Very Happy Youths: Benefits of Very High Life Satisfaction Among Adolescents

Carmel Proctor · P. Alex Linley · John Maltby

Abstract This study investigated the characteristics of adolescents reporting very high levels of life satisfaction. Participants ($N = 410$) were divided into three life satisfaction groups: very high (top 10%), average (middle 25%), and very low (lowest 10%). Results revealed that very happy youths had significantly higher mean scores on all included school, interpersonal, and intrapersonal variables, and significantly lower mean scores on depression, negative affect, and social stress than youths with average and very low levels of life satisfaction. Life meaning, gratitude, self-esteem, and positive affect were found to have a significantly more positive influence on global life satisfaction for the very unhappy than the very happy. Findings suggest that very unhappy youths would benefit most from focused interventions aimed at boosting those variables having the most influence on their level of life satisfaction. Results are discussed in light of previous findings and suggestions for future directions are briefly discussed.

Keywords Life satisfaction · Adolescents · Subjective well-being · Youths · Happiness

1 Introduction

Adolescent life satisfaction is a key indicator of a vast array of positive personal, psychological, social, interpersonal, and intrapersonal outcomes (see Proctor et al. 2009 for a review). Findings from correlational research have shown life satisfaction to be associated

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with self-esteem (e.g., Huebner 1991a), health-related quality of life (e.g., Zullig et al. 2005), hope (e.g., Gilman et al. 2006), self-efficacy (e.g., Bradley and Corwyn 2004), relationship with parents and peers (e.g., Man 1991; Nickerson and Nagle 2004), partic- ipation in structured extracurricular activities (SEAs) (e.g., Gilman 2001), aspirations (e.g., Emmons 1986), and academic achievement (e.g., Gilman and Huebner 2006), and nega- tively correlated with psychopathological problems such as depression and social stress (Gilman and Huebner 2006). Moreover, recent research suggests that increased life sat- isfaction buffers against the negative effects of stress and the development of psycho- logical disorder. For example, in a longitudinal study of adolescents, Suldo and Huebner (2004a) found that those with positive life satisfaction were less likely to develop later externalizing behaviours as a result of stressful life events than a group of adolescents with low life satisfaction. Further, cross-sectional data has shown life satisfaction to mediate the relationship between parental social support and both internal and external adolescent problem behaviour (Suldo and Huebner 2004b).

Throughout the research literature, scores on measures of life satisfaction are used as an indication of happiness or unhappiness (Proctor et al. 2009). Individuals with positive subjective well-being have consistently been shown to report high levels of life satisfac- tion, as well as, satisfaction across multiple life domains (e.g., marriage, income, physical health), positive emotions, increased mental health, and a longer life (for a review see Lyubomirsky et al. 2005). Indeed, cross-sectional, longitudinal, and experimental data have all shown that well-being and happiness precede diverse positive personal, behav- ioural, psychological, and social outcomes (Lyubomirsky et al. 2005), just as low life satisfaction and/or unhappiness can predict the onset of depression and psychological disorder up to 2 years prior to diagnosis (see Lewinsohn et al. 1991).

In general, the psychological literature has long been dominated by research investi- gating the characteristics and correlates of very unhappy individuals. Although there has been a surge of new studies examining happy individuals over the course of the last decade, there remains a paucity of research that has specifically sought to focus on the benefits associated with being very happy. Of the extant research on very happy individ- uals, the examination of very happy youths is nearly non-existent. With the exception of two notable recent studies conducted by Suldo and Huebner (2006) and Gilman and Huebner (2006), there remains a dearth of research in this area. Findings reported by Suldo and Huebner (2006) demonstrated that extremely high life satisfaction was associated with adaptive functioning among a group of American high school students. Specifically, results indicated that in comparison to students with average life satisfaction, those with very high life satisfaction had higher levels on all indicators of adaptive psychosocial functioning (Suldo and Huebner 2006). Moreover, adolescents reporting very high life satisfaction had the lowest frequency of internalizing and externalizing behaviour problems, the lowest levels of neuroticism, the lowest emotional and behavioural problems on five indicators of functioning, and significantly higher academic, emotional, and social self-efficacy levels than those in the average life satisfaction and low life satisfaction groups (Suldo and Huebner 2006). Similarly, Gilman and Huebner (2006) demonstrated that extremely high life satisfaction was as beneficial for adolescents as it was found to be for adults in Diener and Seligman's (2002) study of "very happy people". Investigating the relationship between a broad range of school-related variables, interpersonal variables and intraper- sonal variables, and life satisfaction, Gilman and Huebner (2006) found global life satis- faction to be positively related to grade point average, SEAs, interpersonal relations, parent relations, self-esteem, hope, attitude toward school, and attitude toward teachers, but negatively related to social stress, anxiety, depression, and external locus of control (LOC).

