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Dear future me: behavioral and neural mechanisms underlying self-concept development in relation to educational decision-making in adolescence

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REFERENCES

- A** Akaike, H. (1974). A new look at the statistical model identification. *IEEE transactions on automatic control*, 19(6), 716-723.
- Altman, D. G., & Royston, P. (2006). The cost of dichotomising continuous variables. *BMJ (Clinical Research Ed.)*, 332(7549), 1080.
- Anderson, N. H. (1968). Likableness ratings of 555 personality-trait words. *Journal of Personality and Social Psychology*, 9(3), 272-279.
- B** Baker, R. W., & Siryk, B. (1984). Measuring adjustment to college. *Journal of Counseling Psychology*, 31(2), 179-189.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness or healthier lifestyle? *Psychological Science in the Public Interest*, 4(1), 1-44.
- Becht, A. I., Nelemans, S. A., Branje, S. J. T., Vollebergh, W. A. M., Koot, H. M., Denissen, J. J. A., & Meeus, W. H. J. (2016). The quest for identity in adolescence: Heterogeneity in daily identity formation and psychosocial adjustment across 5 years. *Developmental Psychology*, 52(12), 2010-2021.
- Beyers, W., & Goossens, L. (2002). Concurrent and predictive validity of the student adaptation to college questionnaire in a sample of European freshman students. *Educational and Psychological Measurement*, 62(3), 527-538.
- Blakemore, S. J. (2008). The social brain in adolescence. *Nature Reviews Neuroscience*, 9, 267-277.
- Bolognini, M., Plancherel, B., Bettischart, W., & Halfon, O. (1996). Self-esteem and mental health in early adolescence: Development and gender differences. *Journal of Adolescence*, 19, 233-245.
- Bong, M., & Skaalvik, E. M. (2003). Academic Self-Concept and Self-Efficacy: How Different Are They Really? *Educational Psychology Review*, 15(1), 1-40.
- Bos, A. E. R., Muris, P., Mulken, S., & Schaalma, H. P. (2006). Changing self-esteem in children and adolescents: a roadmap for future interventions. *Netherlands Journal of Psychology*, 62(1), 26-33.
- Brett, M., Anton, J. L., Valabregue, R., & Poline, J. B. (2002). Region of interest analysis using an SPM toolbox. *NeuroImage*, 16, 497.
- Brown, Z., & Tiggemann, M. (2016). Attractive celebrity and peer images on Instagram: Effect on women's mood and body image. *Body Image*, 19, 37-43.
- Bukowski, W.M., Laursen, B., Rubin, K. H. (2018). *Handbook of Peer Interactions, Relationships, and Groups, Second Edition*. New York: The Guilford Press, New York London.
- Burnett, S., Bird, G., Moll, J., Frith, C., & Blakemore, S. J. (2009). Development during Adolescence of the Neural Processing of Social Emotion. *Journal of Cognitive Neuroscience*, 21(9), 1736-1750.
- Burnette, J. L., O'Boyle, E. H., VanEpps, E. M., Pollack, J. M., & Finkel, E. J. (2013). Mind-sets matter: A meta-analytic review of implicit theories and self-regulation. *Psychological Bulletin*, 139(3), 655-701.
- C** Campbell, J. D. (1990). Self-esteem and clarity of the self-concept. *Journal of Personality and Social Psychology*, 59(3), 538-549.
- Cavanna, A. E. (2006). The precuneus: a review of its functional anatomy and behavioural correlates. *Brain*, 129(3), 564-583.

