



Childhood Disruptive Behaviour and School Performance across Comprehensive School: A Prospective Cohort Study

PDF (Size:438KB) PP. 542-551 DOI: 10.4236/psych.2011.26084

Author(s)

Saija Alatupa, Laura Pulkki-Råback, Mirka Hintsanen, Sari Mäkkilä, Jari Lipsanen, Liisa Keltikangas-Järvinen

ABSTRACT

In the present study we examined 1) whether childhood disruptive behaviour, in terms of aggressiveness, hyperactivity and social adjustment, predicts school performance since toddler age or whether becomes it relevant first since middle or late childhood, 2) whether gender differences within the associations between school performance and disruptive behaviour exist, and 3) whether there are trait specific effects in these associations, i.e. whether hyperactivity is more relevant determinant for later school success than aggression and social adjustment. The subjects were derived from a representative, population based cohort study where 3600 subjects were followed for 27 years since their childhood. Our sample consisted of 973 participants (516 girls) who were 3, 6 and 9 years of age at baseline and were followed over their whole compulsory education, i.e. 3rd, 6th, and 9th grades. The most prominent finding was a gender specific association between disruptive behaviour and school performance: hyperactivity predicted later school performance among girls whereas aggression predicted school performance among boys. The association between social adjustment and school performance was less clear. Disruptive behaviour at toddler age (at the age of 3) was not predictable for later school performance but it started to predict school performance at later age, i.e. when it was assessed at the ages of 6 and 9, and the associations were true throughout the whole 9-year comprehensive school. Our findings suggest that early childhood disruptive behaviour has long-lasting effects. Thus, its intervention before the school entry would be of high importance.

KEYWORDS

Aggression, Disruptive Behaviour, Gender, Hyperactivity, Prospective Study, School Performance, Social Adjustment, Socioeconomic Position (SEP)

Cite this paper

Alatupa, S., Pulkki-Råback, L., Hintsanen, M., Mäkkilä, S., Lipsanen, J., & Keltikangas-Järvinen, L. (2011). Childhood Disruptive Behaviour and School Performance across Comprehensive School: A Prospective Cohort Study. *Psychology*, 2, 542-551. doi: 10.4236/psych.2011.26084.

References

- [1] Abdi, H. (2007). Bonferroni and sidak corrections for multiple comparisons. In N. J. Salkind (Ed.), *Encyclopedia of measurement and statistics* (pp. 103-107). Thousand Oaks (CA): Sage.
- [2] Alatupa, S., Pulkki-Råback, L., Hintsanen, M., Ravaja, N., Raitakari, O. T., Telama, R., et al. (2010). School performance as a predictor of adulthood obesity: A 21-year follow-up study. *European Journal of Epidemiology*, 25, 267-274. doi:10.1007/s10654-010-9428-6
- [3] American Psychiatric Association. (2007). *Diagnostic and statistical manual of mental disorders. Text revision. DSM-IV-TR*. Fourth ed. Arlington: VA: American Psychiatric Association, 943.
- [4] Archer, J. (2004). Sex differences in aggression in real-world settings: A meta-analytic review. *Review of General Psychology*, 8, 291-322. doi:10.1037/1089-2680.8.4.291
- [5] Asendorpf, J. B., Denissen, J. J., & van Aken, M. A. (2008). Inhibited and aggressive preschool children at 23 years of age: Personality and social transitions into adulthood. *Developmental Psychology*, 44, 997-1011. doi:10.1037/0012-1649.44.4.997