Adolescents reporting very high life satisfaction had higher scores on all measures than those reporting low life satisfaction, and reported significantly higher scores on measures of hope, self-esteem, and internal LOC, but lower scores on measures of social stress, anxiety, depression, and negative attitudes toward teachers, than those reporting average life satisfaction (Gilman and Huebner 2006).

The current study seeks to add to the existing literature through further investigation of the characteristics of adolescents reporting very high levels of life satisfaction and by expanding on the previous range of youth characteristics considered. Moreover, the aim of this research is to determine the specific influence of youth characteristics on level of happiness. Similar to Gilman and Huebner (2006), the characteristics to be investigated include school-related variables (i.e., school satisfaction, academic aspirations, academic achievement, attitude to education, participation in SEAs), interpersonal variables (i.e., social stress, parental relations, altruism, peer relations, social acceptance), and intrapersonal variables (i.e., life meaning, gratitude, aspirations, self-esteem, happiness). Furthermore, in accordance with the procedure adopted by Suldo and Huebner (2006), comparisons will be made between the life satisfaction reports of adolescents in three groups: very high (top 10%), average (middle 25%), and very low (lowest 10%). Adding to previous work in this area, an examination of positive and negative affect, health-related variables, and views on environmental issues will also be included.

1.1 Study Hypotheses

In accordance with the findings of Gilman and Huebner (2006), it is expected that very high life satisfaction will be beneficial for adolescents. Specifically, it is expected that those reporting very high life satisfaction will have significantly higher levels of the following positive outcomes than those reporting average levels of life satisfaction, which in turn will be significantly higher than those reporting low levels of life satisfaction (i.e., High ≫ Average ≫ Low):

a. Positive functioning on measures of school, interpersonal, and intrapersonal measures;
b. Display higher levels of positive affect;
c. Report healthier lifestyles;
d. Participate in greater numbers of extracurricular activities;
e. Report higher levels of interest in environmental issues; and
f. Report lower levels of depression, negative affect, and social stress

2 Method

2.1 Participants

Participants were 410 adolescents aged 16–18 (126 males, 284 females). The mean age of participants was 16.74 years (SD = .789).

2.2 Measures

1. *Students' Life Satisfaction Scale* (SLSS: Huebner 1991b; Huebner 1991c) is a 7-item self-report scale which assesses global life satisfaction for students aged 8–18. Students are required to respond to each item using a 6-point Likert scale (Strongly Disagree to Strongly

Agree); two items are reverse scored. Items are summed for a total score and divided by seven for a mean score; higher scores denote higher life satisfaction. The SLSS has been shown to be a valid and reliable measure of life satisfaction for students in elementary (e.g., Terry and Huebner 1995), middle (e.g., Huebner 1991a), and high (e.g., Dew and Huebner 1994) school. Coefficient alphas have consistently been reported across all age groups for this scale in the .70 to .80 range (Huebner et al. 2003).

2. *Positive and Negative Affect Schedule* (PANAS: Watson et al. 1988) is a 20-item self-report measure made up of two subscales each consisting of ten items: ten positive affects (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, active) and ten negative affects (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid). Respondents use a 5-point Likert scale response format (Very Slightly or Not At All to Extremely). Internal consistency reliabilities range from .86 to .90 for positive affect (PA) and from .84 to .87 for negative affect (NA).

3. *Adolescent Health Promotion Scale* (AHP: Chen et al. 2003) is a 40-item self-report instrument designed to assess health-promotion behaviours (i.e., healthy lifestyle) among adolescent populations. Respondents use a 5-point Likert scale response format (Never to Always). Factor analyses have revealed a six-factor structure for the instrument: (1) social support; (2) life-appreciation; (3) health-responsibility; (4) stress-management; (5) nutritional behaviours; (6) exercise behaviours. Internal consistency for the scale has been reported at .93 and alpha coefficients for the six subscales range from .75 to .90 (Chen et al. 2006; Chen et al. 2003). For the purposes of this research items from the social support and life appreciation domains were not included; only physical health promoting behaviour items were retained. Therefore, a total of 25 items were administered with a possible range of scores from 25 to 125; higher scores indicate healthier lifestyle.

