



The Cognitive Styles as Predictive with Behavior Problems in Intellectual Disabilities Children

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Abstract

The present study aimed to investigate from the prefer cognitive style of children with intellectual disabilities, and examine the contribution of cognitive style in behaviors problems in children with intellectual disabilities in a sample of 30 intellectual disabilities children (M= 22, F= 8), and their age 8- 12 years old (M=111.7, S. D=13.36), and their IQ range was 70-60 (M=66.5, S. D= 6.2). the results indicated that is a prefer cognitive styles specific in two cognitive dimensions; information preparing dimension, and information organize dimension, which children with intellectual disabilities prefer them. The two cognitive dimension content respectively; Visual conceptualization-pronunciation style, and visual-tactical style. Filed dependent- independent style, dogmatic style, reflectivity vs. impulsivity style, visual differentiation, leveling vs. sharpening, focusing vs. scanning style. and the results revealed that is a predictive relation between some of prefer cognitive style to children with intellectual disabilities and outcome of CBCL; anxious/depress and visual differentiation style; internal behavior and leveling vs. sharpening style, and dogmatic style; rule-breaking behavior and reflectivity vs. impulsivity style, and dogmatic style; aggressive behavior and field dependent vs. independent; external behavior and reflectivity vs. impulsivity style; social problem and visual vs. pronunciation style, and visual vs. tactical style; attention problem and visual vs. pronunciation style.

Keywords: Intellectual disability; Cognitive style; CBCL.

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المستخلص:

تهدف الدراسة الحالية إلى التحقيق من الأساليب المعرفية المفضل لدى الأطفال ذوي الإعاقة العقلية، والتحقق من مدى مساهمة الأساليب المعرفية في المشكلات السلوكية لدى الأطفال ذوي الإعاقة العقلية، لدى عينة مكونة من ٣٠ طفلاً من ذوي الإعاقة العقلية (٢٢ ذكور، و٨ إناث)، ويتراوح المدى العمري لهم بين ٨ و١٢ عامًا (بمتوسط = ١١,٧، وانحراف معياري = ١٣,٣٦)، ويتراوح معدل ذكائهم بين ٧٠ و٦٠ درجة (بمتوسط = ٦٦,٥، انحراف معياري = ٦,٢). وأظهرت النتائج أن هناك بعض الأساليب المعرفية المفضلة لدى الأطفال ذوي الإعاقة العقلية بشكل خاص في البُعدين المعرفيين: بُعد تحضير المعلومات، وبُعد تنظيم المعلومات، ويشمل البُعدين الأساليب المعرفية التالية على التوالي لدى الأطفال ذوي الإعاقة العقلية: أسلوب التصور البصري مقابل التلفظي، ويليه أسلوب البصري مقابل اللمسي، ثم أسلوب الاعتماد على المجال مقابل أسلوب الاستقلالية، ويليه أسلوب الدوجماتيقية، ثم أسلوب التروي مقابل الاندفاعية، يليه أسلوب التمايز البصري، ثم أسلوب الإبراز مقابل التسوية، ويليه أسلوب البؤرة مقابل الفحص. كما أشارت نتائج الدراسة إلى أن هناك علاقة تنبؤية بين بعض الأساليب المعرفية المفضلة لدى الأطفال ذوي الإعاقة العقلية وبعض المشكلات السلوكية لديهم وفقاً لقائمة المشكلات السلوكية للأطفال، كالتالي: أسلوب الدوجماتيقية وبين القلق والاكتئاب، وأسلوب التروي في مقابل الاندفاعية، وأسلوب الدوجماتيقية وبين سلوك كسر القواعد، وأسلوب الاعتماد على المجال في مقابل الاستقلال وبين السلوك العدوانية، و أسلوب التروي في مقابل الاندفاعية وبين السلوك الموجه خارجياً، وأسلوب التصور البصري مقابل التلفظ، والأسلوب البصري مقابل اللمسي وبين المشكلات الاجتماعية، وأسلوب التصور البصري مقابل التلفظ وبين مشكلات الانتباه.

الكلمات المفتاحية: الإعاقة العقلية، الأساليب المعرفية، قائمة المشكلات السلوكية.

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1. Introduction

1.1. Intellectual Disability, and behaviors Problems

The mental disabilities were described around 1500BC in Thebes, Greece, and in the end of the 18th century Jon Locke distinguished between mental retardation and mental illness. The mental retardation term has now been replaced by Intellectual disabilities; this term was used to described inability of the adaptive and social problems associated with an intellectual disability (des Portes, 2020).