- Chatterjee Singh, N., & Duraipapp, A. K. (2020). *Rethinking Learning. A review of social and emotional learning for education systems*. New Delhi. UNESCO MGIEP.
 - Chavez, R. S., Heatherton, T. F., & Wagner, D. D. (2017). Neural Population Decoding Reveals the Intrinsic Positivity of the Self. *Cerebral Cortex*, 27(11), 5222–5229.
 - Chishima, Y., & Wilson, A. E. (2020). Conversation with a future self: A letter-exchange exercise enhances student self-continuity, career planning, and academic thinking. *Self and Identity*, 1–26.
 - Choi, B. Y., Park, H., Yang, E., Lee, S. K., Lee, Y., & Lee, S. M. (2012). Understanding Career Decision Self-Efficacy: A Meta-Analytic Approach. *Journal of Career Development*, 39(5), 443–460.
 - Cocosco, C. a, Kollokian, V., Kwan, R. K., Pike, G. B., & Evans, A. C. (1997). BrainWeb : Online Interface to a 3D MRI Simulated Brain Database. *NeuroImage*, 5(4), S425.
 - Cole, D. A., Maxwell, S. E., Martin, J. M., Peeke, L. G., Seroczynski, a D., Tram, J. M., ... Maschman, T. (2001). The Development of Multiple Domains of Child and Adolescent Self-Concept: A Cohort Sequential Longitudinal Design. *Child Development*, 72(6), 1723–1746.
 - Creed, P. A., Patton, W., & Prideaux, L. A. (2007). Predicting change over time in career planning and career exploration for high school students. *Journal of Adolescence*, 30(3), 377–392.
 - Creed, P., Prideaux, L. A., & Patton, W. (2005). Antecedents and consequences of career decisional states in adolescence. *Journal of Vocational Behavior*, 67(3), 397–412.
 - Cremeens, J., Eiser, C., & Blades, M. (2007). A qualitative investigation of school-aged children's answers to items from a generic quality of life measure. *Child: Care, Health and Development*, 33(1), 83–89.
 - Crocetti, E., Moscatelli, S., Van der Graaff, J., Rubini, M., Meeus, W., & Branje, S. (2016). The Interplay of Self-Certainty and Prosocial Development in the Transition from Late Adolescence to Emerging Adulthood. *European Journal of Personality*, 30(6), 594–607.
 - Crocetti, E., Rubini, M., Luyckx, K., & Meeus, W. (2008). Identity formation in early and middle adolescents from various ethnic groups: From three dimensions to five statuses. *Journal of Youth and Adolescence*, 37(8), 983–996.
 - Crone, E. A., & Dahl, R. E. (2012). Understanding adolescence as a period of social-affective engagement and goal flexibility. *Nature Reviews Neuroscience*, 13, 636–650.
- D** D'Argembeau, A. (2013). On the role of the ventromedial prefrontal cortex in self-processing: the valuation hypothesis. *Frontiers in Human Neuroscience*, 7, 372.
- D'Argembeau, A., Jedidi, H., Balteau, E., Bahri, M., Phillips, C., & Salmon, E. (2012). Valuing one's self: Medial prefrontal involvement in epistemic and emotive investments in self-views. *Cerebral Cortex*, 22(3), 659–667.
- D'Argembeau, A., Stawarczyk, D., Majerus, S., Collette, F., van der Linden, M., & Salmon, E. (2010). Modulation of medial prefrontal and inferior parietal cortices when thinking about past, present, and future selves. *Social Neuroscience*, 5(2), 187–200.
- Dale, A. M. (1999). Optimal experimental design for event-related fMRI. *Human Brain Mapping*, 8(2–3), 109–114.
- Davey, C. G., Fornito, A., Pujol, J., Breakspear, M., Schmaal, L., & Harrison, B. J. (2019). Neurodevelopmental correlates of the emerging adult self. *Developmental Cognitive Neuroscience*, 36, [100626].
- Denissen, J. J. A., Zaret, N. R., & Eccles, J. S. (2007). I like to do it, i'm able, and i know i am: Longitudinal couplings between domain-specific achievement, self-concept, and interest. *Child development*, 78(2), 430–447.
- Denny, B. T., Kober, H., Wager, T. D., & Ochsner, K. N. (2012). A meta-analysis of functional neuroimaging studies of self and other judgments reveals a spatial gradient for mentalizing in medial prefrontal cortex. *Journal of Cognitive Neuroscience*, 24(8), 1742–1752.

- Di Fabio, A., Palazzeschi, L., Asulin-Peretz, L., & Gati, I. (2013). Career Indecision Versus Indecisiveness: Associations With Personality Traits and Emotional Intelligence. *Journal of Career Assessment*, 21(1), 42–56.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71–75.
- Dietrich, J., Parker, P., & Salmela-Aro, K. (2012). Phase-adequate engagement at the post-school transition. *Developmental Psychology*, 48(6), 1575–1593.
- Dijkstra, P., Kuyper, H., van der Werf, G., Buunk, a. P., & van der Zee, Y. G. (2008). Social Comparison in the Classroom: A Review. *Review of Educational Research*, 78(4), 828–879.
- Dubois, J., & Adolphs, R. (2016). Building a Science of Individual Differences from fMRI. *Trends in cognitive sciences*, 20(6), 425–443.
- Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science*, 16(12), 939–944.
- Dumontheil, I., & Klingberg, T. (2012). Brain activity during a visuospatial working memory task predicts arithmetical performance 2 years later. *Cerebral Cortex*, 22(5), 1078–1085.
- Duncan, T. E., & Susan C. Duncan, P. (2009). The ABC's of LGM: An Introductory Guide to Latent Variable Growth Curve Modeling. *Soc Personal Psychol Compass*, 3(6), 979–991.
- Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A Meta-Analysis of After-School Programs That Seek to Promote Personal and Social Skills in Children and Adolescents. *American Journal of Community Psychology*, 45(3–4), 294–309.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions. *Child Development*, 82(1), 405–432.
- Dutch Ministry of Education. (2016). *Skills voor de toekomst: Een onderzoeksagenda*. Retrieved from <https://www.nro.nl/wp-content/uploads/2016/12/Skills-voor-de-toekomst-een-onderzoeksprogramma.pdf>
- Dutch Ministry of Education. (2018). *Monitor policies of Ministry of Education, Culture and Science 2017–2018*. Retrieved from http://www.researchned.nl/wp-content/uploads/2018/%0Ao7/Monitor-Beleidsmaatregelen-2017-2018-eindrapport-9%0Ao_def.pdf

- E**ccles, J. (2009). Who am i and what am i going to do with my life? Personal and collective identities as motivators of action. *Educational Psychologist*, 44(2), 78–89.
- Eccles, J. S., Midgley, C., Wigfield, A., Miller Buchanan, C., Reuman, D., Flanagan, C., & Mac Iver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist*, 48(2), 90–101.
- Elkind, D. (1967). Egocentrism in adolescence. *Child Development*, 38(4), 1025–1034.
- Erikson, E. (1968). Youth: Identity and crisis. In *New York, NY: WW*.
- Ersner-Hersfield, H., Garton, M. T., Ballard, K., Samanez-Larkin, G. R., & Knutson, B. (2009). Don't stop thinking about tomorrow: Individual differences in future self-continuity account for saving. *Judgment and decision making*, 4(4), 280–286.
- Ersner-Hersfield, H., Wimmer, G. E., & Knutson, B. (2009). Saving for the future self: Neural measures of future self-continuity predict temporal discounting. *Social Cognitive and Affective Neuroscience*, 4(1), 85–92.