4. *Extracurricular Activities.* Participants were asked to indicate (in general) how many extracurricular activities they participated in. Extracurricular activities were defined to respondents as those activities pursued in addition to normal school course work and include participation in sports, drama, music, art, chess, etc.

5. *Environmental Views.* Participants were asked to respond to 4-item scale designed to assess general views and actions regarding the environment. Respondents used a 6-point Likert scale response format (Strongly Disagree to Strongly Agree). Items were: (1) I think we need to protect the environment more; (2) I am interested in environmental issues; (3) I believe recycling is important; and (4) I recycle things instead of putting them in the bin.

6. *Adolescent Rating Scale.* Participants were asked respond to 15 individual items designed to measure: school satisfaction, social stress, parental relations, life meaning, gratitude, aspirations, altruism, self-esteem, happiness, depression, academic aspirations, peer relations, social acceptance, academic achievement, and attitude toward education (see Appendix). Respondents used a 6-point Likert scale response format (Strongly Disagree to Strongly Agree).

2.3 Procedure

Ethical approval to collect data for this study was secured from the University of Leicester Psychology Research Ethics Committee. The study questionnaire was placed online and the web page advertisement invited anyone aged 16–18 to participate and informed those interested that no identifying information was collected and that all participation was voluntary.

The Internet was used to recruit participants and collect the data (Birnbaum 2004; Seligman et al. 2005). Collecting self-report questionnaire data via the Internet has several

advantages to traditional techniques, including increased diversity and sample size, efficiency and accuracy of the data collected, and cost-effectiveness (Gosling et al. 2004; Seligman et al. 2005). However, there are several potential disadvantages, such as possibility of multiple submissions, drop-out, sampling bias, and response bias, upon which criticisms over the quality of Internet-based studies have been founded (Birnbaum 2004). Research conducted by Gosling et al. (2004) compared questionnaire data collected via the Internet versus traditional paper-and-pencil methods. Results revealed that: (1) Internet samples are more diverse than traditional samples in many domains; (2) voluntary participants of Internet-based studies are no more psychologically disturbed than traditional participants; (3) Internet researchers can take steps to eliminate repeat responders; and (4) Internet-based findings are consistent with findings based on traditional methods (Gosling et al. 2004).

Several recruitment techniques similar to those suggested by Birnbaum (2001) were used to recruit participants. Recruitment began by sending out a bulletin advertising the study to members of the Centre of Applied Positive Psychology web site (http://www.cappeu.org). Within the bulletin was a further invitation for the study web site address to be forwarded onto any other parties who might be able to help with recruitment. In addition, the primary researcher sent out the web site address link to individuals known to her (e.g., local education department, local school principals, secondary school teachers, positive psychology researchers) requesting that they consider proposing participation to applicable students. Also, an advertisement and link for the study was placed on an Internet site providing information to students studying A-Level Psychology within the United Kingdom (http://www.holah.co.uk). Finally, an email bulletin was sent out via the University of Leicester, School of Psychology email list serve encouraging anyone aged 16–18 to participate, and an advertisement and link for the study was placed on the School of Psychology's research participant panel web site (http://www.le.ac.uk/pc/panel/index.html).

Overall, these recruitment procedures resulted in 499 individuals accessing the questionnaire as posted on the study web page. Of the 499 individuals who began the questionnaire, 86 individuals dropped out (i.e., 50 completed only the SLSS, 15 only the SLSS and PANAS, and 21 only the SLSS, PANAS, and AHP) and 3 individuals were over the age of 18; there were no dropouts that resulted in partial measure completion. As recommended by Birnbaum (2004), those who dropped out were removed before analysis and assignment to groups. Moreover, of those who dropped out, the majority (58%) did so early on, suggesting that those who completed the questionnaire were not impatient or resistant people, but willing participants (Birnbaum 2004). Therefore, a total of 410 individuals aged 16–18 were retained for data analysis. Among the remaining data records there were no instances of item non-response; which as noted by Borgers and Hox (2001) is less common among adolescents than children. As suggested by Birnbaum (2004), a search for identical records was conducted in order to identify multiple submissions. No identical records were found.

Although identifying information was not collected, the respondent's IP addresses were stored by the online system in the survey results. Examination of the IP address locations for the retained 410 participants revealed that 93% of participants were from locations across the UK. The remaining 7% were from locations in Europe (2%), India (2%), the Middle East (1%), Australia (1%), and the rest of the world (1%—including America, Mexico, Africa, and the Caribbean).

