

Neuro-linguistic Programming and Its Relationship with Psychological Flexibility Among Secondary School Students in Najran Region

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ABSTRACT: There is an increasing interest in Neuro-linguistic Programming (NLP) and its impact on teaching and learning. Exploring its use as a supportive method to enhance students' capabilities is crucial. Through the literature review concerning NLP, its role in PF, and student learning, it is evident that it has not been examined. The current study aims to investigate the relationship between Neuro-linguistic Programming (NLP) and Psychological Flexibility (PF) levels among high school students in Najran region. The study sample consisted of 634 male and female students, selected using convenience sampling. The NLP scale by Abu-Ruman [1] and the PF scale by Singh and Nan yu [2] were utilized after ensuring their validity and reliability. The study results revealed a low level of NLP and a high level of PF among high school students in Najran Region. In addition, the results indicated a significant correlation between NLP (as a whole and its dimensions) and PF. Studying NLP and its connection to PF in secondary school students can contribute to improving educational programs and psychological interventions aimed at supporting students in developing language skills and psychological adaptation. This connection can help students enhance their communication and adaptability to psychological and social challenges. In addition, this relationship can lead to the development of more effective educational and psychological support strategies for students in this crucial stage of their lives.

Keywords: Neuro-Linguistic Programming, Psychological Flexibility, Correlation.

I. INTRODUCTION

In light of the rapid developments and the immense changes witnessed in our current era in all aspects of life, especially in relation to the academic aspects of students, they have become increasingly in need of understanding themselves, their potential and harnessing their energies more than ever before. Utilizing these resources correctly is crucial. This necessitates educational institutions to dedicate their efforts and resources to achieve better learning levels for students, equipping them with the knowledge and skills necessary to face challenges and crises with high flexibility. Institutions should empower students with knowledge, understanding, and innovative thinking methods that make them more aware and self-understanding. This includes enhancing their ability to communicate with the events and changes surrounding them, adapt to them, invest their energies to confront and solve problems creatively, overcome challenges, and return to normalcy. This also involves maintaining emotional balance, making their lives more optimistic.

NLP is considered a convergence of many communications and change methods. It has been found to assist individuals in improving self-communication and managing negative emotions, anxiety, and stress. It serves as the fundamental gateway to successful relationships with others, even those who may be challenging in terms of mood and temperament. NLP is a science that studies the thought process and is one of the most effective techniques applied in various fields of human activity, such as education, psychology, and physical health. It is a selective approach that draws from various sciences, providing individuals with tools and skills to understand their perception, thinking methods, behavior, values, obstacles, and challenges that hinder their creativity. NLP also offers methods to bring about the desired change in behavior, thinking, emotions, and the ability to achieve goals. Neuro-linguistic programming involves understanding the analysis of the human mind, how individuals

behave, the origin of behavior, and how it can be directed. This is achieved by understanding the foundations of thinking [3]. NLP is based on the science that studies communication and control processes in biological, social, and technological systems. It deals with methods of behavior and conduct and appears as one of the psychological and social applications of this science. Researchers indicate that NLP permeates all human behaviors and actions, encompassing various aspects of life and positively impacting thinking processes and information processing [4].

PF is considered one of the most prominent variables in students' lives, as it helps them adapt to various circumstances and events, achieving balance in all areas. It serves as the cornerstone for successful performance, social and personal psychological health, self-regulation, self-confidence, behavioral self-control, and high-level adjustment of responses. Individuals with PF possess high levels of adaptive capacity, positive emotions, and the ability to plan in challenging situations. They can make decisions, generate problem-solving strategies, and restore a state of balance after exposure to shock or the end of a crisis and its resulting negative effects [5].

Hence, the secondary education phase is considered a crucial educational stage due to the accompanying changes and developments. It coincides with the adolescent stage, during which students tend to seek independence and strive for higher levels of cognitive and emotional maturity. In this phase, students aim to form a positive, integrated, and independent identity, acquiring knowledge, experiences, and skills to confront challenges and crises. The students' self-perception significantly influences their assessment of abilities, achievement levels, and their ability to control events. Moreover, it determines the amount of effort an individual will exert to face challenges and their capacity to communicate effectively, identifying and leveraging their strengths.

The need for neural linguistic programming is highlighted as it represents a systematic study of human behavior and serves as an effective management tool to alter individuals' thinking patterns and behaviors. It can be utilized as a method for doctors to communicate with patients and teachers to interact with students [6]. Neural linguistic programming also aids in the development of various skills and behaviors, reducing levels of psychological, social, emotional disturbances, and academic problems among students [7]. For individuals to have the ability to grow and adapt, psychological flexibility becomes essential, playing a significant role in addressing life problems by promoting internal positive motivation, relying on their levels of neural linguistic programming [8].

Accordingly, there exists a research gap between neural linguistic programming and psychological flexibility, both being directly relevant variables in students' lives. They assist students in overcoming challenges, necessitating their cultivation as internal capacities enabling them to endure difficulties and persist in their academic endeavors. This resilience is crucial for completing tasks throughout their academic journey, overcoming challenges in the academic field, and achieving success even in the face of performance weaknesses or failures in other aspects. It also contributes to fostering a more positive mindset [8]. Based on the review and observation of previous studies, the researchers identified a scarcity of local studies addressing neural linguistic programming in students. This underscored the need for the current study to explore the relationship between neural linguistic programming and psychological flexibility among secondary school students in Najran region.

II. BACKGROUND THEORY

1. NEURO-LINGUISTIC PROGRAMMING

NLP, developed in the United States in the 1970s by Richard Bandler, a mathematician and information scientist, and John Grinder, a linguist, has gained widespread popularity as a means of communication and personal development. It is a recognized method for psychological therapy and is informally applied in education. However, the academic community has shown little interest in it [9]. For over three decades, NLP has been of significant importance, providing an alternative approach to psychological training. It has been widely used by psychologists, organizations, therapists, coaches, and some educational institutions [3].

