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## العوامل المسببة للتوحد كما يدركها المختصون

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### الملخص

( )  
(29) (22) : (82)  
(31) ( )  
(4) (5) (6)  
(3)

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**-1**

(Autism)

(Autos)

(Kanner)

(Autism)

( )

.(Whittaker, 1990) (Mechanical boy)

**-2**

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(Lord & McGee, 2001) (5-2)  
(Schopler & Mesibov, 1995)  
(1000) (4-2)  
.%1.66

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.(Edelson ,2004)

**-3**

( )

**-1-3**

(Asperger Syndrome)

(Kanner)

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: **-1-1-3**

( )  
(Scoliosis)

(Childhood Disintegrative ( ) **-2-1-3**  
Disorders)

:

(Schwean & Saklofske, 1993) .

(Pervasive Developmental **-3-1-3**  
(PDD-NOS) Disorders (Non Otherwise Specified)

(Huffman, 2001) .(Atypical Autism)

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**-1-3-1-3**

**-2-3-1-3**

**-3-3-1-3**

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**-4-3-1-3**

**-5-3-1-3**

**-6-3-1-3**

(Rutter,1978)

(2004 )

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**-7-3-1-3**

**-8-3-1-3**

**-9-3-1-3**

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**-10-3-1-3**

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**-11-3-1-3**

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**-12-3-1-3**

**-13-3-1-3**

**-14-3-1-3**

**-15-3-1-3**

**-16-3-1-3**

:

(1995)

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: **-17-3-1-3**

**-18-3-1-3**

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(Ritvo and &Freeman,1977)

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(%20) (50) (70) (%20) (%60) (70-50)

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**-4**

**-1-4**

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**-1-1-4**

....

(Bettelheim)

(Rimland)

:

**-1-1-1-4**

**-2-1-1-4**

**-3-1-1-4**

**-4-1-1-4**

**-5-1-1-4**

(Knoblock, 1983) .

**-2-4**

**-3-4**

(Davidson&Neale,1994)

(%23)

(%95,7)

(PKU)

(Schwean & Saklofske, 1999)

**-4-4**

(Gaba)

(Gat)

(Gaba)

(Fox2) -

(Wnt2) -

(Reln) -

(15)

(Q11) (Q13)

(X)

%16

(X)

.(Genetic Overview,2002)

Biochemical Studies

**-5-4**

(Serotonin)

(2004)

(Serotonin)

(Fenfluramine)

(Bootzin & Others, 1993)

(Dopamine)

(Phenylalanine)

.(2002 )

.....  
(Young and Others, 1982)

(Campbell & Others, 1982)

#### 4-6- الدراسات العصبية

(Purkinge) %13  
(1999 )

(Courchesne & Others, 1988)

(18)

(Campbell, et al, 1982)

(Brainstem)

(Rimland)

(Demyer, Barton, Demyer, 1973)

(Cerebral Cortex)

(2004 )

**-7-4**

(Gluten)

(Casein)

(2002)

(Coleman & MCarthy)

(8)

(Rimland & Others,1978)

(16)

(16)

(B6)

(11)

(B6)

(B6)

(B6)

**-5**

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(82)

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(31)

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(22)

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.2004/9/9

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: (29)

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82	31	29	22	

-6

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(6)

(3)

(4)

(5)

**-1-6**

**-7**

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(1)

	1x	2x	3x	4x	5x	6x		
4,81		2=2x1	9=3x3	12=4x3	$\frac{=5 \times 7}{35}$	48=6x8	22	
4,24	3=1x3	4=2x2	15=3x5	16=4x4	$\frac{=5 \times 5}{25}$	60=6x10	29	
3,90	2=1x2	10=2x5	21=3x7	24=4x6	$\frac{=5 \times 2}{10}$	54=6x9	31	

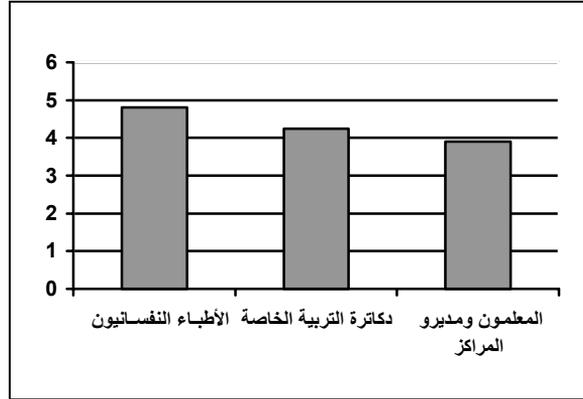
(3,5)

