Construction of a Psychological Immunity Scale for Middle School Students

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Abstract: The present study was conducted with the objective of developing a psychological immunity scale tailored for middle school students and to ascertain its psychometric properties. The formulation of the scale adhered to rigorous procedures, resulting in a comprehensive instrument featuring 46 items distributed across six dimensions: religious commitment, problem-solving ability, goal orientation, self-confidence, positive thinking, emotional stability, and self-regulation.

The scale was administered to a cohort of 180 students from the third and fourth years of middle school. The psychometric integrity of the scale was evaluated through face validity and internal consistency reliability, with reliability further assessed via the split-half method and the calculation of Cronbach's alpha coefficient.

The findings revealed that the internal consistency across the various dimensions and the overall scale ranged from 0.88 to 0.92. The Guttman split-half coefficient was determined to be 0.95, while Cronbach's alpha for the entire scale was recorded at 0.81. These metrics indicate that the psychological immunity scale developed through this research exhibits robust signs of validity and reliability, affirming its psychometric solidity comparable to established scales.

Keywords: Psychometric Properties; Psychological Immunity.

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I- Introduction :

Middle school is a pivotal developmental stage in an individual's educational journey, marking a period where fundamental skills and capabilities are honed to establish a robust base for future academic, personal, and professional achievements. This phase aligns with the onset of adolescence, a time characterized by numerous challenges including heightened academic demands, significant physical and hormonal changes, and complex social and emotional transitions.

These challenges necessitate the development of strong psychological mechanisms to manage and adapt positively. One crucial mechanism identified by researchers is "psychological immunity."

Introduced into the realm of positive psychology in the early 1990s by Susan Kobasa during her doctoral research under the mentorship of Mihaly Csikszentmihalyi in the United States, completed in 1977, the concept of psychological immunity pertains to an individual's capacity to adapt and persist through daily stressors and adversities (Mekheimer, 2011, p. 11).

In today's rapidly evolving society, marked by intricate social interactions and continuous developments, possessing robust psychological immunity is essential not only for maintaining mental health but also for effective problem-solving and interpersonal dealings (Al-Bayoumi, 2019, p. 4).

In light of these considerations, children and adolescents are recognized as particularly susceptible demographics, encountering various forms of violence, psychological pressures, and social challenges. These include anxiety, stress, fear, peer pressure, boredom, and susceptibility to substance abuse. Current research indicates that these challenges can be successfully mitigated through strengthening the psychological immune system.

Therefore, psychological immunity emerges as a vital asset for middle school students, who are at a stage replete with extensive physical, hormonal, psychological, social, and mental changes. This immunity serves as a pivotal force, enhancing their cognitive processes and enabling them to navigate the myriad changes characterizing this delicate period of growth and development. It further aids them in surmounting environmental obstacles and challenges constructively, potentially preventing behavioral anomalies within familial or educational contexts.

Moreover, by fostering self-confidence and promoting positive interactions with peers, psychological immunity is instrumental in bolstering students' capacity to adapt, endure, and thrive during this critical juncture of their academic and personal development. Investigating the levels of psychological immunity among students at this stage can significantly enrich their educational experiences and personal achievements. Given the inherent complexity of psychological variables, measuring a student's immunity necessitates the use of reliable scales and questionnaires.

Therefore, the development of a scale specifically designed to measure psychological immunity in middle school students holds substantial importance, particularly considering the absence of such scales tailored to the characteristics of this demographic within the Algerian context, to the best of the researchers' knowledge.

This initiative also equips researchers and educators with essential tools to evaluate and comprehend the psychological endurance and coping capacities of students facing emotional and psychological challenges during this pivotal phase, thereby facilitating the delivery of targeted support and the formulation of strategies to enhance their mental health.

Problem Statement:

Modern life is fraught with various stresses and tensions that can impact individuals' psychological and physical well-being, along with their academic and professional performance. This situation underscores the necessity to explore effective mechanisms and strategies for coping with and adapting to these pressures. Scholars in different branches of psychology have debated over the categorization and characterization of these coping mechanisms and have not yet converged on a unified concept or terminology.

Prominent among these mechanisms, as delineated by the field of positive psychology in the 21st century, is psychological immunity. This concept encapsulates a set of personal traits that empower an individual to withstand psychological stress and exhaustion, and to resist associated feelings, sensations, and thoughts, thus shielding them from the adversities experienced by their contemporaries in similar circumstances (Sweid, 2016, p. 13).

This protective facet, known as the psychological immunity system, was conceptualized by Olah (1996-2009), who developed this framework based on positive psychology with the objective of amalgamating personal capabilities such as control, psychological toughness, optimism, problem-solving skills, emotional stability and self-regulation, self-awareness, and self-efficacy into a comprehensive system.

The exploration of psychological immunity and its understanding among individuals has become increasingly crucial in today's world, particularly given the contemporary global challenges posed by epidemics, natural disasters, and conflicts. These adversities necessitate a robust level of psychological immunity to confront such pressures and to mitigate the trauma and ensuing effects of distressing experiences and circumstances.

Given the significant transformations of adolescence, a period marked by notable physical and psychological changes that influence capabilities, behaviors, and cognition, and which coincides with middle school education, the role of psychological immunity during this stage is crucial for multiple facets of adolescent growth. It facilitates their adaptation to physical and psychological changes, effective management of these transitions, the development of robust social relationships, the ability to handle academic pressures, and the reduction of stress levels.

Furthermore, the inherent human curiosity to understand one's own psychological makeup has spurred psychologists and researchers to delineate psychological variables in a more quantitative, precise, and credible manner. This shift towards psychological measurement and the creation of psychological scales has transformed psychology from a discipline rooted in sophistry and philosophy to one characterized by objectivity and scientific rigor.

Since psychological differences between adults and adolescents are significant, applying scales designed for adults to assess adolescent psychological immunity may not accurately reflect the true state of adolescent immunity (Laufer & Laufer, 2018).

