Table S2 Findings sorted by outcome and study quality of papers considering nature and mental health of children and teenagers

Reference	Results
	Outcome: *Emotional Well-being* ***Quality:*** *Good* ***Findings:*** *5PR 5 NS*
Amoly *et al.* 2014 [20]	PR**: More time spent playing in green spaces was associated with lower emotional symptom scores in children ages 7-10 PR**: Higher residential surrounding greenness at the 500m buffer was associated with lower emotional symptom scores in children ages 7-10 NS: No significant effect of residential proximity to major green spaces on emotional symptoms in children ages 7-10 NS: No significant effect of residential proximity to blue spaces on emotional symptoms in children ages 7-10 NS: No significant effect of time spent in blue spaces on emotional symptoms in children ages 7-10
McCracken *et al.* 2016 [38]	NS: No significant effect of green space use and emotional well-being subscale scores in children ages 8-11 NS: No significant effect of quantity of residential green space and emotional well-being subscale scores in children ages 8-11
Opper *et al.* 2014 [40]	PR**: Following the 23 day OAEP there was a significant effect on mood in grade ten males PR**: 3 months following the 23 day OAEP there was a significant effect on mood in grade ten males
Ward *et al.* 2016 [49]	PR**: Time spent in green space was positively associated with all measures of emotional well-being in children ages 11-14; even when controlled for moderate-to-vigorous physical activity
	Outcome: *Emotional Well-being* ***Quality:*** *Fair* ***Findings:*** *4 PR 8 NS*
Balseviciene *et al.* 2014 [21]	NS: No significant effect of proximity to city parks on emotional health in children ages 4-6 NS: No significant effect of residential greenness on emotional health in children ages 4-6
Bowen *et al.* 2016 [24]	NS: No significant effect from pre-post after the 10 week WAT on emotional functioning in clinical and non-clinical children ages 12-18 NS: No significant effect after a 3 month follow up from the 10 week WAT on emotional functioning in clinical and non-clinical children ages 12-18
Flouri *et al.* 2014 [28]	PR**: Poor children with more neighbourhood green space had fewer emotional problems from age 3 to 5, relative to counterparts in less green neighbourhoods.
Harper *et al.* 2007 [31]	PR***: 2 months following the 21 day WT there was a significant improvement in emotional problems in children ages 13-18
Huynh *et al.* 2013 [33]	NS: No significant effect of school surrounding natural space on emotional well-being in children ages 11-16 NS: No significant effect of school surrounding green space on emotional well-being in children ages 11-16 PR**: School surrounding blue space had a positive effect on emotional well-being in children ages 11-16

Kelz *et al.* 2015 [34]	PR***: Greening of the schoolyard saw a significant increase in intra-psychic balance compared to both control schools in children ages 13-15 NS: No significant effect of the greening of the schoolyard on overall well-being in children ages 13-15
Markevych *et al.* 2014 [37]	NS: No significant effect of distance between urban green space and home with emotional symptoms in children ages 9-11
Roe & Aspinall 2011 [41]	PR**: There was a significant effect in all four emotional variables, with a greater change in the forest school setting, especially for the poor behaviour group, in children age 11
van den Berg & van den Berg 2011 [47]	NS: No significant effect of natural wooded setting on mood in children with ADHD ages 9-17
	Outcome: *Emotional Well-being* ***Quality:*** *Poor* ***Findings:*** *2 PR 1 NS*
Greenwood & Gatersleben 2016 [29]	PR***: Increase in positive affect after time spent in outdoor environment, reduction in positive affect after time spent in indoor environment in children ages 16-18 NS: No significant effect of environment on attentiveness in children ages 16-18
Soderstrom *et al.* 2013 [43]	PR***: Exposure to high-quality outdoor environment associated with better well-being in preschool children ages 3.0-5.9
	Outcome: *ADD/ADHD, Hyperactivity, Inattention* ***Quality:*** *Good* ***Findings:*** *3 PR 5 NS*
Amoly *et al.* 2014 [20]	NS: No significant effect of green space playing time on ADHD and hyperactivity/inattention in children ages 7-10 PR**: Higher residential surrounding greenness at the 100m buffer was associated with lower ADHD and inattention symptom scores in children ages 7-10 PR**: Higher residential surrounding greenness at all buffers was associated with lower hyperactivity/inattention scores in children ages 7-10 NS: No significant effect of residential proximity to major green space on ADHD and hyperactivity/inattention in children ages 7-10 NS: No significant effect of residential proximity to blue spaces on ADHD symptom scores in children ages 7-10 NS: No significant effect of time spent in blue spaces on ADHD symptom scores in children ages 7-10
Taylor & Kuo 2009 [44]	PR**: The park setting saw a significant positive effect on concentration compared to the other two settings in children ages 7-12
van den Berg & van den Berg 2011 [47]	NS: No significant effect of natural wooded setting on concentration in children ages 9-17

