

## The effectiveness of a training programme on positive thinking skills in reducing the tendency towards intellectual extremism of university students

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### Abstract

This research aimed to identify the effectiveness of a training programme on positive thinking skills in reducing the level of university students' tendency towards intellectual extremism. The quasi-experimental research design was utilised. Twenty students participated in the research and were divided into 10 students in the experimental group and 10 in the control group. The training programme and the scale of the tendency towards intellectual extremism were applied to them. Data were analysed by the Mann–Whitney and Wilcoxon tests. The findings illustrated that there were statistically significant differences between the mean scores of the experimental and the control groups on the tendency towards intellectual extremism scale and its components after applying for the programme, in favour of the experimental group. In addition, there were no significant differences between the mean scores of the experimental group in the post and follow-up measurement of the tendency towards intellectual extremism and its components a month later. The research recommends conducting training courses and workshops for faculty members on how to familiarise students with positive thinking skills, which are reflected in the students' thinking and their reduced level of intellectual extremism.

Keywords: Positive thinking skills, tendency towards intellectual extremism, university students.

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## 1 Introduction

University students encounter various problems in their daily lives that must be solved, as they represent a factor of pressure. Furthermore, they undergo vital changes in their lives at the psychological, physiological and behavioural levels, resulting in stress that makes them vulnerable to extreme reactions (Urben et al., 2015). The university stage also has characteristics that contribute to the youth falling into the clutches of extremist groups that allow violence and extremism to subjugate society and the state, and the consequent risks, chaos and destruction of society. This may lead to the dismantling of the state and threaten the national security of the country (Al Sayed & Al Khayat, 2018).

Accordingly, university youth are the most needed group for intellectual immunity due to the many obstacles they are exposed to, which may lead to stumbling in achieving intellectual security and the possibility of distortions and cognitive and behavioural deviations. Among the obstacles and challenges that prevent the achievement of intellectual security are personal, social, cultural and media obstacles, in addition to what is played by the artificial security tensions that occur in the region, whose main goal is to spread intellectual deviations and attract many groups of youth in general and university youth in particular, especially those who are easy to distort cognitively, through many tricks and methods (Asal & Alshehri, 2019).

The problem of intellectual extremism is one of the most serious problems facing societies in all religions and beliefs. This is reflected in the social fabric of society, and it strongly and negatively affects human, social and behavioural relationships. The results of some studies indicate that the prevalence of manifestations of intellectual extremism among university students ranged from 7.5% to 41.4% (Dwikat & Al Ali, 1998), while the study of Hassan and Gamali (2003) revealed that its prevalence rates range from 10.29% to 48.5%. In addition, Al Sharjabi's (2016) study revealed a prevalence of 68.88%, which encourages many studies to recommend the significance of preparing and implementing preventive and therapeutic programmes that limit the spread of this dangerous phenomenon (Abu Dawaba et al., 2012; Al Layl & Al Shamimary, 2013; Davydov, 2015).

Extremism spreads as irrational culture spreads and the levels of awareness decline (Bishara, 2015). An intellectual extremist is an individual who has disrupted the mind with which God distinguished him from other creatures and denied his intellectual freedom as a result of his absence of mind and obstruction of his work in its clear form. He also possesses cognitive biases, mental laziness, an inability to assimilate everything that is new, multiple blind impulses for human disciplines, blindness to the mind from appreciating the dire consequences and absolute certainty based on well-established principles without working on logical arbitration in accepting it (Al Farajat & Al Shara'a, 2018, p. 68).

Intellectual extremism is also linked to negative thinking, which is a set of distorted perceptions and beliefs, which are characterised by subjectivity, based on false expectations and generalisations and on a mixture of exaggeration and bad thinking to a degree that is inconsistent with actual capabilities. These thoughts include a negative view of oneself, others, the world and the future (Mohamed, 2013a, 2013b).

Intellectual extremism is the individual's tough stance and cut off from what is common and familiar when responding to social situations that concern him, and that exist in the environment in which he lives here and now. This extremism may be positive in the direction of complete acceptance or negative in the direction of complete rejection and the limit of moderation lies in the distance between (Bolder, 2006; Leiterman, 2000). In addition, it reflects the response in the personality that expresses rejection and resentment towards what exists in society, as it reflects a set of distinctive

characteristics of the extremist personality to the approach of a group of extremist methods of behaviour such as intolerance, rigidity, intellectual rigidity and alienation from others (Larton, 2005).

