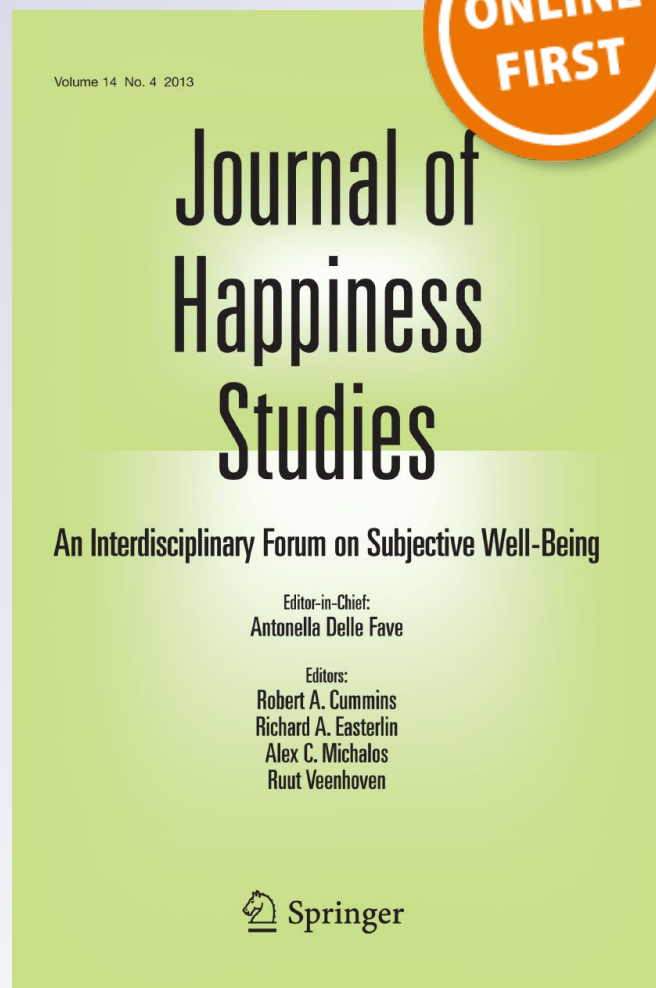# Life Satisfaction and Character Strengths in Spanish Early Adolescents

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RESEARCH PAPER

Life Satisfaction and Character Strengths in Spanish Early Adolescents

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Abstract This study of Spanish early adolescents aimed to extend knowledge about the relationship between character strengths and life satisfaction (LS) and to explore gender differences in the prediction of LS. A sample of 457 adolescents aged 11–14 years completed questionnaires to assess LS and 24 character strengths. Results from simple correlation analysis showed that 18 strengths were positively and significantly correlated with LS, the highest coefficients being those for love, hope, authenticity and persistence. However, since strengths are inter-correlated, regression modelling was performed in order to determine which of these strengths are the best predictors of LS, and to identify any gender differences in this association. The results showed that love and hope were the most relevant strengths for predicting LS, with a positive relationship being observed for both girls and boys. This finding highlights the importance of positive thinking and of maintaining positive relationships during early adolescence. Gender differences were observed, however, for authenticity as a predictor of LS. Specifically, this variable made a significant contribution to the model in girls, for whom higher scores on authenticity were associated with greater LS. This result is interpreted in terms of gender differences in the timing of maturation. The findings help to further our understanding of the association between subjective well-being and character strengths in early adolescence, a critical stage of human development. In addition, the results suggest that intervention programmes based on character strengths in this developmental stage should mainly target the so-called 'strengths of the heart'.

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1 Introduction

Positive psychology is a broad framework which integrates research on what makes life most worth living (Seligman and Csikszentmihalyi 2000). Life satisfaction and character strengths are key variables in this context and serve as indicators of overall wellness (Seligman 2002). Both these variables become critical in early adolescence, a major stage of personality development and one that is subject to important biological and social changes. Consequently, understanding the mechanisms underlying life satisfaction and identifying the strengths that are most closely related to it can contribute to the promotion of healthy development across the period of adolescence. Furthermore, an understanding of this relationship in different countries or cultures would extend knowledge and provide a broader platform on which to develop prevention programmes focused on young people's psychological strengths.