- F**ardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: THE impact of Facebook on young women's body image concerns and mood. *Body Image*, 13, 38–45.
- Fenning, B. E., & May, L. N. (2013). "Where there is a will, there is an A": Examining the roles of self-efficacy and self-concept in college students' current educational attainment and career planning. *Social Psychology of Education*, 16(4), 635–650.
- Ferla, J., Valcke, M., & Cai, Y. (2009). Academic self-efficacy and academic self-concept: Reconsidering structural relationships. *Learning and Individual Differences*, 19(4), 499–505.
- Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, 7(2), 117–140.
- Findley, D., & Ojanen, T. (2013). Self-Concept Clarity and Self-Esteem in Adolescence: Associations with Psychological, Behavioral, and Academic Adjustment. *Graduate Theses and Dissertations*. Retrieved from <https://scholarcommons.usf.edu/etd/4485>
- Flagan, T., & Beer, J. S. (2013). Three ways in which midline regions contribute to self-evaluation. *Frontiers in Human Neuroscience*, 7, 450.
- Forsyth, D. R. (2015). Group Psychotherapy , Clinical Psychology of. In *International Encyclopedia of Social & Behavioral Sciences* (Second Edi, Vol. 10).
- Fraine, B. De, Damme, J. Van, & Onghena, P. (2007). A longitudinal analysis of gender differences in academic self-concept and language achievement: A multivariate multilevel latent growth approach. *Contemporary Educational Psychology*, 32(1), 132–150.
- G**ati, I., Gadassi, R., Saka, N., Hadadi, Y., Ansenberg, N., Friedmann, R., & Asulin-Peretz, L. (2011). Emotional and personality-related aspects of career decision-making difficulties: Facets of career indecisiveness. *Journal of Career Assessment*, 19(1), 3–20.
- Gentile, B., Grabe, S., Dolan-Pascoe, B., Twenge, J. M., Wells, B. E., & Maitino, A. (2009). Gender differences in domain-specific self-esteem: A meta-analysis. *Review of General Psychology*, 13(1), 34–45.
- Gerber, J. P., Wheeler, L., & Suls, J. (2017). Psychological Bulletin A Social Comparison Theory Meta-Analysis 60+ Years On A Social Comparison Theory Meta-Analysis 60+ Years On. *Psychological Bulletin*, 144(2), 177–197.
- Germeijs, V. (2006). High School Students' Career Decision-Making Process: Development and Validation of the Study Choice Task Inventory. *Journal of Career Assessment*, 14(4), 449–471.
- Germeijs, V., & De Boeck, P. (2002). A measurement scale for indecisiveness and its relationship to career indecision and other types of indecision. *European Journal of Psychological Assessment*, 18(2), 113–122.
- Germeijs, V., & Verschueren, K. (2006). High School Students' Career Decision-Making Process: Development and Validation of the Study Choice Task Inventory. *Journal of Career Assessment*, 14(4), 449–471.
- Germeijs, V., & Verschueren, K. (2007). High school students' career decision-making process: Consequences for choice implementation in higher education. *Journal of Vocational Behavior*, 70(2), 223–241.
- Germeijs, V., Luyckx, K., Notelaers, G., Goossens, L., & Verschueren, K. (2012). Choosing a major in higher education: Profiles of students' decision-making process. *Contemporary Educational Psychology*, 37(3), 229–239.
- Goetz, T., Cronjaeger, H., Frenzel, A. C., Ludtke, O., & Hall, N. C. (2010). Academic self-concept and emotion relations: Domain specificity and age effects. *Contemporary Educational Psychology*, 35(1), 44–58.

