



VIRVE KEKKONEN, SIIRI-LIISI KRAAV,
TOMMI TOLMUNEN

PREDICTORS OF LIFE SATISFACTION IN ADOLESCENCE AND FROM CHILDHOOD TO YOUNG ADULTHOOD

ABSTRACT

Life satisfaction is one of the main components of an individual's well-being. It is a fundamental component of positive psychology, which aims to identify a person's resources and prevent psychopathology. In recent decades, the developmental factors underlying life satisfaction have been investigated. Adolescence, a period of rapid cognitive and psychosocial turbulence, is a possible turning point in terms of subjective life satisfaction and its predictors. The level of life satisfaction declines from childhood to adolescence, but it remains rather stable throughout adulthood. The aim of the current review is to describe predictors of life satisfaction in adolescence and the developmental period bridging childhood and young adulthood.

KEY WORDS: ADOLESCENCE, LIFE SATISFACTION, PREDICTOR, WELL-BEING, YOUTH, YOUNG ADULT

INTRODUCTION

Life satisfaction is an important construct in positive psychology, which focuses on an individual's strengths as a buffer against the development of psychopathological problems (1). Determinants of life satisfaction have been used as surrogate measures in quality of life and happiness studies (2).

Life satisfaction scales have been used as one of the indicators of a person's well-being. Subjective well-being consists of at least three aspects: life evaluation, hedonic well-being and eudaemonic well-being (3). Life satisfaction scales measure evaluative well-being, whereas other well-being measurements such as The Life Orientation Test (LOT) (4), Subjective Happiness Scale (SHS) (5) and Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (6) have been developed to assess optimism, happiness and the positive aspects of mental health, respectively. Furthermore, in contrast to problem-based psychopathology measurements, life satisfaction and other constructs in positive psychology do not measure the individual reactivity, affects or behaviour (1,7).

Adolescents' life satisfaction is a topic that has attracted some attention in recent decades and researchers have identified several predictors of life satisfaction. Chen et al. (2015) postulated that an adolescent's life satisfaction would consist of three main components: achievement, family and leisure (8). Recent research has focused on the developmental mechanisms underpinning life satisfaction. According to the model proposed by Evans (1994), the development of life satisfaction is directly or indirectly affected by personality and environmental factors, and concurrently mediated by several cognitive and behavioural traits (9).

METHODS

The aim of the current descriptive review was to present research results concerning life satisfaction in adolescents in the developmental context of the time period spanning childhood and young adulthood. Data were collected in April 2019 from electronic databases PsychINFO and PubMed using the following search terms: life satisfaction AND predictor AND adolescence/youth/young adult. The relevance of the article was decided based on the abstract. Only articles written in English were included.

In all, 33 cross-sectional, 23 follow-up studies and 5 reviews were considered appropriate for evaluation in this

review. We found only 1 follow-up study examining the time period from childhood to adolescence (10), but there were 5 studies spanning the period from adolescence to adulthood (11–15). Most of the studies concerned adolescents aged 12–18. We did not find any longitudinal studies encompassing the time period from childhood to adulthood.

RESULTS

AGE AND GENDER

Levels of life satisfaction and happiness vary with age. Most adolescents are satisfied with their lives (1), but compared to older people, teenagers are less satisfied but happier (16). Compared to childhood, life satisfaction decreases in adolescence (17–20) although the reason for this decline is unclear. In healthy adults (n=9679), self-reported life satisfaction was rather stable in a 15-year follow-up, and overall life satisfaction changed from satisfaction to dissatisfaction, or vice versa, only among 5.9% of the study population (21).

There are also gender differences in life satisfaction. It has been speculated that in adolescence, life satisfaction is higher among males than females (22), whereas in young adults, women are more satisfied with their lives than men (20).

EXTERNAL FACTORS

There are several different factors in the economic, social and cultural environment that influence a young person's well-being and life satisfaction. Low life satisfaction in adolescence has been predicted by a low socioeconomic status of the family, low educational motivation and poor job opportunities (1). Other researchers have claimed that a high life satisfaction in adolescence is associated with a higher family income (18,23) and materialism (24).

Life satisfaction has been postulated to be lower among adolescents from sexual (25) and ethnic minorities (26). In contrast, life satisfaction has been found to be higher among those migrant adolescents who have received cultural support using their mother tongue, and among those whose reasons for immigration were voluntary, compared to refugees (1).