The applications of NLP have extended to all aspects of human activity, including education and training, mental and physical health. In the field of education, psychological engineering provides a range of methods to enhance memory capacity and recall, master spelling for children, stimulate students' interest in studying and revising, improve teachers' performance, enhance the effectiveness of illustrative tools, foster innovation, sharpen thinking skills, modify behavior, break harmful habits, and adopt positive habits [10].

NLP assumes that individuals are inherently creative and capable, possessing good intentions. It suggests that communication occurs through both verbal and non-verbal channels, whether consciously or unconsciously. People behave according to their understanding and representation of the world, not necessarily according to the way the world exists. Skills, beliefs, and behaviors are learned and consist of sequences of representations. Therefore, change and learning can be achieved by modifying these representations and sequences. NLP also

assumes that the performance perceived by humans, which can be consciously controlled, represents only a small portion of the overall performance. There is no failure, but rather a self-review process. According to this perspective, all behavior is intentional and positive [11].

NLP is a method of organizing and understanding the structure of self-experience. It focuses on how individuals process information and is defined as the art and science of personal excellence. It is considered an art because everyone brings their unique personality and style to what they do, and this cannot be fully expressed through words or techniques alone. It is also considered a science because there is a method and a process to discover the patterns used by outstanding individuals in any field to achieve outstanding results [12]. NLP is a method for organizing and understanding the structure of self-experience, focusing on the ways individuals process information [13]. NLP is defined as both an art and a science of personal excellence. It is considered an art because everyone brings their unique personality and style to what they do, which cannot be fully expressed through words or techniques. It is also a science because there is a method and a process to discover the patterns used by exceptional individuals in any field to achieve outstanding results [12]. McWhirter [9] sees NLP often defined in the literature as the art of excellence in communication or the study of the structure of subjective experience. The term NLP refers to the methodological links between an individual's internal experience (neurological), language (linguistic), and behavioral patterns (programming). Despite its name and implications, it does not have a direct connection to neuroscience or computer programming [11]. Kudliskis and Burden [14] view NLP as a modeling process in which individuals try to learn and acquire the art of "excellence in communication." Ready & Burton [15] defined NLP, describing it as the study of the structure of one's subjective experience, the art and science of communication, and a guide to your brain. Hashmi [16] views NLP as the art of excellence in communication or the study of the structure of self-experience.

The concept of NLP is divided into three main parts: Neuro, which relates to the nervous system. The nervous system controls the body's functions, behaviors, thoughts, and feelings. Linguistics, which pertains to language, is the means of interacting with others. Programming refers to the method of shaping the individual's perception of the external world in their mind, essentially programming the human brain through distinctive patterns and behaviors to create a cohesive or distinctive representation of the external world. This involves interactions that allow individuals to choose and use the best methods for thinking and speaking. Therefore, NLP is often described as the study of human excellence and "the difference that makes a difference" [4].

NLP is considered eclectic, as it draws from a wide range of sources. Its influences can be traced back to diverse therapeutic approaches such as Gestalt therapy, client-centered therapy by Rogers, transformational grammar by Chomsky, behaviorism, cybernetics, the Palo Alto school of brief therapy, hypnotherapy, and epistemology theory. Perhaps the reason for this eclecticism is the belief of NLP founders that they have no idea about the "real" nature of things and are not particularly interested in what is "real." Instead, NLP focuses on developing observational and listening skills acquired through practice and training, rather than generating theory [17].

Neuro-linguistic programming relies on four main principles: establishing a relationship with oneself and others, clarifying goals and outcomes to understand one's desires, sensory acuity to monitor progress towards the goal, and behavioral flexibility to adjust and change behavior in response to stimuli and changes that occur. It is an effective means of supporting all students during learning and in all aspects of their lives. This approach especially helps in providing better support to students, enhancing their perceptions of their abilities, and improving their self-efficacy for task performance. Additionally, flexibility and self-directed learning are emphasized [18].

According to Buckner et al. [19], individuals organize and process their experiences in the world using internal representational systems. They identified four personal representational systems according to the principles of neuro-linguistic programming: Visual, Auditory, Kinaesthetic, and Logical Thought. Although all four representational systems are present in each person, individuals tend to have a preferred representational system. For example, someone with a preferred auditory system might use phrases like "sounds good" or "speaks loud and clear" more frequently than visual expressions like "I see what you mean" or kinaesthetic expressions like "I feel I am right" or logical thought expressions like "logically" and "I believe."

In neuro-linguistic programming, the primary focus is on how individuals internally represent the world through sensory images (visual, auditory, and kinesthetic) and language. This involves determining the structure of internal representations, such as visual images, size, brightness, and dynamics. The internal representation structure is organized and unique for each individual, characterized by regular relationships between the internal representation structure of language and behavior. The learner's internal representations and processing are reflected in different ways in their language and external behavior. All skills, beliefs, and behaviors are learned, and often the sequential patterns of internal representation are referred to as strategies. An individual's ability to

learn is greatly influenced by their neuro physiological state and their beliefs about learning and themselves as learners. Such beliefs are learned and can be changed and modified [20].

2. PSYCHOLOGICAL FLEXIBILITY

PF is one of the prominent areas and key variables in recent research in psychology. It is also an important research area in positive psychology, which focuses on the positive aspects of human personality that contribute to individual happiness and psychological well-being [21]. It has been classified as a personal characteristic that aids individuals in facing challenges, with its effectiveness varying based on context, age, gender, and cultural background. Moreover, PF adapts to the changing life circumstances that individuals experience. PF is defined by an individual's ability to continue living and progressing, facing challenges adaptively, and maintaining psychological vitality [21].