The danger of the intellectual extremism phenomenon is that most of those who are involved in it are young people who are the wealth of society, as their behaviour is characterised by haste, recklessness and inexperience (Al Esawy, 2007). It is known that social diseases, including extremism, such as physical diseases, infect the healthy patient through the transmission of infection and young people are the most vulnerable in society to imitation and simulation.

Al Sharjabi (2016) also defines it as a cognitive disorder represented in exceeding the limit of moderation and away from mediation towards extremism and extremism in ideas that contradict the values defined and accepted by society. Al Anazi (2018) defines it as the exaggeration in embracing a set of ideas, whether social, economic, political or ideological, in their absolute correctness and not discussing them, ultimately leading to isolation from the cultural environment of the society in which one lives. Abdellatif (2022) points out that intellectual extremism is a cognitive disorder represented in exceeding the limit of moderation and exaggeration in embracing a group of religious, political, social and moral ideas that contradicts the values of society and the correct principles of the Islamic religion.

Students with high intellectual extremism are characterised by intolerance of opinion and denigration of another opinion; mistrust of others; falling into the abyss of atonement; being strict in religion and abandoning facilitation; and thoughts deviating from the line of moderation and what is customary in society. They can mislead and deceive; distort facts and justify goals; simplify a tendency towards disagreement, conflict, intellectual and behavioural contradiction, withdrawal and isolation; and refusal to deal with reality as it is, and it may be the exact opposite. They also deviate from the well-known ideological rules, standards and behaviours common in society or adopt another group in which the extremist strongly believes, leading him towards violence or to organised collective behaviour through which opinion is imposed by force on others, and exaggeration in thinking leads to the disparagement of those who disagree with the opinion, intolerance and isolation in opinion, accepting only the group to which he belongs and its orientation and adherence to the individual point of view in addition to the group's opinion (Abdellatif, 2022; Al Osaimi, 2018; Badawi, 2019; Ibrahim, 2008; Shaheen et al., 2018).

Hence, intellectual extremism is a product of negative thinking and positive thinking may contribute to reducing it. Positive thinking is the hidden force and the true wealth of life in the 21st century. It is the way to achieve success and harmony through the individual's ability to predict and anticipate his positive abilities in all aspects of his life (Mohamed, 2013a, 2013b, p. 21). It is the kind of thinking that achieves psychological happiness and instils positive feelings, such as optimism, ability to achieve and perseverance, and it is the innate ability that a person enhances in himself to reach through his positive thoughts to the best results in most aspects of his life (Bayramoglu & Sahin, 2015).

The concept of positive thinking is one of the focused concepts in the field of positive psychology and it is a human mental activity that employs experiences, skills and self-knowledge in a positive purposeful framework (Metwally, 2021). It also contributes to self-realisation, improving personal life, managing emotions, supporting optimism and concept of hope in the individual that can contribute to the formation of a state of mental and emotional stability for the individual and support him to restore his balance in the face of life pressures and crises.

Positive thinking gives the individual the ability to face psychological pressures. This was confirmed by Salem's (2006) study, which confirmed the existence of a correlation between the development of positive thinking and overcoming psychological pressures and lack of happiness and optimism. It helps

to deal better when facing difficult situations and focus on the things that can be done to solve problems instead of going into frustration (Cherry, 2014). The individual is social and loves to help others and makes him self-confident; loves change and takes risks to succeed (Abdellatif, 2013); works on modifying suicidal thoughts (Salehi & Kianian, 2020); gives students happiness and hope (Moghtader & Mehragan, 2020); and contributes to achieving individual goals, success and well-being (Sattarova & Parpieva, 2022).

Positive thinking is a set of positive and personal qualities that includes the following six basic virtues: courage, love, knowledge, interaction with the group, spirituality and religiosity and self-control and justice (Seligman, 2004). Baylis and Seligman (2009) state that positive thinking is optimism and it is also looking at the good side in everything and looking for the exciting face in life, even if it is a flash of light. In addition, it reflects a mental orientation that allows the individual to think about words and mental visualisations that lead to progress and success (Sasson, 2012). Kelly (2013) also defined it as awareness and deliberate effort to manage the student's thoughts, emotions, speech, non-verbal behaviours and beliefs, in a manner that leads to the possibility of the most positive outcomes occurring and the absence of negative outcomes.