Academic performance

Self-reported life satisfaction has been associated with activities that promote knowledge and skills (27). Among 7th and 8th grade students, the grade point average (GPA)

was associated with life satisfaction and, in addition, the association was stronger than the association between GPA and socioeconomic status during the five months' follow-up (28).

Furthermore, longitudinal studies have observed a bidirectional relationship between adolescents' life satisfaction and different aspects of academic performance and school satisfaction. During a five-month follow-up, a bidirectional relationship was detected between life satisfaction and cognitive engagement in school (29). Higher life satisfaction in childhood and adolescence was associated with better educational achievements in a 3-year follow-up study (30). In addition, a four-year follow-up trial revealed that higher life satisfaction in 9th grade students was strongly associated with satisfaction with school (31–32).

Leisure time activities and social relationships

Participation in social and cultural leisure activities has been associated with life satisfaction in adolescents (27,33–34), with physical activity being a particularly significant predictor (18,35). In adolescent boys, lower life satisfaction has been indirectly associated with low physical activity (36). It has been claimed that the relationship between physical activity and life satisfaction may be mediated by self-esteem (35).

Increased use of electronic media to communicate with peers has been associated with an increase (37), whereas a long time spent in front of a computer and problematic internet use have been associated with a decline in life satisfaction among adolescents (38). Furthermore, among girls aged 10–17, social media use and peer competition were linked with a decrease in life satisfaction after a 6-month follow-up (39).

Self-reported life satisfaction in adolescents has been associated with social relationships (27). For example, feelings of loneliness have been associated with lower life satisfaction (40). Life satisfaction is higher among students who feel that they are accepted by their peers (18) and conversely lower among adolescents who feel that they are not liked by their peers (40). In a longitudinal study, the quality of peer relationships at the age of 15 moderated life satisfaction when assessed 30 years later in middle-aged adults: adolescents without friends and who felt rejected by their peers had lower life satisfaction and a lower perceived quality of relationships in adulthood than adolescents without friends, but who were still accepted by their peers (12).

Parenting

It has been reported that the ways that adolescents perceive their relationships and support from their parents and other family members are significant predictors of life satisfaction (18,41). Frequent family dinners have been associated with higher life satisfaction, possibly reflecting better communication between parents and the adolescent (42). Family support and encouragement for learning has been recognized as a significant contributor to an adolescent's overall life satisfaction (43).

A large longitudinal study (n=46 593) explored changes in family affection, communication and activities and their relationship to life satisfaction in three cohorts of adolescents aged 11–18 in 2002, then in 2006 and again in 2010 (44). Communication with the father and many family activities increased the life satisfaction of adolescents over time, even though changes in life satisfaction were small (44). Another longitudinal study found that high parental care and low psychological control in adolescence were associated with higher life satisfaction in adulthood (11).

INDIVIDUAL TRAITS

The association between personality traits and life satisfaction has been a topic of interest for researchers in recent decades. Among high school students, a trait that the researchers described as “courage” partially explained the relationship between career adaptability and life satisfaction (45). A recent longitudinal study focusing on personality development in young trainees, before and after a 3-year educational programme, revealed a connection between life satisfaction and personality traits: a decrease in life satisfaction was associated with a decrease in extraversion (46). A two-year follow-up of students found that decreased life satisfaction was related to personality factors, stressful life events and behavioural problems, and this relationship was mediated by internalizing and externalizing symptoms (47). With respect to coping skills, a sense of social coherence associated with life satisfaction among adolescents (48).

A follow-up study lasting one year investigated the regulation of positive affective states in adolescence and found that a self-focused positive rumination style predicted higher, whereas a negative outlook on life predicted lower life satisfaction (49). In a two-year follow-up study, positive and negative affect in adolescents mediated the effect between emotional intelligence and later life satisfaction (50).

Better self-concept (41), self-esteem and (22–23,35) and self-efficacy (51) have been associated with life satisfaction in

adolescence. However, both self-esteem and life satisfaction appear to be generally higher in adolescent boys than in girls (22), whereas later in young adulthood, self-esteem and life satisfaction are higher among females (20,52). In young adults, the development of an internet addiction has been found to be associated with loneliness and poor self-esteem, and furthermore, a low life satisfaction strengthened the above association (53).