• Open Special Issues

• Published Special Issues

• Special Issues Guideline

PSYCH Subscription

Most popular papers in PSYCH

About PSYCH News

Frequently Asked Questions

Recommend to Peers

Recommend to Library

Contact Us

Downloads:	247,437
------------	---------

Visits:	545,911
---------	---------

Sponsors >>

- [6] Berger, M., Yule, W., & Rutter, M. (1975). Attainment and adjustment in two geographical areas: II—the prevalence of specific reading re-tardation. *The British Journal of Psychiatry*, 126, 510-519. doi:10.1192/bjp.126.6.510
- [7] Boylan, K., Vaillancourt, T., Boyle, M., & Szatmari, P. (2007). Comorbidity of internalizing disorders in children with oppositional defiant disorder. *European Child & Adolescent Psychiatry*, 16, 484-494. doi:10.1007/s00787-007-0624-1
- [8] Breslau, J., Miller, E., Breslau, N., Bohnert, K., Lucia, V., & Schweitzer, J. (2009). The impact of early behavior disturbances on academic achievement in high school. *Pediatrics*, 123, 1472-1476. doi:10.1542/peds.2008-1406
- [9] Caspi, A., Elder, G. H., & Bem, D. J. (1987). Moving against the world: Life-course patterns of explosive children. *Developmental Psychology*, 23, 308-313. doi:10.1037/0012-1649.23.2.308
- [10] Caspi, A., & Henry, B. (1995). Temperamental origins of child and adolescent behavior problems: From age three to age fifteen. *Child Development*, 66, 55-68. doi:10.2307/1131190
- [11] Dougherty, L. R. (2006). Children's emotionality and social status: A meta-analytic review. *Social Development*, 15, 394-417. doi:10.1111/j.1467-9507.2006.00348.x
- [12] Else-Quest, N. M., Hyde, J. S., Goldsmith, H. H., & Hulle, C. A. V. (2006). Gender differences in temperament: A meta-analysis. *Psychological Bulletin*, 132, 33-72. doi:10.1037/0033-2909.132.1.33
- [13] Fagot, B. I., & Hagan, R. (1985). Aggression in toddlers: Responses to the assertive acts of boys and girls. *Sex Roles*, 12, 341-351. doi:10.1007/BF00287600
- [14] Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1993). The effects of conduct disorder and attention deficit in middle childhood on offending and scholastic ability at the age 13. *Journal of Child Psychology and Psychiatry*, 34, 899-916. doi:10.1111/j.1469-7610.1993.tb01097.x
- [15] Fergusson, D. M., & John Horwood, J. (1995). Early disruptive behavior, IQ, and later school achievement and delinquent behavior. *Journal of Abnormal Child Psychology*, 23, 183-99. doi:10.1007/BF01447088
- [16] Frick, P. J., Kamphaus, R. W., Lahey, B. B., Loeber, R., Christ, M. A., Hart, E. L., et al. (1991). Academic underachievement and the disruptive behaviour disorders. *Journal of Consulting & Clinical Psychology*, 59, 289-94. doi:10.1037/0022-006X.59.2.289
- [17] Spira, E. G., & Fischel, J. E. (2005). The impact of preschool inattention, hyperactivity, and impulsivity on social and academic development: A review. *Journal of Child Psychology and Psychiatry*, 46, 755-773. doi:10.1111/j.1469-7610.2005.01466.x
- [18] Hawkins, J. D., & Lishner, D. M. (1987). Schooling and delinquency. In E. H. Johnson (Ed.), (pp. 179-221). New York: Guilford Press. Heiervang, E., Stevenson, J., Lund, A., & Hugdahl, K. (2001). Behaviour problems in children with dyslexia. *Nordic Journal of Psychiatry*, 55(4), 251-256. doi:10.1080/080394801681019101
- [19] Hinshaw, S. (1992a). Academic underachievement, attention deficits, and aggression: Comorbidity and implications for intervention. *Journal of Consulting and Clinical Psychology*, 60, 893-903. doi:10.1037/0022-006X.60.6.893
- [20] Hinshaw, S. (1992b). Externalizing behavior problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin*, 111, 108-126. doi:10.1037/0033-2909.111.1.127
- [21] Johnson, C., Ironsmith, M., Snow, C. W., & Poteat, G. M. (2000). Peer acceptance and social adjustment in preschool and kindergarten. *Early Childhood Education Journal*, 27, 207. doi:10.1023/B:ECEJ.0000003356.30481.7a
- [22] Johnson, W., McGue, M., & Iacono, W. G. (2005). Disruptive behavior and school grades: Genetic and environmental relations in 11-year-olds. *Journal of Educational Psychology*, 97, 391-405. doi:10.1037/0022-0663.97.3.391
- [23] Katainen, S., & Räikkönen, K. (1999). Maternal child-rearing attitudes and role satisfaction and children's temperament as antecedents. *Journal of Youth & Adolescence*, 28, 139. doi:10.1023/A:1021645213549
- [24] Keltikangas-Järvinen, L., Pulkki-Ranta, L., Puttonen, S., Viikari, J., & Raitakari, O. T. (2006). Childhood hyperactivity as a predictor of carotid artery intima media thickness over a period of 21 years: The