PF is considered one of the most important mechanisms for effective adaptation and positive coping when facing challenging conditions and situations. It is a component indicative of an individual's mental and psychological well-being, enabling them to achieve communication and awareness of life circumstances, confront obstacles, and contribute to preventing the adverse outcomes of stressors encountered [22].

Luthar et al. [23] defined PF as a dynamic process that enables individuals to achieve behavioral adaptation when facing stressful, shocking, or threatening situations. Dennis and Vander Wal [24] viewed PF as the ability to cognitively and behaviorally transform or change and adapt to challenging and changing environmental influences, generating multiple alternatives capable of confronting these influences. Meredith et al. [25] described PF as the individual's mental and emotional response that enables positive adaptation to various aspects of life, either through problem-solving mediation, adaptability to change, or the ability to achieve harmony and adjustment to confront conflicts, frustrations, problem-solving, and a desire for learning, experimentation, and positive growth.

Ungar [26] defined PF as a dynamic process that helps individuals positively utilize adaptive skills when facing hardships, crises, and complex problems, allowing the individual to regain their previous resilience after the crisis. According to Ulva et al. [27], PF is seen as a dynamic process that enables an individual to achieve behavioral adaptation when facing stressful or shocking situations. It involves the flexible use of personal capabilities, allowing individuals to confront, prevent, reduce, or even eliminate the negative effects of unfavorable circumstances and transform them into manageable challenges. PF instills confidence in taking responsibility for a task or situation, facing difficult circumstances without retreat, seeking experiences that represent challenges for self-discovery, and daring to take risks in the actions taken. Johnson et al. [28] stated that PF is a concept encompassing distinct characteristics: it is dynamic and requires a set of intertwined dynamic processes involving various types of interactions between the individual and the environmental elements around them and the events they encounter. PF also involves post-traumatic growth, the ability to grow and positively change after exposure to traumatic events despite the accompanying pressures and effects. Additionally, the concept of self-flexibility, where an individual possesses self-flexibility as a personal trait that aids in adapting and performing appropriate responses despite the changing requirements and events in the surrounding environment. According to Kooij and Kanfer [29], PF represents an individual's ability to effectively recover from negative or challenging life events. It works to enhance knowledge so that one can adapt and overcome similar negative situations in the future. Individuals with good PF view mistakes or events not as the end of everything but as opportunities to gain strength and meaning. They use the acquired knowledge to strive for higher achievements.

Brooks and Goldstein [30] perceived PF as a multidimensional concept, consisting of: Empathy (The individual's ability to comprehend the emotions of others and engage with their feelings, attitudes, and thoughts, facilitating communication, respect, and collaboration), communication (The individual's ability to express thoughts and feelings clearly, identify goals and core values, solve problems they encounter, and understand and express their perspectives), and acceptance (The capacity for self-acceptance and acceptance of others, setting realistic goals, understanding and expressing emotions healthily, and being aware of strengths and effectiveness in one's personality). Fredrickson et al. [31] emphasized that positive emotions (such as love, hope, gratitude, and joy) serve as positive forces contributing to building PF. Family dynamics, parental treatment styles, and interactions within the family also play an active role in constructing PF. Encouraging families to instill a sense of gratitude in children for the good things in their lives aids in developing their PF. Warmth and positive relationships within the family, especially during challenging times, assist children in overcoming obstacles and shocks more easily and contribute to building their PF. Moreover, factors such as maturity, growth, experience, an individual's ability to change attitudes and thoughts in response to situations, adaptability to the surrounding

environment, and the ability to engage positively in social interactions with the surroundings are among the factors influencing the level of PF across various aspects of life.

The American Psychological Association highlighted several factors that can contribute to the development of PF. These include the ability to adjust to negative effects resulting from stressful situations, providing support and care, developing communication skills, maintaining a positive self-view, regulating emotions, building self-confidence, and an individual's ability to set realistic steps and goals for themselves. McArthur et al. [32] added a range of factors such as psychological stress, positive self-beliefs, emotional control, problem-solving skills, effective communication with others, seeking positives in challenging situations, and religious beliefs. Helmreich [33] emphasized that religious practices and religious coping are powerful factors in achieving PF. They assist in finding meaning in life, and overcoming challenging situations, and are associated with growth, post-traumatic recovery, achieving harmony, self-respect, and a sense of belonging.

3. RELATIONSHIP BETWEEN NEURO-LINGUISTIC PROGRAMMING AND PSYCHOLOGICAL FLEXIBILITY

Lossio-Ventura et al. [34] found that NLP helps individuals achieve a sense of belonging to the community, fosters feelings of loyalty and gratitude, enhances their abilities to contribute to mutual benefits, and enables them to face potential challenges and crises with resilience. NLP also assists individuals in processing challenging situations by altering their understanding of the situation in their personal lives or the world around them, as well as changing their responses to avoid negative psychological outcomes. It helps them find positive ways to confront painful or stressful events, ultimately contributing to well-being [35]. Furthermore, learners can become successful in cultivating PF through NLP by increasing their motivation, empowering their capabilities, improving their adaptability to changing events, enhancing mental health levels, and reducing anxiety. This, in turn, leads to improved learning, and acquisition of positive skills and behaviors [6]. Rasheed and Kotta [36] argue that Neuro-Linguistic Programming grants individuals' greater ability to exercise flexibility to achieve the desired responses.