PSYCHOSOCIAL AND SOMATIC FACTORS

Fergusson et al. (2015) suggested that the association between life satisfaction and mental health problems would be bidirectional, i.e. low life satisfaction in adolescence would be a significant predictor of mental health problems in adulthood (54). Furthermore, different mental health problems in adolescence have been connected to lower life satisfaction (18,20,24,55–56).

Emotional and behavioural problems in childhood seem to predict lower life satisfaction in adolescence (57–58), as well as substance use before the age of 13 (55). In adolescents suffering from ADHD, attention problems were associated with lower life satisfaction (59). Self-reported mental health complaints of adolescents have been associated with lower satisfaction with their family, friends, living environment, school experiences and self (60).

Life satisfaction and mental health in adolescence have been claimed to predict different aspects of well-being and health later in adulthood. A good life satisfaction may act as a protective factor from suicidality (56) and externalizing mental health symptoms (61). Furthermore, longitudinal studies have demonstrated that the presence of anxiety and depression in adolescents (13–14), as well as the consumption of tobacco and cannabis, are associated with lower life satisfaction in late adulthood (15).

An adolescent's experience of being overweight (62) and dissatisfaction with his/her body weight (63) have been associated with lower life satisfaction, especially in adolescent females (62). Feelings of being overweight have also been associated with a poor quality of educational, social and emotional support (64). In addition, psychosomatic symptoms in adolescence have been related to lower life satisfaction (24).

If an adolescent complains of health complaints, this may be linked with lower satisfaction with their family, friends, living environment, school experiences, as well as poor satisfaction with him/herself (60). There is also evidence that over a 30 day period, regardless of ethnicity or gender, the

following four factors in an adolescent's life are significantly related to reduced life satisfaction: 1) lower self-rated health, 2) poor physical days, 3) poor mental health days and 4) activity limitation days (65). Furthermore, poor dental health and dental hygiene have been connected to lower life satisfaction (18, 66).

Interestingly, there is no evidence that somatic health concerns in childhood would impact on life satisfaction in adolescence. In a longitudinal study, children were investigated at the age of 7 and followed up until the age of 16. At the follow-up point, chronic childhood somatic conditions had exerted no effect on life satisfaction in adolescence, although the subjective experience of health was lower in those with chronic somatic conditions compared to healthy adolescents (10).

DISCUSSION

According to the literature, the most frequently investigated predictors of life satisfaction in adolescence seem to be family and peer relationships and physical activity (1,18,35). Adolescents reporting extremely high values of life satisfaction usually concurrently have very high levels of social support, academic, emotional and social self-efficacy, superior interpersonal and cognitive functioning and very low levels of neuroticism and internalizing and externalizing behaviour problems (1) (*Figure 1*).

Low life satisfaction in adolescents has been linked with mental health problems such as depression and substance use (1). This is in line with investigations conducted in adults, in which low life satisfaction has been associated with numerous adverse health problems such as depression, alcohol abuse, increased all-cause mortality and suicide risk (67–70).

Mental health problems and life satisfaction seem to exist in a kind of vicious circle (54). While there are buffers such as social support, there are also predisposing factors such as stressful life events which influence the development of life satisfaction in an adolescent (1). Therefore, one must be cautious in seeking causality between psychopathology and life satisfaction since so many factors impact on adolescent development: in this time period, a teenager is highly susceptible to disruptive factors.

During adolescence, life satisfaction seems to be a comprehensive indicator of the steadiness of psychosocial life, but it is clearly affected by acquired social abilities and experiences. Life satisfaction may reflect earlier social experiences that have influenced a youngster's development