2.4 Data Analysis

In line with previous research (e.g., Gilman and Huebner 2006), prior to dividing participants into groups, examination of the scoring distribution of all measures was conducted

in order to assess for outliers and to test for multivariate normality. All scores were first transformed into *z* scores. As recommended by Tabachnick and Fidell (2001), all *z* scores fell within the ±3.29 range and therefore no scores were excluded from the data. Further, none of the variables included departed significantly from normality, with skewness and kurtosis all within acceptable limits (i.e., values of 2 standard errors) (Tabachnick and Fidell 2001).

Based on global mean life satisfaction scores obtained from the SLSS, participants were ranked and divided into three groups: (1) the very happy (VH) group consisting of adolescents whose global life satisfaction score placed them in the top 10% of the entire sample; (2) the very unhappy (VU) group consisting of adolescents whose global life satisfaction score placed them in the bottom 10% of the entire sample; (3) the average happiness (AH) group consisting of adolescents whose global life satisfaction scores fell into in the middle quarter of the distribution of scores for the entire sample (the remaining 55% were not utilized in this analysis).

Correlational analysis was used to examine the relationships between the study variables. Analyses of variance (ANOVA) were used to determine the mean difference between the three groups and each of the study variables. Post hoc analyses (i.e., Tukey's HSD) were conducted in order to determine which differences between the groups and the study variables were significant.

Linear regression analyses were conducted in order to test the hypothesis that the slope of the regression line of each predictor variable was the same in all three groups. Student's *t*-tests were conducted to compute the difference between the slopes of each predictor variable divided by the standard error of the difference between the slopes, on degrees of freedom (Wuensch 2007). Comparisons were made for all included variables between VH and AH, VH and VU, and AH and VU groups.

3 Results

The internal consistency reliabilities and descriptive statistics for the study variables are presented in Table 1. The intercorrelations between the study variables are presented in a correlation matrix in Table 2. Life satisfaction was significantly correlated in the expected direction with each of the study variables.

The VH group consisted of 48 participants whose mean global life satisfaction scores were at or above 5.43 on the 6-point SLSS scale ($M = 5.64$, $SD = 0.19$); 5 participants had the maximum score of 6.00. The AH group consisted of 117 participants whose mean global life satisfaction scores were at or between 3.86 and 4.43 on the 6-point SLSS scale ($M = 4.15$, $SD = 0.20$. The VU group consisted of 41 participants whose mean global life satisfaction scores were at or below 2.71 on the 6-point SLSS scale ($M = 2.19$, $SD = 0.49$); 1 participant had the minimum score of 1.00.

Analyses of variance were conducted for each of the school, interpersonal, and intrapersonal variables in order to determine if mean differences between the three global life satisfaction groups were significant. Results revealed that all variables were significant to an alpha level of .05 with the exception of environmental views ($F(2, 203) = 0.45$, $p = .64$) and altruism ($F(2, 203) = 2.43$, $p = .09$) (see Table 3). Post hoc analyses (Tukey's HSD) were carried out on all variables for each of the three groups in order to isolate significant differences. Table 4 reports the mean difference between the three global life satisfaction groups on school, interpersonal, and intrapersonal variables. Comparisons are reported between the VH and AH groups, VH and VU groups, and AH and VU groups.

Table 1 Descriptive statistics for study variables

Variable/measure	Mean (SD)	Alpha α
Students' Life Satisfaction Scale	4.10 (1.01)	.89
Structured extracurricular activities	2.24 (2.15)	–
Positive affect	29.82 (8.27)	.89
Negative affect	23.75 (7.85)	.84
Adolescent Health Promotion Scale	68.88 (15.15)	.86
Environmental views	18.42 (4.61)	.87
School satisfaction	4.41 (1.35)	–
Social stress	2.86 (1.42)	–
Parental relations	4.47 (1.49)	–
Life meaning	4.36 (1.49)	–
Gratitude	4.93 (1.24)	–
Aspirations	4.78 (1.38)	–
Altruism	5.12 (1.07)	–
Self-esteem	3.93 (1.45)	–
Happiness	4.10 (1.39)	–
Depression	3.25 (1.46)	–
Academic aspirations	5.35 (1.12)	–
Peer relations	3.84 (1.31)	–
Social acceptance	4.21 (1.35)	–
Academic achievement	4.28 (1.28)	–
Attitude to education	5.18 (1.10)	–