(4,81)

(3,90)

(4,24)

(2)



(3)

	1×	2×	3×	4×	5×	6×		
3,32	2=1×2	6=2×3	=3×7 21	28=4×7	10=5×2	6=6×1	22	
3,75	2=1×2	12=2×6	=3×5 15	16=4×4	40=5×8	36=6×6	29	

4,10	$2=1 \times 2$	$6=2 \times 3$	$\frac{=3 \times 6}{18}$	$20=4 \times 5$	$45=5 \times 9$	$36=6 \times 6$	31	
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(3,32)

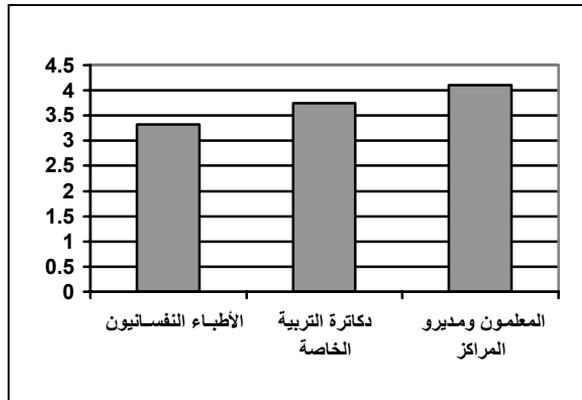
(3,5)

(3,5)

(4,10)

(3,75)

(4)



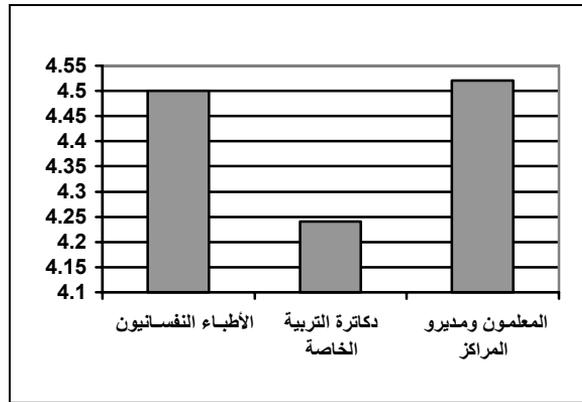
(5)

	<b>1×</b>	<b>2×</b>	<b>3×</b>	<b>4×</b>	<b>5×</b>	<b>6×</b>		
4,5		$2=2 \times 1$	$9=3 \times 3$	$24=4 \times 6$	$40=5 \times 8$	$24=6 \times 4$	22	

4,24	$1=1\times 1$	$6=2\times 3$	$=3\times 5$ 15	$20=4\times 5$	$45=5\times 9$	$36=6\times 6$	29	
4,52	$1=1\times 1$	$4=2\times 2$	$9=3\times 3$	$28=4\times 7$	$=5\times 10$ 50	$48=6\times 8$	31	

(3,5)

(6)



(7)

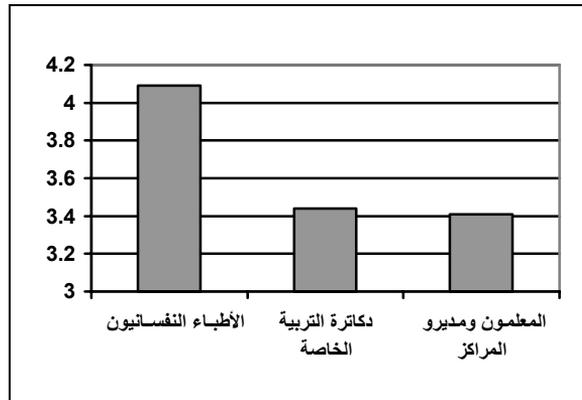
	$1\times$	$2\times$	$3\times$	$4\times$	$5\times$	$6\times$		
4,09	$1=1\times 1$	$10= 2\times 5$	$9=3\times 3$	$8=4\times 2$	$20 =5\times 4$	$42=6\times 7$	22	

