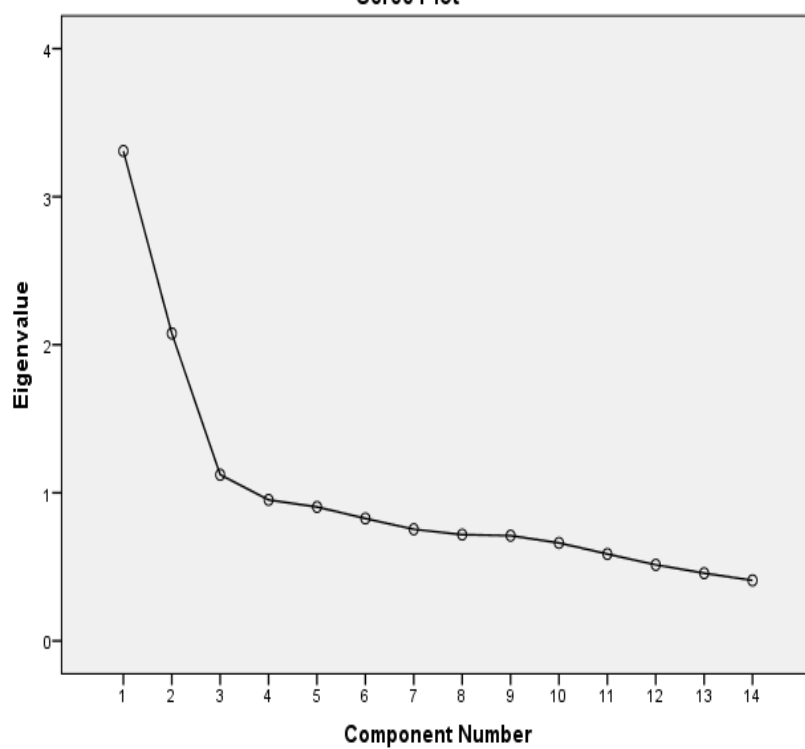
**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance
1	3,309	23,633	23,633	3,309	23,633
2	2,077	14,833	38,467	2,077	14,833
3	1,122	8,014	46,481	1,122	8,014
4	,952	6,801	53,282		
5	,904	6,460	59,742		
6	,827	5,905	65,648		
7	,754	5,383	71,030		
8	,718	5,125	76,156		
9	,711	5,076	81,231		
10	,661	4,724	85,955		
11	,587	4,190	90,145		
12	,514	3,670	93,815		
13	,457	3,266	97,081		
14	,409	2,919	100,000		

**Total Variance Explained**

Component	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings		
	Cumulative %	Total	% of Variance	Cumulative %
1	23,633	2,358	16,846	16,846
2	38,467	2,080	14,857	31,703
3	46,481	2,069	14,778	46,481
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				

Extraction Method: Principal Component Analysis.

**Scree Plot**

**Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Do you think that smoking improves the 'image' of those who smoke?	,596		
Do you think smoking in front of parents is disrespectful?	,506		
If one of your best friends offered you a cigarette, would you smoke it?	,685		
Do you think smoking is addictive?	,520		
Do you know that smoking can cause breathing problems even among young people?	,486	,482	
Do you know that smoking can cause cardiovascular problems, strokes and cancer?	,436	,530	
Does smoking cause premature aging of the skin, compared to non-smokers?		,512	
Does smoking restrict the performance and endurance of teen athletes?		,405	
Do you agree with the implementation of legislation to ban smoking in public places?	,560		
Do you think that smoking is disrespectful to God?		-,453	
Do you believe that you are committed to your religious duties?	,624	-,468	
Are you praying for something you want (material goods, health, school grades, etc.)?	,439	-,530	
Do the views of others (religious or other) affect your behavior?			,525
Are you indifferent to religion?	,630	-,437	

Extraction Method: Principal Component Analysis. <sup>a</sup>

a. 3 components extracted.

**Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Do you think that smoking improves the 'image' of those who smoke?	,602		
Do you think smoking in front of parents is disrespectful?	,620		
If one of your best friends offered you a cigarette, would you smoke it?	,628		
Do you think smoking is addictive?			,533
Do you know that smoking can cause breathing problems even among young people?			,568
Do you know that smoking can cause cardiovascular problems, strokes and cancer?			,668
Does smoking cause premature aging of the skin, compared to non-smokers?			,665
Does smoking restrict the performance and endurance of teen athletes?			,555
Do you agree with the implementation of legislation to ban smoking in public places?	,609		
Do you think that smoking is disrespectful to God?	,463		
Do you believe that you are committed to your religious obligations?		,723	
Are you praying for something you want (material goods, health, school grades, etc.)?		,763	
Do the views of others (religious or other) affect your behavior?		,507	
Are you indifferent to religion?		,725	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. <sup>a</sup>

a. Rotation converged in 5 iterations.

Component Transformation Matrix

Component	1	3
1		
		,423
2		
		,763
3		
		,489

## 5. The processes.

### A. General.

This study was conducted during the time period from Monday, December 15, 2014 to Monday, December 22, 2014, on school days and working hours. This specific period, briefly before Christmas break, was selected so that the pupils would be detached from the stress of the regularly scheduled exams (examinations and quizzes) for the 1<sup>st</sup> trimester in the middle school and the 1<sup>st</sup> semester in the Lyceum. Therefore, the students who took part in the study dedicated the necessary time and turned over it due care so that they could show themselves in a proper, objective and spontaneous style, passing on their opinions and recording their ideas and habits through their responses.

Any pupils who did not grant their consent or did not declare their involvement were excluded from the study and did not take part in the process of filling out the questionnaire. It should be mentioned, nevertheless, that such cases were minimal.

The questionnaires were filled out by 500 students of all grades of the middle school and the Lyceum. Most of the classes of the school took part in the survey. Any classes that did not participate in the study did not because of some difficulty with their schedule or because they were absent (e.g. due to a field trip) on the day of the study. In each class there was a brief introduction about the purpose of the study, which was conducted through the electronic completion of the questionnaires. There was then a briefing on the anonymity of the questionnaire, as well as about the fact that the information gathered would be strictly confidential. In summation, it was pointed out that at any time they liked, they could cut off their participation in the field without further

explanation or that they could review their responses and change them during the electronic completion.

Succeeding, the students were required to fill out the questionnaire, honestly and spontaneously, to study each question carefully and, of course, not to cooperate with their schoolmates during the culmination of their resolutions. It was also stressed that there were no right or incorrect solutions, but just answers that best express themselves as these are the ones we wanted to treat.

Lastly, they were necessitated to take caution not to miss any questions. After on the detailed briefing, they proceeded to complete the questionnaire, the pick of which lasted 20 minutes.

The questionnaires were completed in such a way that their anonymity was safeguarded and, therefore, the objectivity of their answers, without fear, shame, or other feelings, which might influence the truthful recording of the current reality as the students themselves experience it and want to express it.