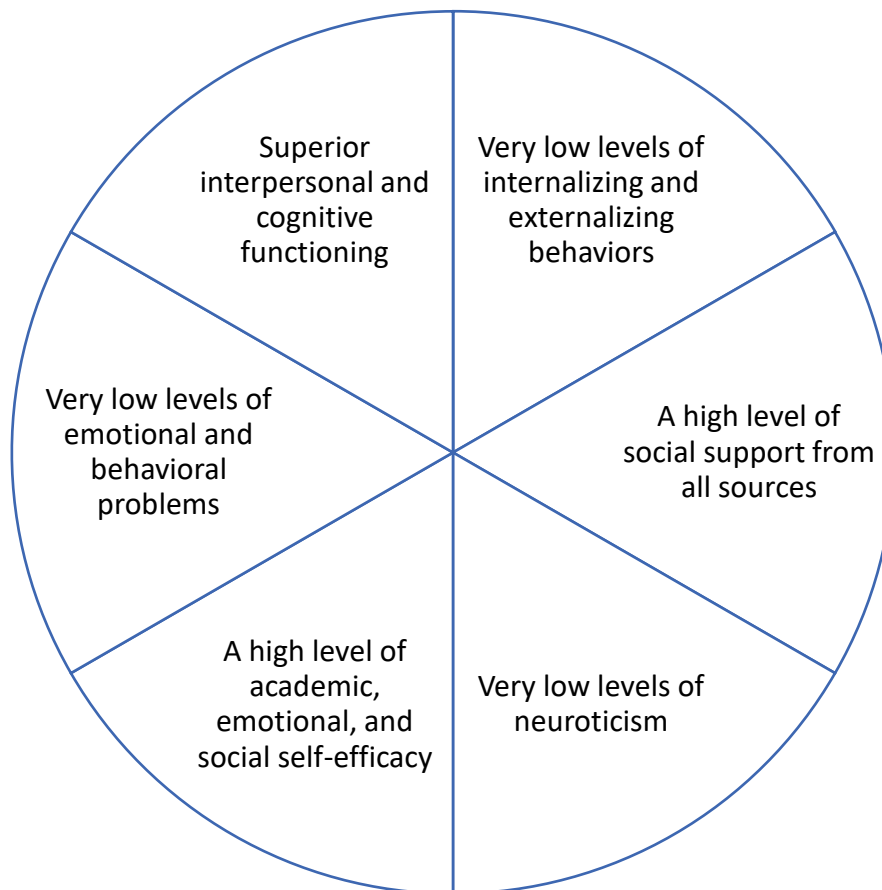


Figure 1. Concurrent personal characteristics connected to good life satisfaction in adolescence according to Proctor, Linley & Maltby 2009.

in a positive way. In summary, low life satisfaction relates to numerous adverse health outcomes and therefore, measurement of life satisfaction might be useful in screening for general well-being in adolescents to assess the risk of adverse health outcomes.

CONCLUSION

Knowledge of life satisfaction predictors and causality during adolescence can be used in interventions to improve the well-being of young adults. Several guidelines emerge from the reviewed studies to support healthy development and decrease adverse health outcomes that are related to low life satisfaction. Interventions to improve life satisfaction should include support for education, leisure time activities and family communication. Furthermore, it is important to create opportunities where adolescents can practice social skills in real life. On the other hand, for adolescents at risk, prevention of mental health problems and loneliness may be the key factors for enhancing his/her life satisfaction and overall well-being as the adolescent develops into a young adult.

Authors:

Virve Kekkonen^{1, 2}, MD, PhD

Siiri-Liisi Kraav^{1, 3}, MSc

Tommi Tolmunen^{1, 2}, Professor, MD, PhD

¹ Institute of Clinical Medicine, Psychiatry, University of Eastern Finland, Kuopio, Finland

² Department of Adolescent Psychiatry, Kuopio University Hospital, Kuopio, Finland

³ Department of Social Sciences, University of Eastern Finland, Kuopio, Finland

Correspondence to:

Address: Virve Kekkonen, PhD, Adolescent Psychiatry, Department of Adolescent Psychiatry, Kuopio University Hospital, P.O. Box 200, FI-70029 Kuopio, Finland.

Tel: +358 50 5403217

Fax: +358 17 172 986

E-mail: virve.kekkonen@kuh.fi

References:

1. Proctor CL, Linley PA, Maltby J. *Youth Life Satisfaction: A Review of the Literature*. J Happiness Studies 2009;10:583–630.
2. Veenhoven R. *The utility of happiness*. Soc Indic Res 1988;20(4):333–354.
3. Steptoe A, Deaton A, Stone AA. *Subjective wellbeing, health, and ageing*. Lancet 2015;385(9968):640–648. doi: 10.1016/S0140-6736(13)61489-0
4. Carver CS, Scheier MF, Segerstrom SC. *Optimism*. Clin Psychol Rev 2010;30(7):879–889. doi: 10.1016/j.cpr.2010.01.006
5. Lyubomirsky S, Lepper H. *A measure of subjective happiness: Preliminary reliability and construct validation*. Soc Indic Res 1999;4:137–155.
6. Tennant R, Hiller L, Fishwick R, Platt S, Joseph S, Weich S, Parkinson J, Secker J, Stewart-Brown S. *The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation*. Health Qual Life Outcomes 2007;5:63.
7. Diener E, Suh EM, Lucas RE, Smith HL. *Subjective well-being: Three decades of progress*. Psychological Bulletin 1999;2:276–302.
8. Chen X, Morin AJ, Parker PD, Marsh HW. *Developmental investigation of the domain-specific nature of the life satisfaction construct across the post-school transition*. Dev Psychol 2015;51(8):1074–1085. doi: 10.1037/a0039477
9. Evans DR. *Enhancing quality of life in the population at large*. Soc Indic Res 1994;33(1–3):47–88.
10. Määttä H, Hurtig T, Taanila A, Honkanen M, Ebeling H, Koivumaa-Honkanen H. *Childhood chronic physical condition, self-reported health, and life satisfaction in adolescence*. Eur J Pediatr 2013;172(9):1197–1206. doi: 10.1007/s00431-013-2015-6
11. Stafford M, Kuh DL, Gale CR, Mishra G, Richards M. *Parent-child relationships and offspring's positive mental wellbeing from adolescence to early older age*. J Posit Psychol 2016;11(3):326–337.
12. Marion D, Laursen B, Zettergren P, Bergman, LR. *Predicting life satisfaction during middle adulthood from peer relationships during mid-adolescence*. J Youth Adolesc 2013;42(8): 1299–1307.
13. Nishida A, Richards M, Stafford M. *Prospective associations between adolescent mental health problems and positive mental wellbeing in early old age*. Child Adolesc Psychiatry Ment Health 2016;10:12. doi: 10.1186/s13034-016-0099-2
14. Essau CA, Lewinsohn PM, Olaya B, Seeley JR. *Anxiety disorders in adolescents and psychosocial outcomes at age 30*. J Affect Disord 2014;163:125–132. doi: 10.1016/j.jad.2013.12.033
15. Georgiades K, Boyle MH. *Adolescent tobacco and cannabis use: Young adult outcomes from the Ontario Child Health Study*. J Child Psychol Psychiatry 2007;48(7):724–731.
16. Campbell A, Converse P, Rodgers WL. *The quality of American life*. 1976, New York, NY: Russell Sage Foundation.
17. Goldbeck L, Schmitz TG, Besier T, Herschbach P, Henrich G. *Life satisfaction decreases during adolescence*. Qual Life Res 2007;16(6):969–979.
18. Kelishadi R, Qorbani M, Heshmat R, Motlagh, ME, Magoul A, Mansourian M, Raeesi S, Gorabi AM, Safiri S, Mirmoghtadaee P. *Determinants of life satisfaction in iranian children and adolescents: The caspian-iv study*. Child Adolesc Ment Health 2018;23(3):228–234.
19. Shek DTL, Liang LY. *Psychosocial Factors Influencing Individual Well-Being in Chinese Adolescents in Hong Kong: a Six-Year Longitudinal Study*. Appl Res Qual Life 2018;13:561. <https://doi.org/10.1007/s11482-017-9545-4>
20. Zhang J, Zhao S, Lester D, Zhou C. *Life satisfaction and its correlates among college students in China: a test of social reference theory*. Asian J Psychiatr 2014;10:17–20. doi: 10.1016/j.ajp.2013.06.014