3,44	$4=1 \times 4$	$6=2 \times 3$	$24=3 \times 8$	$28=4 \times 7$	$20=5 \times 4$	$18=6 \times 3$	29	
3,41	$4=1 \times 4$	$14=2 \times 7$	$21=3 \times 7$	$12=4 \times 3$	$25=5 \times 5$	$30=6 \times 5$	31	

(4,09)

(3,41) (3,44)

(8)



(9)

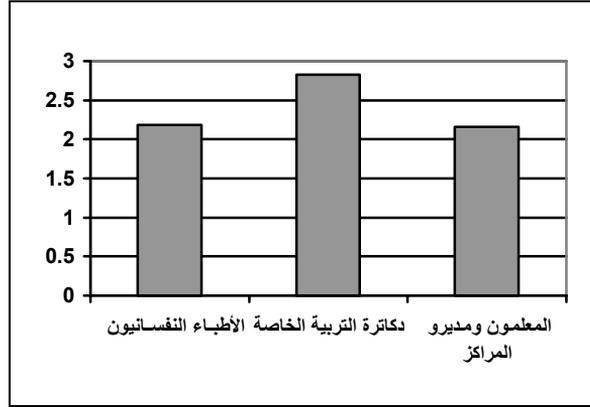
	1×	2×	3×	4×	5×	6×		
2,18	$=1 \times 10$ 10	$10=2 \times 5$	$9=3 \times 3$	$8=4 \times 2$	$5=5 \times 1$	$6=6 \times 1$	22	
2,83	$7=1 \times 7$	$16=2 \times 8$	$12=3 \times 4$	$20=4 \times 5$	$15=5 \times 3$	$12=6 \times 2$	29	

.....

2,16	$=1 \times 16$ 16	$10=2 \times 5$	$6=3 \times 2$	$24=4 \times 6$	$5=5 \times 1$	$6=6 \times 1$	31	
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(3,5)

(10)



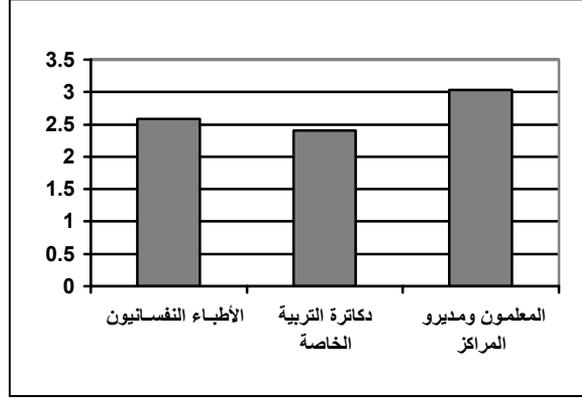
(11)

	1×	2×	3×	4×	5×	6×		
2,59	8=1×8	10=2×5	9=3×3	8=4×2	10=5×2	12=6×2	22	
2,41	9=1×9	18=2×9	15=3×5	12=4×3	10=5×2	6=6×1	29	
3,03	6=1×6	14=2×7	18=3×6	24=4×6	20=5×4	12=6×2	31	

(3,5)

(2,41) (2,59)

(12)



(13)

2,59	2,18	4,09	4,5	3,32	4,81	
2,41	2,83	3,44	4,24	3,75	4,24	
3,03	2,16	3,41	4,52	4,10	3,90	
2,68	2,39	3,64	4,42	3,72	4,31	

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(Dopamine)                      (Serotonine)  
(Fenfluramine)

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.(Bootzin & Others, 1993)

(13)

(Gaba)

(Reln2)

(Fox 2)

(Wnt2)

.(Q11) (Q13)

-  
(%95,7)

-(  
.(%23)

(X)

.(Schwean & Saklofske, 1999)

(3,65)

(3,5)

(Davidson & Neale, 1994)

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2006 - - .....

(2,39)

(13)

- - (Adelson, 2004)

:

(2004)

(B12) (B6)

.....

: : (1999) -  
: : (2004) -  
: (2002) -  
(2002) -  
(1995) : -  
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