Positive thinking makes the individual more optimistic and enthusiastic, satisfied with himself and others, expecting lasting success, convinced of his abilities and skills and able to recognise his strengths and weaknesses, which help him to change his behaviour and thoughts by feeding the subconscious mind with what he should do so that his thinking is reflected in the subconscious mind on the apparent positive behaviours. It also makes the individual look on the bright side in life and makes him have positive and optimistic expectations about the future (Metwally, 2021).

Jarrar (2013) indicated the relationship between positive thinking patterns and the university students' citizenship culture and their positive practice towards society. In addition, Tazegül and Esmer (2018) explained the relationship between sportsmanship orientations and levels of positive thinking. Positive thinking is also linked to tolerance behaviour (Fahmi et al., 2020).

Bhatnagre (2010) presented several steps that can be taken to manage thoughts and practice positive thinking, which include awareness and control of thoughts; identifying and writing down negative thoughts; practising relaxation exercises and deep breathing; believing that positive thoughts bring positive results and vice versa, collecting phrases, cards and posters that carry positive messages and keeping them; viewing them from time to time by hanging them on the walls or any place suitable seen; dividing goals into actionable elements; and focusing on the good things that happened in the past.

The literature has also illustrated different activities that teachers and university faculty members can use to develop students' positive thinking, including talking with learners about their beliefs and allowing them to express their ideas to learn about the ways they think; persuasively responding to learners' questions about success and failure; avoid falling into the causes of wrong thinking, such as exaggeration, underestimation or overreaction; help learners see the big picture of what they hope for in the future; identify the steps needed to achieve their goals by training learners to learn how to monitor their progress in achieving goals; helping students develop positive thoughts and optimism about their learning outcomes in the future; encouraging learners to identify barriers to their learning and development; using positive language in dealing with students and praising their correct reactions; encouraging learners to use positive vocabulary during the learning process, such as I am successful, I am confident, I have the energy and strength to do any work; setting goals and expectations that can be achieved, so that they do not exceed the ability of the teacher or the learner; and modelling positive behaviour in the classroom (Abdel Hamid, 2012; Al Fiqi, 2009; Alwan & Al

Janaha, 2013; Asfour, 2013; Bhatnagre, 2010; Karimi et al., 2020; Melhe et al., 2021; Salehi & Kianian, 2020).

In addition, Ali (2013) utilised the following strategies for developing positive thinking: self-talk strategy, problem-solving strategy, ideal strategy, the other person's strategy, redefinition strategy and alternatives strategy. Al Fiqi (2007) also mentioned the following strategies for developing positive thinking: ideal strategy, past change strategy, another person strategy, focus change strategy, positive outcome strategy, redefinition, segmentation strategy, higher value strategy, alternatives strategy and autogenic strategy.

Several studies have approved the relationship between positive thinking and intellectual extremism (Abu Dawaba et al., 2012; Al Dahdah et al., 2019; Al Fakhrani, 1993; Al Masoud, 2015; Al Moagal, 2016; Al Sayed & Al Khayat, 2018; Al Sharjabi, 2016; Mostafa & Rashwan, 2020; Otaibi, 2018; Raslan, 2018). They indicated that all components of positive thinking have significant contributions in predicting awareness of the dangers of deviation and intellectual extremism.

Despite the significance of positive thinking, a large percentage of university students miss it. Al Ghanem's (2006) study found that only 40.5% of university students show a pattern of positive thinking, while 59.5% demonstrate negative thinking. In addition, Bakkar (2007) concluded that more than 50% of university students show negative thinking. Among the studies that show the importance of training in positive thinking to reduce the negative effects of irrational thoughts are the most important sources of intellectual extremism (Gendron et al., 2016; Gibbons, 2012; Warren et al., 2013). These studies confirmed that dialogue and positive thinking help individuals reflect on their thinking, review their reactions and evaluate the situations they are going through, and thus it is a good way to get rid of the negative, irrational thoughts that accompany intellectual extremism.