Thus, measuring and ascertaining the level of psychological immunity among middle school students is paramount not only for the early detection of issues and the implementation of necessary preventative and therapeutic measures to bolster their psychological health but also to enhance their overall educational experience. This enhancement positively impacts their comprehensive development and future success.

Upon reviewing the theoretical literature on psychological immunity, the researchers identified several international studies concerning various demographics, including adolescents, college students, medical professionals, and athletes. However, at the local level, only a few studies have addressed this concept, and these were primarily focused on adults or individuals with chronic diseases.

Given the distinctive characteristics of the adolescent stage and despite the standardization of foreign scales, the cultural, civilizational, and social differences inherent in the environments where these scales were developed may undermine their applicability and relevance.

Psychological immunity is especially pertinent in our current context, yet it remains underexplored in Arab regions, including Algeria. Hence, this study was initiated with the goal of developing a scale to measure the psychological immunity of middle school students in Algerian society, taking into account the unique aspects of this community.

Therefore, the primary challenge of the current study is to ascertain the psychometric properties of the newly developed psychological immunity scale within the Algerian context. This leads to the central research question of the study:

- Does the psychological immunity scale, when applied to a sample of middle school students, demonstrate the psychometric properties characteristic of a robust scale?

Study Hypotheses:

The hypotheses of the study are as follows:

- The psychological immunity scale, when applied to the sample, has acceptable validity indicators consistent with the properties of a good scale.
- The psychological immunity scale, when applied to the sample, has reliability values that align with the properties of a good scale.

Study Objectives:

The current study aims to achieve the following objectives:

- To confirm the psychometric properties of the psychological immunity scale for a sample of middle school students in the city of El-Oued, Algeria.
- To develop a standardized scale that is applicable within Algeria for assessing the psychological immunity of middle school students.

Study Significance:

The significance of this study stems from the substantial scientific and practical contributions it endeavors to offer, particularly through its focus on the salient concept of psychological immunity within positive psychology. This significance is articulated through several dimensions:

- The study underscores its significance by investigating psychological immunity, a dynamic and latent resource that, once activated, facilitates effective adaptation to challenging and traumatic situations. This activation not only enhances individual efficacy but also contributes to societal advancement.

- The study's originality is highlighted by its focus on the psychological immunity of adolescents engaged in middle school education—a demographic increasingly facing stressors that impair their efficiency. These young individuals are seen as untapped potentials whose successful development can significantly benefit both themselves and society.
- This research contributes to the field of psychological measurement by developing and refining tests and scales that preserve the cultural uniqueness of each local community, thereby enhancing the precision and applicability of psychological assessments.
- The study offers a standardized, objective measurement tool that is valid for assessing the degree of psychological immunity among middle school students within a specific local community.

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- This research contributes to the field of psychological measurement by developing and refining tests and scales that preserve the cultural uniqueness of each local community, thereby enhancing the precision and applicability of psychological assessments.
- The study offers a standardized, objective measurement tool that is valid for assessing the degree of psychological immunity among middle school students within a specific local community.

I.1 Definition of Terms in the Study:

I.1.1 Psychometric Properties:

These refer to the critical attributes associated with the validity and reliability of a test, which are established through testing a representative sample of the population. This research includes:

A. Validity Coefficient:

The degree to which a test accurately measures what it is intended to measure, ensuring that it does not inadvertently assess unrelated variables. This study employed face validity and internal consistency validity.

B. Reliability Coefficient:

This is the capacity of a test to reflect the true score with minimal interference from random errors. The methodologies used in this study include the split-half method and Cronbach's alpha coefficient (α).

I.1.2 Psychological Immunity:

This term describes a protective and integrative construct among various personality dimensions—cognitive, behavioral, emotional, and social—that serve as psychological countermeasures. These dimensions interact to enhance an individual's capability to confront daily psychological stressors, thereby fostering adaptation and overall psychological health.

In this study, psychological immunity is operationally indicated by the total score obtained on the psychological immunity scale for middle school students, which comprises 48 items distributed across six dimensions as follows:

A. **Religious Commitment**: Encompassing (07) items that gauge the extent to which a student incorporates religious values and teachings into daily behaviors, aiding in the prevention and resolution of psychological issues.
B. **Problem-Solving Ability**: Including (08) items that assess a set of mental skills necessary for analyzing problems, generating new ideas, and utilizing available data to formulate innovative solutions.
C. **Goal Orientation**: Consisting of (08) items, this dimension measures the structured efforts a student makes towards achieving their goals, incorporating clear strategies and persistence despite obstacles.
D. **Self-Confidence**: Comprising (09) items, this measures the extent of a student's self-awareness, self-acceptance, understanding of their own capabilities and objectives, and their effectiveness in setting and reaching those goals amidst challenges.
E. **Positive Thinking**: Containing (10) items, this dimension evaluates an individual's approach to interpreting events and situations, emphasizing their ability to maintain a positive outlook and adapt constructively to various circumstances, focusing on life's positive aspects.
F. **Emotional Balance and Self-Control**: Including (06) items, this area assesses the individual's capacity to manage emotions and handle stress and tension in a calm and balanced manner.

I.2 **Theoretical Framework and Previous Studies:**

I.2.1 Definition of Psychological Immunity:

- **Linguistically:**

The term "psychological immunity" is derived from the notion of immunity or resistance, as defined in the Intermediate Dictionary. It embodies the concept of withstanding rather than succumbing, signifying the antithesis of contagion (Anis, Montaser, et al., 2004, p. 65).