4. STATEMENT OF THE PROBLEM

The problem of the study emerged from the importance of the secondary stage, as it is considered one of the most crucial stages in students' lives. These students will transition to work in various aspects of life, making knowledge of some of their personality patterns essential for their smooth entry into all areas of life. With the evolution of life and the emergence of contemporary challenges, alongside significant advancements in various fields, the clear significance of psychology and communication has come to the forefront. It has become the foundation for success, societal progress, effective management of institutions, and the activation and utilization of students' potential. Education, the cornerstone for human prosperity and the pivotal factor in building students' personalities and holistic self-development necessitates a focus on the educational learning processes. The reassessment of the educational process emphasizes the school as a fundamental unit, with its evident impact on achieving success, societal development, shaping students' characters, developing their skills, and preparing them for life. As highlighted by studies such as Gran's [20] study, there is an increasing interest in neuro-linguistic programming and conducting research studies related to its impact on teaching and learning. Exploring its use as a supportive method to enhance students' capabilities is crucial. Through a review of the literature concerning neuro-linguistic programming, its role in PF, and student learning, it is evident that it has not been examined. Given the scarcity of research in this field, the current study aimed to uncover the relationship between neuro-linguistic programming and PF among secondary school students. The study sought to answer the following questions:

1. What is the level of neuro-linguistic programming among secondary school students in Najran Region?
2. What is the level of PF among secondary school students in Najran Region?
3. Is there a statistically significant correlation at the 0.05 level (α) between neuro-linguistic programming and PF among secondary school students in Najran Region?

5. SIGNIFICANCE OF THE STUDY

Theoretical significance: The importance of the research lies in addressing the significant life stage of secondary education. The focus on neuro-linguistic programming and PF among secondary school students is crucial. The current research is expected to contribute to enriching scientific studies in this field, providing a theoretical framework for these variables. Additionally, it aims to assist educational specialists and teachers in integrating these concepts into educational curricula for students. The research opens avenues for future studies in the academic realm.

Practical significance: The development of a scale for neuro-linguistic programming tailored to the age group is of practical significance. It will benefit decision-makers and educational policymakers in designing educational programs and activities that contribute to the enhancement of the educational process. This includes imparting skills related to neuro-linguistic programming and PF to students. The practical implications extend to improving educational outcomes and preparing students with essential skills for their future endeavors.

6. KEY TERMS OF THE STUDY

NLP: refers to a set of techniques and communication strategies aimed at building relationships, facilitating personal change, and enhancing learning [37]. Operationally, it is measured by the degree to which a student scores on the Neuro-Linguistic Programming scale developed by the researcher in the current study.

PF: is defined as the ability to adapt to challenging events, hardships, and continuous stressful situations. It is an ongoing process in which an individual demonstrates positive adaptive behavior in the face of adversity, shocks, and sources of psychological pressure [38]. Operationally, it is measured by the student's score on the PF scale used in this study.

III. LITERATURE REVIEW

The study by Khalifa [39] aimed to uncover the level of PF among secondary school students, in addition to exploring the relationship between PF and academic emotions. The study also examined variations in PF and academic emotions based on gender and grade level. The study sample consisted of 374 male and female students from four secondary schools in the Beheira Governorate in Egypt. The results indicated a moderate level of PF among secondary school students, and there were no significant differences in PF based on gender and grade level. Bene [40] conducted a study to examine the levels of students' PF concerning terrorism, its impact on emotions and achievement, and to assess gender differences. The sample included 180 male and female students from middle and high schools in Saudi Arabia. The study revealed a low level of PF among students, with academic performance not predicting PF. No gender differences were found. Sitepu et al. [41] aimed to describe the levels of stress and flexibility among students, their preferred coping strategies, and the relationship between stress and students' flexibility. The study sample consisted of 147 adolescent students from secondary schools in Spain. The results showed that students mostly experienced stress at moderate and low levels. The level of PF mainly fell into the moderate and high categories. The findings indicated a negative correlation between stress and PF.

Regarding studies on NLP, Pishghadam et al. [37] aimed to create a questionnaire on NLP, verify its validity, and examine its relationship with the success of teachers in Iran. The study was conducted in two phases: the first phase included a sample of 175 teachers, and the second phase included a sample of 93 teachers for secondary levels. A Neuro-Linguistic Programming scale was designed for the study. The results indicated a statistically significant relationship between Neuro-Linguistic Programming and teacher success. Albalawi [42] conducted a study to examine the effectiveness of NLP in improving the quality of life among university students. The sample consisted of 60 students randomly selected from the Languages and Translation Department at Tabuk University. The results showed that training in Neuro-Linguistic Programming had a significant positive impact on improving the quality of life. Abu-Ruman [1] aimed to assess the level of Neuro-Linguistic Programming among secondary school students and its relationship with future aspirations. The study sample included 450 male and female students from secondary schools in Al-Salt city, Jordan. The results showed that the level of Neuro-Linguistic Programming among students was high, with gender differences favoring females. Rasheed and Kotta [36] aimed to determine the impact of training in Neuro-Linguistic Programming strategies on academic achievement, emotional intelligence, and critical thinking. The study sample consisted of five female teachers in Zanjan, Iran. The results indicated that teaching Neuro-Linguistic Programming was effective in academic achievement, emotional intelligence, and critical thinking for learners.

Through a review of previous Arabic and English studies, it is evident that there are studies that have investigated PF and other variables, unlike NLP. Most studies have explored PF on diverse samples, including school and university students, as well as individuals from various societal groups. Experimental methodology was predominantly used, except for Abu Ruman's study [1], which adopted a correlational approach. This study stands out from previous research by incorporating variables of significant importance in students' lives. Moreover, it utilizes a correlational approach to uncover the relationship between Neuro-Linguistic Programming and PF. Importantly, the study is conducted on secondary school students in the Kingdom of Saudi Arabia, representing one of the early studies that amalgamate these variables and apply them in a new Arab context.