The culmination of the questionnaires was done electronically. A particular link was used, which the students opened on their computers in the College's Computer Lab and thus they completed their answers to the items. Gymnasium and Lyceum students of the American College of Greece took part voluntarily.

### **B. The experimental design.**

The design of this empirical study was aimed at examining the relationship between religiosity/spirituality in adolescents and their smoking behavior. The experimental design was carried out using the questionnaire method and this allowed us to gather information related to the religiosity/spirituality of the students questioned as well as to evaluate their smoking behavior during adolescence.

The experimental program, which was organized in the framework of this study, spanned the time period of six days. Specifically, the electronic process of completing the questionnaires through a special link was conducted using the computers in the College's Computer Labs during the time period from December 15 to December 22, 2014, according to the schedule that was drawn up and approved by the Directors of the Gymnasium and the Lyceum.

The electronic completion of the questionnaires took place during class hours of Religious Studies and took approximately 20 minutes of the 40-minute class hour, with the consent of the religion teacher.

### **C. Factor analysis.**

The statistical analysis of the data was carried out using SPSS Statistics for Windows, 2010 version.

To monitor the existence of correlations between the variables, the non-parametric analysis of correlations Spearman Rank Order Correlation (Symmetric Measures) was used. The Factor Analysis – Principal Axis Factoring test was chosen as it controls the factors from an existing correlation matrix with distributed variables.

The Factor Analysis rendered three factors, which overall gave 46.481% Total Variance Explained. The Component Matrix shaped up accordingly. The first factor concerned their respect for themselves, their fellow man and God. The second factor concerned their attitude toward religion, i.e. their commitment to religious obligations, prayer or indifference to religion. The third factor concerned their awareness of the consequences of smoking. Next, the Scree Plot test showed the substantial contribution of the three factors, which demonstrate an Eigenvalue of over 1. The resulting diagrams were processed in Excel.

## **FINDINGS**

### **1. General.**

During the factor analysis of the instruments that were given in the sample, what resulted was a special internal structure, which was clearly established by the psychometric traits of the sample which, in any case, were expected. It is commonly accepted and documented that every sample of people presents its own inner dynamics and balances, which may alter even in similar samples with similar demographic features.

The constituents that influence and shape the psychometric characteristics of the sample are usually many. Some of them are the country and place of residence, social and economic profile, the approach of the researcher, the specific time of questionnaire completion, the psychosomatic condition (e.g. whether it is before or during an examination period), the season (e.g. winter or summer), etc.

So, it is clear that every research study must be preceded by a factor analysis to determine the sub-scales and to allow for the proper creation of new variables before reaching the point of statistical comparisons between the instruments. Factor analysis provides the chance to make sense of a complex set of

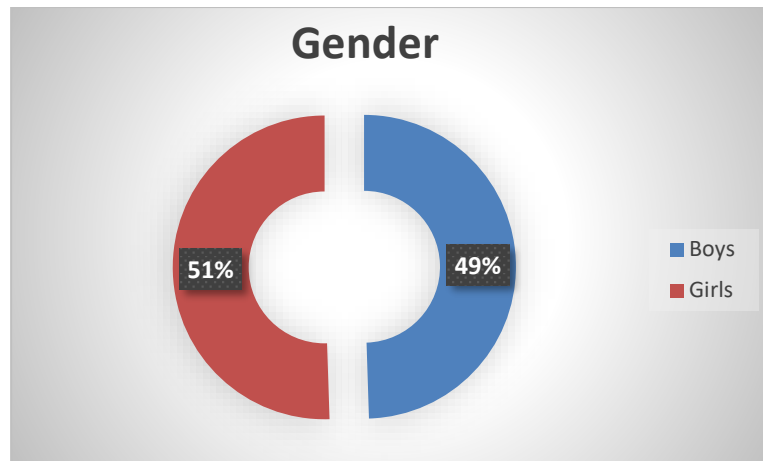
variables, reducing them to a smaller figure of factors or hyper variables, each of which corresponds to more than the original ones.

The elements which went forth and were applied in further analyses are as follows:

- For the *Personality* questionnaire:
  1. respect for ourselves.
  2. respect for our fellow man.
  3. respect for God.
- For the *Smoking* questionnaire (awareness of the consequences of smoking on health):
  1. cardiovascular problems,
  2. strokes,
  3. lung cancer,
  4. other forms of cancer,
  5. premature ageing of the skin, and
  6. limitation of performance and resistance in adolescents.
- For the *Religiosity* questionnaire:
  1. commitment to religious obligations (e.g. church attendance),
  2. prayer, and
  3. apathetic to religion.

## **2. Difference with regard to gender.**

In this study, in order to examine whether there is a difference and to what degree, between boys and girls with regard to religiosity and smoking behavior, the Independent Samples t-Test was implemented with the criterion of gender and the independent controlled variable the sum of the variables of religiosity as well as the sub-scales of personality and of smoking separately.



Students of both genders demonstrated statistical differences with regard to the averages of their answers. There was a larger average of answers among the boys as opposed to the girls' answers on the sub scales of smoking, but no difference or correlation was observed with regard to the frequency of the smoking habit.

In addition, a minimal difference between the boys and the girls was observed in the sub scales of religiosity. The young women demonstrated a minimally greater average than the sons, principally with respect to the sub scale of prayer, which brings up to a high feeling of religiosity.

It is noted that in this study, the boys participated at a percentage of 49.48%, completing 239 of the 483 questionnaires, and girls at a percentage of 50.52%, completing 244 of the 483 questionnaires. These percentages also represent the actual distribution of the population of our country between males and females.

### 3. Differences with regard to age and school grade level.

In this study, the *Independent Samples t-Test* was implemented, with the criterion of age and school grade, in order to examine whether there was and how much difference demonstrated by students of all grade levels of the Gymnasium and the Lyceum with regard to smoking and their religiosity. The sample was separated into Gymnasium and Lyceum students, and the comparison of students of all grade levels was replicated separately for each school.

To examine whether and how much difference there is between students of A, B and C classes of each school unit in their expression of religiosity and in the adoption of smoking behavior, the One-Way ANOVA was implemented,



with the addition of the Bonferroni correction test, so as to show not only whether there was a difference between the groups overall, but also which groups of students differ significantly between them and in what direction.