	Outcome: *ADD/ADHD, Hyperactivity, Inattention* ***Quality:*** *Fair* ***Findings:*** *4 PR 1 NS*
Balseviciene *et al.* 2014 [21]	PR**: Increase in distance to city parks was associated with increased hyperactivity in children ages 4-6, lower maternal education group NS: No significant effect between residential greenness and hyperactivity in children ages 4-6, higher maternal education group
Flouri *et al.* 2014 [28]	PR**: Access to gardens was related to fewer hyperactivity problems in children at ages 3, 5, and 7 PR**: Use of parks and playgrounds was related to fewer hyperactivity problems in children at ages 3, 5, and 7
Markevych *et al.* 2014 [37]	PR**: The further the distance to the nearest green space from home was associated with a higher risk of hyperactivity and inattention problems in males ages 9-11
	Outcome: *ADD/ADHD, Hyperactivity, Inattention* ***Quality:*** *Poor* ***Findings:*** *6 PR 0 NS*
Greenwood & Gatersleben 2016 [29]	PR***: Attention scores were reduced significantly more after the 20 minutes spent in the outdoor environment than in the indoor environment in children ages 16-18
Kuo & Taylor 2004 [36]	PR***: Green outdoor activities after school and on weekends were significantly more helpful in reducing symptoms than built outdoor or indoor activities for children ages 5-18. This held for children with and without hyperactivity as well as when activity type was controlled for
Taylor & Kuo 2011 [45]	PR***: Play in both outdoor green settings was associated with less severe ADD symptoms compared to the indoor or built outdoor settings, in children ages 5-18 PR***: One of the outdoor green settings, open grass, had the most significant effect on ADHD symptom severity in children ages 5-18
Taylor *et al.* 2001 [46]	PR***: Participation in activities in green outdoor settings were associated with better functioning in children ages 7-12 PR***: The more green the play setting the less severe the attention deficit symptoms in children ages 7-12
	Outcome: *Overall Mental Health* ***Quality:*** *Good* ***Findings:*** *4 PR 1 NS*
Amoly *et al.* 2014 [20]	PR**: Statistically significant decrease in total SDQ scores and green space playing time in children ages 7-10 PR**: Statistically significant decrease in total SDQ scores and residential surrounding greenness at all buffers in children ages 7-10 PR**: Statistically significant decrease in total SDQ scores and annual beach attendance in children ages 7-10
Clark *et al.* 2004 [26]	PR***: Significant effect on clinical syndromes scales after the 21 day WTP in children ages 13-18
Ritchie *et al.* 2014 [7]	NS: No significant effect on mental health scores from pre to post intervention to 1 year follow up of the 10 week OAP in children ages 12-18

	Outcome: *Overall Mental Health* ***Quality:*** *Fair* ***Findings:*** *4 PR 2 NS 1 NR*
Balseviciene *et al.* 2014 [21]	PR**: Living further from city parks was associated with worse mental health in children ages 4-6, whose mothers had a lower education NR*: More residential greenness was associated with worse mental health in children ages 4-6, whose mothers had a higher education
Bowen *et al.* 2016 [24]	NS: No significant effect from pre-post 10 week WAT on suicidality in children ages 12-18 PR*: After the 10-week WAT there was a statistically significant reduction at 3 month follow up in suicidality in children ages 12-18
van Lier *et al.* 2017 [48]	PR**: Participating in gardening at home was significantly associated with better mental well-being in children ages 12-18
Harper *et al.* 2007 [31]	PR***: 12 months following the 21 day WT there was a significant improvement on suicidal thoughts/ideation in children ages 13-18 NS: No significant effect 2 months following the 21 day WT on other components of mental health in children ages 13-18
	Outcome: *Overall Mental Health* ***Quality:*** *Poor* ***Findings:*** *3 PR 3 NS*
Mutz & Muller 2016 [39]	PR**: Significant increase in mindfulness from T1 to T2 after a 9 day hike in children age 14 PR**: Significant increase in mean life satisfaction from T1 to T2 after a 9 day hike in children age 14 NS: No significant effect from the 9 day hike on happiness in children age 14
Bowen & Neill 2016 [23]	PR**: Significant improvement in one measure of mental health (psychological well-being) at the 6-12 month follow up after 15 programming days during a 10-12 week outdoor adventure intervention program in children ages 13-16 NS: No significant effect on overall mental health or psychological distress at the 6-12 month follow up after 15 programming days during a 10-12 week outdoor adventure intervention program in children ages 13-16 NS: No significant effect on all measures of mental health after 15 programming days during a 10-12 week outdoor adventure intervention program in children ages 13-16
	Outcome: *Self-esteem* ***Quality:*** *Good* ***Findings:*** *1 PR 2 NS*
McCracken *et al.* 2016 [38]	PR**: Increased green space use was positively associated with the self-esteem subscale scores in children ages 8-11 NS: No significant effect of quantity of residential green space and self-esteem subscale scores in children ages 8-11
Ritchie *et al.* 2014 [7]	NS: No significant effect on self-esteem scores from pre to post intervention to 1 year follow up of the 10 week OAP in children ages 12-18
	Outcome: *Self-esteem* ***Quality:*** *Fair* ***Findings:*** *2 PR 8 NS*
Barton *et al.* 2015 [22]	NS: No significant effect from a nature based playtime intervention on self-esteem in children ages 8-9