21. Koivumaa-Honkanen H, Kaprio J, Honkanen RJ, Viinamäki H, Koskenvuo M. *The stability of life satisfaction in a 15-year follow-up of adult Finns healthy at baseline*. BMC Psychiatry 2005;5:4.
22. Moksnes UK, Espnes GA. *Self-esteem and life satisfaction in adolescents-gender and age as potential moderators*. Qual Life Res 2013;22(10):2921–2928. doi: 10.1007/s11136-013-0427-4
23. Bannink R, Pearce A & Hope S. *Family income and young adolescents' perceived social position: associations with self-esteem and life satisfaction in the UK Millennium Cohort Study*. Arch Dis Child 2016;101(10):917–921. doi: 10.1136/archdischild-2015-309651
24. Piko BF. *Satisfaction with life, psychosocial health and materialism among Hungarian youth*. J Health Psychol 2006;11(6):827–831.
25. Thorsteinsson EB, Loi NM, Sveinbjornsdottir S, Arnarsson A. *Sexual orientation among Icelandic year 10 adolescents: Changes in health and life satisfaction from 2006 to 2014*. Scand J Psychol 2017;58(6):530–540.
26. Dimitrova R, Ferrer-Wreder L, Trost K. *Intergenerational transmission of ethnic identity and life satisfaction of Roma minority adolescents and their parents*. J Adolesc 2015;45:296–306. doi: 10.1016/j.adolescence.2015.10.014
27. Raphael D, Rukholm E, Brown I, Hill-Bailey P, Donato E. *The quality of life profile-adolescent version: Background, description, and initial validation*. J Adolesc Health 1996;19:366–375.
28. Ng ZJ, Huebner SE, Hills KJ. *Life Satisfaction and Academic Performance in Early Adolescents: Evidence for Reciprocal Association*. J Sch Psychol 2015;53(6): 479–491. doi: 10.1016/j.jsp.2015.09.004
29. Lewis AD, Huebner ES, Malone PS, Valois RF. *Life satisfaction and student engagement in adolescents*. J Youth Adolesc 2011;40(3):249–262. doi: 10.1007/s10964-010-9517-6
30. Forrest CB, Bevans KB, Riley AW, Crespo R, Louis TA. *Health and school outcomes during children's transition into adolescence*. J Adolesc Health 2013;52(2):186–194. doi: 10.1016/j.jadohealth.2012.06.019
31. Salmela-Aro K, Tuominen-Soini H. *Adolescents' life satisfaction during the transition to post-comprehensive education: antecedents and consequences*. J Happiness Studies 2010;11:683–701.
32. Salmela-Aro K, Tynkkynen L. *Trajectories of life satisfaction across the transition to post-compulsory education: do adolescents follow different pathways?* J Youth Adolesc 2010;39(8):870–881. doi: 10.1007/s10964-009-9464-2
33. Leversen I, Danielsen AG, Birkeland MS, Samdal O. *Basic psychological need satisfaction in leisure activities and adolescents' life satisfaction*. J Youth Adolesc 2012;41(12):1588–1599. doi: 10.1007/s10964-012-9776-5
34. Hansen E, Sund E, Skjei Knudtsen M, Krokstad S, Holmen TL. *Cultural activity participation and associations with self-perceived health, life-satisfaction and mental health: the Young HUNT Study, Norway*. BMC Public Health 2015;15:544. doi: 10.1186/s12889-015-1873-4
35. Kleszczewska D, Dzielska A, Salonna F, Mazur J. *The Association Between Physical Activity and General Life Satisfaction in Lower Secondary School Students: The Role of Individual and Family Factors*. Community Ment Health J 2018;54(8):1245–1252. doi: 10.1007/s10597-018-0309-x
36. Grao-Cruces A, Fernández-Martínez A, Nuviala A, Pérez-Turpin JA. *Intention to be Physically Active is Influenced by Physical Activity and Fitness, Sedentary Behaviours, and Life Satisfaction in Adolescents*. Coll Antropol 2015;39(3):567–573.
37. Boniel-Nissim M, Tabak I, Mazur J, Borraccino A, Brooks F, Gommans R, van der Sluijs W, Zsiros E, Craig W, Harel-Fisch Y, Finne E. *Supportive communication with parents moderates the negative effects of electronic media use on life satisfaction during adolescence*. Int J Public Health 2015;60(2):189–198. doi: 10.1007/s00038-014-0636-9