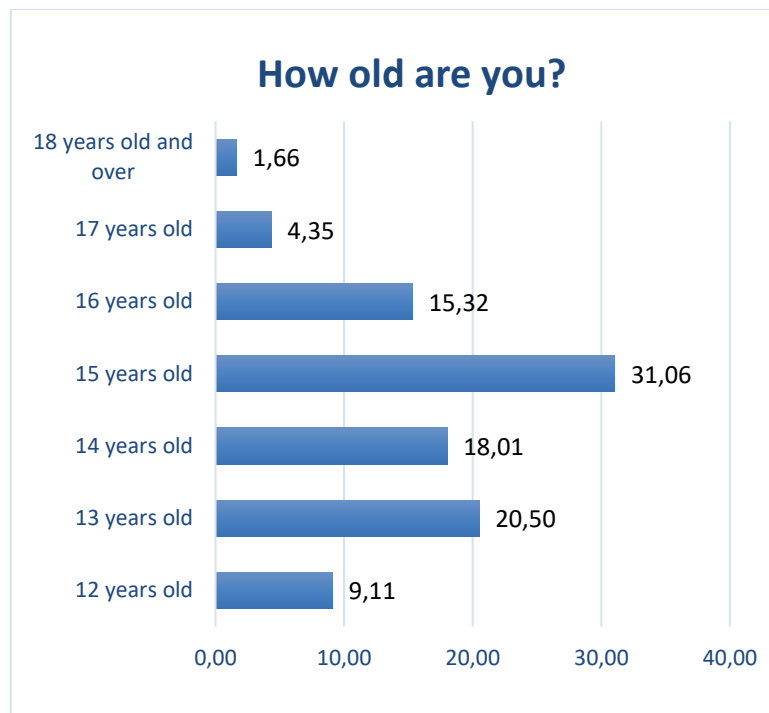
According to the ANOVA results, as well as the illustration of the relationships between the averages of the groups in each factor, the following conclusions emerged:

The students of the first grades of the Gymnasium —whether boys or girls— demonstrated statistically higher religiosity, avoidance of smoking, comparatively more than Lyceum students.

Moreover, it should be noted that no difference was observed with regard to religiosity and smoking between the two genders for each of the above-mentioned grade levels separately.

The students who took part in the study were 12 to 18 years of age and older; specifically:

- 12-year old (44 of the 483 students – percentage of 9.11%)
- 13-year old (99 of the 483 students – percentage of 20.50%)
- 14-year old (87 of the 483 students – percentage of 18.01%)
- 15-year old (150 of the 483 students – percentage of 31.06%)
- 16-year old (74 of the 483 students – percentage of 15.32%)
- 17-year old (21 of the 483 students – percentage of 4.35%)
- 18-year old and older (8 of the 483 students – percentage of 1.66%).

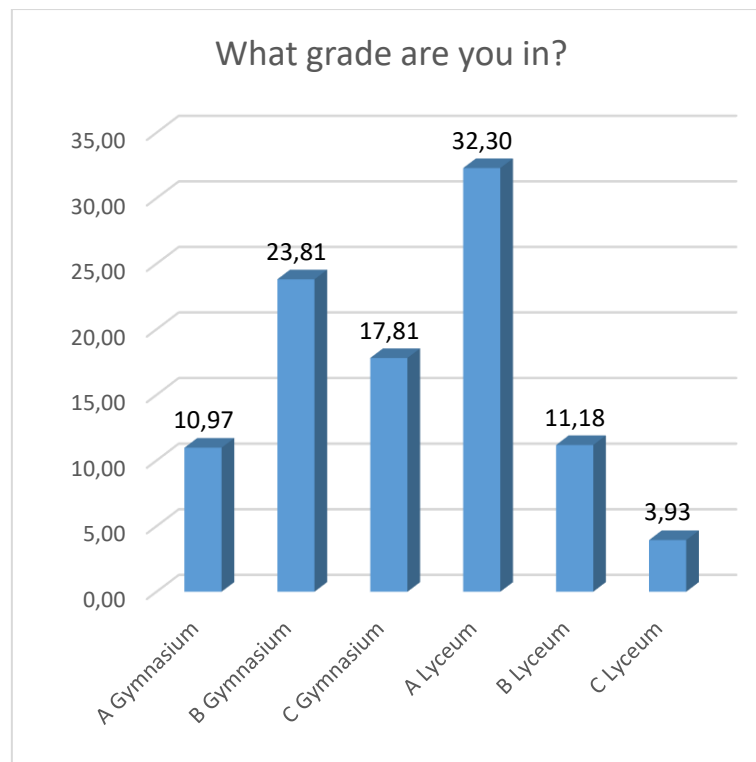


From the distribution of students who took part in completing the questionnaires, it is understood that particular emphasis was given to the ages 13-16, in which:

- a) people's religious concerns are developing,
- b) individuals are becoming socialized, and
- c) they become dependent on addictive substances, such as smoking.

The students participating in the study were enrolled in the following Gymnasium or Lyceum grade levels, with the distribution as follows:

- A Gymnasium (53 of the 483 students – percentage of 10.97%)
- B Gymnasium (115 of the 483 students – percentage of 23.81%)
- C Gymnasium (86 of the 483 students – percentage of 17.81%)
- A Lyceum (156 of the 483 students – percentage of 32.30%)
- B Lyceum (54 of the 483 students – percentage of 11.18%)
- C Lyceum (19 of the 483 students – percentage of 3.93%)

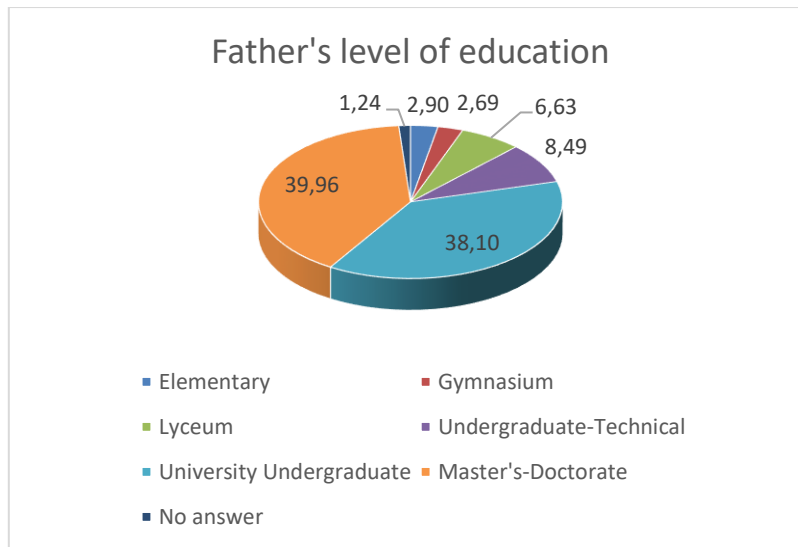


#### 4. Differences with regard to parents' education level.

To examine the hypothesis as to whether students demonstrate different religiosity and smoking behavior, according to the education level of their parents, the *Independent Samples t-Test* was implemented, the criterion initially being the father's level of education (Lyceum, Undergraduate and University, Master's degree, Doctorate) and then the mother's level of education (Lyceum, Undergraduate degree, Master's degree, Doctorate).

The students' fathers were of every education level, and specifically:

- Elementary school graduates (14 of 483 students – percentage of 2.90%)
- Gymnasium graduates (13 of 483 students – percentage of 2.69%)
- Lyceum graduates (32 of 483 students – percentage of 6.63%)
- Alumni of Undergraduate (Technical) schools (41 of 483 students – percentage of 8.49%)
- University graduates (184 of 483 students – percentage of 38.10%)
- Holders of Master's and/or Doctoral degrees (193 of 483 students – percentage of 39.96%)
- Did not answer (6 of the 483 students – percentage of 1.24%)



From these answers, what emerges is that the majority of the fathers of students who were asked had Undergraduate, Graduate, or Post-Graduate degrees.

