Additional materials for "Well-being and human-animal interactions in schools" (L.E. Pinto & D. Foulkes, published in *Brock Education*, 2015)

The empathy scale used was the Empathy Index for Children and Adolescents (IECA) a 22-item self-report questionnaire developed and validated by Bryant (1982) to assess dispositional empathy in children aged 6 or older (see below for questions). Since its inception, the IECA has been used by multiple researchers in many contexts and sub-disciplines and has been further validated (see, for example, Daly & Morton, 2003; de Weid et al, 2007; Lovett & Sheffield, 2007).

Empathy Index for Children and Adolescents (IECA)

Items in *italics* score negatively.

1. It makes me sad to see a girl who can't find anyone to play with.

2. *People who kiss and hug in public are silly.*

3. *Boys who cry because they are happy are silly.*

4. I really like to watch people open presents, even when I don't get a present myself.

5. Seeing a boy who is crying makes me feel like crying.

6. I get upset when I see a girl being hurt.

7. Even when I don't know why someone is laughing, I laugh too.

8. Sometimes I cry when I watch TV.

9. *Girls who cry because they are happy are silly.*

10. *It's hard for me to see why someone else gets upset.*

11. I get upset when I see an animal being hurt.

12. It makes me sad to see a boy who can't find anyone to play with.

13. Some songs make me so sad I feel like crying.

14. I get upset when I see a boy being hurt.

15. *Grown-ups sometimes cry even when they have nothing to be sad about.*

16. *It's silly to treat dogs and cats as though they have feelings like people.*

17. *I get mad when I see a classmate pretending to need help from the teacher all the time.*

18. *Kids who have no friends probably don't want any.*

19. Seeing a girl who is crying makes me feel like crying.

20. *I think it is funny that some people cry during a sad movie or while reading a sad book.*

21. I am able to eat all my cookies even when I see someone looking at me wanting one.

22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules.

References:

Bryant, B.K. (1982). An index of empathy for children and adolescents. *Child Development, 53*, 413–425.

Daly, B. & Morton, L. (2003). Children with pets do not show higher empathy: A challenge to current views. *Anthrozoos: A Multidisciplinary Journal of The Interactions of People & Animals, 16*(4), 298-314.

deWeid, M., Maas, C., van Goozen, S., Vermande, M., Engels, R., Meeus, W., Matthys, W. & Goudena, P. (2007). Bryant's Empathy Index: A closer examination of its internal structure. *European Journal of Psychological Assessment, 23*(2), 99-104.

Lovett, B.J. & Sheffield, R.A. (2007). Affective empathy deficits in aggressive children and adolescents: A critical review. *Clinical Psychology Review 27,* 1–13.

Detailed Data Table

Data from the pre- and post-tests were checked for errors, and negatively worded items were reverse coded prior to any analyses.

Significance Level 0.05
2-tailed T-test results

The value of *t* is 0.163197. The value of *p* is 0.873614. The result is *not* significant at p ≤ 0.05.

Code	Pre	Post	*Diff* (T2 - T1)	*Dev* (Diff - M)	*Sq. Dev*
1	0.454545	0.409091	-0.05	-0.06	0
2	0.590909	0.590909	0	-0.01	0
3	0.545455	0.409091	-0.14	-0.15	0.02
4	0.545455	0.545455	0	-0.01	0
5	0.636364	0.666667	0.03	0.02	0
6	0.666667	0.272727	-0.39	-0.4	0.16
7	0.666667	0.727273	0.06	0.05	0
8	0.181818	0.363636	0.18	0.17	0.03
9	0.545455	0.590909	0.05	0.04	0
10	0.590909	1	0.41	0.4	0.16
11	0.545455	0.5	-0.05	-0.06	0

M: 0.01   S: 0.38

<u>Difference Scores Calculations</u>

Mean: 0.01
$\mu = 0$
$S^2 = SS/df = 0.38/(11-1) = 0.04$
$S^2{}_M = S^2/N = 0.04/11 = 0.00$
$S_M = \sqrt{S^2{}_M} = \sqrt{0.00} = 0.06$

<u>T-value Calculation</u>

$t = (M - \mu)/S_M = (0.01 - 0)/0.06 = 0.16$