- **Conventionally:**

The concept of psychological immunity, though relatively new in psychological discourse, exhibits a rich diversity in its definitions. Notable interpretations include:

- **Albert (2012)** describes psychological immunity as a constellation of personal traits that equip an individual to withstand stress and psychological exhaustion. This immunity integrates all encountered experiences, utilizing them in similar future situations, thereby cultivating psychological antibodies that shield the individual from adverse environmental influences (Albert, Albert & al., 2012, p. 104).
- **Essam Zaidan (2013)** views psychological immunity as the capacity of an individual to defend against the potential negative effects of stress, threats, risks, frustrations, and psychological crises. This defense is achieved through psychological immunization, leveraging self-resources and inherent potentials such as positive thinking, creativity, problem-solving, self-control, balance, immunity, challenge, perseverance, effectiveness, optimism, and adaptability (Suleiman, Mujahid, 2018, p. 6).
- **Olah (2010)** defines it as an integrated system encompassing the cognitive, motivational, and behavioral dimensions of an individual's personality. This system enhances the ability to

confront crises and life pressures, promoting healthy psychological growth. It serves to counteract stress, psychological crises, and negative thoughts associated with these crises, aiding the individual in effectively overcoming these pressures (Olah, Nagy & al, 2010, p. 102).

From these definitions, it is evident that psychological immunity is understood as a complex of personal traits that aid individuals in confronting life's pressures. It acts as a protective mechanism, enhancing their capacity to face adversities and shield them from the lasting negative effects of these challenges, thereby facilitating adaptation and fostering a sense of inner peace.

I.2.2 Theories Explaining Psychological Immunity:

Researchers and theorists across various psychological schools have extensively studied psychological immunity, with significant contributions from:

A. Psychoanalytic Theory:

A cornerstone in modern counseling and therapy, psychoanalytic theory was profoundly influenced by Freud. He theorized that the psychic apparatus strives for equilibrium and a low level of arousal. Exposure to an internal or external stimulus disrupts this state, propelling the individual to undertake physical or mental activities to dissipate the aroused state and restore their pre-exposure condition. Freud also noted that the disequilibrium caused by the stimulus induces discomfort and tension.

Consequently, the individual's efforts to lower arousal levels are crucial for psychological balance. According to Freud, the adaptability of an individual's personality hinges on the strength of the ego, which defends the personality, aids its adaptation to environmental changes, resolves conflicts, and maintains harmony with the id—which seeks gratification—and the superego, which restricts gratification to socially acceptable behaviors (El-Sayed, 1990; El-Ghazzar, 2018).

B. **General Adaptation Syndrome Theory**:

Developed by Hans Selye in 1976, the General Adaptation Syndrome theory offers a foundational model for understanding the body's response to stress. This model outlines three stages: the alarm stage, the resistance stage, and the exhaustion stage. The alarm stage is triggered by an initial perception of threat, causing physiological arousal as the body mobilizes its resources to confront the challenge.

If the stressor persists, the organism transitions to the resistance stage, where physiological changes stabilize and coping mechanisms are employed, maintaining elevated physiological arousal as the organism adjusts to the threat. Prolonged stress may lead the organism into the exhaustion stage, where, according to Selye, the body's finite resources for combating stress are increasingly taxed. Should these resources be depleted without overcoming the stress, the organism risks collapse, potentially leading to what Selye termed 'diseases of adaptation' and psychological disorders.

This theory underscores that our psychological behaviors in normal conditions are expressions of the balance between our immunity and the intensity of our experiences. An individual's psychological immunity to stress is finite, and surpassing this threshold can disrupt balance, either by adapting or collapsing from exhaustion (Salman, Gani, 2015, p. 192).

C. **Cognitive Theory**:

Cognitive theory, primarily associated with figures such as Aaron Beck, posits that adaptation is heavily influenced by how an individual interprets and evaluates environmental events. Beck

asserts that individuals often respond to experiences in a distorted, unrealistic manner. If responses are based on misconceptions rather than reality, the emotional outcomes will reflect these distortions.

Beck's therapeutic approach emphasizes correcting an individual's self-perceptions regarding events, thus aligning disorders and their treatments more closely with real-life experiences. George Kelly, another proponent of cognitive theory, highlights the importance of how individuals assess situations and events, noting that the natural human inclination to observe and hypothesize is crucial for adaptation and achieving mental health (El-Sherif, 2016).

D. **Attila Olah's Theory of Psychological Immunity**:

Attila Olah's theory is a significant contribution within the field of positive psychology, which focuses on studying and promoting factors that contribute to an individual's well-being and imbue life with meaning and value. Olah emphasizes psychological resources such as positive thinking, optimism, psychological flexibility, and self-efficacy.

His theory prioritizes protective factors that bolster mental health and overall well-being, rather than solely concentrating on disease and disorder prevention. Olah argues that focusing on the inherent strengths and capabilities of the human personality, rather than its flaws and weaknesses, can enhance psychological immunity.

He notes that various intertwined and interrelated cognitive, behavioral, emotional, environmental, and societal factors interact to reinforce an individual's psychological immunity. These factors not only strengthen an individual against stress but also enhance their capacity to face life's difficulties, problems, challenges, and pressures, thereby reducing the likelihood of psychological disorders that could manifest as physical illnesses (Olah, 2002, p. 104).

Olah emphasized that the cognitive aspects—thoughts, knowledge, and beliefs—play a significant role in shaping and fortifying psychological immunity. By modifying and enhancing a person's thought processes to foster a belief in their capacity and positive energy to manage difficult and stressful scenarios, one can substantially develop their psychological immunity (Olah, 2004, p. 323).

The theoretical approaches to understanding psychological immunity are varied and rich:

- Psychoanalytic Theory posits that psychological immunity is a manifestation of the ego's strength and its ability to mediate between the demands of the id and the superego, thereby maintaining a balance.
- General Adaptation Syndrome Theory conceptualizes individual psychological immunity as the ability to resist stress through the three stages of alarm, resistance, and exhaustion.
- Cognitive Theory views psychological immunity as fundamentally linked to how an individual perceives their environment and the subsequent behaviors they exhibit based on those perceptions.
- Olah's Theory offers a positive framework, diverging from traditional models that focus predominantly on the etiology of diseases and psychological disorders. Instead, it emphasizes the enhancement of psychological, social, and adaptive strategies to bolster immunity and mental health.