Intellectual disabilities are a group of etiologically diverse conditions originating during the developmental period characterized by significantly below average intellectual functioning and adaptive behavior that are approximately two or more standard deviations below the mean (approximately less than 2.3 rd. percentile), based on appropriately normed and standardized tests (World Health Organization, 2018). and this disorder onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domains. The following three criteria must be met: A. Deficits in intellectual functions, such as reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience. B. Deficits in adaptive functioning that result in failure to meet developmental and sociocultural standards for personal independence and social responsibility. Without ongoing support, the adaptive deficits limit functioning in on or more activities of daily life, such as communication, social participation, independent living, across multi environments, such as home, school, work, and community. C. onset of intellectual and adaptive deficits during the developmental period (Mittal & Walker, 2011).

The behavior problem is the most common psychological conditions in intellectual disabilities children, such as, disruptive behaviors, aggressive behaviors, self- destructive and stereotype behaviors, and social adaptation problems (Downs et al., 2008; Lotan et al., 2009; Matson et al., 1998, 2005; Myrbakk & von Tetzchner, 2008; Szymanski, 2009). And they characterized by deficits in cognition, and socialization and adaptive functioning (Embregts et al.,

2010; Hattier et al., 2011; Lee et al., 2008; Rose, 2010; Singh et al., 2010; Williams, 2010). The previous report indicated to prevalence rate of behavior problem in intellectual disabilities to range from 9.9 % to 16,7 %, and the most frequently behavior problem in intellectual disabilities include aggressivity towards other person or objects, self-injurious behavior, stereotypies and repetitive behavior, temper tantrums, and screaming or shouting (Baudewijns et al., 2018; Myrbakk & von Tetzchner, 2008). This behavior problems between intellectual disability people are often termed “challenging behavior”, which defined as any intensity and frequency or duration behavior, that it interferes with the individual’s daily functioning (Balboni et al., 2020).

This behavior may be caused social isolation and restricted opportunities to take part in ordinary social and sociated activities, and make difficult to establish wellbeing life for intellectual disabilities people. And this problem behavior can reflex psychiatry disorder and mental health problems in this population (Myrbakk & von Tetzchner, 2008; Westlake et al., 2021). The prevalence rate of this disorder can increase as result f psychological and social interacting factors (McCarthy et al., 2010). Now the major studies in intellectual disabilities use the dual diagnosis term to descript the problem behaviors and psychiatry disorder in the people with intellectual disability (Tsakanikos & McCarthy, 2014).

1.2. Cognitive style

The resurgent studies were referred to Cognitive styles was a better way to understanding behaviors difference, and difference in information processing, Learning and problem solving (Bouckenooghe et al., 2016). So, the cognitive styles have been defined as preferences, stable attitudes, and habitual strategies which determine an individual’s modes of perceiving, remembering, thinking and problem-solving (Dewberry et al., 2013). The cognitive style is special style of individual, that reflect his method in thinking, Language express, problem-solving style, So many studies, and theories were interested to specified what is the cognitive style, like that conducted by Witkin, Lewis, Hertzman, Machover, Meissner, and Wapner (1954); Witkin, Dyk, Patterson, Goodenough, and Karp (1962); and Bruner (1966); and Kogan (1976); and Goldstein, Blackman, and Waber, Broverman (1978); and Hartnett, and Guilford (1980); and Messick (1984) (Martin, 1998). Some of this theory emphasizes the cognitive style is signal dimension model: systematic style or intuitive style, but some of it refer to the cognitive style is a multidimensional model, consisted of two continua: 1-high

systematic to low systematic, 2- high intuitive to low intuitive (Martin, 1998). And there were some theories refer that style cognitive consist from the visualizer-verbalizer dimensions, which derived from dual-coding theory (Koc-Januchta et al., 2017), and others noted that the cognitive style consist from other dimensions like field-dependent/independent and verbal-imagery style (Chang et al., 2019), Messik (1970), Messik (1976) was classified the cognitive styles in nine styles as follow: Scanning style, Field independence vs. field dependence style, breadth of categorizing style, conceptualizing style, cognitive complexity vs. simplicity style, reflectivity vs. impulsivity style, leveling vs. sharpening style, constricted vs. flexible control style, tolerance for unrealistic experiences style, conceptual differentiation, filed formation, visualization, Preference for virtual sensory, risk vs caution, Strong Mechanism vs Weak Mechanism, Perceptual dominance vs. kinesthetic dominance, integrative synthesis, Convergent vs. Divergent Thinking (Martens, 1975; Belkomidi, A., Elaraby, G., 2018)

In the recent study we interested with investigation what the prefer cognitive style for intellectual disability children, and what is their behavior problem, and the relation between cognitive style and behavior problem in intellectual disability children, and if we can use cognitive style as a predict with behavior problem.