From the foregoing, it is clear that there is no previous study that directly addressed the impact of training on positive thinking on the tendency towards intellectual extremism. The results of some studies have concluded that intellectual extremism is positively related to irrational thinking and negative thinking, and positive thinking is negatively related as such training may urge the individual to participate constructively in any psychological training programmes for his psychological problems, and makes him feel more self-responsible for his behaviour and his way of thinking.

Hence, this research seeks to reveal the effectiveness of a training programme based on positive thinking skills in reducing the tendency towards intellectual extremism among university students. However, training programmes based on thinking skills represent the applied aspect of psychology, which is not limited to diagnosing psychological and academic problems only but seeks to address these problems. In line with this aim, the following hypotheses have been developed:

*Hypothesis 1:* There are statistically significant differences between the mean scores of the experimental and control group members in the components of the tendency towards intellectual extremism scale and the overall degree after applying for the programme in factor of the experimental group.

*Hypothesis 2:* There are no statistically significant differences between the mean ranks of the experimental group members in the components of the tendency towards intellectual extremism scale and the overall degree in the post and follow-up measurements (after a month).

## 2. Method

### 2.1. Research model

The quasi-experimental research design was utilised to identify the effectiveness of the training programme based on positive thinking skills (independent variable) in reducing the tendency towards intellectual extremism (dependent variable) after controlling the intervening factors of the two groups that may affect the dependent variable in both groups.

### 2.2. Study group

The research community consisted of second-level students in the colleges of Wadi Al-Dawasir governorate during the second semester of the academic year 2021/2022. The researcher chose it purposely to teach them during the second semester.

The pilot research sample comprised 150 students in the College of Arts and Sciences (age mean = 19.04, SD = 1.11) to verify the validity and reliability of the research tools. The basic research sample consisted of another 50 students from the same colleges. The positive thinking scale Abdellatif, 2013) was applied to them, and after correcting the scale, the researcher chose 40% of the students with a low score for positive thinking and their number was 20 students. They were distributed into two groups: the experimental group (n = 10) and the control group (n = 10) (age mean = 19.43, SD = 0.73).

The researcher adjusted the extraneous variables that may interfere with the independent variable (the training programme) in its effect on the dependent variable (the tendency towards intellectual extremism). For example, the basic research participants were restricted to male students to exclude the gender impact on the dependent variables. Also, the trainer is the researcher who trained the experimental group on positive thinking skills during the training programme. Moreover, the experimental and control groups' equivalence in terms of age, positive thinking skills and the tendency towards intellectual extremism were also examined on the pre-measurements data.

### 2.3. Data collection tools

#### 2.3.1. The tendency towards the intellectual extremism scale

The tendency towards intellectual extremism scale for university students was developed by Abdellatif (2022). The scale aimed at measuring the university students' tendency towards intellectual extremism, which is represented in the following dimensions: the tendency towards religious, political, social and moral intellectual extremism. The scale in its initial form consisted of 24 items distributed into 4 dimensions. The instructions required participants to rate on a 5-point Likert-type scale (ranging from a very small degree of agreement to a very large degree of agreement). The high degree indicated a high level of the tendency towards intellectual extremism.

In addition to the previously well-approved evidence of the scale psychometric properties, the scale construct validity through confirmatory factor analysis with the maximum probability method was examined. In addition, the measurement model was tested to measure the tendency towards intellectual extremism. The result indicated that the hypothesised four factors model represented an acceptable fit of the data [ $\chi^2 = 603.43$ ,  $df = 246$ ,  $\chi^2/df = 2.453$ , CFI = 0.973, TLI = 0.974, GFI = 0.973, RMSEA = 0.053 and IFI = 0.977]. In addition, factor loadings of items and their statistical significance for the items of the tendency towards intellectual extremism scale according to the confirmatory factor analysis model were examined, where all values were greater than 0.4 and statistically significant at the 0.01 level, confirming that the scale achieved the construct validity.

Pearson's internal consistency coefficient was calculated to define the scale reliability, where the values of the reliability coefficients in the total degree of the scale and dimensions were greater than 0.6. The results of calculating the internal consistency coefficients of the scale showed that there were significant positive correlation coefficients at the level of 0.01 between the degree of each item with the total degree of the dimension to which it belongs, after deleting the degree of the items from the total degree of the dimension. In addition, the composite reliability was calculated, where the values of the composite reliability coefficients were greater than 0.7, confirming the scale's reliability.

