THE RELATION OF SELF-ESTEEM, DEPRESSION AND ANXIETY SYMPTOMS AND ACADEMIC ACHIEVEMENT IN ADOLESCENTS

Thesis

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By

Dina Badie Taher

(M.B., B.Ch., Cairo University)

Supervised By

Prof. Dr. Lamis Ali El Ray

Professor of Psychiatry

Faculty of Medicine

Cairo University

***Dr.* Heba Fathy Abdel-Rehem**

Lecturer of Psychiatry

Faculty of Medicine

Cairo University

Faculty of Medicine

Cairo University

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Abstract

School performance is affected by a multiplicity of factors which include psychological, physical, cognitive and environmental aspects. School failure is in coincidence with the beginning of adolescent age and it extends to other spheres of student personal and social life

The aim of our study is to assess the correlation between different psychosocial variables including socio-demographic factors , intelligence depression , anxiety and self- esteem with the academic achievement of adolescents.

Key Words: adolescent- intelligence-depression-anxiety-self-esteem-academic achievement

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LIST OF ABBREVIATIONS

BDNF: Brain-Derived Neurotrophic Factor

CDI: Children Depression Inventory

CMAS: Children Manifest Anxiety Scale

DSM- IV: Diagnostic and statistical manual 4th edition

EEG: Electroencephalography

fMRI: Functional magnetic resonance imaging

GAD: Generalized anxiety disorder

HPA: Hypothalamo-Pituitary-Adrenal

IQ: Intelligence Quotient

MASC: Multidimensional Anxiety Scale for Children

MRI: Magnetic resonance imaging

NICHCY: National Information Center for Children and Youth with Disabilities

NIMH: National Institute of Mental Health

OCD: Obsessive compulsive disorder

PD: Panic disorder

PTSD: Post traumatic stress disorder

SP: Specific phobia

SPSS: Statistical package of social science

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Introduction

Despite the likelihood of school difficulties throughout the entire educational career. School failure is in coincidence with the beginning of adolescent age and the attending of the high school. The aetiopathogenesis of school school discomfort is mostly determined by: psychological, physical, cognitive and environmental aspects (Shwarzenberg et al., 2002).

Recent studies indicate an increase of adolescent depression in recent years, negative and positive mood, as well as sense of humor goals seems to be protecting. Prevalence of depressive symptoms was shown to be higher than expected (Gotestam et al., 2008).

Self esteem and self concept are relevant; these two components have a momentous role in personality. Thus people with high self concept and self esteem have high adaptability, are capable of initiating good motive, relations with others, take part in creational works, have an active role in social groups and are endowed with high self confidence, there is a negative correlation between self esteem, depression and academic achievement (Ashtiani et al., 2007).

Anxiety symptoms are extremely common in childhood and adolescence and can negatively interfere with general well being social life, academic performance and development of social skills (Kendall et al., 2004).

Prevalence of anxiety symptoms increased with age and high level of anxiety were negatively associated with school performance in a community sample (Mazzone et al., 2007).

Aim of work

1- To assess the different socio-demographic variables in adolescent students.

2- To assess anxiety, depression, self-esteem and intelligence in adolescent students.

3- To study the correlation between socio-demographic variables and academic achievement in adolescent students.

4- To study the correlation between anxiety, depression, self-esteem, intelligence and academic achievement in adolescent students.

NORMAL ADOLESCENT DEVELOPMENT

Adolescence is a transitional stage of physical and mental human development that occurs between childhood and adulthood. This transition involves biological (i.e. pubertal), social and psychological changes **(Christie et al., 2008)**.

Puberty; a phase of physiological changes includes the development of sexual reproductive systems, begins in early adolescence **(Manning et al., 2005)**.

The release of gonadotrophic hormones, mainly estrogen in girls and testosterone in boys, released by the endocrine glands, especially the pituitary gland during onset and duration of puberty cause appearance of both primary and secondary sexual characters by about the age on average of 12 or 13. It is during these first few years of puberty that the reproductive system of both boys and girls mature and become able to produce sex cells (gametes), ovum in girls and sperm in boys **(Azevedo et al., 2006)**.

Menarche, the first menstrual period, occurs relatively late in puberty about 18 months after girls growth spurt has reached its peak, and is irregular and ovulation occurs one year after menarche while in boys, ejaculation occurs about 2 years after growth spurt begins and it

has no sperms at first then the number and fertility gradually increases, it is very important to know that there are wide variation in the age at which puberty begins and the rate at which it progresses **(Atkinson et al., 2000)**.