2. Method

2.1. Participants

Thirty children with mild intellectual disability (22 males, 8 Females) from Edrak center, and specialist education center in Cairo, and Special needs schools in Beni-Suef, and their age was 8-12 years ($M = 111.73$ month, and $S. D = 13.36$), and their IQ range 70- 60 on Stanford-Binet Scale ($M = 66.5$, $SD = 6.2$). and all participants haven't and brain lesions, or neurology disorder. And their participated in this study after get a consent of their parents.

2.2. Measure

Some measures were used to investigated from variables of study as described follow:

2.2.1. Stanford-Benit intelligence test fifth edition

The participant's intelligence was assessed with the Stanford-Benit intelligence test fifth edition, which used to measure intelligence quotient, and differential

diagnosis between intellectual disability, learning disabilities, cognitive weakness, and talent (Ali Rashidi, 2001), this test measures five weighted factors and consists of both verbal and nonverbal subtests. The five factors being tested are knowledge, quantitative reasoning, visual-spatial processing, working memory, and fluid reasoning (Bain & Allin, 2005).

2.2.2. Cognitive Styles Observation test for Children with Intellectual Disabilities (for parents, teachers).

We were prepared this test to observant and define the favorite cognitive styles of children with mild intellectual disabilities by their parents and teachers. This test content 84 items, these items were divided to two dimensions; first dimension content cognitive styles of preparing information. This dimension consists visual vs tactile style, and visual conception- pronunciation style. And information organizes styles; this dimension consists filed dependent vs independent, dogmatic, impulsivity vs reflectivity, conceptual differentiation, leveling vs sharpening, focusing vs scanning.

2.2.2.1 The cognitive styles test reliability Cronbach's Alpha:

The reliability coefficient of the Cognitive Styles Observation test for Children with Intellectual Disabilities (for parents, teachers), was calculated using the Cronbach's Alpha coefficient, and re-test after 15 days from first applied with children, and all values were acceptable, and it has an acceptable degree of reliability, and this is shown in the next Table.

Table1 ; The reliability coefficients of cognitive styles test using the Cronbach's Alpha coefficient, and re-testing.

Test dimensions	Cronbach's Alpha coefficient	Spearman– Brown for re-test
Visual-Tactical style	.560	.966
Visual conceptualization- pronunciation style	.452	.988
Filed dependent- independent style	.420	.976
Dogmatic style	.584	.977
Reflectivity vs. impulsivity style	.495	.971
Visual differentiation	.360	.932
Leveling vs. Sharpening	.432	.410
Focusing vs. scanning	.452	.921
Total score of test	.683	.910

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This table show all values of reliability coefficient were significant $P < .01$, this correlation revealed that the test was reliability.

Internal consistency

The internal consistency of the scale was computed by computing the correlation coefficient between the scores of each item in the scale and the total score of the dimension it belongs to. This is evident from the following table.

Table 2 ; The correlation coefficient between each item of the cognitive components' test and the total score of tests.

Visual-Tactical style items		Visual conceptualization-pronunciation style items		Filed dependent-independent style items		Dogmatic style items	
N	correlation coefficient	N	correlation coefficient	N	correlation coefficient	N	correlation coefficient
1	.412**	1	.385**	1	.339**	1	.323**
2	.385**	2	.474**	2	.475**	2	.353**
3	.325**	3	.402**	3	.501**	3	.414**
4	.379**	4	.496**	4	.562**	4	.482**
5	.326**	5	.389**	5	.302**	5	.347**
6	.289*	6	.369**	6	.374**	6	.512**
7	.378**	7	.358**	7	.417**	7	.596**
8	.325**	8	.349**	8	.430**	8	.387**
		9	.422**	9	.435**	9	.347**
		10	.312**	10	.359**	10	.471**
		11	.332**	11	.325**	11	.367**
		12	.379**	12	.378**	12	.398**
		13	.332**			13	.452**
		14	.384**				
Reflectivity vs. impulsivity style items		Visual differentiation items		Leveling vs. Sharping items		Focusing vs. scanning items	
N	correlation coefficient	N	correlation coefficient	N	correlation coefficient	N	correlation coefficient
1	.452**	1	.451**	1	.472**	1	.365*
2	.463**	2	.487**	2	.582**	2	.276**
3	.417**	3	.365**	3	.413**	3	.365*
4	.436**	4	.745**	4	.472**	4	.452**
5	.420**	5	.358**	5	.329**	5	.471**
6	.379**	6	.471**	6	.385**	6	.365**
7	.398**	7	.485**	7	.478**	7	.374**
8	.521**	8	.563**	8	.415**	8	.475**
9	.315**	9	.385**	9	.395**		

** $P < .01$, * $P < .05$

Table3

The correlation between test dimensions score and total score of cognitive style test

Test dimensions	Total score correlation coefficient
Visual-Tactical style	.532**
Visual conceptualization-pronunciation style	.456**
Filed dependent- independent style	.442**
Dogmatic style	.435**
Reflectivity vs. impulsivity style	.585**
Visual differentiation	.435**
Leveling vs. Sharping	.520**
Focusing vs. scanning	.452**

** P < .01

The tables 2,3 revealed that all correlation coefficients between the score of each item and the total scores of the test it belongs to are statistically significant at the ($p < 0.01$, $P < .05$) level, and this indicating that the internal consistency and high stability of the cognitive components' measure.