#### *2.4. Preparing the positive thinking skills training programme*

In light of the previous research results and theoretical background related to positive thinking and how to train on its skills, the researcher developed the training programme according to the participants' characteristics.

##### *2.4.1. The programme's objectives*

The programme's objectives are based on positive thinking definitions and their dimensions. The general objective of the programme, the sub-objectives and the procedural objectives of each session were determined. The general objective of the current programme is to develop positive thinking among university students.

##### *2.4.2. The programme's contents*

The programme included strategies and skills necessary for university students – especially students of the Department of Islamic Studies – these skills develop optimism and positive expectations, emotional control and control of mental processes, social acceptance of difference from others, unconditional self-acceptance and acceptance of personal responsibility.

### 2.4.3. *The general outline of the sessions and their objectives*

*Session 1:* [Introduction] To help students warm up the group and the trainer, identify the programme's nature and objectives and implementation of the plan.

*Session 2:* [Optimism and positive expectations] To identify the concept of optimism and positive expectations, compare optimism and pessimism, and practice optimism and positive expectations by presenting problems to the student.

*Session 3:* [Emotional regulation and mental processes control] To understand the concept of emotional regulation and mental process control and practice them.

*Session 4:* [Social acceptance of being different from others] To recognise the concept of social acceptance of being different from others and to practice social acceptance.

*Session 5:* [Unconditional self-acceptance] Understand the concept of unconditional self-acceptance and interact with others with confidence.

*Session 6:* [Accept personal responsibility] Recognising the concept of accepting personal responsibility, facing the assigned tasks without hesitation or apology.

*Session 7:* [Avoid negative thoughts] Recognising negative thinking, comparing negative thinking with positive thinking and practising positive thinking in presented situations.

*Session 8:* [Challenging misconceptions] Recognising the concept of false beliefs and getting rid of the negative messages that the individual believes about himself.

*Session 9:* [Let's think positively (1) The ideal strategy – the strategy for changing the past] Recognising the strategy of the ideal, implementing the strategy of the ideal and identifying the strategy of changing the past – implementing the strategy of changing the past.

*Session 10:* [Let's think positive (2) The other person's strategy – focus shift strategy] Getting to know the other person's strategy, implementing the other person's strategy, getting to know the focus change strategy and implementing the focus change strategy.



*Session 11:* [Let's think positive (3) Positive outcomes strategy – redefinition strategy] Identifying the strategy of positive outcomes, implementing the strategy of positive outcomes and identifying the strategy of redefining – implementing the strategy of redefining.

*Session 12:* [Let's think positive (4) Segmentation strategy – the highest value strategy] Understand the segmentation strategy, apply the segmentation strategy, learn about the higher value strategy and apply the higher value strategy.

*Session 13:* [Let's think positive (5) Alternative strategy – autogenic strategy] Learn about the strategy of alternatives, apply the strategy of alternatives, learn about the autogenic strategy and apply the autogenic strategy

*Session 14:* [Time management skill] Recognise time wasters, deal with time wastes efficiently and manage time effectively.

*Session 15:* [Goal setting skill] Realising the importance of goal setting skills, identifying the steps of goal setting and applying goal setting skills to other areas.

*Session 16:* [Successful planning skill] Realising the value of successful planning in the student's life, getting to know the concept of planning accurately and a successful plan for his school day.

*Session 17:* [Problem-solving skill] Identifying problem-solving skills, analysing the causes of problems in a scientific way and applying the steps of problem-solving skills to real examples.

*Session 18:* [Self-confidence] Understand the concept of self-confidence and practice self-confidence techniques.

#### 2.4.4. Programme's limitation

The programme was distributed over 6 weeks, during which 18 training sessions were held (each session was 90 minutes) per session., with 2 sessions per week, ranging from easy to difficult, in addition to 2 sessions for each pre-measurement and post-measurement.