I.2.3 Previous Studies:

- A study by Olah (2000) aimed to develop a Psychological Immune System scale, which Dr. Riad Al-Asmi translated and adapted to the Arab environment in 2012. The list consists of 80 items distributed across 16 dimensions measuring psychological immunity. These dimensions are divided into three subsystems:
  - **Monitoring and Advancement System (MAS):** Includes positive thinking, sense of control, sense of coherence, and self-growth.
  - **Creative Execution System (CES):** Encompasses orientation towards change and challenges, social monitoring, goal orientation, self-concept of creativity, problem-solving, self-efficacy, social adaptation, and social creativity.
  - **Self-regulation System (SRS):** Covers synchrony, impulse control, emotional control, and haste regulation. Responses are given on a scale ranging from "strongly disagree" to "strongly agree," and its validity and reliability were confirmed in the Syrian environment and then various other Arab environments including Lebanon, Saudi Arabia, and Egypt.
- A study by Al-Maliki and Nasr (2019) aimed to develop a psychological immunity scale for first-year high school students. The scale, consisting of 58 items across nine dimensions (positive thinking, creative problem-solving, self-control and balance, psychological immunity and toughness, self-efficacy, self-confidence, challenge and perseverance, psychological flexibility and adaptation, optimism), was applied to a sample of 95 students. The validity was established through internal consistency, and reliability was calculated using Cronbach's alpha, yielding high validity and reliability indices.
- A study by Ahmed et al. (2020) aimed to develop a scale for the effectiveness of the Psychological Immune System for high school students. The scale included 70 phrases distributed over six dimensions (self-efficacy, strengths, spiritual orientation, positive problem-solving orientation, goal orientation, and body image orientation). It was corrected by choosing one of three alternatives ("always," "sometimes," "never"), and applied to a sample of 221 students (112 males and 109 females) from secondary schools in Qena, Egypt. The study used internal consistency and exploratory factor analysis to verify the scale's validity, and Cronbach's alpha was used to ensure reliability, concluding that the scale was effective in terms of validity and reliability.
- A study by Al-Amri (2021) aimed to develop a psychological immunity scale for adults, consisting of 80 items distributed over eight dimensions (self-confidence, self-control and emotional stability, problem-solving ability, planning and having alternatives, benefiting from past experiences, connecting with the body, strength of belief, tranquility). Each item offered three response options ("yes," "sometimes," "no"). Applied to a sample of 230 adults aged 18-50 from the Algerian community, the scale's psychometric properties were verified through face validity, discriminant validity, and calculating reliability using Cronbach's alpha and the split-half method, indicating strong and significant results that supported the scale's appropriateness.
- **Tanveer (2022) Study:** This comprehensive research was designed to develop a Psychological Immunity Scale for Adolescents (PIS-A), incorporating 47 items structured across four critical dimensions: emotional intelligence, self-concept, quality of life, and

positive outlook. The study engaged a substantial sample of 2,044 Indian adolescents. The reliability of the scale was rigorously confirmed through methods including Cronbach's alpha and the test-retest approach, both indicating high and significant reliability indices. For validity, the study employed a multifaceted approach involving construct validity, which includes both convergent and discriminant validity, supplemented by exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The results affirmed the adequacy of all four sub-dimensions. Furthermore, the scale's effectiveness was evaluated in relation to other established metrics, such as the Brief Immunity Scale and the Psychological Vulnerability Scale, to explore the relationships between psychological immunity, immunity, and psychological vulnerability among adolescents. The findings revealed an inverse relationship with psychological vulnerability and a direct correlation with immunity, establishing the scale as a reliable tool for measuring psychological immunity in adolescents.

- **El-Dardir et al. (2022) Study:** Aimed at developing a Psychological Immunity Scale specifically for middle school students, this study created a scale comprising 32 items across five distinct dimensions: belief strength, emotional regulation, positive thinking, problem-solving, and goal achievement. The response options were categorized into three types: Yes, Sometimes, and No. This scale was administered to a sample of 170 middle school students in Aswan, Egypt, during the academic year 2022. To test the psychometric properties of the scale, exploratory factor analysis with Promax rotation was utilized. The scale's reliability was established using Cronbach's alpha, yielding robust and significant validity and reliability indices.

These studies primarily focused on developing scales to measure psychological immunity and aimed to validate these scales as compatible with the psychometric properties expected of a rigorous psychological test.

The studies commonly employed multiple methodologies for assessing validity and reliability, with most employing factor analysis for validity and Cronbach's alpha for reliability. Notably, while most studies reviewed included a variety of methods, the studies by Al-Maliki and Nasr (2019) and El-Dardir et al. (2022) utilized a single method each for assessing validity and reliability.

Every researcher involved reported that their developed scales were valid and met the criteria for acceptable psychometric properties. Significantly, only two studies, those by Tanveer (2022) and El-Dardir et al. (2022), specifically targeted adolescent populations, with Tanveer's study being particularly comprehensive due to its use of multiple validation and reliability methods.

Among the studies presented, only the one by Al-Amri (2021) was applied within the Algerian community, targeting adult populations rather than adolescents. The studies demonstrated variability in the dimensions used to conceptualize psychological immunity, with some, like Olah (2000), proposing a structure of 16 dimensions grouped into three categories, while others ranged between six to nine dimensions.

Given the limited number of studies that have developed or standardized scales for measuring psychological immunity tailored to specific cultural and environmental contexts, this current study is vital. It aims to extract the psychometric properties of a scale designed for middle school students within the Algerian environment and to assess its compatibility with the criteria for a well-constructed test.

This research emphasizes the importance of adapting psychological assessment tools to the cultural contexts in which they are utilized, ensuring that the outcomes of such assessments are accurate and relevant.