In recent years, however the start of puberty has had somewhat of an increase in preadolescence, particularly females as seen with early and precocious puberty. Adolescence has had an occasional extension beyond the teenage years (typically males). The changes have made it difficult to rigidly define the time frame in which adolescence occurs **(Ritter et al., 2000)**.

Physical Development Characteristics:

Developmental growth includes rapid gains in height and weight, during one year growth spurt, boys and girls can gain an average of 4.1inches and 3.5 inches in height respectively; this spurt typically occurs two years earlier for girls than for boys **(Steinberg, 2007)**.

Teenage girls may become overly sensitive about their weight. 62% of adolescent girls report that they are trying to lose weight **(Center of Disease Control, 2005)**. A small percentage of adolescent girls (1% to 3%) become so obsessed about their weight that they develop severe eating disorders, such as anorexia nervosa or bulimia **(Alonso et al., 2005)**.

There is also increase in lung and heart size and decrease in heart rate. The bones in the hand mature to almost adult levels with development occurring faster in girls than boys, giving a boost in coordination. Boys outpace girls in muscle development and thickening during adolescent years, bring with it increase in strength **(Azevedo et al., 2006)**.

Fluctuations in basal metabolism cause these youth to experience periods of restlessness and lassitude **(Kellough, 2008)**.

Teens frequently sleep longer; they actually need more sleep to allow their bodies to conduct the internal work required for such rapid growth. On average teens needs about 9 and a half hours of sleep at night **(Strauch, 2003)**.

The brain undergoes considerable development during adolescence. Both cross sectional and longitudinal data demonstrate that changes in the frontal and parietal regions are especially pronounced and prolonged. The volume of grey matter in the frontal lobes increases during childhood with a peak occurring at around 12 years for males and 11 years for females, roughly coinciding with the age of puberty onset. This is followed by a decline in grey matter volume during adolescence **(Toga et al., 2006)**.

Similarly, parietal lobe grey matter volume increases during the preadolescent stage to a peak at around 12 years for males and 10 years for females, and is followed by a decline during adolescence **(Gogtay et al., 2004)**.

While frontal and parietal cortex development is relatively rapid during adolescence, grey matter in the superior temporal cortex, reaches a peak at around 16 years and then follows a steady decline, not reaching maturity until relatively late. There is an increase in prefrontal cortex and parietal cortex white matter density from puberty onset, throughout adolescence and into adulthood **(Toga et al., 2006)**.

A recent longitudinal MRI study of participants aged between 3 and 29 years revealed that the trajectory of change in cortical thickness is associated with the development of IQ. The developmental shift in trajectory was not pronounced for the most intelligent children and adolescents. The children with the highest IQ had a thinner cortex in early childhood but cortical thickness then increased, peaking at around age 11, and then underwent the most dramatic cortical thinning thereafter. Researchers proposed that intelligence levels relate to how the cortex changes during development **(Shaw et al., 2006)**.

Intellectual Development:

Intellectual development refers to the increased ability of people to understand and reason. In young adolescents intellectual development is not as visible as physical development, but it is just as intense **(Stevenson et al., 2002)**.

Youth exhibit a wide range of individual intellectual development, metacognition (the ability to think about one's own thinking) and independent thought. They tend to be highly curious and display a broad array of interests, though few are sustained. They

are eager to learn about topics they find interesting and useful, favor active over passive learning experiences, and prefer interactions with peers during educational activities **(Kellough et al., 2008)**.

During early adolescence, youth typically progress from concrete logical operations and problem solving to acquiring the ability to develop and test hypotheses, analyze and synthesize data, grapple with complex concepts and think reflectively **(Manning et al., 2002)**.

Similarly, they are increasingly able to consider ideological topics, argue a position, question adult authority and appreciate sophisticated levels of humor **(Stevenson et al., 2002)**.

Youth tend to be inquisitive about adults and are often keen observers of adult behavior **(Scales et al., 2003)**.

They are more interested in real life experiences and are often less interested in conventional academic subjects. They develop an improved ability to think about the future, anticipate needs and develop personal goals **(Kellough et al., 2008)**.

Emotional and Psychological Development:

During early adolescence, emotional and psychological development is characterized by the quest for independence and identity formation. It is a time when young adolescents seek their own individuality and uniqueness **(Knowles et al., 2000)**. They are searching for an adult identity as well as adult acceptance, while striving to maintain peer approval **(Kellough et al., 2008)**.