- Guay, F., Ratelle, C. F., Roy, A., & Litalien, D. (2010). Academic self-concept, autonomous academic motivation, and academic achievement: Mediating and additive effects. *Learning and Individual Differences*, 20(6), 644–653.
- Gunther Moor, B., van Leijenhorst, L., Rombouts, S. a R. B., Crone, E. a, & Van der Molen, M. W. (2010). Do you like me? Neural correlates of social evaluation and developmental trajectories. *Social Neuroscience*, 5(5–6), 461–482.
- Guo, J., Marsh, H. W., Morin, A. J. S., Parker, P. D., & Kaur, G. (2015). Directionality of the Associations of High School Expectancy-Value, Aspirations, and Attainment: A Longitudinal Study. *American Educational Research Journal*, 52(2), 371–402.
- Gutman, L., & Schoon, I. (2013). The impact of non-cognitive skills on outcomes for young people. A literature review. London, Education Endowment Foundation.
- H** Haney, J. & Durlak, J. A. (1998). Changing self-esteem in children and adolescents: A meta-analytical review. *Journal of Clinical Child Psychology*, 27(4), 423–433.
- Harrigan, K., Hacquard, V., & Lidz, J. (2018). Three-year-olds' understanding of desire reports is robust to conflict. *Frontiers in Psychology*, 9, 119.
- Harter, S. (1985). *Manual for the Self-Perception Profile for Children (SPPC)*. Denver, CO: University of Denver.
- Harter, S. (1988). *Manual for the Self-Perception Profile for Adolescents (SPPA)*. Denver, CO: University of Denver.
- Harter, S. (2012). *Construction of the Self, Second Edition: Developmental and Sociocultural Foundations*.
- Harter, S., & Monsour, A. (1992). Development analysis of conflict caused by opposing attributes in the adolescent self-portrait. *Developmental Psychology*, 28(2), 251–260.
- Harter, Susan; Bresnick, Shelley; Bouche, Heather; Whitesell, N. (1997). The development of multiple role-related selves during adolescence. *Development and Psychopathology*, 9, 835–853.
- Harter, Susan; Bresnick, Shelley; Bouche, Heather; Whitesell, N. (1999). *The construction of the self: a developmental perspective. Integrative processes and socialization Early to middle childhood* (Vol. 1999).
- Hayes, A. (2013). Introduction to mediation, moderation, and conditional process analysis. New York, NY: Guilford, 3–4.
- Henry, P. J., Sternberg, R. J., & Grigorenko, E. L. (2005). Capturing successful intelligence through measures of analytic, creative, and practical skills. In *Handbook of Understanding and Measuring Intelligence*.
- Hoag, M. J., & Burlingame, G. M. (1997). Evaluating the effectiveness of child and adolescent group treatment: a meta-analytic review. *Journal of Clinical Child Psychology*, 26(3), 234–246.
- Huang, C. (2011). Self-concept and academic achievement : A meta-analysis of longitudinal relations. *Journal of School Psychology*, 49(5), 505–528.
- J** James, W. (1890). *The principles of psychology*. New York: Henry Holt.
- Jankowski, K. F., Moore, W. E., Merchant, J. S., Kahn, L. E., & Pfeifer, J. H. (2014). But do you think I'm cool? Developmental differences in striatal recruitment during direct and reflected social self-evaluations. *Developmental Cognitive Neuroscience*, 8, 40–54.
- Jolles, D. D., & Crone, E. A. (2012). *Training the developing brain : a neurocognitive perspective*, 6, 76.
- Jones, D. C. (2001). Social comparison and body image: Attractiveness comparisons to models and peers among adolescent girls and boys. *Sex Roles*, 45(9–10), 645–664.

- K** Karwowski, M. (2015). Development of the Creative Self-Concept. *Creativity. Theories – Research - Applications*, 2(2), 165-179.
- K**edia, G., Lindner, M., Mussweiler, T., Ihssen, N., & Linden, D. E. J. (2013). Brain networks of social comparison. *NeuroReport*, 24(5), 259–264.
- Keil, L. J., McClintock, C. G., Kramer, R., & Platow, M. J. (1990). Children's use of social comparison standards in judging performance and their effects on self-evaluation. *Contemporary Educational Psychology*, 15(1), 75–91.
- Keuleers, E., Brysbaert, M., & New, B. (2010). SUBTLEX-NL: a new measure for Dutch word frequency based on film subtitles. *Behavior Research Methods*, 42(3), 643–650.
- King, A. (2011). Minding the Gap? Young people's accounts of taking a Gap Year as a form of identity work in higher education. *Journal of Youth Studies*, 14(3), 341–357.
- Klimstra, T. A., Luyckx, K., Germeijs, V., Meeus, W. H. J., & Goossens, L. (2012). Personality Traits and Educational Identity Formation in Late Adolescents: Longitudinal Associations and Academic Progress. *Journal of Youth and Adolescence*, 41(3), 346–361.
- Krom, R., Jongen, I., Verhelst, N., Kamphuis, F., & Kleintjes, F. (2010). *DMT en AVI: Wetenschappelijke verantwoording*. Arnhem: CITO institute for Test Development.
- Kuzucu, Y., Bontempo, D. E., Hofer, S. M., Stallings, M. C., & Piccinin, A. M. (2014). Developmental Change and Time-Specific Variation in Global and Specific Aspects of Self-Concept in Adolescence and Association With Depressive Symptoms. *The Journal of Early Adolescence*, 34(5), 638–666.
- L** Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-Esteem as an Interpersonal Monitor: The Sociometer Hypothesis. *Journal of Personality and Social Psychology*, 68(3), 518–530.
- L**ieberman, M. D., Straccia, M. A., Meyer, M. L., Du, M., & Tan, K. M. (2019). Social, self, (situational), and affective processes in medial prefrontal cortex (MPFC): Causal, multivariate, and reverse inference evidence. *Neuroscience and Biobehavioral Reviews*, 99, 311–328.
- Lin, S. H., & Huang, Y. C. (2014). Life stress and academic burnout. *Active Learning in Higher Education*, 15(1), 77–90.
- Lin, S. H., Wu, C. huei, & Chen, L. H. (2015). Unpacking the role of self-esteem in career uncertainty: A self-determination perspective. *Journal of Positive Psychology*, 10(3), 231–239.
- M** Ma, N., Wang, S., Yang, Q., Feng, T., & Van Overwalle, F. (2016). The neural representation of competence traits: An fMRI study. *Scientific Reports*, 6, 1–10.
- M** Marsh, H. W., & Ayotte, V. (2003). Do multiple dimensions of self-concept become more differentiated with age? The differential distinctiveness hypothesis. *Journal of Educational Psychology*, 95(4), 687–706.
- Marsh, H. W., & Hau, K. T. (2003). Big-Fish-Little-Pond Effect on Academic Self-concept: A Cross-Cultural (26-Country) Test of the Negative Effects of Academically Selective Schools. *The American Psychologist*, 58(5), 364–376.
- Marsh, H. W., & Martin, A. J. (2011). Academic self-concept and academic achievement: relations and causal ordering. *The British Journal of Educational Psychology*, 81, 59–77.
- Marsh, H. W., & Shavelson, R. (1985). Self-Concept: Its Multifaceted, Hierarchical Structure. *Educational Psychologist*, 20(3), 107–123.
- Martin, A. J. (2010). *Should Students Have a Gap Year? Motivation and Performance Factors Relevant to Time Out After Completing School*. 102(3), 561–576.