38. Cao H, Sun Y, Wan Y, Hao J, Tao F. *Problematic Internet use in Chinese adolescents and its relation to psychosomatic symptoms and life satisfaction*. BMC Public Health 2011;11:802. doi: 10.1186/1471-2458-11-802
39. Ferguson CJ, Muñoz ME, Garza A, Galindo M. *Concurrent and prospective analyses of peer, television and social media influences on body dissatisfaction, eating disorder symptoms and life satisfaction in adolescent girls*. J Youth Adolesc 2014;43(1):1–14. doi: 10.1007/s10964-012-9898-9
40. Rönkä AR, Taanila A, Koironen M, Sunnari V, Rautio A. *Associations of deliberate self-harm with loneliness, self-rated health and life satisfaction in adolescence: Northern Finland Birth Cohort 1986 Study*. Int J Circumpolar Health 2013;72. doi: 10.3402/ijch.v72i0.21085
41. Leung JP, Leung K. *Life satisfaction, self-concept, and relationship with parents in adolescence*. J Youth Adolesc 1992;21(6):653–65. doi: 10.1007/BF01538737
42. Elgar FJ, Craig W, Trites SJ. *Family dinners, communication, and mental health in Canadian adolescents*. J Adolesc Health 2013;52(4): 433–438.
43. Siddall J, Huebner ES, Jiang X. *A prospective study of differential sources of school-related social support and adolescent global life satisfaction*. Am J Orthopsychiatry 2013;83(1):107–114. doi: 10.1111/ajop.12006
44. Jiménez-Iglesias A, García-Moya I, Moreno C. *Parent–Child Relationships and Adolescents’ Life Satisfaction Across the First Decade of the New Millennium*. Fam Relat 2017;66(3):512–526.
45. Ginevra MC, Magnano P, Lodi E, Annovazzi C, Camussi E, Patrizi P, Nota L. *The role of career adaptability and courage on life satisfaction in adolescence*. J Adolesc 2018;62:1–8. doi: 10.1016/j.adolescence.2017.11.002
46. Deventer J, Lüdtke O, Nagy G, Retelsdorf J, Wagner J. *Against all odds - is a more differentiated view of personality development in emerging adulthood needed? The case of young apprentices*. Br J Psychol 2018 doi: 10.1111/bjop.12336
47. Lyons MD, Huebner ES, Hills KJ, Van Horn ML. *Mechanisms of change in adolescent life satisfaction: a longitudinal analysis*. J Sch Psychol 2013;51(5):587–598. doi: 10.1016/j.jsp.2013.07.001
48. Moksnes UK, Haugan G. (2015). *Stressor experience negatively affects life satisfaction in adolescents: the positive role of sense of coherence*. Qual of Life Res 2015;24(10): 2473–2481. doi: 10.1007/s11136-015-0977-8
49. Gomez-Baya D, Mendoza R, Gaspar T, Gomes P. *Responses to positive affect, life satisfaction and self-esteem: A cross-lagged panel analysis during middle adolescence*. Scand J Psychol 2018;59(4):462–472. doi: 10.1111/sjop.12450
50. Sánchez-Álvarez N, Extremera N, Fernández-Berrocal P. *Maintaining Life Satisfaction in Adolescence: Affective Mediators of the Influence of Perceived Emotional Intelligence on Overall Life Satisfaction Judgments in a Two-Year Longitudinal Study*. Front Psychol 2015;6:1892. doi: 10.3389/fpsyg.2015.01892
51. Moksnes U, Eilertsen MEB, Ringdal R, Bjørnsen H, Rannestad T. *Life satisfaction in association with self-efficacy and stressor experience in adolescents – self-efficacy as a potential moderator*. Scand J Caring Sci 2019;33(1):222–230. doi: 10.1111/scs.12624
52. Gestsdottir S, Arnarsson A, Magnusson K, Arngrimsson SA, Sveinsson T, Johannsson E. *Gender differences in development of mental well-being from adolescence to young adulthood: an eight-year follow-up study*. Scand J Public Health 2015;43(3):269–275. doi: 10.1177/1403494815569864
53. Bozoglan B, Demirev V, Sahin I. *Loneliness, self-esteem, and life satisfaction as predictors of Internet addiction: a cross-sectional study among Turkish university students*. Scand J Psychol 2013;54(4):313–319. doi: 10.1111/sjop.12049
54. Fergusson DM, McLeod GFH, Horwood LJ, Swain NR, Chapple S, Poulton R. *Life satisfaction and mental health problems (18 to 35 years)*. Psychol Med 2015;45: 2427–2436. doi:10.1017/S0033291715000422