- [25] Kokko, K., Bergman, L. R., & Pulkkinen, L. (2003). Child personality characteristics and selection into long-term unemployment in finnish and swedish longitudinal samples. International Journal of Behavioral Development, 27, 134-144. doi:10.1080/01650250244000137
- [26] Kokko, K., & Pulkkinen, L. (2000). Aggression in childhood and long-term unemployment in adulthood: A cycle of maladaptation and some protective factors. Prevention & Treatment, 3, 32a. doi:10.1037/1522-3736.3.1.332a
- [27] Kokko, K., Pulkkinen, L., & Puustinen, M. (2000). Selection into long-term unemployment and its psychological consequences. International Journal of Behavioral Development, 24, 310-320. doi:10.1080/01650250050118295
- [28] Kuncel, N. R., Credé, M., & Thomas, L. L. (2005). The validity of self-reported grade point averages, class ranks, and test scores: A meta-analysis and review of the literature. Review of Educational Research, 75, 63-82. doi:10.3102/00346543075001063
- [29] Kuusela, J. (2003). Lukioiden tuloksiin vaikuttavista tekijöistä? (from the factors affecting the results in senior high schools) (Copy No. 13). Helsinki: Edita Prima.
- [30] Loe, I. M., & Feldman, H. M. (2007). Academic and educational out-comes of children with ADHD. Journal of Pediatric Psychology, 32, 643-654. doi:10.1093/jpepsy/jsl054
- [31] Loeber, R., Burke, J., D., Lahey, B. B., Winters, A. B. A., & Zera, M. B. A. (2000). Oppositional defiant and conduct disorder: A review of the past 10 years, part I. Journal of the American Academy of Child & Adolescent Psychiatry, 39, 1468-1484. doi:10.1097/00004583-200012000-00007
- [32] Lynch, J. W., Kaplan, G. A., & Salonen, J. T. (1997). Why do poor people behave poorly? Variation in adult health behaviours and psychosocial characteristics by stages of the socioeconomic lifecourse. Social Science & Medicine, 44, 809-819. doi:10.1016/S0277-9536(96)00191-8
- [33] Maccoby, E. E. (1990). Gender and relationships: A developmental account. American Psychologist, 45, 513-520. doi:10.1037/0003-066X.45.4.513
- [34] Maughan, B., Pickles, A., Hagell, A., Rutter, M., & Yule, W. (1996). Reading problems and antisocial behaviour: Developmental trends in comorbidity. Journal of Child Psychology & Psychiatry & Allied Disciplines, 37, 405-418. doi:10.1111/j.1469-7610.1996.tb01421.x
- [35] McGee, R., Prior, M., Williams, S., Smart, D., & Sanson, A. (2002). The long-term significance of teacher-rated hyperactivity and reading ability in childhood: Findings from two longitudinal studies. Journal of Child Psychology & Psychiatry & Allied Disciplines, 43, 1004- 1017. doi:10.1111/1469-7610.00228
- [36] McIntyre, M. H., & Edwards, C. P. (2009). The early development of gender differences. Annual Review of Anthropology, 38, 83-97. doi:10.1146/annurev-anthro-091908-164338
- [37] Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children's peer relations: A meta-analytic review of popular, rejected, neglected, controversial, and average sociometric status. Psychological Bulletin, 113, 99-128.
- [38] Pesonen, A., Räikkönen, K., Keskivaara, P., & Keltikangas-Järvinen, L. (2003). Difficult temperament in childhood and adulthood: Continuity from maternal perceptions to self-ratings over 17 years. Personality & Individual Differences, 34, 19. doi:10.1016/S0191-8869(02)00021-1
- [39] Pulkki-Räback, L., Elovainio, M., Kivimäki, M., Raitakari, O. T., & Keltikangas-Järvinen, L. (2005). Temperament in childhood predicts body mass in adulthood: The cardiovascular risk in young Finns study. Health Psychology, 24, 307-15.
- [40] Räikkönen, K., Katainen, S., Keskivaara, P., & Keltikangas-Järvinen, L. (2000). Temperament, mothering, and hostile attitudes: A 12-year longitudinal study. Personality and Social Psychology Bulletin, 26, 3-12.
- [41] Raitakari, O. T., Juonala, M., Kähänen, M., Taittonen, L., Laitinen, T., Mäki-Torkko, N., et al. (2003). Cardiovascular risk factors in childhood and carotid artery intima-media thickness in adulthood: The cardiovascular risk in young finns study. JAMA, 290, 2277-2283. doi:10.1001/jama.290.17.2277
- [42] Rantanen, P. (2004). Valinnasta työelämään: Ammatillisen koulutuksen ja ammattikorkeakoulujen opiskelijavalinnan tarkastelua (No. 19). Helsinki: Opetusministeriö, Koulutusja Tiedepoliitikan Osasto.

- [43] Reinke, W. M., Herman, K. C., Petras, H., & Ialongo, N. S. (2008). Empirically derived subtypes of child academic and behavior problems: Co-occurrence and distal outcomes. *Journal of Abnormal Child Psychology*, 36, 759-770. doi:10.1007/s10802-007-9208-2
- [44] Rhee, S., & Waldman, I. (2002). Genetic and environmental influences on antisocial behaviour: A meta-analysis of twin and adoption studies. *Psychological Bulletin*, 128, 490-529. doi:10.1037/0033-295X.128.3.490
- [45] Richman, N., Stevenson, J., & Graham, P. (1982). Preschool to school: A behavioural study.
- [46] Rucklidge, J. J. (2010). Gender differences in attention-Deficit/Hyperactivity disorder. *Psychiatric Clinics of North America*, 33, 357-373. doi:10.1016/j.psc.2010.01.006
- [47] Rutter, M. (1974). Emotional disorder and educational underachievement. *Archives of Disease in Childhood*, 49, 249-256. doi:10.1136/adc.49.4.249
- [48] Serbin, L. A., O'leary, K. D., Kent, R. N., & Toniek, I. J. (1973). A comparison of teacher response to the preacademic and problem behavior of boys and girls. *Child Development*, 44, 796-804. doi:10.2307/1127726
- [49] Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75, 417-53. doi:10.3102/00346543075003417
- [50] Stevenson, J., Richman, N., & Graham, P. (1985). Behaviour problems and language abilities at three years and behavioural deviance at eight years. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 26, 215-230. doi:10.1111/j.1469-7610.1985.tb02261.x