Bowen *et al.* 2016 [24]	PR*: After the 10-week WAT there was a statistically significant improvement from pre to post in 1/4 subscales of self-esteem (social) in children ages 12-18 PR*: After the 10-week WAT there was a statistically significant improvement at the 3 month follow up in 1/4 subscales of self-esteem (general) in children ages 12-18 NS: No significant effect after the 10 week WAT on self-esteem overall in children ages 12-18
Cammack *et al.* 2002 [25]	NS: No significant effect of the 16 week program (64 hours) on self-esteem in children potentially ages 12-18
Hinds 2011 [32]	NS: No significant effect of the two to five night WEP on self-esteem in children ages 12-15
Reed *et al.* 2013 [6]	NS: No significant effect of the green setting on self-esteem in children 11-12
Romi & Kohan 2004 [42]	NS: No significant effect from the WTP on self esteem in children ages 15-18 NS: No significant difference was found between the groups before and after the WTP in children ages 15-18
Wood *et al.* 2014 [52]	NS: No significant effect for the change in self-esteem due to the environment, both natural and built in children ages 8-9
	Outcome: *Stress* ***Quality:*** *Good* ***Findings:*** *1 PR 1 NS*
Opper *et al.* 2014 [40]	PR**: Following the 23 day OAEP there was a significant effect on stress in grade ten males NS: 3 months following the 23 day OAEP there was no significant effect on stress in grade ten males
	Outcome: *Stress* ***Quality:*** *Fair* ***Findings:*** *3 PR 0 NS*
Feda *et al.* 2015 [27]	PR**: Percentage of park area within a 800m buffer of home predicted perceived stress among children ages 12-15, when controlled for SES and physical activity
Wells & Evans 2003 [50]	PR**: More nature near the home was associated with significantly less psychological distress in children grades 3-5 PR***: Nearby nature was found to buffer the effects of stressful life events on children's psychological distress in children grades 3-5
	Outcome: *Stress* ***Quality:*** *Poor* ***Findings:*** *1 PR 1 NS*
Mutz & Muller 2016 [39]	NS: No significant effect from the 9 day hike on the stress subscale of worries in children ages 14 PR**: There was a significant decrease in the stress subscale of demand from T1 to T2 after a 9 day hike in children age 14

	Outcome: *Depression* ***Quality:*** *Fair* ***Findings:*** *2 PR 4 NS*
Bowen *et al.* 2016 [24]	PR*: After the 10-week WAT there was a statistically significant improvement from pre to post in clinically depressed children ages 12-18 NS: No significant effect at the 3 month follow up from the 10 week WAT on clinically depressed children ages 12-18 NS: No significant effect from pre to post from the 10 week WAT on non-clinically depressed children ages 12-18 NS: No significant effect at the 3 month follow up from the 10 week WAT on non-clinically depressed children ages 12-18
Gubbels *et al.* 2016 [30]	NS: No significant effect of changes of perceived greenery on depressive symptoms on children ages 12-15
van Lier *et al.* 2017 [48]	PR**: Participating in gardening at home was significantly associated with lower levels of depressive symptoms in children ages 12-18
	Outcome: *Resilience* ***Quality:*** *Good* ***Findings:*** *2 PR 2 NS*
Ritchie *et al.* 2014 [7]	PR**: At the 1 month follow up there was a significant increase in resilience scores after the 10 day OAP in children ages 12-18 NS: At the 1 year follow up resilience scores returned to pre intervention levels in children ages 12-18
Whittington *et al.* 2016 [51]	PR**: Pre to post participation in the OAP was associated with a significant increase in resiliency and decrease in emotional reactivity in girls ages 10-15 NS: 1 month following participation in the OAP was not associated with significant improvements in resilience in girls ages 10-15
	Outcome: *Resilience* ***Quality:*** *Fair* ***Findings:*** *1 PR 0 NS*
Bowen *et al.* 2016 [24]	PR*: After the 10-week WAT there was a statistically significant improvement from pre-post in resilience in children ages 12-18
	Outcome: *HRQOL* ***Quality:*** *Good* ***Findings:*** *1 PR 1 NS*
McCracken *et al.* 2016 [38]	PR**: More time spent in green space was associated with a better HRQOL in children ages 8-11 NS: No significant effect of quantity of residential green space and HRQOL in children ages 8-11
	Outcome: *HRQOL* ***Quality:*** *Fair* ***Findings:*** *3 PR 0 NS*
Kim *et al.* 2016 [35]	PR: Greater accessibility to parks*** and open spaces** around the home was associated with the likelihood of having a higher HRQOL in children ages 9-11 PR**: Larger and more tree areas in the neighbourhood was associated with the likelihood of having a higher HRQOL in children ages 9-11 PR***: Further distance between tree patches was associated with a higher HRQOL in children ages 9-11

Notes: PR = nature has significant positive benefit on outcome; NR = nature has significant negative impact on outcome; NS = non-significant finding; ***CI: 99%; **CI: 95%; *CI: 90%