IV. METHODS

The correlational descriptive method was employed in this study due to its suitability for the nature and objectives of the research. Two questionnaires were used for data collection.

1. POPULATION AND SAMPLE OF THE STUDY

The study population includes all high school students in Najran Region during the first semester of 2023/2024. The study sample consisted of 634 male and female high school students from Najran Region, selected through a convenient sampling method. Approval was obtained from the Education Administration in Najran region to implement the study tool. The study instrument was then electronically prepared using a link on Google Drive, and it was distributed to students through school administrators.

2. TOOLS OF THE STUDY

Two closed-items questionnaires were used to collect the data to answer the research questions: The NLP scale and PF scale. Firstly, the NLP Scale developed by Abu-Ruman [1] was utilized in the study. The initial form of the scale consisted of 48 items distributed across eight dimensions: Personal Excellence, Goal Setting and Achievement, Personal Experience, Positive Thinking, Adaptation and Leadership, Relationship Building and Communication, Capability and Skill, and Making change.

Apparent Validity (Face Validity): The initial form of the scale was presented to a group of experts with experience in psychological counseling and educational psychology working in Saudi universities. There were eight experts in total. They were asked to provide their opinions on the accuracy and content validity of the scale, as well as the clarity of the language used in the items. Based on their feedback, modifications were made to certain items to enhance clarity. After expert validation, the scale remained with 48 items.

Construct Validity: The scale was then administered to a pilot sample consisting of 30 students within and outside the study community. The Pearson correlation coefficient was calculated to determine the correlation between each item and its corresponding dimension, as well as the total score on the scale, as shown in Table 1.

Table 1. The Correlation Coefficients between the Items of the NLP Scale on one Hand and the Total Score of the Scale and its Associated Dimensions on the Other Hand

No.	Correlation		No.	Correlation		No.	Correlation	
	Domain	Scale		Domain	Scale		Domain	Scale
1	0.66*	0.51*	17	0.62*	0.54*	33	0.58*	0.47*
2	0.57*	0.46*	18	0.59*	0.45*	34	0.72*	0.64*
3	0.67*	0.58*	19	0.62*	0.63*	35	0.66*	0.57*
4	0.76*	0.66*	20	0.78*	0.67*	36	0.63*	0.54*
5	0.62*	0.52*	21	0.79*	0.68*	37	0.76*	0.66*
6	0.75*	0.65*	22	0.60*	0.57*	38	0.59*	0.52*
7	0.77*	0.67*	23	0.63*	0.53*	39	0.72*	0.62*
8	0.71*	0.54*	24	0.61*	0.52*	40	0.65*	0.58*
9	0.69*	0.56*	25	0.64*	0.69*	41	0.63*	0.49*
10	0.55*	0.46*	26	0.73*	0.61*	42	0.77*	0.69*
11	0.70*	0.61*	27	0.47*	0.40*	43	0.67*	0.58*
12	0.69*	0.63*	28	0.77*	0.68*	44	0.70*	0.65*
13	0.72*	0.66*	29	0.73*	0.64*	45	0.64*	0.57*
14	0.73*	0.66*	30	0.61*	0.55*	46	0.61*	0.53*
15	0.68*	0.69*	31	0.60*	0.55*	47	0.75*	0.62*
16	0.54*	0.47*	32	0.63*	0.58*	48	0.71*	0.66*

*Sig. at (0.05)

Table 1 shows that the correlation coefficients between the items of the scale ranged from (0.47-0.79) with their dimensions, and from (0.40-0.69) with the total score of the scale. All of these values were statistically significant at the ($\alpha=0.05$) level. The correlation of all items with their dimensions and with the total score of the scale exceeded (0.20), and these values are considered acceptable to keep the items within the scale according to the criterion of Ouda [43]. Therefore, all items of the scale were accepted, and the scale, in its final form, consists of (48) items distributed across (8) dimensions.

To estimate the internal consistency reliability of the NLP scale and its dimensions, Cronbach's Alpha equation was used on the data from the first application to the pilot sample, which consisted of (30) students within and outside the study community. The reliability of the scale was also verified through the test-retest method by reapplying the scale with a two-week interval between the two applications. The Pearson correlation coefficient between the two applications was calculated, as shown in Table 2.

Table 2. Reliability Coefficients for the Test-retest and Internal Consistency of the Neuro-linguistic Programming Scale and its Dimensions

Scale and domains	Test-retest	Internal consistency	No. of items
Personal Excellence	0.82	0.79	6
Goal Setting and Achievement	0.81	0.77	6
Personal Experience	0.83	0.80	6
Positive Thinking	0.80	0.76	6
Adaptation and Leadership	0.82	0.78	6
Relationship Building and Communication	0.79	0.75	6
Capability and Skill	0.84	0.81	6
Making change	0.82	0.78	6
Scale	0.88	0.83	48

The values in Table 2 indicate that the test-retest reliability for the entire scale was (0.88), and the reliability for its dimensions ranged between (0.79-0.84). The internal consistency reliability for the overall scale was (0.83), and the reliability for its dimensions ranged between (0.75-0.81). These values are considered acceptable for the purposes of the current study.

3. SCALE CORRECTION

The final version of the NLP scale consisted of 48 items distributed across eight dimensions. Respondents rate each item on a Likert five-point scale. To provide an objective judgment on the average responses of the study sample, the following classification was adopted: Very High (4.20-5.00), High (3.40-4.20), Moderate (2.60-3.40), Low (1.80-2.60), Very Low (1.00-1.80).