Note: Values based on entire sample group, $N = 410$

Results revealed that adolescents in the VH group reported significantly higher mean scores than adolescents in the VU group on all positive school, interpersonal, and intra-personal indicator variables (environmental views and altruism were not included based on the non-significant ANOVA results), and significantly less depression, negative affect, and social stress. Additionally, adolescents in the VH group reported significantly higher positive affect, school satisfaction, parental relations, life meaning, gratitude, self-esteem, happiness, social acceptance, and academic achievement, and significantly less depression, negative affect, and social stress than adolescents in the AH group. Adolescents in the AH group reported significantly higher positive affect, healthy lifestyle, school satisfaction, parental relations, life meaning, gratitude, aspirations, self-esteem, happiness, academic aspirations, academic achievement, and attitudes toward education, and significantly less depression and negative affect than adolescents in the VU group. No significant mean differences were found between the VH group and the AH group on participation in SEAs, healthy lifestyle, aspirations, academic aspirations, and attitude toward education. Further, no significant mean differences were found between the AH group and the VU group on participation in SEAs, social stress, peer relations, and social acceptance.

In order to determine if the influence of the included predictor variables was dependent on level of happiness (i.e., global life satisfaction), we tested the hypothesis that the slope of the regression line of each predictor variable was the same in all three groups. For each of the three groups, linear regression analyses were conducted in which the SLSS total score served as the dependent variable and SEAs, school satisfaction, social stress, parental relations, life meaning, gratitude, aspirations, self-esteem, happiness, depression, academic aspirations, peer relations, social acceptance, academic achievement, attitude to education,

Table 2 Pearson product correlation coefficients between study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Life satisfaction	–																			
Positive affect	.53**	–																		
Negative affect	–.44**	–.20**	–																	
Healthy lifestyle	.29**	.41**	–.10*	–																
Environmental views	.10*	.14**	.06	.38**	–															
School satisfaction	.39**	.40**	–.15**	.34**	.26**	–														
Social stress	–.32**	–.23**	.30**	–.02	.04	–.21**	–													
Parental relations	.49**	.32**	–.20**	.32**	.15**	.31**	–.30**	–												
Life meaning	.52**	.45**	–.20**	.41**	.15**	.41**	–.20**	.52**	–											
Gratitude	.60**	.43**	–.25**	.36**	.25**	.39**	–.26**	.53**	.65**	–										
Aspirations	.30**	.35**	–.06	.33**	.14**	.31**	–.11*	.26**	.53**	.47**	–									
Altruism	.12*	.22**	.01	.40**	.37**	.31**	–.04	.23**	.35**	.41**	.42**	–								
Self-esteem	.61**	.52**	–.40**	.41**	.08	.41**	–.23**	.46**	.57**	.57**	.37**	.29**	–							
Happiness	.64**	.53**	–.40**	.42**	.08	.47**	–.26**	.46**	.56**	.57**	.38**	.31**	.71**	–						
Depression	–.59**	–.38**	.48**	–.11*	.07	–.22**	.36**	–.30**	–.27**	–.30**	–.05	.08	–.43**	–.52**	–					
Academic aspirations	.25**	.22**	–.08	.30**	.27**	.38**	–.07	.25**	.37**	.47**	.42**	.38**	.29**	.30**	.02	–				
Peer relations	.29**	.31**	–.23**	.36**	.12*	.30**	–.15**	.34**	.38**	.36**	.34**	.24**	.47**	.40**	–.21**	.28**	–			
Social acceptance	.24**	.29**	–.15**	.31**	.16**	.28**	–.17**	.28**	.37**	.32**	.30**	.26**	.40**	.37**	–.12*	.26**	.61**	–		
Academic achievement	.39**	.45**	–.22**	.40**	.18**	.49**	–.17**	.36**	.47**	.42**	.35**	.26**	.49**	.43**	–.19**	.39**	.41**	.32**	–	
Attitude to education	.25**	.31**	–.04	.39**	.34**	.44**	–.04	.31**	.42**	.50**	.49**	.42**	.31**	.30**	.02	.66**	.30**	.26**	.48**	–

Note: Correlational analysis conducted on entire sample group, $N = 410$

* $p < .05$; ** $p < .01$

Table 3 Means (and Standard Deviations) of the three global life satisfaction groups on school, inter-personal, and intrapersonal variables