#### 2.4.5. Programme's evaluation

The programme is evaluated in light of the foundations and philosophy on which it is based. The programme evaluation procedures include many steps, which are as follows:

- *Pre-measurement:* A pre-measurement is conducted to evaluate the performance of the students of the experimental and control groups on each of the positive thinking scale and the attitude towards intellectual extremism scale to ensure the two groups' equivalence.
- *Formative evaluation:* During the application of the programme where the performance of the participating students is evaluated after the completion of each activity of the programme, in light of the proficiency test, so that the student does not move to the next step until after mastering the previous performance. The researcher also observed the participants in positive thinking behaviours through the note card prepared for this, and the researcher used two observers to evaluate their positive thinking behaviours.
- *Post-measurement:* (After completing the session) the final evaluation of the programme sessions is done through:
  - a. *Session Objectives Evaluation Form:* It aims to ensure that the session objectives are achieved. It reflects the actual performance degree of the participant in the session and is not just an expression of his opinion in the session.

- b. *Post-measurement*: Where the positive thinking scale and the tendency towards intellectual extremism scale are applied to the experimental and control groups.
- c. *The measure of verification of the procedures for implementing the training programme*: (After implementing the programme) to identify the extent to which the objectives of the set programme have been achieved and the extent of students' satisfaction, conviction and benefit from the training programme sessions.

#### 2.4.6. Programme's validity

To ensure the programme's validity, it was presented to a group of seven professors of psychology and mental health as arbitrators to judge the validity of the training programme, objectives, procedures and content; the suitability of the session content to its objectives; the appropriateness of the content for students; the suitability of the stimuli, activities, tasks and methods used by the participants; the appropriateness of the evaluation to the objectives of the session. The arbitrator's opinions confirmed its appropriateness as the arbitrator's agreement ranged between 71% and 100%.

#### 2.4.7. Data analysis

To analyse the results of the current research, Statistical Package for the Social Sciences v.20 programmes were utilised through the following statistical methods: the Mann–Whitney test for the significance of the difference, the Wilcoxon test and the r equation to calculate the effect size.

### 3. Results

#### 3.1. The first hypothesis validation results

'There are statistically significant differences between the mean scores of the experimental and control group members in the components of the tendency towards intellectual extremism scale and the overall degree after applying for the programme in factor of the experimental group'. To verify the first hypothesis, the Mann–Whitney test for significance of differences was calculated, as illustrated in Table 1.

Table 1 The Significance of the Differences Between the Mean Scores of the Students of the Experimental and Control Groups in the Post-Measurement of the Tendency Towards Intellectual Extremism and its Components

Statistical indicators	Group	N	Mean ranks	Sum of ranks	U value	Z value	Sig.	Effect size
The tendency towards religious extremism	Experimental	10	5.50	55.00	0.00	3.820	0.01	0.854
	Control	10	15.50	155.00				
The tendency towards political extremism	Experimental	10	5.50	55.00	0.00	3.914	0.01	0.875
	Control	10	15.50	155.00				
The tendency towards social extremism	Experimental	10	5.50	55.00	0.00	3.863	0.01	0.863
	Control	10	15.50	155.00				
The tendency towards moral extremism	Experimental	10	5.50	55.00	0.00	3.838	0.01	0.858
	Control	10	15.50	155.00				
Total degree	Experimental	10	5.50	55.00	0.00	3.810	0.01	0.851
	Control	10	15.50	155.00				

Table 1 indicates that there are statistically significant differences at the 0.01 level between the experimental and control groups' mean scores in the components of the tendency towards intellectual extremism scale and the total score after applying for the programme, in favour of the experimental group, which means that the first hypothesis is valid, where the mean ranks of the experimental group

were lower than the average ranks of the control group. This confirms the decrease in the tendency towards intellectual extremism in the experimental group compared to the control group with a statistically significant difference.

To ensure the effectiveness of the training programme used in reducing the tendency towards intellectual extremism and its components, the researcher calculated the effect size of the programme using the R equation for the effect size:  $r = Z/\sqrt{n_1 + n_2}$ , where Z is the value of the test statistic (Mann–Whitney),  $n_1$  = the number of the first group members and  $n_2$  = the number of the second group members.