- Moor, G. B., van Leijenhorst, L., Rombouts, S. a R. B., Crone, E. a, & Van der Molen, M. W. (2010). Do you like me? Neural correlates of social evaluation and developmental trajectories. *Social Neuroscience*, 5(5-6), 461-482.
- Moran, J. M., Lee, S. M., & Gabrieli, J. D. E. (2011). Dissociable neural systems supporting knowledge about human character and appearance in ourselves and others. *Journal of Cognitive Neuroscience*, 23(9), 2222-2230.
- Moran, J. M., Macrae, C. N., Heatherton, T. F., Wyland, C. L., & Kelley, W. M. (2006). Neuroanatomical evidence for distinct cognitive and affective components of self. *Journal of Cognitive Neuroscience*, 18(9), 1586-1594.
- Moriguchi, Y., Ohnishi, T., Lane, R. D., Maeda, M., Mori, T., Nemoto, K., ... Komaki, G. (2006). Impaired self-awareness and theory of mind: An fMRI study of mentalizing in alexithymia. *NeuroImage*, 32(3), 1472-1482.
- Murray, R. J., Schaer, M., & Debbané, M. (2012). Degrees of separation: A quantitative neuroimaging meta-analysis investigating self-specificity and shared neural activation between self- and other-reflection. *Neuroscience & Biobehavioral Reviews*, 36(3), 1043-1059.
- Muthén, L., & Muthén, B. (2012). Mplus. Seventh edition. In *Los Angeles, CA: Muthén & Muthén*.
- Myers, T. A., & Crowther, J. H. (2009). Social Comparison as a Predictor of Body Dissatisfaction: A Meta-Analytic Review. *Journal of Abnormal Psychology*, 118(4), 683-698.
- Nelson, E. E., Leibenluft, E., McClure, E. B., & Pine, D. S. (2005). The social re-orientation of adolescence: a neuroscience perspective on the process and its relation to psychopathology. *Psychological Medicine*, 35, 163-174.
- Noorda & Co. (2019). *Een Breekjaar van Betekenis*. Retrieved from https://breekjaar.nl/wp-content/uploads/2020/06/EINDRAPPORT_Evaluatie_Breekjaar_comp.pdf
- Northoff, G., & Bermpohl, F. (2004). Cortical midline structures and the self. *Trends in Cognitive Sciences*, 8(3), 102-107.
- Northoff, G., Heinzel, A., de Greck, M., Bermpohl, F., Dobrowolny, H., & Panksepp, J. (2006). Self-referential processing in our brain-A meta-analysis of imaging studies on the self. *NeuroImage*, 31(1), 440-457.
- Nusbaum, E. C., & Silvia, P. J. (2011). Are intelligence and creativity really so different?. Fluid intelligence, executive processes, and strategy use in divergent thinking. *Intelligence*, 39(1), 36-45.
- O'Mara, A; Marsh, H., Craven, R., & Debus, R. (2006). Do self-concept interventions make a difference? A synergistic blend of construct Validation and Meta-Analysis. *Educational Psychologist*, 41(3), 181-206.
- Orth, U., Robins, R. W., & Widaman, K. F. (2012). Life-span development of self-esteem and its effects on important life outcomes. *Journal of Personality and Social Psychology*, 102(6), 1271-1288.
- Packer, D. J., & Cunningham, W. A. (2009). Neural correlates of reflection on goal states: the role of regulatory focus and temporal distance. *Social Neuroscience*, 4(5), 412-425.
- Parker, P. D., Schoon, I., Tsai, Y. M., Nagy, G., Trautwein, U., & Eccles, J. S. (2012). Achievement, agency, gender, and socioeconomic background as predictors of postschool choices: A multicontext study. *Developmental Psychology*, 48(6), 1629-1642.
- Parker, P. D., Thoemmes, F., & Duineveld, J. J. (2015). I Wish I Had (Not) Taken a Gap-Year? The Psychological and Attainment Outcomes of Different Post-School Pathways. *Developmental Psychology*, 51(3), 323-333.