	Very happy	Average	Very unhappy	F	Significance
School variables					
SEAs	2.98 (2.69)	2.35 (2.23)	1.61 (1.67)	4.10	.018*
School satisfaction	5.15 (1.17)	4.48 (1.22)	3.27 (1.64)	23.45	< .001***
Academic aspirations	5.69 (0.90)	5.48 (0.88)	4.61 (1.67)	12.67	< .001***
Academic achievement	4.94 (1.06)	4.42 (1.08)	3.29 (1.65)	21.38	< .001***
Attitude to education	5.40 (1.09)	5.32 (0.97)	4.39 (1.63)	11.29	< .001***
Interpersonal variables					
Environmental views	19.31 (4.98)	18.55 (4.41)	18.83 (5.18)	0.45	.637
Social stress	2.19 (1.39)	3.00 (1.26)	3.56 (1.72)	11.18	< .001***
Parental relations	5.48 (1.11)	4.60 (1.22)	3.32 (1.79)	29.25	< .001***
Altruism	5.23 (1.17)	5.13 (0.96)	4.73 (1.51)	2.43	.091
Peer relations	4.40 (1.32)	3.95 (1.11)	3.63 (1.54)	4.21	.016*
Social acceptance	4.92 (1.22)	4.25 (1.25)	3.98 (1.62)	6.37	.002**
Intrapersonal variables					
Life meaning	5.44 (1.07)	4.56 (1.19)	2.93 (1.81)	41.59	< .001***
Gratitude	5.67 (0.91)	5.18 (0.82)	3.34 (1.48)	68.36	< .001***
Aspirations	5.33 (1.00)	4.84 (1.26)	3.85 (1.86)	13.77	< .001***
Self-esteem	5.04 (1.24)	4.22 (1.19)	2.22 (1.47)	58.98	< .001***
Happiness	5.31 (1.03)	4.24 (1.09)	2.39 (1.53)	69.48	< .001***
Depression	2.15 (1.07)	3.09 (1.22)	4.93 (1.21)	62.52	< .001***
Positive affect	37.04 (6.84)	29.80 (7.12)	21.75 (7.76)	50.05	< .001***
Negative affect	19.50 (5.83)	22.85 (7.30)	31.07 (8.40)	30.25	< .001***
Healthy lifestyle	75.00 (17.43)	69.61 (14.52)	62.76 (14.90)	7.07	< .001***

Note: SEAs (structured extracurricular activities)

* $p < .05$; ** $p < .01$; *** $p < .001$

healthy lifestyle, positive affect, negative affect, and environmental views served as individual independent variables. Student's t-tests were conducted in order to compute the difference between the slopes (comparisons were made for: VH and AH; VH and VU; AH and VU) divided by the standard error of the difference between the slopes, on degrees of freedom (Wuensch 2007). Results revealed that there were no significant slope differences for any of the included variables between the VH and the AH groups. However, significant slope differences were revealed between the VH and VU, and the AH and VU groups. Specifically, life meaning ($t(85) = -2.47$, $p < .025$), gratitude ($t(85) = -3.71$, $p < .01$), self-esteem ($t(85) = -2.25$, $p < .05$), and positive affect ($t(85) = -2.23$, $p < .05$) had a significantly more positive influence on global life satisfaction for the VU group than the VH group, whereas the influence of depression ($t(85) = 1.93$, $p < .05$) and negative affect ($t(85) = 2.62$, $p < .025$) had a significantly less negative influence on global life satisfaction for the VH group than the VU group. Similarly, life meaning ($t(154) = -2.51$, $p < .025$), gratitude ($t(154) = -3.21$, $p < .01$), self-esteem ($t(154) = -1.99$, $p < .05$), attitude to education ($t(154) = -2.23$, $p < .05$), and positive affect ($t(154) = -2.74$, $p < .01$) had a significantly more positive influence on global life satisfaction for the VU

Table 4 Mean difference (Tukey HSD) between the three global life satisfaction groups on school, interpersonal, and intrapersonal variables