2.2.2.2 The validity of the cognitive Styles test

Expert validity

The cognitive styles test was presented to a group of experts to ensure the clarity, appropriateness, and alignment of the items with the targeted construct and the research sample. The scale was initially presented to ten experts specializing in special education and professionals working in the field of intellectual disabilities. The cognitive styles test included observation forms for parents and teachers, as well as observation cards for the cognitive style of children with intellectual disabilities. Items that obtained agreement rates lower than 80% among the experts were excluded. The percentage of agreement among the experts for each item in the cognitive components' scale was calculated. Consequently, a large number of items achieved a 100% agreement rate, while some items received a 90% agreement rate, and others had an 80% agreement rate, and so on. Items with agreement rates below (threshold) were removed.

Table 4

The agreement rates among the experts on the items of the cognitive style scale for children with intellectual disabilities.

Test dimensions	Agreement percentage
Visual-Tactical style	90 %
Visual conceptualization-pronunciation style	90 %
Filed dependent- independent style	90 %
Dogmatic style	80 %
Reflectivity vs. impulsivity style	90 %
Visual differentiation	90 %
Leveling vs. Sharping	90 %
Focusing vs. scanning	90 %

Internal validity

The validity of the sub-scale items of the cognitive style test was computed by computing the correlation coefficient between the scores of each item and the score of the dimension it belongs to, to assess internal validity.

Table 5

The correlation coefficient between each item of the cognitive components' test and the dimension of test.

Visual-Tactical style items		Visual conceptualization-pronunciation style items		Filed dependent-independent style items		Dogmatic style items	
N	correlation coefficient between item and dimension after remove the item	N	correlation coefficient between item and dimension after remove the item	N	correlation coefficient between item and dimension after remove the item	N	correlation coefficient between item and dimension after remove the item
1	.521**	1	.632**	1	.421**	1	.562**
2	.444**	2	.641**	2	.495**	2	.321**
3	.523**	3	.419**	3	.378**	3	.475**
4	.584**	4	.412**	4	.318**	4	.451**
5	.385**	5	.472**	5	.471**	5	.382**
6	.476*	6	.493**	6	.362**	6	.395**
7	.480**	7	.516**	7	.381**	7	.485**
8	.395**	8	.510**	8	.475**	8	.362**

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		9	.501**	9	.367**	9	.385**
		10	.551**	10	.419**	10	.371**
		11	.544**	11	.384**	11	.365**
		12	.620**	12	.374**	12	.377**
		13	.542**			13	.562**
		14	.574**				
Reflectivity vs. impulsivity style items		Visual differentiation items		Leveling vs. Sharping items		Focusing vs. scanning items	
N	correlation coefficient between item and dimension after remove the item	N	correlation coefficient between item and dimension after remove the item	N	correlation coefficient between item and dimension after remove the item	N	correlation coefficient between item and dimension after remove the item
1	.530**	1	.363**	1	.412**	1	.295*
2	.412**	2	.554**	2	.389**	2	.412**
3	.422**	3	.369**	3	.471**	3	.485*
4	.441**	4	.337**	4	.485**	4	.523**
5	.302**	5	.289*	5	.382**	5	.500**
6	.326**	6	.303**	6	.445**	6	.084**
7	.298*	7	.333**	7	.415**	7	.395**
8	.363**	8	.299*	8	.472**	8	.486**
9	.410**	9	.378**	9	.520**		

** P < .01, * P < .05

The tables 4,5 revealed that all correlation coefficients were significant, and that indicates to the internal validity of the dimensions.