- Pauly, K., Finkelmeyer, A., Schneider, F., & Habel, U. (2013). The neural correlates of positive self-evaluation and self-related memory. *Social Cognitive and Affective Neuroscience*, 8(8), 878–886.
- Pelham, B. W. (1991). On confidence and consequence: the certainty and importance of self-knowledge. *Journal of Personality and Social Psychology*, 60(4), 518–530.
- Peters, J., & Büchel, C. (2010). Neural representations of subjective reward value. *Behavioural Brain Research*, 213(2), 135–141.
- Peters, S., Van der Meulen, M., Zanolie, K., & Crone, E. A. (2017). Predicting reading and mathematics from neural activity for feedback learning. *Developmental Psychology*, 53(1), 149–159.
- Pfeifer, J. H., & Berkman, E. T. (2018). The Development of Self and Identity in Adolescence: Neural Evidence and Implications for a Value-Based Choice Perspective on Motivated Behavior. *Child Development Perspectives*, 12(3), 158–164.
- Pfeifer, J. H., & Peake, S. J. (2012). Self-development: Integrating cognitive, socioemotional, and neuroimaging perspectives. *Developmental Cognitive Neuroscience*, 2(1), 55–69.
- Pfeifer, J. H., Kahn, L. E., Merchant, J. S., Peake, S. J., Veroude, K., Masten, C. L., ... Dapretto, M. (2013). Longitudinal Change in the Neural Bases of Adolescent Social Self-Evaluations: Effects of Age and Pubertal Development. *Journal of Neuroscience*, 33(17), 7415–7419.
- Pfeifer, J. H., Masten, C. L., Borofsky, L. A., Dapretto, M., Fuligni, A. J., & Lieberman, M. D. (2009). Neural correlates of direct and reflected self-appraisals in adolescents and adults: when social perspective-taking informs self-perception. *Child Development*, 80(4), 1016–1038.
- Pfeifer, J. H., Merchant, J. S., Colich, N. L., Hernandez, L. M., Rudie, J. D., & Dapretto, M. (2013). Neural and behavioral responses during self-evaluative processes differ in youth with and without autism. *Journal of Autism and Developmental Disorders*, 43(2), 272–285.
- Pfeifer, Jennifer H., & Berkman, E. T. (2018). The Development of Self and Identity in Adolescence: Neural Evidence and Implications for a Value-Based Choice Perspective on Motivated Behavior. *Child Development Perspectives*, 12(3), 158–164.
- Pfeifer, Jennifer H., & Peake, S. J. (2012). Self-development: Integrating cognitive, socioemotional, and neuroimaging perspectives. *Developmental Cognitive Neuroscience*, 2(1), 55–69.
- Pfeifer, Jennifer H., Masten, C. L., Borofsky, L. A., Dapretto, M., Fuligni, A. J., & Lieberman, M. D. (2009). Neural correlates of direct and reflected self-appraisals in adolescents and adults: when social perspective-taking informs self-perception. *Child Development*, 80(4), 1016–1038.
- Pinxten, M., De Fraine, B., Van Damme, J., & D'Haenens, E. (2013). Student achievement and academic self-concept among secondary students in Flanders: gender and changes over time. *Irish Educational Studies*, 32(2), 157–178.
- Pinxten, M., De Fraine, B., Van Den Noortgate, W., Van Damme, J., Boonen, T., & Vanlaar, G. (2015). “I choose so I am”: a logistic analysis of major selection in university and successful completion of the first year. *Studies in Higher Education*, 40(10), 1919–1946.
- Proctor, C. L., Linley, P. A., & Maltby, J. (2009). Youth life satisfaction: A review of the literature. *Journal of Happiness Studies*, 10, 583–630.



- Quevedo, K., Martin, J., Scott, H., Smyda, G., & Pfeifer, J. H. (2016). The neurobiology of self-knowledge in depressed and self-injurious youth. *Psychiatry Research - Neuroimaging*, 254, 145–155.