As for religiosity, the students whose fathers were Lyceum graduates demonstrated a statistically higher average of religiosity than the students whose fathers' level of education was an Undergraduate or Postgraduate degree or a Doctorate. The "Elementary" or "Gymnasium" level of education was not used as a criterion, as its frequency was extremely low, both for the father and the mother.

Moreover, it was observed that when the father does not smoke, his children are not indifferent to religion, which was not observed and does not apply to the mother.

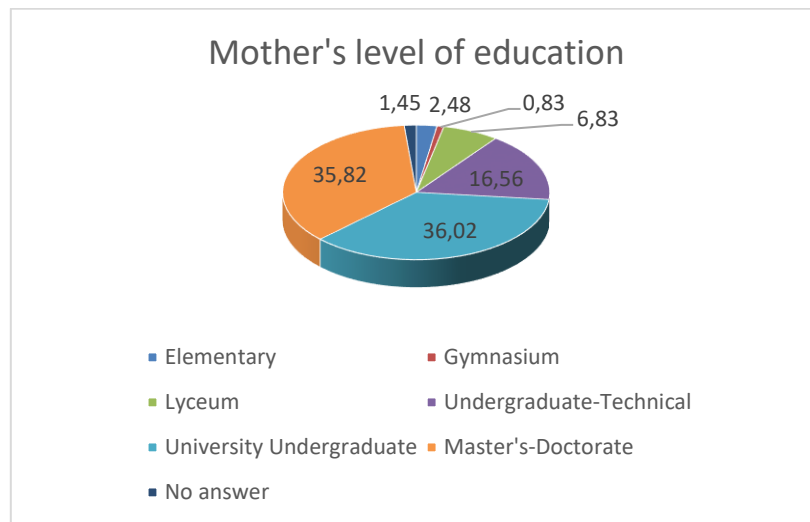
In any case, a high level of education —both of the father and of the mother— functioned as a deterrent to smoking in the parents themselves, but also in their children, who, if they eventually adopted the smoking habit, they did it at an older age than the children with less educated parents.

A similar picture is seen in the comparison of religiosity in students depending on their mother's level of education. As for religiosity, the students whose mothers are Lyceum graduates demonstrated a statistically higher average compared with students whose mothers have an Undergraduate degree, or hold a Postgraduate or Doctoral degree.

The students' mothers were of every education level, and specifically:

- Elementary school graduates (12 of 483 students – percentage of 2.48%)
- Gymnasium graduates (4 of 483 students – percentage of 0.83%)

- Lyceum graduates (33 of 483 students – percentage of 6.83%)
- Alumni of Undergraduate (Technical) schools (80 of 483 students – percentage of 16.56%)
- University graduates (174 of 483 students – percentage of 36.02%)
- Holders of Master's and/or Doctoral degrees (173 of 483 students – percentage of 35.82%)
- Did not answer (7 of 483 students – percentage of 1.45%)



From these answers, what emerges is that the majority of the mothers of students who were asked had Undergraduate, Graduate, or Post-Graduate degrees.

## 5. Comparative measurements.

### A. General.

During this study, a total of 483 questionnaires, of the 500 that were initially given out, was completed in a valid way. The questionnaires recorded the attitudes and behaviors with regard to smoking and the religiosity of the students of the Gymnasium and Lyceum of the American College of Greece.

To achieve the best processing of the questionnaire, correlations were made with the help of a special processing program for similar questionnaires. At this stage of the study, all the cross-correlations between the different questions

were done, so that its combined results would be shown in the best possible way.

Specifically, for the processing of the questionnaires, with the aim of finding all possible correlations and inter-reactions among the different questions that were posed, the well-known special statistical program SPSS was selected.

A total of 29 possible correlations emerged from the 29 questions and the answers that were given by the students of the Gymnasium and Lyceum of the American College of Greece, in the context of using the above-mentioned statistical program.

Specifically, the following correlations were found:

**1. On the question about how much religiosity influences young people in favor of smoking:**

From the study it appears that students who are indifferent to religion, smoke more frequently and more (0.000).

**2. On the interrogation about how much religiosity influences young people against smoking:**

From the study it appears that the students who have religious feelings smoke more infrequently and less (0.003).

**3. On the question about the relationship between parents' level of education and smoking:**

From the study it appears that the educated parents smoke less (0.012).

**4. On the question about the relationship between parents' level of education and their children's smoking:**

From the study it appears that the high level of education of parents functions as a deterrent to smoking among their children (0.001), while the uptake of smoking among these children, if they eventually smoke, occurs at an older age (0.036).

**5. On the question about the relationship between parents' level of education and their children's religiosity:**

As it appears from the study, there are marginally significant differences in favor of interest in religion (0.001), without, however, there being a correlation.

**6. On the question about the relationship between parents' smoking and their children's religiosity:**

As it appears from the study, when the father does not smoke, the children do not describe themselves as indifferent to religion (0.001). However, the same is not the case for the mother (0.185) since neither differences nor a correlation with her children's religiosity were found.

**7. On the question about the relationship between siblings' smoking and the students' religiosity:**

As it appears from the study, there are differences between the levels (0.073), but not a correlation.

**8. On the question about the relationship between friends' smoking and the students' religiosity:** As it appears from the study, the students who are indifferent to religion tended to have more friends who are smokers, and the opposite, i.e. students who smoke tend to have friends that are indifferent to religion (0.001). No differences or correlations regarding prayer and commitment to religious obligations were found in the study.

**9. On the question about the relationship between gender and smoking:**

As it appears from the study, boys tend to smoke more (0.595). All the same, no differences or correlations regarding frequency were found.

**10. On the query about the relationship between gender and religiosity:**

As it appears from the study, girls pray for little to minimally in comparison to boys (0.001).

**11. On the query about the relationship between smoking and indifference toward religion:**

As it appears from the study, the students who are indifferent toward religion, smoke to a greater degree (0.075).

**12. On the query about the relationship between frequency of smoking and the degree of commitment to religious duties:**

As it appears from the study, the students who are committed to their religious obligations do not smoke. Yet, the reverse is not straight, i.e. the students who are not committed to their religious obligations may smoke and may not smoke. The differences were marginally significant (0.075), given the correlation.

**13. On the question about how the age of adolescents' uptake of smoking is connected with their parents' level of education:**

As it appears from the study, when the students' parents have a high level of education, even if their children become smokers, they start smoking at an older age than the students whose parents have a low level of education and start smoking at a clearly younger age (0.017).

**14. On the question about how the age of adolescents' uptake of smoking is connected with parents' smoking:**

According to the study, no difference or correlation was found with the father's smoking. However, there are a difference and correlation with the mother's smoking. In other words, when the mother smokes, the child will also smoke early in his/her life.

**15. On the question about how the age of young people's consumption of smoking is tied in with their siblings' smoking:**

From the survey, it seems that, if the students' siblings smoke, the students' uptake of smoking takes place at a younger age (0.073), due to imitation. On the other hand, if the students' siblings do not smoke, this serves as a hindrance to the uptake of smoking (0.024).

