

A Meta-Analysis of Adventure Therapy Outcomes and Moderators

Summary of Findings for Individual Outcomes by Outcome Category for the Adventure Therapy Treatment Group Between Pre and Post

The Pre-Post Adventure Therapy overall effect size, and effect sizes for each Outcome Category are presented in Table 1. The Pre-Post Adventure Therapy effect sizes for Individual Outcomes by Outcome Category are presented in Tables 2 to 9.

Table 1. Pre-Post Adventure Therapy Effect Sizes by Outcome Categories

Outcome Category	N _{Samples}	N _{ES}	<i>g</i> (<i>V</i>)	SE	95% CI	<i>z</i> (<i>p</i>)	<i>Q</i> (<i>p</i>)	<i>I</i> ²
Academic	61	132	.41 (.00)	.04	.33: .50	9.38 (.000)	214.61 (.000)	72.04
Behaviour	84	223	.41 (.00)	.05	.31: .51	8.38 (.000)	545.87 (.000)	84.80
Clinical	137	595	.50 (.00)	.04	.42: .59	11.73 (.000)	1,274.59 (.000)	89.33
Family Development	33	106	.36 (.01)	.07	.23: .50	5.26 (.000)	173.60 (.000)	81.57
Morality/Spirituality	9	12	.17 (.01)	.09	-.01: .35	1.83 (.067)	15.93 (.043)	49.78
Physical	13	21	.32 (.01)	.11	.10: .55	2.84 (.004)	63.60 (.000)	81.13
Self-Concept	137	391	.43 (.00)	.03	.36: .49	13.60 (.000)	513.76 (.000)	73.53
Social Development	107	305	.42 (.00)	.04	.34: .49	11.03 (.000)	502.68 (.000)	78.91
Total	205	1,785	.47 (.00)	.03	.41: .53	15.11 (.000)	1,293.05 (.000)	84.22

Note: ES = Effect Size; *g* = Hedges' *g*; *V* = Variance; SE = Standard Error; CI = Confidence Interval; *z* = *z* score; *p* = *p* value; *Q* and *I*² are tests of heterogeneity.

Table 2. Pre-Post Adventure Therapy Effect Sizes Relating to Academic Variables

Outcome	N _{Samples}	N _{ES}	<i>g</i> (<i>V</i>)	SE	95% CI	<i>z</i> (<i>p</i>)	<i>Q</i> (<i>p</i>)	<i>I</i> ²
Academic Perception	42	86	.38 (.00)	.05	.28: .48	7.32 (.000)	133.12 (.000)	69.20
Academic Performance	4	8	.43 (.01)	.07	.29: .57	6.02 (.000)	2.21 (.530)	0.00
GPA	11	12	.28 (.02)	.16	-.03: .58	1.80 (.073)	83.85 (.000)	88.07
Problem Solving	17	26	.44 (.01)	.10	.25: .63	4.45 (.000)	69.81 (.000)	77.08
Overall	61	132	.41 (.00)	.04	.33: .50	9.38 (.000)	214.61 (.000)	72.04

Table 3. Pre-Post Adventure Therapy Effect Sizes Relating to Behaviour Variables

Outcome	N _{Samples}	N _{ES}	<i>g</i> (<i>V</i>)	SE	95% CI	<i>z</i> (<i>p</i>)	<i>Q</i> (<i>p</i>)	<i>I</i> ²
Community Involvement	4	7	.50 (.10)	.32	-.13: 1.14	1.56 (.12)	52.54 (.000)	94.29
Home Behaviour	7	12	.46 (.02)	.12	.22: 0.70	3.73 (.000)	14.41 (.025)	58.36
Immaturity	12	16	.17 (.01)	.09	-.01: 0.34	1.87 (.060)	39.43 (.000)	72.10
Problem Behaviour	52	108	.47 (.00)	.07	.34: 0.60	7.03 (.000)	357.23 (.000)	85.72
Recidivism	5	7	.90 (.04)	.19	.54: 1.27	4.82 (.000)	12.08 (.017)	66.89
School Behaviour	21	32	.30 (.00)	.06	.18: 0.42	4.86 (.000)	48.53 (.000)	58.79
Substance Use Behaviour	9	31	.42 (.02)	.14	.15: 0.69	3.02 (.002)	70.36 (.000)	88.63
Truancy	8	10	.28 (.01)	.11	.06: 0.51	2.47 (.010)	16.98 (.017)	58.79
Overall	84	223	.41 (.00)	.05	.31: 0.51	8.38 (.000)	545.87 (.000)	84.80