- Rogers, M. E., & Creed, P. A. (2011). A longitudinal examination of adolescent career planning and exploration using a social cognitive career theory framework. *Journal of Adolescence*, 34(1), 163–172.
- Rogers, M. E., Creed, P. A., & Ian Glendon, A. (2008). The role of personality in adolescent career planning and exploration: A social cognitive perspective. *Journal of Vocational Behavior*, 73(1), 132–142.
- Romund, L., Golde, S., Lorenz, R. C., Raufelder, D., Pelz, P., Gleich, T., ... Beck, A. (2017). Neural correlates of the self-concept in adolescence—A focus on the significance of friends. *Human Brain Mapping*, 38(2), 987–996.
- Rosenberg, M. (1965). The Rosenberg Self Esteem Scale. In *Society and the adolescent selfimage* (Vol. 35).
- Ruble, D. N., Boggiano, A. K., Feldman, N. S., & Loeb, J. H. (1980). Developmental analysis of the role of social comparison in self-evaluation. *Developmental Psychology*, 16(2), 105–115.
- Saxe, R., & Kanwisher, N. (2003). People thinking about thinking people: The role of the temporo-parietal junction in “theory of mind.” *NeuroImage*, 19(4), 1835–1842.
- Schaffhuser, K., Allemand, M., & Schwarz, B. (2017). The Development of Self-Representations During the Transition to Early Adolescence: The Role of Gender, Puberty, and School Transition. *Journal of Early Adolescence*, 37(6), 774–804.
- Schaufeli, W. B., Martínez, I. M., Pinto, A. M., Salanova, M., & Barker, A. B. (2002). Burnout and engagement in university students a cross-national study. *Journal of Cross-Cultural Psychology*, 33(5), 464–481.
- Scholtens, S., Rydell, A. M., & Yang-Wallentin, F. (2013). ADHD symptoms, academic achievement, self-perception of academic competence and future orientation: A longitudinal study. *Scandinavian Journal of Psychology*, 54(3), 205–212.
- Schurz, M., Radua, J., Aichhorn, M., Richlan, F., & Perner, J. (2014). Fractionating theory of mind: A meta-analysis of functional brain imaging studies. *Neuroscience & Biobehavioral Reviews*, 42, 9–34.
- Schwartz, S. J., Klimstra, T. A., Luyckx, K., Hale, W. W., & Meeus, W. H. J. (2012). Characterizing the Self-System over Time in Adolescence: Internal Structure and Associations with Internalizing Symptoms. *Journal of Youth and Adolescence*, 41(9), 1208–1225.
- Schwarz, G. (1978). Estimating the Dimension of a Model. *The Annals of Statistics*, 6(2), 461–464.
- Sebastian, C., Burnett, S., & Blakemore, S. J. (2008). Development of the self-concept during adolescence. *Trends in Cognitive Sciences*, 12(11), 441–446.
- Selman, R. L. (1980). *The growth of interpersonal understanding : developmental and clinical analyses*. New York (N.Y.): Academic press.
- Setterlund, M. B., & Niedenthal, P. M. (1993). “Who Am I? Why Am I Here?”: Self-Esteem, Self-Clarity, and Prototype Matching. *Journal of Personality and Social Psychology*, 65(4), 769–780.
- Shapka, J. D., & Keating, D. P. (2005). Structure and change in self-concept during adolescence. *Canadian Journal of Behavioural Science*, 37(2), 83–96.
- Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Self-Concept: Validation of Construct Interpretations. *Review of Educational Research*, 46(3), 407–441.
- Somerville, L. H., Jones, R. M., Ruberry, E. J., Dyke, J. P., Glover, G., & Casey, B. J. (2013). The medial prefrontal cortex and the emergence of self-conscious emotion in adolescence. *Psychol Sci*, 24(8), 1554–1562.
- Steiger, A. E., Allemand, M., Robins, R. W., & Fend, H. a. (2014). Low and decreasing self-esteem during adolescence predict adult depression two decades later. *Journal of Personality and Social Psychology*, 106(2), 325–338.

- Stevens, M. C. (2016). The contributions of resting state and task-based functional connectivity studies to our understanding of adolescent brain network maturation. *Neuroscience and Biobehavioral Reviews*, 70, 13–32.
- Story, A. L. (2004). Self-esteem and self-certainty: A mediational analysis. *European Journal of Personality*, 18(2), 115–125.
- Super, D. E., Savickas, M. L., & Super, C. M. (1996). The Life-Span, Life-Space Approach to Careers. In *Career choice and development and Development* (pp. 121–178).
- Swencionis, J. K., & Fiske, S. T. (2014). How social neuroscience can inform theories of social comparison. *Neuropsychologia*, 56(1), 140–146.

T Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. In Boston: Pearson Education.

Treffers, Goedhart, Van den Bergh, Veerman, Ackaert & De Rycke (2002). *Competentie Belevingsschaal voor Adolescenten*. Amsterdam, Harcourt Test Publishers

Trzesniewski, K. H., Robins, R. W., Roberts, B. W., & Caspi, A. (2003). Personality and self-esteem development across the life span. *Advances in Cell Aging and Gerontology*, 15, 163–185.

U Uddin, L. Q. (2011). The self in autism: An emerging view from neuroimaging self in autism. *Neurocase*, 17(3), 201–208.

UNICEF. (2020). *Geluk onder druk?* Retrieved from <https://www.st-alexander.nl/geluk-onder-druk/>.

V Valentine, J. C., Dubois, D. L., & Cooper, H. (2004). The Relation Between Self-Beliefs and Academic Achievement : A Meta-Analytic Review. *Educational Psychologist*, 39(2), 111–133.

Van der Aar, L. P. E., Crone, E. A., & Peters, S. (2019). What Characterizes Adolescents Struggling With Educational Decision-Making? The Role of Behavioral and Neural Correlates of Self-Concept and Self-Esteem. *Mind, Brain, and Education*, 13(3), 184–197.

Van der Aar, L. P. E., Peters, S., & Crone, E. A. (2018). The development of self-views across adolescence: Investigating self-descriptions with and without social comparison using a novel experimental paradigm. *Cognitive Development*, 48, 256–270.

Van der Aar, L. P. E., Peters, S., van der Crujisen, R., & Crone, E. A. (2019). The neural correlates of academic self-concept in adolescence and the relation to making future-oriented academic choices. *Trends in Neuroscience and Education*, 15(February), 10–17. <https://doi.org/10.1016/j.tine.2019.02.003>

Van der Crujisen, R., Peters, S., & Crone, E. A. (2017). Neural correlates of evaluating self and close-other in physical, academic and prosocial domains. *Brain and Cognition*, 118, 45–53.