**16. On the question about how the age of adolescents' uptake of smoking is tied in with their friends' smoking:**

It was found in the study that, when the students' adolescent friends smoke, the adolescent students start to smoke early, due to psychological pressure put on them by their peers. Here significant differences and correlation were found (0.490).

**17. On the question about how the age of adolescents' uptake of smoking is connected with the situation at home with regard to smoking:**

It was found in the study that, when the rules that describe the situation at home with regard to smoking are lax, i.e. there are no clear prohibitions, adolescents start to smoke at a young age. Nevertheless, here significant differences were found, but no correlation (0.048).

**18. On the query about the frequency of adolescents' smoking in relation to parents' smoking:**



It was found in the study that the frequency of students' smoking increases, according to whether the father smokes (0.018). All other data are without differences or correlations.

**19. On the question about the frequency of adolescents' smoking in relation to their siblings' smoking:**

The frequency of the adolescents' smoking increases when there are siblings who are smokers (0.270). Here differences are found, but no correlation.

**20. On the question about the frequency of adolescents' smoking in relation to their friends' smoking:**

The survey demonstrated that the influence of friends, when it is in the wrong direction, is more potent than that exercised by parents or siblings (0.000). Here differences are also set up, as considerably as a correlation.

**21. On the query about the frequency of adolescents' smoking in front of their parents:**

Here no differences were found, except for a slight correlation (0.618) without interpretative value.

**22. On the question about the frequency of adolescents' smoking in relation to the situation at home with regard to smoking:**

In homes and families in which nobody is allowed to smoke anywhere, the age of uptake of smoking, was lower than in homes in which smoking is permitted in specific places. Moreover, when smoking is permitted in specific places in the house, the frequency of adolescents' smoking is limited (0.000).

**23. On the question about the relationship between the degree of awareness of the consequences of smoking on health and the frequency of adolescents' smoking:**

From the study it appears that the less adolescents know with regard to the consequences of smoking on their health, the more they smoke. And conversely, the more they know about the danger of smoking, the more they are discouraged from smoking.

**24. On the question about the tolerance for passive smoking by adolescents who smoke:**

From the study it appears that adolescents who smoke completely disagree (0.000) with the enforcement of the law that prohibits smoking in enclosed public places (such as shops, restaurants, bars) for the protection from passive smoking.

**25. On the question about the tolerance for passive smoking by young people who do not smoke:**

From the study it appears that young people who do not smoke show tolerance for passive smoking to a smaller degree than young people who smoke.

**26. On the question about the tolerance for passive smoking by adolescents who demonstrate a commitment to religion:**

Adolescents who are not indifferent to religion tend to favor the implementation of the law for the protection from passive smoking to a greater degree than adolescents who are indifferent (0.000). Here differences and correlations were found.

**27. On the question about the tolerance to passive smoking by adolescents who demonstrate indifference toward religion:**

From the study it appears that adolescents who are indifferent toward religion tend to favor the law prohibiting smoking in enclosed public places to a smaller degree than adolescents who are not indifferent toward religion (0.000). Here both differences and correlations were found.

**28. On the question about the relationship between commitment to religion and smoking in adolescence:**

From the study it appears that the students who are committed to religion, smoke less than those who are not committed to religion. Here significant differences and correlations were found.

**29. On the question about the relationship between indifference to religion with smoking in adolescence:**

From the study it appears that the students who are indifferent toward religion, smoke more than the students who are not indifferent toward religion (0.000).

### **B. Comparison between the variables of *religiosity* and *smoking*.**

Initially, we calculated the Pearson correlation coefficient between the instruments of religiosity and smoking in adolescence. A correlation between the variables of religiosity and smoking was found.

The comparison of the sets with the calculation of Pearson's  $r$  indices showed that the average of the religiosity variables is related to the sum of the smoking variables.

According to the Pearson's  $r$  correlation coefficient for the total sums of the questionnaires on *Religiosity* and *Smoking* with regard to the sample set, the students who are indifferent toward religion tend to smoke more and to associate with smokers.

Moreover, the students who are committed to their religious obligations do not smoke or smoke less and tend to a greater degree to favor the law prohibiting smoking in enclosed public places, such as shops, restaurants, cafeterias and bars.

### **C. Possible intervention parameters between religiosity and smoking.**

In order to clarify the parameters that affect the relationships of the Religiosity and Smoking instruments, as well as the direction of the predictive responses, the Stepwise Multiple Regression test with the SPSS 16.0 was implemented. "Religiosity" was set as the dependent variable and "Smoking" was set as the independent variable. On the Pearson test, a relationship between Religiosity and Smoking was found.

Specifically, there was a correlation between the students who are indifferent toward religion and the frequency of smoking in adolescence, as well as between the students who are committed to religion and the avoidance of the smoking habit in adolescence.

## **DISCUSSION**

### **1. General.**

In this study, the sample was made up of 500 students, aged 13 to 18 years, who attended Pierce – The American College of Greece, a private secondary school in the Municipality of "Agia Paraskevi". Of the total number of students who took part, 49.48% were boys and 50.52% were girls.

In addition, of the 500 students who took part in the study, 483 completed electronically in a valid way the questionnaire on the possible relationship

between religiosity and smoking in adolescence, while 17 left questions unanswered during the electronic completion and, in the end, submitted invalid questionnaires.

It should be noted that the questionnaires had the necessary reliability and validity, the number of invalid responses was minimal (17), while the number of valid questionnaires was more than adequate (483). The anonymity of the students who took part was absolutely safeguarded and every possible effort was made to eliminate biased questions so that the students would avoid giving misleading responses.

The findings of this study in our mainly Orthodox Christian country prove to be significant because they partly confirm [marginally significant differences in favor of interest in religion (0.001), however, without correlation] older studies conducted abroad, which found a relationship between (mainly Protestant) religiosity —whose main variables were church attendance and prayer [although girls pray for a little for minimally more than boys (0.001) in our country] — and attitude and behavior toward smoking in adolescence (Taylor & Francis 1987, Kirkpatrick & Hood 1990, Whooley et al. 2002, Willis et al. 2003, Marsiglia et al. 2005, 2012, Lucchetti et al. 2012, Sekulic et al. 2014, Allahverdipour et al. 2015, Wang et al. 2015).

We consider the primary purpose of this study, i.e. To identify the possible relationship between religiosity and smoking attitudes and behavior in students at all Gymnasium and Lyceum grade levels, aged 13 to 18 years, and to assess the role of religiosity in Greece as a possible factor in preventing smoking in adolescence, to have been accomplished, taking into account the findings that emerged from the statistical analysis of the 483 responses.