Comparisons	VH/AH	Significance	VH/VU	Significance	AH/VU	Significance
School variables						
SEAs	0.63	.235	1.37	.013*	0.74	.168
School satisfaction	0.67	.009**	1.88	< .001***	1.21	< .001***
Academic aspirations	0.21	.501	1.08	< .001***	0.87	< .001***
Academic achievement	0.52	.035*	1.64	< .001***	1.13	< .001***
Attitude to education	0.07	.932	1.01	< .001***	0.93	< .001***
Interpersonal variables						
Social stress	−0.81	.002**	−1.37	< .001***	−0.56	.070
Parental relations	0.88	< .001***	2.16	< .001***	1.28	< .001***
Peer relations	0.45	.098	0.76	.013*	0.31	.354
Social acceptance	0.67	.010**	0.94	.003**	0.27	.495
Intrapersonal variables						
Life meaning	0.88	< .001***	2.51	< .001***	1.63	< .001***
Gratitude	0.49	.014*	2.32	< .001***	1.84	< .001***
Aspirations	0.50	.084	1.48	< .001***	0.98	< .001***
Self-esteem	0.82	< .001***	2.82	< .001***	2.00	< .001***
Happiness	1.07	< .001***	2.92	< .001***	1.85	< .001***
Depression	−0.95	< .001***	−2.78	< .001***	1.83	< .001***
Positive affect	7.24	< .001***	15.29	< .001***	8.05	< .001***
Negative affect	−3.35	.020*	−11.57	< .001***	−8.22	< .001***
Health	5.38	.103	12.24	< .001***	6.86	.038*

Note: VH (very happy), VU (very unhappy), AH (average happy)

* $p < .05$; ** $p < .01$; ***$p < .001$

group than for the AH group, whereas the influence of negative affect ($t(154) = 2.06$, $p < .05$) had a significantly less negative influence on global life satisfaction for the AH group than the VU group.

4 Discussion

Results of this study revealed that adolescents with very high levels of life satisfaction reported significantly higher mean scores on all measures of school (i.e., SEAs, school satisfaction, academic aspirations, academic achievement, attitude to education), interpersonal (i.e., parental relations, peer relations, social acceptance), and intrapersonal variables (i.e., life meaning, gratitude, aspirations, self-esteem, happiness, positive affect, healthy lifestyle) than adolescents reporting very low levels of life satisfaction. Moreover, adolescents with very high levels of life satisfaction reported significantly less depression, negative affect, and social stress than adolescents with very low life satisfaction. Similarly, adolescent with very high levels of life satisfaction reported significantly higher mean scores on 9 of 15 positive indicators of school, interpersonal, and intrapersonal variables, and significantly less depression, negative affect, and social stress than adolescents with

average levels of life satisfaction. Adolescents with average levels of life satisfaction reported significantly higher mean scores on 12 of 15 positive indicators of school, interpersonal, and intrapersonal variables, and significantly less depression and negative affect than adolescents with very low levels of life satisfaction. Overall these findings support the hypothesis that very high levels of life satisfaction are beneficial for adolescents. Specifically, as hypothesised, adolescents reporting very high levels of life satisfaction had significantly higher levels on all measures of positive functioning on school, interpersonal, and intrapersonal measures, displayed higher levels of positive affect, reported healthier lifestyles, participated in greater numbers of SEAs, and had significantly lower levels of depression, negative affect, and social stress than those reporting very low levels of life satisfaction. In general, these findings are also consistent with, and add support to, those reported by Suldo and Huebner (2006) and Gilman and Huebner (2006). Contrary to expectation however, results revealed that adolescents with very high levels of life satisfaction did not have significantly higher levels of participation in SEAs, healthy lifestyle, aspirations, academic aspirations, peer relations, and attitude toward education than adolescents with average levels of life satisfaction. Similarly, adolescents with average levels of life satisfaction did not have significantly higher levels of participation in SEAs, peer relations, and social acceptance, and significantly less social stress, than adolescents with very low life satisfaction. Furthermore, results of this study suggest that very high levels of happiness do not engender altruistic or environmental pro-action. That is, desire to help others or participate in activities that benefit the environment is not dependent on level of happiness.

Overall, the characteristics of youths reporting very high levels of life satisfaction are consistent with previous research. Findings of this study further demonstrate that adolescents with very high life satisfaction benefit significantly differently from positive characteristics than adolescents with average and very low levels of life satisfaction. Moreover, similar to previous research (e.g., Diener and Seligman 2002; Friedman et al. 2002; Suldo and Huebner 2006), there is no evidence to suggest that very happy youths suffer with maladaptive or dysfunctional psychological problems. On the contrary, very happy youths had significantly lower levels of depression, negative affect, and social stress than youths with both average and very low levels of life satisfaction. In general, findings of this research substantiate prior research demonstrating that very high life satisfaction is associated with an array of social, behavioural, and psychological benefits not found among youths with lower levels of life satisfaction.