In addition, the value of the impact size is large if it is greater than or equal to 0.5; if the value is confined between 0.3 and 0.5, then the impact size is ‘medium’; if the value is less than or equal to 0.1, then the impact size is weak (Pallant, 2016, p. 229). Considering the effect size values in the previous table, it is clear that they are large, and this means that the members of the experimental group had a decrease in the level of intellectual extremism and its components after applying the programme compared to the control group, which confirms the effectiveness of the training programme in reducing the level of the tendency towards intellectual extremism and its components.

### 3.2. The second hypothesis validation results

‘There are no statistically significant differences between the mean ranks of the experimental group members in the components of the tendency towards intellectual extremism scale and the overall degree in the post and follow-up measurements (after a month)’. To verify the validity of this hypothesis, the Wilcoxon test was utilised to calculate the significance of differences, as indicated in Table 2.

Table 2 The Results of the ‘Wilcoxon’ Test for the Significance of the Differences Between the Mean Ranks of the Experimental Group's Scores in the Post and Follow-up Application of the Tendency Towards Intellectual Extremism Scale and its Components

Components	Ranks	No. of ranks	Mean of ranks	Sum of ranks	Z value	Sig.
The tendency towards religious extremism	Negative	5	4.80	24.00	0.183	NS
	Positive	4	5.25	21.00		
	Ties	1				
The tendency towards political extremism	Negative	2	5.00	10.00	0.107	NS
	Positive	4	2.75	11.00		
	Ties	4				
The tendency towards social extremism	Negative	6	4.50	27.00	1.414	NS
	Positive	2	4.50	9.00		
	Ties	2				
The tendency towards moral extremism	Negative	3	4.00	12.00	0.905	NS
	Positive	5	4.80	24.00		
	Ties	2				
Total degree	Negative	3	6.67	20.00	0.302	NS
	Positive	6	4.17	25.00		
	Ties	1				

Table 2 illustrates that there are no statistically significant differences between the mean scores of the experimental group members on the scale of the tendency towards intellectual extremism and its components in the post and follow-up measurements (after a month), which means that the second hypothesis is valid as all z-values were not statistically significant.

#### 4. Discussion

In the current research, the effectiveness of a training programme based on positive thinking skills in reducing intellectual extremism of university students was examined. The results of this research support the presented assumptions. The previous results showed that there were statistically significant differences between the mean scores of the experimental and control groups in the post-measurement of the tendency towards intellectual extremism scale and its components, in favour of the experimental group.

This result is in general consistent with the findings of various previous research, confirming that dialogue and positive thinking help individuals reflect on their thinking, review their reactions and evaluate the situations they are going through and therefore it is a good way to get rid of the negative irrational thoughts that accompany intellectual extremism (Gendron et al., 2016; Gibbons, 2012; Warren et al., 2013). Also, such training urges the individual to participate constructively in any psychological training programmes for his psychological problems and makes him feel more self-responsible for his behaviour and his way of thinking.

The positive effect of the training programme in reducing the intellectual extremism of the experimental may be due to the nature of training on positive thinking skills that leads to the development of logical thinking as well as the development of positive thinking through optimism and positive expectations, emotional control and mental processes control, social acceptance of difference from others, unconditional self-acceptance, acceptance of personal responsibility as the most prominent skills of positive thinking and thus reflected in the low level of the tendency towards intellectual extremism.

This result is also confirmed by the study of Al Fakhrani (1993), revealing that discussing religious issues logically leads to a decrease in extremist responses as the negative sentences disappear from the participants' lives. The training programme in this study included Quranic and Prophetic texts that were employed and interpreted in treating youth issues with correct evidence. This contributed to reducing their attitudes towards intellectual extremism.

Furthermore, the research results indicated a relationship between intellectual extremism, monovision and negative mechanical thoughts among university students (Al Sayed & Al Khayat, 2018). Other studies approved the positive effect of a training programme to dispel irrational thoughts among two samples of convicted terrorists and imprisoned extremists. Raslan's (2018) study also found the effectiveness of rational, emotional and behavioural counselling in improving the two dimensions of social knowledge (self-esteem–social cognition) and its impact on modifying the attitudes towards intellectual extremism among university students. Mostafa and Rashwan (2020) illustrated a positive correlation between the level of positive thinking and its sub-components and the degree of awareness of the dangers of deviation and intellectual extremism among young people.