At the same time, our initial hypotheses have found documented scientific confirmation through the results of this study. More specifically, it seems that:

- there is a relationship between religiosity / spirituality and the prevention of smoking in adolescence, as well as any pathogenic addiction, according to, in any case, other related studies (Premack & Anglin 1973, Thalbourne 1990, Schoring et al. 1997, Wallace 2003, King & Furrow 2004, Nonnemaker 2006, Fletcher 2014, Crystal et al. 2016).
- there is a relationship between high educational level in parents and low degree of their children's dependence on smoking; parents' high level of education functions as a deterrent to smoking, both for themselves (0.012) and for their children (0.001), while uptake of smoking of these children, if they eventually smoke, occurs at an older age (0.036).

- there is a relationship between smoking among parents, siblings and friends and adolescents' smoking; for example, whether the father smokes or not leaves the children indifferent [although the frequency of smoking among the students in the study increases (0.018) according to whether the father smokes], but if the mother smokes, the child also smokes early in his/her life. However, on the question about the frequency of adolescents' smoking in front of their parents, no differences were found, except for a small correlation (0.618) with no interpretive value, which means that adolescents who smoke have already "got over" any feeling of respect, guilt or shame vis-à-vis their parents, as used to be the case in older times with regard to smoking. Then, if the students' siblings smoke, the frequency of smoking among the students in the study increases (0.270), while the uptake of smoking among the students in the study occurs at a younger age (0.073), due to imitation. On the other hand, if the students' siblings do not smoke, this serves as a hindrance to the uptake of smoking (0.024). Moreover, when the students' friends smoke, these adolescents start smoking, earlier (0.490), due to the psychological pressure exerted on them by their peers. Students who tend indifferent to religion to have more friends who smoke, and the converse, i.e. students who smoke tend to have friends who are indifferent to religion (0.001), so the smoking influence works both ways. So, here it is visualized that the influence of friends, when it is in the wrong direction, is more potent than that exercised by parents and siblings.
- there is a relationship between commitment or indifference to religion and the degree of young people's dependence on smoking; the students who are indifferent toward religion tend to smoke marginally more (0.075), whereas those who are committed to their religious obligations do not smoke or smoke less (0.003).

Nevertheless, among the different religions, the effect on smoking varies. For instance, the correlation between Buddhism or Taoism and smoking appears very faint, in contrast to other religious beliefs. Hence, in itself, no particular religion can directly and/or dynamically contribute, for example, to the cessation of smoking. However, this can occur indirectly, i.e. through the appropriate cognitive forms (religious, ethical and/or spiritual), which the adolescent may encounter and adopt through the family, school or the broader society.

Although every religion or spirituality may appear to be instrumental in preventing a personal and social pathogenesis, the therapeutic, redeeming and life-saving role of religion exists, since religion, and indeed Christianity, is actually interested in the human body with its strengths and its weaknesses. So, whether someone smokes or does not smoke, this is neither sanctity nor sin. Smoking can be a way of moral and/or internal temptation - for example, through an obvious or indirect provocation - for our fellow humans (if they are spiritually weak), as well as a direct path to many physical illnesses.

It is worth noting that the hypothesis that the students with parents who have a high level of education demonstrate a higher degree of religiosity / spirituality was not verified, a finding which was also shown in a related study by Associate Professor S. Tsitsigkos. Most likely not only because parents with a university degree have more interests and obligations outside the family, with the result that their parental care diminishes with regard to providing religious and moral principles to their children, but also because, as it appears, they are still ruled by a Humanism or, in the best case, by a Deism with regard to the existence of God, a well-known position resulting from the Enlightenment of the 17<sup>th</sup> - 18<sup>th</sup> century in the West.

Nevertheless, the hypothesis that students with parents who have a high level of education smoke less or not at all, starting to smoke at an older age (if they eventually start) compared to students whose parents are high school graduates, was verified. This is likely referable to their awareness of the harmful effects of smoking for their health and the proactive attitude toward the problems that smoking causes in the long run.

Mostly, it was discovered in this study that gender, age and parents' point of education affect the religiosity of adolescents, as good as their position and behavior toward smoking, which, in any case, had been caught in similar studies in Protestant nations in Europe and America and, thus, was rather expected.

Comparing ages now, our research showed that younger children (Gymnasium grade levels) demonstrated a higher level of religiosity and a lower degree of using tobacco. This finding, while it confirms the theory that adolescents' value attitudes and behaviors can very easily and quickly change, cannot be used in this study, given that (a) we have not followed the smoking habits of the adolescents themselves before or after, with or without, religious instruction, and (b) it appears, in a way, natural that younger children are ignorant of or hesitate to try smoking, compared to the older children, whose social surroundings (friends, classmates, etc.) pressure them more to try smoking.

## **2. Limits of this study.**

This survey was established on a holistic approach to both the adolescent students and the concepts of religiosity and smoking. The research used specific instruments, which totally ran through the stage of factorial analysis and were shaped accordingly. These instruments allow researchers to obtain information which will be useful in future surveys.

Nevertheless, the findings of this study are limited by:

1. the fact that the study was conducted on Gymnasium and Lyceum students of the American College of Greece. Therefore, although a homogeneity in the sample is secured, it maps a specific social, economic and cognitive level in the adolescents;
2. a religious-psychological study of students cannot detect and perceive, as is obvious, a mature religiosity / spirituality, nor is it fully representative of their social environment, given that they differ mentally, cognitively, psychologically and socially from their average fellow humans, while they typically appear to be more self-centered;
3. the possibility that most of the students who completed the questionnaire responded in favor of religious consequences because of the fact that this is considered to be socially acceptable and desirable; and
4. the fact that the sample comes from Greek students, the majority of whom call themselves Christian Orthodox, and is not addressed to students of other religions from other countries, thus providing a universal and multi-cultural assessment.

## **3. Areas for further study.**

This survey was meant to investigate those data and sub-scales which potentially form adolescents' religiosity and their propensity to sweep up the smoking habit. At the same time, however, it aimed to identify the synapses and the dynamics that take place between religiosity and smoking during adolescence.

As it appears from the correlations between sub-scales of the instruments used in the study, what emerges is a great number of correlations, each of which could be the subject of another study. For example, there could be further analysis of the "parents' level of education" variable.

Further research into the factors which determine these psycho-social phenomena are essential. It would be interesting for the next studies being multi-

cultural, with a larger sample of adolescents and from different populations and cultures, so that there is a variety of demographic data and so that external and internal forces which determine adolescents' psychological state with regard to religiosity and smoking can be examined.

Specifically, in future research, for example, these findings from Greek students could correlate:

1. with relevant findings with Greek university students and/or adults;
2. with relevant findings with adolescents of other religions which exist and operate in Greece; and
3. with findings with adolescents from other countries (mono national or multinational, and/or multicultural).

In addition, it would be interesting to repeat the study in question in another, particularly charged time for students (e.g. during the May-June examination period), and to compare the findings.

## CONCLUSIONS

This particular multi-level study was conducted on a sample of 500 Gymnasium and Lyceum students of the American College of Greece, using three psychometric research instruments: (a) the questionnaire on demographic data, (b) the questionnaire recording the attitudes and behaviors of adolescents with regard to smoking, and (c) the questionnaire on Gymnasium and Lyceum students' integration in the life of the church community and the degree of commitment or indifference toward religion.