II– Methods and Materials:

II.1 Research Methodology:

The methodology adopted in this study was descriptive, deemed optimal for affirming the hypotheses posited. The primary aim was to collect comprehensive data related to the subject matter, which involved categorization, detailed analysis, interpretation, and subsequent generalization of the findings.

This process included a thorough examination of the presence and extent of psychometric properties deemed essential for a quality psychological test, specifically tailored to a sample of middle school students in the Algerian context.

II.2 Study Boundaries:

A. **Spatial Boundaries:** The research was conducted in various middle schools located within the 19th of March district in El Oued. Specific institutions included El Weam El madani Middle School, Mahmoud Cherifi Middle School, and Mohamed El Amin El Amoudi Middle School.

B. **Temporal Boundaries:** Implementation of the study occurred during the first semester of the academic year 2022/2023.

C. **Human Boundaries:** The study specifically targeted a group of 180 students, encompassing both third and fourth-year middle school students.

II.3 Study Population and Sample:

The broader study population comprised all third and fourth-year middle school students within the 19th of March district of El Oued. This population totaled 1,096 students, divided almost evenly with 517 males and 579 females. The following table illustrates the distribution of the study population by educational level:

Table (01) Distribution of Study Population by Educational Levels

Educational Level / Institution	Third Year Middle School	Fourth Year Middle School	Total
El Weam El madani	166 (15.14%)	145 (13.22%)	311 (28.38%)
Mahmoud Cherifi	263 (23.99%)	241 (21.98%)	504 (45.98%)
El Amin El amoudi	155 (14.14%)	126 (11.49%)	281 (25.64%)
Total	584 (53.28%)	512 (46.72%)	1,096 (100%)

The table data reveals that the study population comprises 311 students from El Weam El madani Middle School, representing 28.38% of the total. This group includes 166 third-year middle

school students (15.14%) and 145 fourth-year middle school students (13.22%). Furthermore, Mahmoud Cherifi Middle School accounts for 504 students, or 45.98% of the total, divided into 263 third-year students (23.99%) and 241 fourth-year students (21.98%). Additionally, Mohamed Amin El Amoudi Middle School encompasses 281 students, constituting 25.64% of the overall student body, with 155 in the third year (14.14%) and 126 in the fourth year (11.49%).

Consequently, the total study population amounts to 1,096 students, of which 584 are third-year middle school students, representing 53.28%, and 512 are fourth-year middle school students, accounting for 46.72% of the population.

II.4 Study Sample:

The sample for this study included 180 students, which corresponds to 16.42% of the overall study population, with a gender distribution of 78 males and 102 females. This sample was meticulously selected through a stratified random sampling method, recognized for its efficacy in capturing a representative cross-section of the original population across different academic levels.

Each of the three middle schools contributed 60 students to the sample, with an equal split of 30 students from each grade level, chosen via a random number table. The composition and selection criteria for the sample are detailed in subsequent tables.

Table (02) Distribution of Study Sample by Gender

Gender	Male	Female	Total
Frequency	78	102	180
Percentage	43.33%	56.67%	100%

Table 2 indicates that the study sample comprised 180 students, including 78 males, representing 43.33% of the sample, and 102 females, making up 56.67%. Table 3 details the distribution of the study sample according to educational level:

Table (03) Distribution of Study Sample by Educational Level

Educational Level	Third Year Middle	Fourth Year Middle	Total
Frequency	90	90	180
Percentage	50%	50%	100%

Table 3 shows that the study sample consisted of 180 students, with 90 third-year middle school students and 90 fourth-year middle school students, each group representing 50% of the sample.

II.5 Study Tool (Psychological Immunity Scale):

The primary instrument used in this study was the Psychological Immunity Scale, specifically designed for middle school students. The development of this scale was informed by a comprehensive process:

- Extensive review of theoretical literature and previous studies on the subject.
- Results from a pilot study conducted on a preliminary sample of 37 third and fourth-year middle school students selected randomly. The initial form of the scale included 58 items

across six dimensions. Seven incomplete forms and five unclear items were excluded, resulting in a preliminary scale of 53 items tested on 30 students.

- The researcher's (*) field experience, having worked with middle and high school students in educational counseling for eight years.
- Review of various previously mentioned psychological immunity scales, which helped define the operational definition of the variable, control its dimensions, and formulate its items.

A. Initial Scale Formulation:

Based on the comprehensive groundwork laid out through literature review, empirical data from the pilot study, field insights, and analysis of existing tools, psychological immunity was operationally defined. This led to the initial formulation of the scale, which comprises 53 dichotomously formatted items (positive-negative) spanning six dimensions. This formulation is detailed in Table 04:

Table (04) Item Distribution Across Dimensions of the Initial Scale Form

Dimension	Number of Items		Item Numbers
	Negative Items	Positive Items	
Religious Commitment		7-6-5-4-3-2-1	07
Problem Solving Capability	17-14	16-15-13-12-11-10-9-8	10
Goal Orientation	27-25	28-26-24-23-22-21-20-19-18	11
Self-Confidence		37-36-35-34-33-32-31-30-29	09
Positive Thinking	43	47-46-45-44-42-41-40-39-38	10
Emotional Balance and Self-Control	53-51	52-50-49-48	06

Table 4 shows that the initial version of the Psychological Immunity Scale consists of 53 items distributed across six dimensions. The Religious Commitment dimension includes 7 items. The Problem-Solving Ability dimension contains 10 items, with 2 negatively phrased and 8 positively phrased. The Goal Orientation dimension includes 11 items, with 2 negatively phrased and 9 positively phrased.

The Self-Confidence dimension comprises 9 items. The Positive Thinking dimension contains 10 items, with 1 negatively phrased and 9 positively phrased. Lastly, the Emotional Balance and Self-Control dimension includes 6 items, with 2 negatively phrased and 4 positively phrased.