Table 4. Pre-Post Adventure Therapy Effect Sizes Relating to Clinical Variables

Outcome	NSamples	NES	g (V)	SE	95% CI	z (p)	Q (p)	I ²
Aggression	29	41	.39 (.01)	.08	.23: 0.55	4.75 (.000)	210.38 (.000)	86.69
Anger	9	12	.64 (.03)	.17	.31: 0.97	3.81 (.000)	52.71 (.000)	84.82
Anxiety	42	68	.27 (.00)	.06	.15: 0.39	4.33 (.000)	237.09 (.000)	82.71
Attention Problems	11	18	.40 (.02)	.14	.13: 0.67	2.86 (.00)	100.93 (.000)	90.09
Autism	10	10	.11 (.01)	.08	-.04: 0.26	1.44 (.150)	21.76 (.010)	58.64
Conduct Disorder	5	6	.39 (.04)	.20	.00: 0.78	1.96 (.05)	32.99 (.000)	87.87
Coping	9	15	.40 (.02)	.14	.13: 0.66	2.91 (.004)	31.98 (.000)	74.98
Defensive Style	5	7	.12 (.01)	.07	-.02: 0.26	1.68 (.093)	1.37 (.850)	0.00
Denial	11	11	-.24 (.01)	.07	-.38: -0.10	-3.26 (.001)	23.20 (.010)	56.89
Depression	28	44	.37 (.01)	.07	.23: 0.51	5.17 (.000)	140.65 (.000)	80.80
Emotional Stability	19	32	.43 (.01)	.07	.29: 0.56	6.07 (.000)	51.70 (.000)	65.18
General Maladjustment	30	43	.56 (.01)	.11	.34: 0.78	5.00 (.000)	519.99 (.000)	94.42
General Mental Health	28	44	.52 (.01)	.09	.35: 0.69	5.90 (.000)	181.36 (.000)	85.11
Hope	15	26	.33 (.01)	.07	.18: 0.47	4.46 (.000)	31.06 (.005)	54.92
Locus of Control	34	45	.52 (.00)	.06	.40: 0.65	8.11 (.000)	131.44 (.000)	74.89
Mania	3	5	.32 (.01)	.11	.11: 0.54	2.92 (.003)	3.25 (.197)	38.53
Neurosis	5	6	.04 (.01)	.11	-.19: 0.26	.31 (.76)	6.16 (.187)	35.07
Paranoia	3	4	-.04 (.07)	.27	-.56: 0.48	-.14 (.89)	3.57 (.168)	44.03
Personal Goals	15	43	.95 (.04)	.19	.58: 1.32	5.03 (.000)	198.68 (.000)	92.95
Personality Disorder	9	13	.06 (.01)	.11	-.16: 0.28	.52 (.600)	25.66 (.001)	68.83
Psychomotor	4	5	.78 (.02)	.12	.54: 1.02	6.33 (.000)	3.75 (.290)	19.97
Psychosis	7	8	.27 (.01)	.09	.09: 0.44	2.97 (.003)	7.84 (.250)	23.46
Readiness to Change	5	8	.46 (.05)	.23	.01: 0.91	2.01 (.044)	20.93 (.000)	80.89
Repression	7	8	.00 (.01)	.11	-.21: 0.21	0.00 (.996)	22.69 (.001)	73.56
Resilience	8	13	.37 (.01)	.09	.19: 0.55	4.00 (.000)	18.80 (.009)	62.76
Stress	9	16	.47 (.02)	.13	.21: 0.73	3.58 (.000)	26.51 (.001)	69.82
Therapeutic Alliance	1	2	.73 (.11)	.33	.69: 1.38	2.17 (.030)		
Thought Problems	8	15	.37 (.01)	.16	.14: 0.59	3.21 (.001)	28.32 (.000)	75.28
Value Orientation	8	8	.43 (.02)	.13	.18: 0.67	3.42 (.001)	33.08 (.000)	78.84
Withdrawal	14	19	.32 (.01)	.10	.12: 0.51	3.19 (.001)	61.24 (.000)	78.77
Overall	137	595	.50 (.00)	.04	.42: 0.59	11.73 (.000)	1,274.59 (.00)	89.33

Table 5. Pre-Post Adventure Therapy Effect Sizes Relating to Family Development Variables