The conclusions which emerged can be summarized as follows:

1. It appears that there is a correlation that is statistically higher between religiosity and smoking in students whose parents are high school graduates than in students whose parents have a technical or university education.
2. When the father does not smoke, the children are not characterized as indifferent toward religion, though this is not the case for the mother, since neither differences nor a correlation with her children's religiosity was found.
3. The students in the study who have religious feelings appear to smoke less, and less frequently.
4. Educated parents appear to smoke less.



5. Students who are indifferent toward religion appear to smoke more, and more frequently.
6. Parents' high level of education appears to function as a deterrent to smoking among their children, while the uptake of smoking among these children, if they eventually smoke, occurs at an older age.
7. Students who are indifferent toward religion appear to tend to have more friends who smoke, and vice versa, i.e. students who smoke tend to have friends who are indifferent toward religion.
8. Boys appear to induce a propensity to smoke more than young women.
9. Students who are committed to their religious "beliefs" appear not to smoke. However, the converse is not true, i.e. students who are not committed to religious "beliefs" may smoke and may not smoke.
10. Students who are indifferent toward religion appear to smoke to a greater degree.
11. Girls appear to pray more than boys.
12. When the students' parents have a high level of education, even if their children become smokers, they appear to start smoking at an older age than the students whose parents have a lower level of education and start smoking at a much younger age.
13. When the mother smokes, it appears that the child will smoke and, indeed, early in his/her life.
14. When the rules that describe the home situation with regard to smoking are lax, i.e. there are no clear prohibitions, the adolescents appear to start smoking early in their life.
15. When the students' friends smoke, these adolescents also appear to start smoking early in life, due to the psychological pressure (or imitation) exerted by their peers.
16. If the students' siblings smoke, the uptake of smoking among these students appears to take place at a younger age due to imitation. On the other hand, if the students' siblings do not smoke, this appears to function as a deterrent to the uptake of smoking.
17. In families that did not allow smoking anywhere in their home, it was seen that the uptake of smoking among its members was at a younger age.
18. The frequency of smoking among the students in the study appears to increase depending on whether the father smokes.
19. The frequency of smoking among the adolescents in the study appears to increase when there are siblings who smoke.

20. The influence of friends, when it is in the wrong direction, appears to be stronger than that of parents and siblings.
21. The less adolescents know about the harmful effects of smoking on health, the more they appear to smoke. Conversely, the more they know about the risks of smoking, the more it appears that they are discouraged from smoking.
22. When smoking is tolerated exclusively in specific spots in the home, the frequency of smoking among adolescents appears to be fixed.
23. Adolescents who smoke appear to disagree completely with the enforcement of the law that prohibits smoking in enclosed public places (such as shops, restaurants, cafeterias, bars) to protect against passive smoking.
24. Young people who do not smoke appear to show tolerance for passive smoking to a lower degree than young people who smoke.
25. Adolescents who are not indifferent toward religion appear to have more of a tendency to favor the enforcement of the law on protection from passive smoking than adolescents who are indifferent toward religion.
26. Students who are indifferent toward religion appear to smoke more than students who are not indifferent toward religion.
27. Students who are committed to religion appear to smoke less than those who are not committed to religion.
28. Adolescents who are indifferent toward religion appear to tend to a lower degree to favor the law prohibiting smoking in enclosed public places than adolescents who are not indifferent toward religion.

According to these conclusions, on the basis of existing social and cultural data, the State should adapt the aims of Education and take seriously the mental and spiritual health of young people, as well as cultivate their moral and religious consciousness. At the same time, the Family, the School and the Church must take responsibility for providing religious instruction and Health Education for adolescents, who is threatened by the “sirens” of addictive substances and, particularly, smoking because, in the end, (Orthodox) religiosity/spirituality in adolescence appears to be able, if not directly, then at least indirectly, to deter, i.e. cognitively, the smoking habit with a positive (optimistic/hopeful: *eschatological*) attitude toward human life (indeed giving it meaning and value) and health – to create a “protective shield” in the personality of young people and to keep them far away from the “shackles” of the smoking habit and behavior.

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<sup>89</sup> Cf. Μ.-Μ. Μ. Βενιζέλου, *Άμεσες και έμμεσες αναφορές καπνίσματος σε ζώνες υψηλής τηλεθέασης*, Λάρισα 2014.

<sup>90</sup> Cf. *Παιδεία για έναν κόσμο χωρίς κάπνισμα*, Αθήνα 2016, σ. 50-69.

<sup>91</sup> See Harvard School of Public Health, "The Greek Tobacco Epidemic," HEART Project, 2011.

<sup>92</sup> Cf. Α. Αποστολίδου, *Η καπνιστική συμπεριφορά τού μαθητικού πληθυσμού δευτεροβάθμιας εκπαίδευσης και ο ρόλος τής σχολικής μονάδας στη διαμόρφωση, πρόληψη και αντιμετώπιση του φαινομένου: η περίπτωση της επαρχίας Λευκωσίας – Κύπρου*, Πάτρα: Ε.Α.Π., 2012 (διπλ. δ.).

<sup>93</sup> Κ. Δημητρόπουλου, *Εξελικτική ψυχολογία*, εκδ. Χαρ. Καγιάφα, Αθήνα 1951, σ. 186-188.

<sup>94</sup> Cf. Μ. Παπαδημητρίου, Ε. Πριλή και Ε. Στέφα, *Κάπνισμα στην εφηβεία*, Πάτρα: ΤΕΙ Πάτρας, 1997.

<sup>95</sup> See P. Slovic (Ed.), *Smoking: risk, perception, and policy*, Thousand Oaks: Sage, 2001.

<sup>96</sup> Κ. Χρηστάκη, *ibid.*, pp. 252-257.

<sup>97</sup> See D. Premack & B. Anglin, "On the possibilities of self-control in man and animals," *Journal of Abnormal Psychology* 81/2 (1973) 137-151.

<sup>98</sup> If Saint Nektarios of Pentapolis (and some Orthodox others Saints worldwide), who was himself a smoker, characterizes —using the expression of the Saint John Chrysostom for slander— smoking as “prostitution of the mouth,” then this appears to justify the smoker S. Freud, who interpreted the entrance of the cigarette or the pipe into the mouth as a fixation in the oral stage, which gives pleasure.

<sup>99</sup> Cf. Ν. Παπαντωνή, *Κοινωνική ανάλυση της αποδοχής των περιορισμών του καπνίσματος στην Ελλάδα* (διπλ. δ.), Πάτρα: ΕΑΠ, 2011.

<sup>100</sup> K. Mayhey, “Stages in the development of adolescent Smoking,” *Drug & Alcohol Dependence* 59 (2000), 61-81.