Secondly, the PF Scale: The researcher utilized the scale developed by Singh and Nan yu [2] after translating it into Arabic. The initial version of the scale consisted of 25 items distributed across four dimensions: Resilience, Optimism, Multiple Sources, and Purpose.

Content Validity (Expert Validity): The translated scale was presented to a group of experts in the field of psychological counseling and educational psychology working in Saudi universities, totaling eight experts. The aim was to gather their opinions on the accuracy of translation, content validity of the scale, and the linguistic clarity of the items. Following their feedback, adjustments were made to the wording of some items to enhance clarity. Consequently, the scale, after expert validation, consisted of 25 items distributed across four dimensions.

Construct Validity: The construct validity of the PF Scale was examined by applying the scale to a pilot sample of 30 students. Pearson correlation coefficients were calculated to determine the relationship between each item and the total score on the scale, as shown in Table 3.

Table 3. The Correlation Coefficients between the Items of the PF Scale on One Hand and the Total Score and the Corresponding Dimensions on the Other Hand

No.	Correlation		No.	Correlation		No.	Correlation	
	Domain	Scale		Domain	Scale		Domain	Scale
1	0.60*	0.55*	10	0.69*	0.50*	19	0.56*	0.45*
2	0.64*	0.50*	11	0.74*	0.51*	20	0.63*	0.54*
3	0.75*	0.59*	12	0.68*	0.53*	21	0.57*	0.43*
4	0.72*	0.58*	13	0.49*	0.42*	22	0.66*	0.59*
5	0.67*	0.51*	14	0.50*	0.49*	23	0.62*	0.51*
6	0.76*	0.66*	15	0.59*	0.54*	24	0.64*	0.53*
7	0.80*	0.64*	16	0.56*	0.43*	25	0.70*	0.66*
8	0.74*	0.64*	17	0.71*	0.68*			
9	0.71*	0.63*	18	0.70*	0.66*			

*Sig. at (0.05)

Table 3 indicates that the correlation coefficients of the scale items ranged between (0.49-0.80) with their respective dimensions and between (0.42-0.68) with the total score of the scale. All these values were statistically significant at a significance level ($\alpha=0.05$). The correlation of all items with both the dimension score and the total score of the scale exceeded (0.20). These values are considered acceptable to retain the items within the scale according to the criterion of Ouda [43]. Therefore, all items of the scale were accepted, and the scale remained in its final form, consisting of (25) items distributed across four dimensions.

To assess the internal consistency reliability of the PF Scale and its dimensions, Cronbach's alpha equation was utilized based on the data from the first application of the previous survey sample. The test-retest reliability of the scale and its dimensions was also verified with a two-week interval between the applications. The Pearson correlation coefficient between the two applications on the survey sample was calculated, as shown in Table 4.

Table 4. Values of Test-retest Reliability and Internal Consistency Reliability Coefficients for the PF Scale and its Dimensions

Scale and domains	Test-retest	Internal consistency	No. of items
Resilience	0.84	0.81	7
Optimism	0.82	0.80	7
Multiple Sources	0.81	0.78	6
Purpose	0.79	0.76	5
Total	0.86	0.84	25

Table 4 indicates that the test-retest reliability of the scale as a whole was (0.86), and the test-retest reliability values for its dimensions ranged between (0.79-0.84). The internal consistency reliability of the scale as a whole was (0.84), and the internal consistency reliability values for its dimensions ranged between (0.76-0.81). These values are considered acceptable for the current study.

4. SCALE CORRECTION

The PF Scale, in its final form, consisted of (25) items distributed across (4) dimensions. Responses are provided on a Likert five-point scale. To obtain an objective judgment on the means of individuals' responses in the study sample, the following classification was adopted: very high (4.20-5.00), high (3.40-4.20), moderate (2.60-3.40), low (1.80-2.60), very low (1.00-1.80).

5. STUDY PROCEDURES

To achieve the study's objectives, the following procedures were followed:

- Reviewing the theoretical literature and previous studies related to the study's instruments.
- Verifying the face validity of the study's instruments in their initial form.
- Identifying the study population and individuals, who are secondary school students in Najran region.
- Verifying the validity and reliability implications of the study's instruments in their final form.
- Distributing the study's instruments online to the sample.
- Entering the data into the computer memory, then using appropriate statistical analyses, according to the (SPSS) program, to answer the study's questions, and extract and interpret the results.

V. RESULTS AND DISCUSSION

1. RESEARCH QUESTION 1: WHAT IS THE LEVEL OF NEURO-LINGUISTIC PROGRAMMING AMONG SECONDARY SCHOOL STUDENTS IN NAJRAN REGION?

To answer this question, the means and standard deviations of NLP in its total score and sub-dimensions were calculated for the individuals in the study sample. The dimensions were arranged in descending order based on their means, as shown in Table 5.

Table 5. Means and Standard Deviations of Neuro-Linguistic Programming in its Total Score and Sub-Dimensions among Secondary School Students in Najran Region in Descending Order According to their Means

Rank	Early non-adaptive cognitive schemata	Mean	Standard deviation	Level
1	Relationship Building and Communication	2.58	0.79	Low
2	Positive Thinking	2.52	0.75	Low
3	Personal Excellence	2.43	0.88	Low
4	Goal Setting and Achievement	2.37	0.77	Low
5	Adaptation and Leadership	2.31	0.94	Low
6	Personal Experience	2.24	0.80	Low
7	Capability and Skill	2.18	0.66	Low
8	Making change	2.09	0.93	Low
	Total	2.34	0.79	Low

The average score was (2.34), and the mean scores for the dimensions of the scale ranged between (2.09-2.58), indicating that all dimensions were at a low level. The dimensions were ranked in descending order as follows: Building Relationships and Communication ranked first, followed by Positive Thinking in the second place, Personal Excellence in the third place, Goal Setting and Achievement in the fourth place, Adaptation and Leadership in the fifth place, Personal Experience in the sixth place, Ability and Skill in the seventh place, and finally, Making Change in the eighth and last place.