Outcome	NSamples	NES	g (V)	SE	95% CI	z (p)	Q (p)	I ²
Family Functioning	27	74	.32 (.01)	.08	.17: .46	4.23 (.000)	145.63 (.000)	82.15
Parent-Participant R'ship	13	32	.43 (.02)	.15	.14: .73	2.86 (.004)	121.57 (.000)	90.13
Overall	33	106	.36 (.01)	.07	.23: .50	5.26 (.000)	173.60 (.000)	81.57

Table 6. Pre-Post Adventure Therapy Effect Sizes Relating to Morality/Spirituality Variables

Outcome	NSamples	NES	g (V)	SE	95% CI	z (p)	Q (p)	I ²
Morality	6	8	.16 (.02)	.12	-.08: .40	1.31 (.191)	8.48 (.132)	41.03
Spirituality	3	4	.19 (.03)	.17	-.15: .53	1.08 (.279)	7.32 (.026)	72.69
Overall	9	12	.17 (.01)	.09	-.01: .35	1.83 (.070)	15.93 (.043)	49.78

Table 7. Pre-Post Adventure Therapy Effect Sizes Relating to Physical Variables

Outcome	NSamples	NES	g (V)	SE	95% CI	z (p)	Q (p)	I ²
Somatic	12	20	.38 (.01)	.11	.17: .59	3.52 (.000)	47.33 (.000)	76.76
Weight	1	1	.55 (.04)	.19	.18: .92	2.91 (.004)		
Overall	13	21	.32 (.01)	.11	.10: .55	2.84 (.000)	63.60 (.000)	81.13

Table 8. Pre-Post Adventure Therapy Effect Sizes Relating to Self-Concept Variables

Outcome	N_{Samples}	N_{ES}	g (V)	SE	95% CI	z (p)	Q (p)	I²
Honesty/Trustworthiness	9	10	.43 (.01)	.07	.28: .57	5.86 (.000)	12.76 (.121)	37.28
Life Effectiveness	27	61	.37 (.01)	.07	.23: .50	5.30 (.000)	96.04 (.000)	72.93
Physical Abilities	18	23	.31 (.01)	.08	.15: .46	3.88 (.000)	51.04 (.000)	66.69
Physical Appearance	20	22	.40 (.01)	.08	.25: .55	5.15 (.000)	64.69 (.000)	70.63
Self-Certainty	4	6	.23 (.03)	.17	-.11: .56	1.33 (.190)	7.85 (.049)	61.79
Self-Concept	40	72	.38 (.00)	.06	.27: .49	6.58 (.000)	146.77 (.000)	73.43
Self-Confidence	26	32	.38 (.01)	.08	.23: .52	5.03 (.000)	98.67 (.000)	74.66
Self-Control	14	15	.53 (.01)	.11	.32: .73	4.95 (.000)	47.20 (.000)	72.46
Self-Criticism	16	25	.18 (.01)	.08	.02: .34	2.18 (.029)	45.70 (.000)	67.17
Self-Efficacy	28	42	.34 (.00)	.05	.24: .44	6.63 (.000)	42.56 (.029)	36.56
Self-Esteem	70	83	.45 (.00)	.05	.36: .54	9.79 (.000)	370.19 (.000)	81.36
Overall	137	391	.43 (.00)	.03	.36: .49	13.60 (.000)	513.76 (.000)	73.53

Table 9. Pre-Post Adventure Therapy Effect Sizes Relating to Social Development Variables

Outcome	N_{Samples}	N_{ES}	g (V)	SE	95% CI	z (p)	Q (p)	I²
Alienation	20	22	.36 (.01)	.08	.20: .51	4.54 (.000)	84.07 (.000)	77.40
Asocialisation	13	13	.19 (.01)	.08	.04: .34	2.45 (.01)	41.49 (.000)	71.08
Group Cohesion	8	8	.59 (.02)	.15	.29: .89	3.82 (.000)	23.51 (.001)	70.22
Independence	10	17	.31 (.04)	.20	-.08: .71	1.55 (.122)	65.60 (.000)	86.28
Leadership	14	25	.35 (.02)	.12	.11: .59	2.90 (.004)	100.58 (.000)	87.08
Social Maladjustment	14	18	.36 (.01)	.09	.19: .54	4.03 (.000)	67.02 (.000)	80.60
Social Skills	77	151	.44 (.00)	.04	.36: .52	10.26 (.000)	303.54 (.000)	74.96
Participant-Peer R'ships	26	51	.34 (.01)	.07	.19: .47	4.56 (.000)	126.73 (.000)	80.27
Overall	107	305	.42 (.00)	.04	.34: .49	11.03 (.000)	502.68 (.000)	78.91