<sup>101</sup> *Παιδεία για έναν κόσμο χωρίς κάπνισμα*, Αθήνα 2016, σ. 170-173. Γενικότερα για την ψυχοβιολογική εξάρτηση βλ. Ο. Αλεξοπούλου, Α. Ανδρονικίδου, Ε. Γιαννοπούλου και Σ. Μήτη, *Οι εξαρτήσεις στη ζωή μας*, ΤΕΙ Πάτρας, 1997, Ε. Γ. Παπαγεωργίου, *Εξαρτήσεις στη ζωή μας*, Αθήνα 2004, Γ. Ν. Παπαδημητρίου, Ι. Α. Λιάππα και Ε. Λύκουρα, *Σύγχρονη Ψυχιατρική*, Αθήνα 2013.

<sup>102</sup> Εκπαιδευτικό υλικό αγωγής υγείας, Εγχειρίδιο για τον εκπαιδευτικό της δευτεροβάθμιας εκπαίδευσης, Πρόγραμμα αγωγής υγείας για την πρόληψη χρήσης προϊόντων καπνού στην παιδική και εφηβική ηλικία, ΕΣΠΑ 2007-2013, σ. 35-36.

<sup>103</sup> Εκπαιδευτικό υλικό αγωγής υγείας, όπ.π., σ. 36.

<sup>104</sup> Cf. Α. Συμεωνίδη, *Το κάπνισμα και ο καρκίνος: το πρόβλημα της αιτιολογίας του βρογχικού καρκίνου*, Αθήνα 1964.

<sup>105</sup> Εκπαιδευτικό υλικό..., όπ.π., σ. 37.

<sup>106</sup> Cf. Α. Ιωαννίδου, Χ. Ματθαίου και Α. Τοπάλογλου, *Οι ψυχολογικές και κοινωνικές διαστάσεις της σχέσης του εφήβου με το κάπνισμα*, Πάτρα: ΤΕΙ Πάτρας, 2000.

<sup>107</sup> Cf. Μ. Ντάβου, *Το κάπνισμα στην εφηβεία: ψυχοκοινωνικές διαστάσεις της σχέσης του εφήβου με το κάπνισμα*, Αθήνα 1992, Ι.Β.Ε.Α.Α., «Η αλήθεια για το κάπνισμα, το ιστορικό της σύμβασης πλαίσιο για τον Έλεγχο του καπνίσματος του Π.Ο.Υ.», HEART II, Αθήνα 2012.

<sup>108</sup> *Παιδεία για ένα κόσμο χωρίς κάπνισμα*, Αθήνα 2016, σ. 186-201.

<sup>109</sup> See *Εγχειρίδιο για την Πρόληψη της Ουσιοεξάρτησης: Κατευθυντήριες γραμμές και σχεδιασμός παρεμβάσεων*. Ερευνητικό Πανεπιστημιακό Ινστιτούτο Ψυχικής Υγιεινής, Αθήνα, 2011.

<sup>110</sup> *Παιδεία για ένα κόσμο χωρίς κάπνισμα*, Αθήνα 2016, σ. 176-177.

<sup>111</sup> *Παιδεία για ένα κόσμο...*, όπ.π., σ. 183-184.

<sup>112</sup> Κ. Χρηστάκη, *Το παιδί και ο έφηβος στην Οικογένεια και το Σχολείο*, εκδ. Γρηγόρη, Αθήνα 2012, σ. 259.

<sup>113</sup> See S. Sussman, *Developing school-based tobacco use prevention and cessation programs*, Thousand Oaks, London, New Delhi: Sage, 1995.

<sup>114</sup> See *Παιδεία για ένα κόσμο χωρίς κάπνισμα*, Αθήνα 2016.

<sup>115</sup> Α. Κ. Δανασσή - Αφεντάκη, *Εισαγωγή στην Παιδαγωγική, Σύγχρονες τάσεις της Αγωγής*, Β' εκδ., Τμήμα Φιλοσοφίας – Παιδαγωγικής - Ψυχολογίας, Φιλοσοφική Σχολή Πανεπιστημίου Αθηνών, Αθήνα 1997, σ. 185-227.

<sup>116</sup> A. Bandura, *Social foundations of thought and action*, Englewood Cliffs, NJ Prentice-Hall, 1977.

<sup>117</sup> Κ. Γ. Φράνσις, *Το κάπνισμα στα παιδιά και τους εφήβους: επίπτωση, στάσεις, προδιαθεσικοί παράγοντες με την κοινωνική προσαρμοστικότητα και την ψυχοπαθολογία*, Αθήνα 2007 (διδ. δ.).

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- <sup>120</sup> NICE *Evidence Update* 38 "School-based interventions to prevent the uptake of smoking among children and young people" (2013).
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- <sup>122</sup> See Χ. Δ. Γεωργόπουλου, *Κάπνισμα. Ιστορικά δεδομένα, επιπτώσεις στον άνθρωπο, νομοθεσία, τρόποι πρόληψης και αντιμετώπισης* (διπλ. δ.), Πάτρα: Ε.Α.Π., 2014.
- <sup>123</sup> Εκπαιδευτικό υλικό αγωγής υγείας..., όπ.π.
- <sup>124</sup> See Δ. Γ. Αδάμου, *Σχεδιασμός και εφαρμογή ενός παρεμβατικού προγράμματος για την ευαισθητοποίηση και μείωση του καπνίσματος σε μαθητές Λυκείου*, 2008 (μτπ. δ.).
- <sup>125</sup> S. E. Gilman, Render R., Boergers J. et al. "Parental Smoking and Adolescent Smoking Initiation: An Intergenerational Perspective on Tobacco Control," *Pediatrics* 123/2 (2009) 274-281.
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- <sup>127</sup> J. F. Childress, "Tobacco, use of." in: J. Macquarrie & J. Childress, *A New Dictionary of Christian Ethics*, SCM Press LTD 1967, The Westminster Press, 1986, pp. 625-627.
- <sup>128</sup> See Αρχιμ. Σωφρόνιου, *Ο άγιος Σιλουανός ο Αθωνίτης*, Ιερά Σταυροπηγιακή Μονή Τιμίου Προδρόμου, Έσσεξ Αγγλίας, 1999, σ. 360.
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- <sup>136</sup> Β. Γκελεστάθη, κ.ά., *Στάση τού εφήβου απέναντι στο κάπνισμα: ψυχο-κοινωνικο-οικονομικοί παράγοντες που καθορίζουν τη συχνότητα του καπνίσματος*, Πάτρα: ΤΕΙ Πάτρας, 1992, Μ. Παπαδημητρίου κ.ά., *Στάση των εφήβων στο κάπνισμα: ψυχοκοινωνικοί παράγοντες που καθορίζουν τη συχνότητα του καπνίσματος*, Πάτρα: ΤΕΙ Πάτρας, 1992, Μ. Ντάβου, *Το κάπνισμα στην εφηβεία: ψυχοκοινωνικές διαστάσεις τής σχέσης τού εφήβου με το κάπνισμα*, Αθήνα 1992, Γ. Υφαντόπουλου, *Οι κοινωνικές επιπτώσεις από το κάπνισμα. Μέσα Μαζικής Ενημέρωσας και Κάπνισμα*, Ελληνική Αντικαρκινική Εταιρεία, υπό την



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