2.2.3. The Child Behavior Checklist (CBCL)

The child behavior checklist is a widely use rating scale that using to screening behavior in children, especially to assess childhood emotional and behavior problems, and observe function across both internalizing and externalizing domains of symptomatology (Iao et al., 2020; Medeiros et al., 2017). The CBCL has shown excellent reliability and validity in both clinical and non-clinical populations. Though the broadband scales measuring internalizing and externalizing behavior have general clinical utility (Allison Bender et al., 2008). The CBCL has been validated in many samples using confirmatory factor analysis, Pandolfi and colleagues (2009) examined the factor structure for the preschool version, and the older version of the CBCL in samples of children with

autism spectrum disorder. Their results support the un-dimensionality of behavior problems, with exception of thoughts problem in ASD child. Dovgan, Mazurwk, Hansen (2019) used CBCL to assess the behavior and emotion problems in autism spectrum disorder with and without intellectual disability and their study revealed that when used CBCL in intellectually heterogeneous sample, like ASD, and Intellectual disability should use item-level of CBCL, rather than broad subscale-level data. And the subscales, children with ASD and concurrent ID exhibit different baseline levels, measurement error, and overall predictive ability on the behavioral and emotional problems of the CBCL than children with ASD alone (Dovgan et al., 2019). The CBCL is designed to be self-administered by respondents who have at least fifth grade reading skills. It is desirable to have multiple informants independently complete separate forms describing the child's behavior. An assessment can quickly and effectively assess diverse aspects of adaptive and maladaptive functioning.

Child Behavior Checklist for Ages 6-18 - this form contains a list of behavioral problems and competencies, which are rated by parents or parent surrogates. A three-point scale is used to rate items and separate scales within each age group have been developed to assess such factors as Schizoid or Anxious, Depressed, Uncommunicative, Obsessive-Compulsive, Somatic Complaints, Social Withdrawal, Hyperactive, Aggressive, Delinquent, Social Withdrawal, Sex Problems, etc.

Teacher's Report Form (TRF) - 6 - 18 YEARS - obtains teachers' ratings of many of the problems rated by parents on the CBCL plus additional items appropriate for teachers. The profile includes scales for academic performance, 4 adaptive characteristics, 8 cross-informant syndromes, Internalizing, Externalizing and total problem scales.

Youth Self-Report (YSR) - 11 - 18 YEARS - can be filled out by youths having fifth grade reading skills or administered orally. It has most of the same competence and problems items in the CBCL. The profile for scoring the YSR includes 2 competence scales, total competence, 8 cross-informant syndromes, Internalizing, Externalizing and total problem scales.

DSM-Oriented Scales - Scales were constructed for the following 6 DSM-oriented categories: Affective Problems, Anxiety Problems, Somatic Problems, Attention Deficit/Hyperactivity Problems, Oppositional Defiant Problems, and

Conduct Problems. The DSM-oriented scales can also be scored by hand. The DSM-oriented scales serve as supplements to the empirically based scales for users who wish to view item scores in relation to DSM categories as well as in relation to empirically based syndromes (ASEBA - *The Achenbach System of Empirically Based Assessment*, n.d.).

2.3. Procedure

The participants were restricted from Edrak center for intellectual disabilities rehabilitation in Helwan City, and they all get consents form by their parents. After that we selected the participants who met the research conditions. And we applied Stanford-Benit intelligence test, CBCL, and Cognitive Styles Observation test for parents and teacher.

3. Results

3.1. The prefer cognitive style for intellectual disability children

To specify the prefer cognitive style for intellectual disability children according to their parents, and their teacher opinions, we compute the Mean and Stander Davion for response of parents and teachers in Cognitive Styles Observation test, and the next table 6 show that.

Table 6
Mean, Stander Davion for response of parents and teachers in Cognitive Styles Observation test, Dimension part.

Dimension	Mean	SD
Information organizes	116.50	9.20
Information preparing	41.90	8.77
Total	158.40	15.96

The previous table revealed that the prefer cognitive style for intellectual disability children is information organizes style $M= 116.50$, $SD= 9.20$ and follow with information preparing style $M=41.90$, $SD=8.77$. this result revealed that the cognitive style most commonly used by children with intellectual disability according to parents and teacher opinion is information organizes style, we assumed this prefer style to the children with intellectual disability be due to the method used in training and learning this children, the most teacher used method of organize show tools, and arrange it with specific sequence, and most of teacher in learning and training foundation used style of information organize from simple to more complex in learning and training intellectual disability

children, so the children with intellectual disability maybe effected with this style. These results consistent with the results of Mitchack,(1972) study, which emphasized the children with disabilities effected with cognitive style that used by their teachers.

3.1.2. what the prefer cognitive style in information organize, and information preparing dimensions which the intellectual disability used.

To specify the prefer cognitive style in information organize dimension which the intellectual disability used according to their parents, and their teacher opinions, we compute the Mean and Stander Davion for response of parents and teachers in Cognitive Styles Observation test, and the next table 2 show that.

Table 7; Mean, Stander Davion for response of parents and teachers in Cognitive Styles Observation test, Cognitive style of dimensions part.