B. Estimating the Scale Score:

The study utilized a three-point Likert scale, a common method that allows respondents to choose from one of the following alternatives: always, sometimes, never. This method was chosen to provide respondents with ample room to express their stance freely by offering multiple response options. Additionally, the use of the Likert scale is widespread due to its accuracy in yielding results, ease of data entry, and its effectiveness in minimizing the potential for researcher bias and subjective interpretations (Mecheri & al, 2018, p. 235).

C. Scale Scoring Method:

The scoring for the scale options was allocated graduated points from 3 to 1 for positive items, and inversely for negative items as detailed in the following table:

Table 5: Distribution of Scores for Answer Alternatives on the Psychological Immunity Scale

Alternatives	Always	Sometimes	Never
Positive Items	3	1	2
Negative Items	1	2	3

D. Scale Instructions:

An introductory section accompanied the scale, providing clear instructions on how to complete the assessment. This section aimed to simplify the process for respondents, ensuring they understood how to answer effectively. Key points included in the instructions were the assurance of confidentiality of the information provided, the importance of honesty in responses, and the necessity to note the respondent's educational level and gender.

II.6 Statistical Methods:

The data gathered through the scale was processed using the Statistical Package for the Social Sciences (SPSS). This advanced statistical software facilitated the employment of various analytical techniques aligned with the study's objectives, including:

- Frequencies and percentages to describe the sample and summarize the data.
- Pearson's R to evaluate internal consistency among scale items and dimensions, ensuring that the scale items coherently reflect the underlying constructs they are intended to measure.
- Spearman-Brown and Guttman coefficients were utilized to assess the scale's psychometric properties, particularly focusing on its reliability.
- Cronbach's alpha was calculated to determine the overall reliability of the scale, confirming its consistency across multiple instances of testing.

III- Results and discussion :

The validation of the first hypothesis, asserting that the Psychological Immunity Scale would demonstrate validity indicators in line with the characteristics of a well-constructed test, was approached through two distinct methods of validity assessment:

III.1 Face Validity (Expert Judgment):

The initial version of the Psychological Immunity Scale was presented to 13 experts from various national universities for evaluation. The experts were requested to assess the scale based on the following criteria:

- The appropriateness of the statements for measuring what they were intended to measure.
- The relevance of the statements to the domain and dimension they belong to.

- The linguistic clarity of the statements and their suitability for the respondents.
- The length of the scale, the number of items, their arrangement, and their distribution across the dimensions.
- The suitability of the instructions, the alternatives provided, and any suggestions for deletion, addition, or modification.

Following the collection of the evaluation forms, the experts' feedback was taken into consideration, and the consensus rate on the items was calculated. Based on this feedback, the following actions were taken:

- **Acceptance of items:** Items that achieved a consensus rate of 80% or higher were accepted, totaling 43 items.
- **Revision of items:** Items suggested for modification by the experts, where the consensus rate ranged between 79%-50%, were revised. This affected 5 items.
- **Deletion of items:** Items that were either redundant or did not measure the characteristic effectively, and which had a consensus rate below 50%, were deleted, totaling 5 items.

The table below outlines the modification procedures for the Psychological Immunity Scale after the expert judgment:

Table 06: Modification Procedures for the Psychological Immunity Scale Post Expert Validation

Dimensions / Items	Accepted Items	Modified Items	Deleted Items	Total
Religious Commitment	1-2-3-4-5-6	7		07
Problem Solving Ability	8-10-12-13-14-15-16-17		9-11	10
Goal Orientation	18-19-22-23-24-28	21-26	20-25-27	11
Self-Confidence	37-36-35-34-33-32-31-30-29			09
Positive Thinking	38-39-40-41-42-43-44-45-46	47		10
Emotional Balance and Self-Control	48-49-50-51-53	52		06
Total	43	05	05	53

The table above shows the modifications made to the scale after presenting it for arbitration to experts. The percentage of agreement among the arbitrators on the items of the scale was considered a criterion for validity. This was based on Lawshe's formula for content validity, which is as follows:

$$CVR = \frac{Na - N/2}{N/2}$$

Where:

- **C.V.:** Content Validity Coefficient.
- **N.A.:** Number of judges who considered the item to be measuring.
- **N:** Total number of judges (El-Zakai, 2017, p. 182).

Using this formula, the content validity coefficient was calculated at 0.83, indicating acceptable validity. Consequently, 43 items were accepted, 5 were modified, and 5 were deleted—2 from the problem-solving dimension and 3 from goal orientation.

Following the judges' reviews, the scale in its final form consists of 48 items distributed across six dimensions as shown in the table below:

Table (07): Distribution of Items Across Scale Dimensions After Modification

Dimensions	Item Numbers		Number of Items
	Positive Items	Negative Items	
Religious Commitment		7-6-5-4-3-2-1	07
Problem-Solving Capability	15-12	14-13-11-10-9-8	08
Goal Orientation		23-22-21-20-19-18-17-16	08
Self-Confidence		32-31-30-29-28-27-26-25-24	09
Positive Thinking	38	42-41-40-39-37-36-35-34-33	10
Emotional Balance and Self-Control	48-46	47-45-44-43	06
Total	05	43	48

This table demonstrates the distribution of items across the six dimensions of the scale, both positive and negative, following modifications based on expert opinions. The final scale comprises 48 items, including 5 negative and 43 positive items, distributed over six dimensions.

After validating the scale through expert review, it was applied to a sample of 180 middle school students to calculate its psychometric properties.

III.2 Internal Consistency Validation:

Given the scale comprises six dimensions with several items each, Pearson's correlation coefficient was calculated between item scores and the dimensions they belong to, and between the dimensions and the total scale score.