Van der Crujisen, R., Peters, S., van der Aar, L. P. E., & Crone, E. A. (2018). The neural signature of self-concept development in adolescence: The role of domain and valence distinctions. *Developmental Cognitive Neuroscience*, 30, 1–12.

Van der Crujisen, R., Peters, S., Zoetendaal, K. P. M., Pfeifer, J. H., & Crone, E. A. (2019). Direct and reflected self-concept show increasing similarity across adolescence: A functional neuroimaging study. *Neuropsychologia*, 129, 407–417.

Van Dijk, M. P. A., Branje, S., Keijsers, L., Hawk, S. T., Hale, W. W., & Meeus, W. (2013). Self-Concept Clarity Across Adolescence: Longitudinal Associations With Open Communication With Parents and Internalizing Symptoms. *Journal of Youth and Adolescence*, 43(11), 1861–1876.

Van Doeselaar, L., Becht, A. I., Klimstra, T. A., & Meeus, W. H. J. (2018). A Review and Integration of Three Key Components of Identity Development: Distinctiveness, Coherence, and Continuity. *European Psychologist*, 23(4), 278–288.

- Van Gelder, J. L., Otte, M., & Luciano, E. C. (2014). Using virtual reality in criminological research. *Crime Science*, 3(10).
- Van Vreden, W., & Thijssen, R. (2019). *Impact van leenstelsel op welbevinden studenten*. Retrieved from <https://www.iso.nl/wp-content/uploads/2019/01/Onderzoek-Impact-leenstelsel-op-welbevinden-studenten-Motivaction-definitief.pdf>
- Vansteenkiste, M., Sierens, E., Soenens, B., Luyckx, K., & Lens, W. (2009). Motivational Profiles From a Self-Determination Perspective: The Quality of Motivation Matters. *Journal of Educational Psychology*, 101(3), 671–688.
- Veerman, J. W., ten Brink, L. T., Straathof, M. A. E., & Treffers, P. D. A. (1996). Measuring children's self-concept with a Dutch version of the "Self-Perception Profile for Children": Factorial validity and invariance across a nonclinic and a clinic group. *Journal of Personality Assessment*, 67(1), 142–154.
- Veldhuis, J., Konijn, E. a., & Seidell, J. C. (2014). Counteracting Media's Thin-Body Ideal for Adolescent Girls: Informing Is More Effective Than Warning. *Media Psychology*, 17(2), 154–184.
- Veroude, K., Jolles, J., Croiset, G., & Krabbendam, L. (2013). Changes in neural mechanisms of cognitive control during the transition from late adolescence to young adulthood. *Developmental Cognitive Neuroscience*, 5, 63–70.
- Vogel, Rose, Roberts, Eckles, Vogel, E. a, Rose, J. P., ... Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*, 3(4), 206–222.
- Von Soest, T., Wichstrøm, L., & Kvaem, I. L. (2016). The development of global and domain-specific self-esteem from age 13 to 31. *Journal of Personality and Social Psychology*, 110(4), 592–608.
- Vulperhorst, J. P., van der Rijst, R. M., & Akkerman, S. F. (2020). Dynamics in higher education choice: weighing one's multiple interests in light of available programmes. *Higher Education*, 79, 1001–1021.
- W** Wehrens, M. J. P. W., Buunk, A. P., Lubbers, M. J., Dijkstra, P., Kuypers, H., & van der Werf, G. P. C. (2010). The relationship between affective response to social comparison and academic performance in high school. *Contemporary Educational Psychology*, 35(3), 203–214.
- Wigfield, A., Eccles, J. S., Reuman, D. A., & Midgley, C. (1991). Changes in domain-specific self-perceptions and SE across MS transition. *Developmental Psychology*, 27(4), 552–565.
- Wong, M. M., & Csikszentmihalyi, M. (1991). Motivation and academic achievement: the effects of personality traits and the quality of experience. *Journal of Personality*, 59(3), 539–574.
- Woo, C. W., Krishnan, A., & Wager, T. D. (2014). Cluster-extent based thresholding in fMRI analyses: Pitfalls and recommendations. *NeuroImage*, 91, 412–419.
- Wouters, S., Germeijs, V., Colpin, H., & Verschueren, K. (2011). Academic self-concept in high school: Predictors and effects on adjustment in higher education. *Scandinavian Journal of Psychology*, 52(6), 586–594.
- Y** Yang, J., Dedovic, K., Chen, W., & Zhang, Q. (2012). Self-esteem modulates dorsal anterior cingulate cortical response in self-referential processing. *Neuropsychologia*, 50(7), 1267–1270.
- Yang, J., Xu, X., Chen, Y., Shi, Z., & Han, S. (2016). Trait self-esteem and neural activities related to self-evaluation and social feedback. *Scientific Reports*, 6, 1–10.
- Z** Zuckerman, M., Li, C., & Hall, J. A. (2016). When men and women differ in self-esteem and when they don't: A meta-analysis. *Journal of Research in Personality*, 64, 34–51.