Cognitive style	Mean	SD
Information organize dimension		
Filed dependent- independent style	21.45	4.38
Dogmatic style	27	2.86
Reflectivity vs. impulsivity style	15.80	3.13
Visual differentiation	18.50	4.74
Leveling vs. Sharping	19.70	2.57
Focusing vs. scanning	14.05	1.53
Information preparing dimension		
Visual conceptualization- pronunciation style	24.85	5.57
Visual-Tactical style	17.05	3.42

The previous table revealed that the prefer cognitive style for intellectual disability children is information organize dimension is dogmatic style $M=27.00$, $SD=2.86$, followed in order by filed dependent- independent style $M=21.45$, $SD=4.38$, then Leveling vs. Sharping style $M=19.70$, $SD=2.57$, then visual differentiation $M=18.50$, $SD=4.74$, and followed in order by reflectivity vs. impulsivity style $M=15.80$, $SD=3.13$, then focusing vs. scanning $M=14.05$, $SD=1.53$.

The most style witch children with intellectual disabilities used in preparing information was Visual conceptualization-pronunciation style $M=24.85$, $SD=5.57$, and follow in order by Visual-Tactical style $M=17.05$, $SD=3.42$

It became clear from the results that the most cognitive styles used by children with intellectual disabilities in information organizing dimension is the dogmatic style, which indicates the extent to which children with intellectual disabilities adhere to their cognitive gains and the difficulty of modifying or changing their ideas and information. This may explain the results of some studies that indicated the presence of behavior Stubbornness and refusal to obey orders and instructions and change the style or behavior and habits they practice. And children with intellectual disabilities dependent on use Visual conceptualization-pronunciation style in preparing information, this reflect that they preferring used visual and audio information more than visual tactical information.

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3.2.1. Normality and bivariate correlations.

The series of shapiro-Wilk normality, and Kolmogorov-Smirnov testes indicated that all the variable were normally distributed; thus, Spearman's correlation test was used to calculate correlation between the variables of study. Table 8 shows the means, standard deviation, and ranges of the variables of the study. Table 9 shows the bivariate correlations between the variables.

Table 8
Means, Stander deviation, and ranges of variables

	N	Mean	SD	Range
Anxiety	30	7	4.57	1.675
Withdrawal	30	5	4.56	1.612
Somatic		5	4.77	1.654
Internal	30	13	14.10	2.857
Rule	30	16	26.93	3.886
Aggression	30	12	13.67	3.155
External	30	18	40.60	4.818
Social	30	16	20.53	3.928
Thought	30	4	3.87	1.358
Attention	30	18	23.20	4.413
Visual-Tactical	30	12	15.83	3.130
Visual conceptualization-pronunciation	30	20	24.47	5.575
Filed dependent- independent style	30	11	21.33	3.188
Dogmatic style	30	18	27.70	4.348
Reflectivity vs. impulsivity style	30	13	16.03	3.653
Leveling vs. Sharping	30	10	18.00	2.560
Visual differentiation	30	10	19.23	3.380
Focusing vs. scanning	30	8	13.87	2.177

Note: Anxiety= Anxious / depressed; Withdrawal= Social withdrawal; Somatic= Somatic complaints; Rule= Rule-breaking behavior; Aggression= Aggressive behavior; Social= Social problem; Thought= Thought problems; Attention= Attention problem.

3.2.2. Multicollinearity diagnostics

The following table show the result of multicollinearity diagnostics for correlation between cognitive style test and CBCL.

Table 9
The variance inflation factor (VIF) coefficient for correlation between cognitive styles test and CBCL.

	Anxiety	Withdr awal	Somati c	Interna l	Rule	Aggre ssion	Externa l	Social	Thoug h t	Attenti on
Visual-Tactical style	1.551	1.551	1.551	1.551	1.551	1.551	1.551	1.551	1.551	1.551
Visual - pronunciation style	1.486	1.486	1.486	1.486	1.486	1.486	1.486	1.486	1.486	1.486
Filed dependent-independent style	1.588	1.588	1.588	1.588	1.588	1.588	1.588	1.588	1.588	1.588
Dogmatic style	1.190	1.190	1.190	1.190	1.190	1.190	1.190	1.190	1.190	1.190
Reflectivity vs. impulsivity style	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
Visual differentiation	1.689	1.689	1.689	1.689	1.689	1.689	1.689	1.689	1.689	1.689
Leveling vs. Sharping	1.099	1.099	1.099	1.099	1.099	1.099	1.099	1.099	1.099	1.099
Focusing vs. scanning	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.276

The table revealed that the $VIF \leq 3$, the indicate to there no multicollinearity in response of sample in both tests, and we can compute the regression between two tests, and evaluate the productivity between the cognitive styles and behaviors problems in intellectual disability children.