55. Zullig KJ, Valois RF, Huebner ES, Oeltmann JE, Drane JW. *Relationship between perceived life satisfaction and adolescents' substance abuse*. J Adolesc Health 2001;29(4):279–288.
56. Schapir L, Zalsman G, Hasson-Ohayon I, Gaziel M, Morag-Yaffe M, Sever J, Weizman A, Shoval G. *Suicide, Satisfaction With Life, and Insight Capacity Among Adolescents With Mental Disorders*. Crisis 2016;37(5):347–352.
57. Honkanen M, Hurtig T, Taanila A, Moilanen I, Koponen H, Mäki P, Veijola J, Puustjärvi A, Ebeling H, Koivumaa-Honkanen H. *Teachers' assessments of children aged eight predict life satisfaction in adolescence*. Eur Child Adolesc Psychiatry 2011;20(9):469–479. doi: 10.1007/s00787-011-0200-6
58. Kjeldsen A, Nilsen W, Gustavson K, Skipstein A, Melkevik O, Karevold EB. *Predicting Well-Being and Internalizing Symptoms in Late Adolescence From Trajectories of Externalizing Behavior Starting in Infancy*. J Res Adolesc 2016;26(4):991–1008. doi: 10.1111/jora.12252
59. Ogg JA, Bateman L, Dedrick RF, Suldo SM. *The Relationship Between Life Satisfaction and ADHD Symptoms in Middle School Students: Using a Bifactor Model*. J Atten Disord 2016;20(5):390–399. doi: 10.1177/1087054714521292
60. Sawatzky R, Ratner PA, Johnson JL, Kopec JA, Zumbo BD. *Self-reported physical and mental health status and quality of life in adolescents: a latent variable mediation model*. Health Qual Life Outcomes 2010;8:17. doi: 10.1186/1477-7525-8-17
61. Lyons MD, Otis KL, Huebner ES, Hills, KJ. *Life satisfaction and maladaptive behaviors in early adolescents*. Sch Psychol Q 2014;29(4):553–566. doi: 10.1037/spq0000061
62. Forste R, Moore E. (2012). *Adolescent obesity and life satisfaction: perceptions of self, peers, family, and school*. Econ Hum Biol 2012;10(4):385–394. doi: 10.1016/j.ehb.2012.04.008
63. Heshmat R, Kelishadi R, Motamed-Gorji N, Motlagh ME, Ardalan G, Arifirad T, Rastad H, Asayesh H, Djalalinia S, Larijani B, Qorbani M. *Association between body mass index and perceived weight status with self-rated health and life satisfaction in Iranian children and adolescents: the CASPIAN-III study*. Qual Life Res 2015;24(1):263–272. doi: 10.1007/s11136-014-0757-x
64. Farhat T, Iannotti RJ, Summersett-Ringgold F. *Weight, Weight Perceptions, and Health-Related Quality of Life Among a National Sample of US Girls*. J Dev Behav Pediatr 2015;36(5):313–323.
65. Zullig KJ, Valois RF, Huebner ES, Drane JW. *Adolescent health-related quality of life and perceived satisfaction with life*. Qual Life Res 2005;14(6):1573–1584.
66. Kavaliauskienė A, Šidlauskas A, Zaborskis A. *Association between Global Life Satisfaction and Self-Rated Oral Health Conditions among Adolescents in Lithuania*. Int J Environ Res Public Health 2017;14(11). doi: 10.3390/ijerph14111338
67. Rissanen T, Viinamäki H, Lehto SM, Hintikka J, Honkalampi K, Saharinen T, Koivumaa-Honkanen H. *The role of mental health, personality disorders and childhood adversities in relation to life satisfaction in a sample of general population*. Nord J Psychiatry 2013;67(2):109–115. doi: 10.3109/08039488.2012.687766
68. Koivumaa-Honkanen H, Kaprio J, Korhonen T, Honkanen RJ, Heikkilä K, Koskenvuo M. *Self-reported life satisfaction and alcohol use: a 15-year follow-up of healthy adult twins*. Alcohol Alcohol 2012;47(2):160–168. doi: 10.1093/alcalc/agr151
69. Koivumaa-Honkanen H, Honkanen R, Viinamäki H, Heikkilä K, Kaprio J & Koskenvuo M. *Self-reported life satisfaction and 20-year mortality in healthy Finnish adults*. Am J Epidemiol 2000;152(10):983–991.
70. Koivumaa-Honkanen H, Honkanen R, Viinamäki H, Heikkilä K, Kaprio J, Koskenvuo M. *Life satisfaction and suicide: a 20-year follow-up study*. Am J Psychiatry 2001;158(3):433–439.