This procedure not only provided evidence of internal consistency but also indicated construct validity, as the theoretical basis of the study supports the unidimensionality of the measurement concept (Show & Wright, 1967). The following tables illustrate these correlations:

Table (08): Correlation Coefficients Between Item Scores and Their Corresponding Dimensions

Religious Commitment			Problem Solving Ability			Goal Orientation		
Item No.	**Correlation Coefficient**	**Significance Level**	**Item No.**	**Correlation Coefficient**	**Significance Level**	**Item No.**	**Correlation Coefficient**	**Significance Level**
01	0.680**	0.01	08	0.777**	0.01	16	0.733**	0.01
02	0.675**	0.01	09	0.756**	0.01	17	0.757**	0.01
03	0.620**	0.01	10	0.750**	0.01	18	0.740**	0.01
04	0.726**	0.01	11	0.653**	0.01	19	0.674**	0.01
05	0.700**	0.01	12	0.291	Non-significant	20	0.684**	0.01
06	0.771**	0.01	13	0.794**	0.01	21	0.653**	0.01
07	0.708**	0.01	14	0.722**	0.01	22	0.738**	0.01
			15	0.791**	0.01	23	0.603**	0.01
Self-Confidence			**Positive Thinking**			**Emotional Balance and Self-Control**		
Item No.	**Correlation Coefficient**	**Significance Level**	**Item No.**	**Correlation Coefficient**	**Significance Level**	**Item No.**	**Correlation Coefficient**	**Significance Level**
24	0.732**	0.01	33	0.657**	0.01	43	0.712**	0.01
25	0.700**	0.01	34	0.667**	0.01	44	0.663**	0.01
26	0.690**	0.01	35	0.693**	0.01	45	0.671**	0.01
27	0.605**	0.01	36	0.694**	0.01	46	0.738**	0.01
28	0.718**	0.01	37	0.630**	0.01	47	0.684**	0.01
29	0.668**	0.01	38	0.194	Non-significant	48	0.747**	0.01
30	0.665**	0.01	39	0.622**	0.01			
31	0.621**	0.01	40	0.645**	0.01			
32	0.439**	0.01	41	0.638**	0.01			
			42	.628**0	.010			

**Significant at the 0.01 level

From the previous table, we can deduce that the correlation coefficients between the dimension of Religious Commitment and its items range from 0.62 to 0.77. These coefficients are positive and statistically significant at a significance level of 0.01. The dimension of Problem Solving Ability and its items also show correlation coefficients ranging from 0.65 to 0.77, which are positive and statistically significant at the 0.01 level.

However, item number 12 was removed from this dimension due to its inconsistency. The dimension of Goal Orientation shows correlations between 0.60 and 0.75, again positive and statistically significant at the 0.01 level. For the Self-Confidence dimension, the coefficients range from 0.43 to 0.73, and for Positive Thinking, they range from 0.62 to 0.69, both positive and significant at the 0.01 level, although item number 38 was removed from this dimension for inconsistency.

Lastly, for the dimension of Emotional Balance and Self-Control, the correlation coefficients range from 0.66 to 0.74, also positive and significant at the 0.01 level.

Table (09): Correlation coefficients between each dimension and the total score of the Psychological Immunity Scale:

Dimension	Correlation Coefficient	Significance Level
Religious Commitment	0.883**	0.01
Problem Solving Ability	0.924**	0.01
Goal Orientation	0.927**	0.01
Self-Confidence	0.909**	0.01
Positive Thinking	0.918**	0.01
Emotional Balance and Self-Control	0.911**	0.01

****Significant at the 0.01 level**

From Table (09), we observe that the dimensions of the scale correlate with the total score in a statistically significant manner, ranging from 0.88 to 0.92, with the highest correlation coefficient being between the Goal Orientation dimension and the total score at 0.927. This is followed by the correlation between Problem Solving Ability and the total score at 0.924, then Positive Thinking at 0.918, Emotional Balance and Self-Control at 0.911, Self-Confidence at 0.909, and finally, Religious Commitment at 0.883.

These values are significant at the 0.01 level, indicating that the dimensions of the Psychological Immunity Scale are consistent with the total scale score, thus the scale demonstrates acceptable validity indicators that align with the characteristics of a good scale.

III.3 Verification of the Second Hypothesis:

This hypothesis states that the Psychological Immunity Scale, when applied to the sample, exhibits reliability values that are consistent with the characteristics of a good scale. Reliability is an essential feature of any test, and test developers must demonstrate that their instruments are stable and yield consistent results. High reliability coefficients are evidence of stability and consistency of the items, while low reliability coefficients indicate that the test results cannot be confidently used by examiners or diagnosticians to make intended decisions.

Researchers vary in determining appropriate reliability coefficients for tests; some prominent researchers in the field of measurement (Kelly, 1927) require a reliability coefficient of 0.90 for tests measuring collective performance and 0.94 for tests measuring individual performance.

In contrast, other researchers (Helmstadter, 1964; Guilford, 1956, p. 267) suggest levels between 0.70 and 0.80, and Salvia and Ysseldyke (1981) recommend a coefficient of 0.60 for collective tests and 0.80 for survey tools, and 0.90 for tests used for decision-making regarding individual classification.

Based on the above, it is proposed to accept reliability coefficients of 0.70 or higher as evidence of the reliability of the current Psychological Immunity Scale used for diagnostic purposes. To verify this hypothesis, reliability coefficients of the test were calculated using the split-half method and internal consistency using Cronbach's alpha equation. The following are the results:

III.4 Split-Half Method:

The split-half method was utilized due to its features and advantages. Morad et al. (2005, p. 362) mentioned that this method is characterized by the similarity in the application conditions of

the odd and even items, its lack of susceptibility to practice and training effects, and its efficiency in time and effort.

Several formulas can be used with this method, and the Psychological Immunity Scale, consisting of 48 items, was randomly divided into two halves, with the correlation coefficient between the two halves calculated as shown in the following table:

Table (10): Split-Half Reliability Coefficients for the Psychological Immunity Scale

Cronbach's Alpha	**First Part**	**Value**	**0.938**
		Number of Items	[a]24
	Second Part	**Value**	0.923
		Number of Items	24[b]
	Total Items		48
Correlation Between Halves			0.921
Spearman-Brown Coefficient		**Equal Length**	0.959
		Unequal Length	0.959
Guttman Split-Half Coefficient			0.959

From Table (10), we infer that the correlation coefficient between the halves is 0.92, and the Spearman-Brown and Guttman corrections are 0.95, statistically significant values indicating a strong relationship between the two halves of the scale. This suggests that the Psychological Immunity Scale possesses reliability values compatible with the characteristics of a good scale.