The superiority of the experimental group may be due to the activities and techniques contained in the programme that helped the students of the experimental group reduce their level of intellectual extremism. The training programme included the following techniques, activities and methods:

- Positive self-talk: Positive self-talk plays a significant role in reducing the level of irrational thoughts associated with intellectual extremism (Gendron et al., 2016).
- Cognitive emotive behavioural therapy techniques (explanation of the mechanism of thinking – generation of feelings of emotion – identifying and correcting negative thoughts – estimating the degree of emotion and the degree of belief in thinking – resisting absolute

things): Various studies indicate the effectiveness of rational emotive behavioural counselling in reducing the attitudes towards intellectual extremism.

- Dialogue, discussion and brainstorming: Dialogue and discussion with students in solving problems contribute to reducing manifestations of intellectual extremism (Al Tantawi et al., 2016), and logically discussing religious matters leads to a decrease in his extremist responses (Al Fakhrani, 1993).
- Model, for example, argumentative discussion, story, enticement and intimidation, punishment and mental persuasion: These techniques have a role in reducing the level of intellectual extremism (Al Saadani & Mustafa, 2017).

The continuity of the effectiveness of the training programme of positive thinking in reducing intellectual extremism and its components after a month may be explained in light of the student's mastery of the positive thinking skills, as they practised them continuously during training until it became practised automatically in other situations. The programme's continuous impact may also be due to the students bearing responsibility for their way of thinking and reactions, perseverance, optimism and hope, through the information that the researcher provided to the students in the programme about the significance of moderate thinking and its role in the advancement of the individual, society and nation (Sattarova & Parpieva, 2022).

The content of the programme was also supported by Quranic texts, prophetic hadiths and ideological constants that deepen religious determination and linking the content to the student's social and religious issues and problems contributed to reducing the level of intellectual extremism among them and making its lasting impact (Moghtader & Mehrgan, 2020). In addition, the activities, exercises, models, stories and situations that the students trained on and which were characterised by continuity contributed to the students' effective and permanent application of them. In addition, the interrelationship between knowledge, practice and convictions included in the programme content, following it up with homework, and employing skills in actual situations contributed to the impact of the programme.

This result is consistent with the findings of Al Sharjabi (2016) and Raslan's (2018) studies of the continuity of the effectiveness of the rational–emotive–behavioural counselling programme to reduce the attitude towards intellectual extremism beyond the follow-up period. Also, positive thinking skills are not just information but skills that have been established based on training and practice, making them take the nature of stability and consolidation. This explains the continuity of the effectiveness of the training programme in reducing the level of the tendency towards intellectual extremism and its components.

The continuation of the effect of the training programme used by the members of the experimental group can also be explained by the techniques it included that established positive thinking skills among the trainees, such as the technique of positive self-talk, self-enhancement and meditation, which includes deliberation and prudence, and changing negative convictions about oneself with relaxation, conviction and deep contemplation.

The continuation of the effect of the training programme used by the members of the experimental group can also be explained by the included techniques that established positive thinking skills among the trainees, such as the technique of positive self-talk, self-enhancement and meditation, which includes deliberation and prudence, and changing negative convictions about oneself with relaxation, conviction and deep contemplation. The successful treatment also includes improving the way individuals think so that this leads to their benefit and positive results in the long run.

## 5. Conclusion

The results of the current research confirmed the role of training on positive thinking in reducing the level of the tendency towards intellectual extremism among university students. Positive thinking skills contributed to treating intellectual and psychological problems among young people by linking positive thinking skills to content that cares about various youth issues. It contributes to immunising young people intellectually and protecting them from delinquency and the dangers of terrorism. In light of these results, the researcher recommends transforming the positive thinking skills of university students into a culture and systematic practice, continuous detection of psychological and intellectual disorders among university students and providing programmes to treat or reduce them. The research urges those in charge of educational planning and policies to develop positive thinking skills among students to reduce the tendency towards high intellectual extremism by supporting university curricula with positive thinking skills and employing and providing teaching methods and activities. More training, education and guidance programmes to develop constructive thinking skills should be provided and more research that contributes to reducing the level of the tendency towards intellectual extremism among university students in light of various demographic variables such as socio-economic status and gender variables should be carried out.

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## Conflicts of interest

The author declares no conflicts of interest.

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