Table 10

Bivariate correlations between the variables

	Anxiety	Withdr awal	Somati c	Interna l	Rule	Aggre ssion	Extern al	Social	Thoug ht	Attenti on
Visual-Tactical style	0.124	0.156	-0.121	0.141	0.030	-0.118	-0.053	0.232	0.230	0.012
Visual - pronunciation style	0.048	0.039	0.050	0.073	0.017	-0.101	-0.052	-	-0.087	-
Filed dependent- independent style	-0.056	-0.132	-0.031	-0.064	-0.004	-	-0.283	0.456*	0.313	0.443*
Dogmatic style	0.128	-0.083	-0.350	-0.336	0.495*	-0.098	0.335	0.147	0.157	0.255
Reflectivity vs. impulsivity style	0.307	-0.044	-0.244	-0.027	-	-0.023	-	-0.213	0.168	-0.009
Visual differentiation	-0.362*	-0.008	0.147	-0.075	-0.146	0.000	-0.117	-0.123	0.040	-0.128
Leveling vs. Sharping	-0.207	-0.145	-0.274	-	-0.101	-0.232	-0.233	0.073	0.285	0.073
Focusing vs. scanning	0.059	0.209	-0.066	0.085	0.040	0.154	0.133	0.113	0.344	0.258

Note: Anxiety= Anxious / depressed; Withdrawal= Social withdrawal; Somatic= Somatic complaints; Rule= Rule-breaking behavior; Aggression= Aggressive behavior; Social= Social problem; Thought= Thought problems; Attention= Attention problem. * $p < .05$; ** $p < .01$.

This table show there are opposite correlation between visual vs. pronunciation style and social problem, and attention problem $R = -0.456$; $R = -0.443$. and between filed dependent vs. independent style and aggressive behavior $R = -0.427$. and between reflectivity vs. impulsivity style and rule-breaking behavior, and external behavior $R = -0.546$; $R = -0.456$. and between visual differentiation style and $R = -0.362$. and between leveling vs. sharpening style and anxious/depressed; internal behavior $R = -0.207$; $R = -0.367$. and there is correlation between dogmatic style and rule-breaking behavior $R = 0.495$.

Table 11
Stepwise regression analysis outcome of cognitive style as predictor with
anxious/depress

Model	R	R2	Adjusted R square	ANOVA		Coefficient				
				F	Sig.	Unstandardized Coefficients		t	Sig.	Constant
						B	Std. Error			
Visual differentiation	.362	.131	.100	4.220	.049*	-.237	.115	-2.05	.049*	8.830

* p < .05

Table 12
Stepwise regression analysis outcome of cognitive style as predictor with
internal behavior

Model	R	R2	Adjusted R square	ANOVA		Coefficient				
				F	Sig.	Unstandardized Coefficients		t	Sig.	Constant
						B	Std. Error			
Leveling vs. Sharping	.367	.134	.104	4.350	.046*	-.337	.139	-2.41	.023*	20.061
Dogmatic	.520	.271	.217	5.015	.014*	-.244	.108	-2.24	.033*	27.329

* p < .05

Table 13
Stepwise regression analysis outcome of cognitive style as predictor with rule-
breaking behavior

Model	R	R2	Adjusted R square	ANOVA		Coefficient				
				F	Sig.	Unstandardized Coefficients		t	Sig.	Constant
						B	Std. Error			
Reflectivity vs. Impulsivity	.546	.299	.274	11.920	.002*	-.533	.146	-3.64	.001**	36.253
Dogmatic	.703	.494	.456	13.159	.000***	.397	.123	3.22	.003**	24.498

* p < .05; ** p < .01; *** p < .000

Table 14
Stepwise regression analysis outcome of cognitive style as predictor aggressive behavior

Model	R	R2	Adjusted R square	ANOVA		Coefficient				
				F	Sig.	Unstandardized Coefficients		t	Sig.	Constant
						B	Std. Error			
Field dependent vs. Independent	.427	.183	.154	6.260	.018*	-.423	.169	-2.50	.018*	22.692

* p < .01

Table 15
Stepwise regression analysis outcome of cognitive style as predictor with external behavior

Model	R	R2	Adjusted R square	ANOVA		Coefficient				
				F	Sig.	Unstandardized Coefficients		t	Sig.	Constant
						B	Std. Error			
Reflectivity vs. Impulsivity	.456	.208	.179	7.339	.011*	-.601	.222	-2.70	.011*	50.237

* p < .01

Table 16
Stepwise regression analysis outcome of cognitive style as predictor with social problem

Model	R	R2	Adjusted R square	ANOVA		Coefficient				
				F	Sig.	Unstandardized Coefficients		t	Sig.	Constant
						B	Std. Error			
Visual vs. Pronunciation	.456	.208	.179	7.341	.011**	-.369	.114	-3.22	.003**	28.390
Visual vs. Tactical	.563	.317	.267	6.270	.006**	.424	.204	2.08	.047*	22.856

* p < .05; ** p < .01

Table 17
Stepwise regression analysis outcome of cognitive style as predictor with attention problem

Model	R	R2	Adjusted R square	ANOVA		Coefficient				
				F	Sig.	Unstandardized Coefficients	t	Sig.	Constant	
										B
Visual vs. Pronunciation	.443	.196	.167	6.820	.014*	-.350	.134	-2.61	.014*	31.771

* p < .05.