III.5 Cronbach's Alpha Equation:

This equation was used to calculate the internal consistency for test reliability. Internal consistency reliability refers to the degree to which the test items are correlated with each other, serving as a benchmark for determining how well different parts of the test measure the same construct. This method is suitable for attitude scales, opinion surveys, and some personality scales where responses are measured on a three-point or five-point scale.

Given that the responses on the current scale (the Psychological Immunity Scale) are measured on a three-point scale (always, sometimes, never), Cronbach's Alpha was chosen for its appropriateness.

Table (11): Cronbach's Alpha Reliability Coefficients for the Psychological Immunity Scale

Dimension	Cronbach's Alpha
Religious Commitment	0.770
Problem Solving Ability	0.772
Goal Orientation	0.772
Self-Confidence	0.760
Positive Thinking	0.752
Emotional Balance and Self-Control	0.777
Overall Scale	0.815

The table above shows that the reliability coefficients for the dimensions by Cronbach's Alpha range from 0.75 to 0.77, while the reliability coefficient for the entire scale is 0.81. This indicates a strong consistency among the scale items and with the total score, suggesting that the scale enjoys an acceptable degree of reliability that matches the characteristics of a good scale.

Through calculating the validity and reliability indicators for the Psychological Immunity Scale, which yielded acceptable values, it is evident that the scale, when applied to the sample, is reliable and possesses psychometric properties consistent with those of a good scale.

IV- Conclusion:

This study marks a pioneering effort in the development and validation of a Psychological Immunity Scale specifically tailored for middle school students within the Algerian context. The results affirm that the scale not only measures its intended constructs with precision but also maintains an acceptable level of reliability.

This robust validation supports the scale's utility as an effective tool for assessing psychological immunity among adolescents. Such a tool is invaluable for researchers aiming to delve deeper into this aspect of psychological health, particularly within the targeted demographic in Algeria.

Recommendations:

Based on the findings of this study, several actionable recommendations are proposed:

- Utilize the current scale as a diagnostic tool in the field of psychological counseling.
- Implement the current scale in an electronic format to facilitate its use by everyone.
- Develop a counseling program to strengthen psychological immunity in students at early educational stages.
- Compile a manual detailing effective strategies for developing students' psychological immunity.
- Investigate the relationship between psychological immunity and other aspects of schooled adolescents, such as school adjustment, motivation for achievement, anxiety levels, depression, body image, mood disorders, etc.
- Given that the current study was conducted in the southern region of Algeria, there is scope for future research in other regions of the country.

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- Appendices:

Final Version of the Scale:

General Information:

Please fill in the blanks and select the appropriate choice by marking (X) in the appropriate box.

Institution: .....

Name and Surname: .....

Gender: Male ☐ Female ☐

Dear student, below is a set of statements that measure some aspects of your personality. Please read the statements carefully and respond by marking (X) next to the choice that applies to you and is closest to your opinion. Make sure that you do not leave any statement unanswered. Remember, there is no right or wrong choice; the correct answer is the one that truly reflects your opinion honestly. Rest assured that your answers will remain confidential and will only be used for scientific research purposes

.

Example:

Number	Statements	Always	Sometimes	Never
01	I trust in God then take the necessary steps to achieve my goals.		X	

Psychological Immunity Scale:

Num	Statements	Always	Sometimes	Never
01	I trust in God before starting any task.			
02	I ensure to perform prayers on time.			
03	I am grateful to Allah for His blessings.			
04	I can maintain the strength of my faith when facing difficulties.			
05	I regularly read the Quran.			
06	I turn to prayer when I face a problem.			
07	I feel content no matter the problems I face.			
08	I learn from others' experiences.			
09	When faced with a problem, I first try to identify its causes.			
10	I use my past experiences to solve my new problems.			
11	I seek advice from trustworthy people when I face a problem.			
12	When I am in a difficult situation, I try to find more than one solution.			
13	I believe that facing difficulties makes me stronger.			
14	It is difficult for me to solve sudden problems in my life.			
15	I make plans to achieve my goals.			
16	I consider the consequences of my decisions before acting.			
17	I work on managing my time.			
18	I strive to achieve my goals despite the challenges.			
19	I have the ability to achieve the goals I set for myself.			
20	I commit to completing the daily plans I set.			
21	I am disciplined in my life.			
22	I use my free time for beneficial things.			
23	I freely express my opinion in front of others.			
24	I believe my ideas are valuable.			
25	I trust in my abilities to face challenges regardless of others' opinions about me.			
26	I accept constructive criticism even if it contradicts my opinion.			

27	I am confident in my ability to execute assigned tasks.			
28	I take responsibility for the decisions I make.			
29	I accept my mistakes.			
30	I rely on myself to achieve my goals.			
31	I am satisfied with myself.			
32	I believe that life has meaning.			
33	My success is due to my hard work and not luck.			
34	I believe I am a positive role model for others.			
35	I believe my future will be better.			
36	I see my personality developing for the better.			
37	I see new beginnings (start of a day/week/month...) as better opportunities for success.			
38	I try to see the positive side of problems.			
39	I am proud of my achievements, even if they are small.			
40	I accept failure because it is part of my success.			
41	I try to start anew when I encounter a failed experience.			
42	I can handle stress calmly.			
43	If I start a task, I continue until I finish it.			
44	I quickly become despondent when things don't go as I wish.			
45	I have the ability to control my anger when someone annoys me.			
46	When a problem arises, I easily get discouraged.			