The researchers attribute these results to the fact that high school students are still in a phase of cognitive and physical growth, and they have not reached the level of full maturity that would help them have a correct awareness of their neuro and linguistic programming. This aligns with what was indicated by Hedayat et al. [44], stating that neuro-linguistic programming is a concept that grows with age. As individuals age, there is a greater likelihood of an increase in their levels of neuro-linguistic programming. Additionally, their linguistic abilities grow, making them more proficient in language use. They become capable of using language as a tool for thinking and self-expression, expanding their cognitive abilities, and gaining awareness of more complex cognitive processes. Furthermore, the researchers suggest that students may lack experience and life skills, and there is a shortage of educational programs that align with neuro-linguistic programming to develop cognitive abilities. The study by Hussein et al. [45] is referenced to highlight the importance of educational programs compatible with neuro-linguistic programming in enhancing cognitive abilities and enabling students to comprehend their cognitive processes related to neuro-linguistic programming skills.

Due to thinking being one of the prominent skills of neuro-linguistic programming and one of its fundamental assumptions, as mentioned by Tosey and Mathison [11], the researchers attribute these results to students not possessing thinking patterns and methods that help them translate their thoughts and beliefs about themselves into reality. This may be due to their lack of practice in these patterns or their inability to navigate and choose the optimal thinking style to deal with situations and events. This is because it facilitates their ability to perceive the situation, which reflects on their ability to change their behaviors and responses towards it. Alternatively, it could be due to their lack of experience in practicing types of thinking that are productive and creative, allowing them to launch and change their perspective on the situation or problem. This enables them to achieve continuity, strive for positive change, or persevere in solving the current problem. The reason for these results may be the students' lack of communication styles and practical models for communication, as communication is an art of distinguishing oneself in communication [9]. Communication arts provide individuals with ways of thinking about others and equip them with tools to determine the structure of effective self-communication, understand self-personality, discover oneself, and invest and activate energies.

The researchers believe that the reason for these results is a lack of mental training that provides students with the ability to regulate and control their cognitive processes. This mental training would assist them in retaining information for longer periods, fostering mental visualization, and retrieving information at any time. This, in

turn, would help them deliver better performance, incline towards achieving more success, and develop a mental outlook for more distinguished performance. Alternatively, it could be due to their inability to clearly define their goals and a lack of knowledge about the necessary planning to accomplish them. Clearly defining goals and planning for their achievement with consciousness and clarity provide students with a greater opportunity to represent them in reality and translate them into behavior, performance, and achievement. These results differ from the findings of Abu Ruman's [1] study, which indicated a high level of neuro-linguistic programming among students.

2. RESEARCH QUESTION 2: WHAT IS THE LEVEL OF PF AMONG SECONDARY SCHOOL STUDENTS IN NAJRAN REGION?

To answer this question, the means and standard deviations of PF, in its entirety and its sub-dimensions, were calculated for the individuals in the study sample, as shown in Table 6.

Table 6. Means and Standard Deviations of PF and its sub-Dimensions among Secondary School Students in Najran Region, Arranged in Descending Order according to their Means

Rank	Domain	Mean	Standard deviation	Level
1	Optimism	3.92	0.55	High
2	Purpose	3.84	0.76	High
3	Multiple Sources	3.66	0.75	High
4	Resilience	3.45	0.48	High
	Total	3.72	0.46	High

Table 6 indicates that the overall level of PF among secondary school students in Najran Region was high, with an average of 3.72. The average values for the dimensions of the scale ranged from 3.45 to 3.92, all falling within the high level. The dimensions were ranked as follows: optimism ranked first, followed by purpose in the second place, followed by multiple sources in the third place, and then resilience in the fourth and last place. The researchers attribute this result to the awareness of parents and teachers about the importance of PF in students' lives. The close relationships with students, where they serve as role models, contribute to the students deriving their PF from them. This allows students to acquire skills and abilities that help them face pressures and changing life situations. Furthermore, the researchers suggest that the approach in dealing with students, based on respect, honesty, and trust, enhances the students' levels of PF. The researchers also attribute this result to the student's ability to adapt to the situations and events they face, achieving harmony and coexistence with them. The school's efforts to implement procedures aligned with its vision and mission to build individuals capable of facing various challenges and preparing them for life contribute to this result. The school aims to empower students to confront and overcome obstacles they may encounter, enhancing their PF. Moreover, the researchers attribute this result to the students' possession of positive and preventive coping strategies that enable them to struggle against stressful situations and reduce their potential negative effects. Furthermore, the result may be attributed to the students' inclination to develop new relationships in this stage, allowing them to open up to others' experiences. They acquire knowledge and cognitive and life attitudes, applying them in their real lives. Through this process, they discover their strengths and weaknesses and strive to correct their mistakes, leading to greater self-satisfaction, an increased sense of purpose in life, and the enhancement of their PF-related skills. Finally, the reason for this result could be that NPL helps individuals effectively deal with various challenges, instilling confidence in themselves, enabling them to regulate and control negative emotions, and practice techniques characterized by stability, resilience, and a tendency towards liberation and independence. These aspects are considered crucial pillars leading to an enhancement of their abilities to practice psychological flexibility [8]. This result aligns with a study by Kashdan and Rottenberg [5], which emphasized the importance of relationships and experiences in shaping PF. However, it differs from other studies such as Khalifa [39] and Bene [40], which reported low levels of PF among secondary school students.