Results of this study further add to the existing literature by demonstrating that specific predictors are more influential on the level of happiness for the very unhappy. For example, life meaning, gratitude, self-esteem, and positive affect had a greater positive influence on level of happiness for very unhappy youths than very happy youths. Similarly, life meaning, gratitude, self-esteem, attitude to education, and positive affect had a greater positive influence on level of happiness for very unhappy youths than average youths. The identification of the influence of specific variables on happiness level, suggest that very unhappy youths would benefit greatly from focused interventions or exercises aimed at boosting these factors; however further research is required in order to confirm this. For example, research has demonstrated that simple interventions, such as counting one's own acts of kindness for 1 week (Otake et al. 2006) or participating in gratitude exercises (Emmons and McCullough 2003), increases gratefulness, positive affect, and happiness. Moreover, additional research has demonstrated that participating in strengths based exercises, such as writing down three good things every day and using signature strengths

in a new way every day for 1 week, increase happiness and decrease depressive symptoms for up to 6 months (Seligman et al. 2005).

Findings of this study further revealed that less variance is accounted for among the very happy youths than among the average happiness and very low happiness groups, suggesting that the very happy may be benefiting from additional unaccounted factors. Thus, future research should seek to extend the findings of this research and that of Suldo and Huebner (2006) and Gilman and Huebner (2006) through further examination of variables associated with very high life satisfaction among youths. Further identification of variables associated with very high levels of life satisfaction will aid in the isolation of variables having the most influence on the life satisfaction of very unhappy youths and therefore inform what interventions may be required to boost their life satisfaction up to normative levels. Moreover, given the inherent benefits associated with increased life satisfaction, intervention efforts aimed at increasing life satisfaction and the implementation of such interventions can and should take place on a broad scale. Future research would further benefit from the inclusion of multiple raters, such as parents, teachers, and peers, and collection of data through multiple methods in order to further substantiate research findings associated with very high life satisfaction among youths. Furthermore, a longitudinal examination of the benefits of very high life satisfaction among youths would be advantageous in controlling for the impact of extraneous variables and for tracking any changes over time.

Notwithstanding the contributions to the literature made by this study, several limitations are noteworthy. Firstly, the majority of school, interpersonal, and intrapersonal variables examined were based on single-item measures created for the purposes of this research. Future research seeking to extend the findings of this, and similar, research would benefit from inclusion of psychometrically established measures of these variables. Secondly, the sample size of the individual life satisfaction groups was small and consisted mainly of females, and demographic information regarding socio-economic status and ethnicity was not collected. In order to increase the generalizability of these findings, future research would benefit from a larger sample and a more extensive examination of demographic variables. Finally, this study was cross-sectional in nature and future research would greatly benefit from a longitudinal examination of the variables associated with very high life satisfaction among youths.

In general, findings of this study indicate that very high life satisfaction is beneficial for adolescents. These results are in accordance with the findings of Gilman and Huebner (2006) and add to the existing literature by demonstrating the association of additional variables with very high life satisfaction among youths. These results also add to the existing literature by demonstrating that specific factors are more influential on the level of happiness for the very unhappy. The identification of the influence of specific variables on happiness level has important implications for interventions as it suggests that very unhappy youths would benefit most from focused exercises aimed at boosting these factors. Findings reported here further suggest that very happy youths may be benefiting from additional unaccounted factors. Further identification of factors associated with very high levels of life satisfaction will aid in the isolation of variables having the greatest influence on the life satisfaction of very unhappy youths. Overall, these findings have important implications for applications in education, since it appears that facilitating increased life satisfaction among youths will be associated with array of social, behavioural, and psychological benefits.

Appendix

Study Rating Scale

1. I enjoy the school I am attending
2. My friends cause me a lot of stress
3. I have a good relationship with my parents
4. My life has meaning
5. I am grateful for the life I have
6. I have set goals in life I want to achieve
7. I enjoy helping others
8. I feel good about myself
9. I feel happy most of the time
10. I often feel sad and upset
11. I want to go to college/university
12. I am popular at school
13. I make friends easily
14. I am doing well at school
15. My education is important to me

Response options are a 6-point Likert scale: (1) Strongly disagree; (2) Moderately disagree; (3) Mildly disagree; (4) Mildly agree; (5) Moderately agree; (6) Strongly agree. Corresponding variables for each item: (1) School satisfaction; (2) Social stress; (3) Parental relations; (4) Life meaning; (5) Gratitude; (6) Aspirations; (7) Altruism; (8) Self-esteem; (9) Happiness; (10) Depression; (11) Academic aspirations; (12) Peer relations; (13) Social acceptance; (14) Academic achievement; (15) Attitude to education

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