This tables revealed that there is a predictive relation between some of prefer cognitive style to children with intellectual disabilities and outcome of CBCL, as follow:

Anxious/depress and visual differentiation style; internal behavior and leveling vs. sharpening style, and dogmatic style; rule-breaking behavior and reflectivity vs. impulsivity style, and dogmatic style; aggressive behavior and field dependent vs. independent; external behavior and reflectivity vs. impulsivity style; social problem and visual vs. pronunciation style, and visual vs. tactical style; attention problem and visual vs. pronunciation style.

4. Discussion

The goal of the present study was investigating the prefer cognitive style to children with intellectual disabilities, and examine the contribution of cognitive style in behaviors problems in children with intellectual disabilities; as a productive variable. Results indicated that is a prefer cognitive styles specific in two cognitive dimensions; information preparing dimension, and information organize dimension, which children with intellectual disabilities prefer them. The two cognitive dimension content respectively; Visual conceptualization-pronunciation style, and visual-tactical style. Filed dependent- independent style, dogmatic style, reflectivity vs. impulsivity style, visual differentiation, leveling vs. sharpening, focusing vs. scanning style. Where the style of filed dependence vs. independence, comes in the order as the second most cognitive style used by children with intellectual disabilities as a cognitive style in organizing information dimension; Where the filed dependence vs independence style refers to the way in which the individual perceives the situation or the subject and its details. It deals with the individual's ability to isolate or extract the perceived

subject separately and independent of the surrounding field as a whole, that is, it deals with the individual's ability to analytical perception. The researcher believes that a child with intellectual disability finds it difficult to use what he has of information and skills to be able to be independent from the cognitive domain and the ability to deal with stimuli without relying on the surrounding environmental stimuli, which enables the child to be able to interpret the stimuli presented to him, and therefore the Specialists, teachers, parents, must realize and those dealing with children with intellectual disabilities that the cognitive domain through which they present the child with the information and skills to be learned must be clear and contribute to improving the child's ability to perceive. The child also finds it difficult to interpret stimuli independently of this pattern presented to him, where the child finds the person with intellectual disability has difficulty separating the stimulus from the ground or the subject presented through it, so he perceives the overall form, and the parts of the tasks or details remain vague and unclear to the child.

The Leveling vs. Sharping style comes third in the order of cognitive style that children with intellectual disabilities resort to; This style refers to the method that the child uses to absorb successive stimuli in the memory, and the extent to which the child is aware of the differentiation of the stimuli in the cognitive domain, and to integrate them with what he has learned and what is in the memory of information or to keep that information separate. Individuals who tend to leveling style often find it difficult to accurately recall what is stored in memory; It is difficult for them to accurately determine the differences between the information stored; Where children with intellectual disabilities find it difficult to recall stimuli from memory due to the use of the Leveling vs. Sharping style to organize information in the memory, which indicates the child's adjustment to the stimuli and the difficulty of separating them or highlighting them in memory, and thus the difficulty of recalling them, unlike children who tend to use the highlighting method and who are less Prone to distraction, and it is easy for them to highlight the differences between the information stored in memory. The use of children with intellectual disabilities of the visual differentiation style refers to the child's use of characteristics related to the external form of the stimulus presented to him in order to identify the stimulus and link it with similar stimuli without the child's ability to distinguish between stimuli and link them according to more complex relationships or to form higher associations in degree more about this source text Source text required for additional translation information send feedback side panels. The reflectivity vs. impulsivity style is ranked fifth among the cognitive methods used by children with intellectual disabilities, and this style is linked to the children's tendency to respond quickly with exposure to risks. And this style can illustrate the impulsive behavior in children with intellectual disabilities.

And the results found that is a predictive relation between some of cognitive style and behavior problems in children with intellectual disabilities, like a predictive relation between Visual differentiation style and anxious / depress, and predictive relation between leveling- Sharping style and internal behavior, and between Dogmatic style and internal behavior, and between reflectivity/ impulsivity style and rule breaking behavior, and external behavior, and between filed dependent/ independent style and aggressive behavior, and between visual pronunciation/ visual tactical style and social problems, and between visual pronunciation/ visual tactical style and attention problem.

5. Conclusion

the results from the current study provide an important addition to the literature on the role of cognitive style in behavior problems in intellectual disabilities children.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

Authors' Contribution

All authors contributed equally to this work.

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