3. RESEARCH QUESTION 3: IS THERE A STATISTICALLY SIGNIFICANT CORRELATION AT THE 0.05 LEVEL (A) BETWEEN NEURO-LINGUISTIC PROGRAMMING AND PF AMONG SECONDARY SCHOOL STUDENTS IN NAJRAN REGION?

To answer this question, Pearson correlation coefficients were calculated between neuro-linguistic programming and PF for the study participants, as shown in Table 7.

Table 7. Pearson Correlation Coefficient Values between Neuro-Linguistic Programming and PF for Secondary School Students in Najran Region

Variable	PF domains				PF (total)
	Resilience	Optimism	Multiple Sources	Purpose	
Personal Excellence	0.567*	0.470*	0.518*	0.496*	0.571*
Goal Setting and Achievement	0.423*	0.446*	0.417*	0.526*	0.504*
Personal Experience	0.446*	0.435*	0.518*	0.553*	0.528*
Positive Thinking	0.524*	0.467*	0.531*	0.539*	0.540*
Adaptation and Leadership	0.463*	0.452*	0.529*	0.482*	0.551*
Relationship Building and Communication	0.447*	0.482*	0.446*	0.514*	0.516*
Capability and Skill	0.489*	0.476*	0.527*	0.532*	0.537*
Making change	0.518*	0.463*	0.541*	0.548*	0.552*
neuro-linguistic programming (total)	0.527*	0.509*	0.557*	0.564*	0.581*

*sig. at (0.05)

Table 7 shows the presence of positive (direct) correlations between the dimensions of PF and the sub-dimensions of neuro-linguistic programming among the study participants, secondary school students in Najran Region. The correlation values ranged between (0.417-0.567). Additionally, there were positive (direct) correlations between the dimensions of neuro-linguistic programming and PF (overall), with correlation values ranging between (0.504-0.571). Positive (direct) correlations were also found between the dimensions of PF and neuro-linguistic programming (overall), with correlation values ranging between (0.509-0.564). Furthermore, a positive (direct) correlation was identified between overall neuro-linguistic programming and overall PF, with a correlation value of (0.581). All these relationships were statistically significant at a significance level of (0.05= α) and demonstrated a moderate level of strength according to the classifications of Napitupulu et al. [46] for the strength of correlational relationships.

The researchers attribute these results to the reliance on neuro-linguistic programming content on the PF of individuals. According to Skinner and Croft [18], PF regulates and changes behavior in response to stimuli and changes that occur. Neuro-linguistic programming is an effective approach in providing support to students, improving their self-concept, and task performance, and enhancing their flexibility levels. Moreover, neuro-linguistic programming helps individuals confront and cope with challenging situations, change their perception of situations around them, and alter their responses without leading to negative outcomes [35]. Additionally, neuro-linguistic programming assumes that individuals act according to their understanding of the world, not based on the way the world exists, leading to improvements in their abilities to deal with and adapt to events. It increases levels of PF. Because neuro-linguistic programming consists of sequences of representations (visual, auditory, and kinesthetic), it requires individuals to possess high levels of PF to achieve change and learning by modifying and navigating between these representations, choosing the best among them.

The researchers also attribute these results to the fact that neuro-linguistic programming is a method for organizing and understanding the structure of self-experience. It focuses on the ways individuals process information, depending on the level of PF. Additionally, it helps individuals achieve belonging, enhance their participation abilities, face potential challenges and crises, and deal with them, assisting them in becoming more flexible [34].

VI. CONCLUSION

This study investigated the relationship between neural linguistic programming and psychological flexibility among secondary school students. A low level of neural linguistic programming and a high level of psychological flexibility was revealed among secondary school students in Najran region. In addition, the results indicated a statistically significant correlation between neural linguistic programming (as a whole) and its dimensions, as well as psychological flexibility. The researchers attempted to interpret these results in light of theoretical literature and previous studies in the field. Studying neural linguistic programming and its connection to psychological flexibility in secondary school students is of great importance. Understanding this relationship can contribute to improving educational programs and psychological interventions aimed at supporting students in developing language skills and psychological adaptation. If there is a positive correlation between neural linguistic programming and psychological flexibility, integrating these aspects into educational programs can help students enhance their communication and adaptability to psychological and social challenges.

Furthermore, understanding this relationship can lead to the development of more effective educational and psychological support strategies for students in this crucial stage of their lives.

The study was limited to a specific sample of high school students in Najran Region. The generalization of the study's results is contingent upon the availability of psychometric properties (validity and reliability) for the study's measures and the objectivity and seriousness of the study participants in responding to the items of the study instruments. The statistical methods employed in the current study also play a crucial role in the generalizability of the findings. Based on the current results, the researchers propose several recommendations for practical interventions and future research. Firstly, it is suggested that school counselors actively engage in designing training programs tailored to enhance neuro-linguistic programming levels among students, particularly considering the moderate levels identified in this study. Additionally, educators should be encouraged to adopt a diverse range of teaching methods, incorporating visual, auditory, and kinesthetic approaches, as these form the foundation of neuro-linguistic programming. By recognizing and addressing students' linguistic, physical, cognitive, and behavioral structures, teachers can establish more effective communication relationships and contribute to elevated levels of NLP. Furthermore, the researchers recommend organizing purposeful educational activities aimed at refining students' abilities in dealing with diverse information, representing it, and fostering activities that enhance their overall capabilities, thereby improving and maintaining psychological flexibility levels. Lastly, the suggestion is made to conduct further studies exploring the role of neuro-linguistic programming in enhancing academic performance and its correlations with psychological and educational variables, such as academic integration, flow, and self-efficacy among secondary school students. These recommendations aim to inform educational practices and contribute to a deeper understanding of the intricate relationship between neuro-linguistic programming and psychological flexibility in the academic context.

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