Life satisfaction (LS), the cognitive aspect of subjective well-being, refers to a person's evaluation of the positivity of his/her life as a whole (Diener et al. 1999). An extensive body of research has focused on predictors and correlates of LS in adolescence and youth. In general, LS is regarded as contributing to healthy development and optimal mental health, it being (1) positively associated with indicators of adaptive functioning such as self-esteem, self-efficacy, sense of coherence, metacognitive awareness, parental support, peer attachment, and participation and achievement at school, and (2) negatively associated with internalizing (e.g., anxiety, depression) and externalizing problems (e.g., aggression, rule breaking behaviour), stress in different contexts, and neuroticism (Antaramian et al. 2008; Bendayan et al. 2013; Cikrikci and Odaci 2016; Gilman and Huebner 2006; Leung and Zhang 2000; Lyons et al. 2013, 2016; Ma and Huebner 2008; Moksnes et al. 2013, 2016; Nickerson and Nagle 2004; Schwarz et al. 2012; Suldo et al. 2015; Tian et al. 2015; Weber and Huebner 2015). Life satisfaction is also thought to mitigate the negative effects of stressful life events, which are regarded as playing a role in the development of psychological and behavioural problems in youth (Park 2004). In addition, some authors have reported that a higher level of LS was associated with fewer mental health problems from adolescence through into adulthood (Fergusson et al. 2015; Sun and Shek 2012), a finding that highlights the potential value of promoting LS in younger adolescents.

The concept of character strengths, as defined by Peterson and Seligman (2004), refers to positive psychological traits that underpin basic virtues and which are regarded as universal and as being grounded in biology and survival of the species. In order to identify virtues that were common to all philosophical and religious theories and which were independent of a particular cultural and historical moment, Peterson and Seligman (2004) and Dahlsgaard et al. (2005) conducted a detailed investigation of philosophical documents from across history, as well as a study of archives and books from different religious belief systems. As a result, they identified six basic virtues (see below) that were common to different cultures, theories and authors (Peterson and Seligman 2004; Dahlsgaard et al. 2005). In order to specify the psychological traits that underpin these virtues, Peterson and Seligman (2004) developed the value in action (VIA) classification of 24 character strengths organized under six broad virtues (the strengths corresponding to each virtue are listed in parentheses): wisdom and knowledge (creativity, curiosity, love of learning, open-mindedness and perspective); courage (authenticity, bravery, persistence and zest);

humanity (love, kindness and social intelligence); justice (fairness, leadership and team-work); temperance (forgiveness, modesty, prudence and self-regulation); and transcendence (appreciation of beauty and excellence, gratitude, hope, humour and religiousness). Subsequently, Park and Peterson (2006a) developed the values in action inventory of strengths for youth (VIA-Y) to assess these 24 character strengths in young people (10–17 years of age). Studies using this instrument have found that adolescents with higher levels of character strengths achieve more positive outcomes in life, such as fewer behavioural problems, lower levels of anxiety and depression, more social skills, positive subjective experiences, and better academic achievement (Gillham et al. 2011; Park and Peterson 2006a; Shoshani and Slone 2013; Weber and Ruch 2012).

Seligman (2002) argued that the use of strengths is essential for living a satisfying and fulfilling life. This is supported by the fact that numerous character strengths show a significant and positive association with LS in children and adolescents, with research indicating that the use of such strengths is linked to high levels of LS (Dahlsgaard 2005; Douglass and Duffy 2015) and that they already play a significant role by the early stage of adolescence (Ruch et al. 2014). A study conducted in the USA by Park and Peterson (2006b), based on parents' written descriptions of children aged between 3 and 9 years, found that happiness was associated with higher levels of love, zest and hope. With a sample aged between 10 and 17 years, Park and Peterson (2006a) found that LS was positively related to hope, love, gratitude and zest. A more recent study conducted in Australia by Toner et al. (2012), and involving high-school students aged between 15 and 18 years, found that the strengths of hope, prudence, zest and leadership predicted well-being, as measured by instruments assessing LS and happiness. Research in Germany by Ruch et al. (2014) found that zest, love, gratitude and hope showed the strongest positive correlations with LS in a sample aged between 10 and 17 years.

Other researchers who have used the VIA-Y to examine the association between LS and virtues have found, via factor analysis, different factor structures to the one derived from the VIA classification of six virtues, thus leading to a slightly different grouping of strengths and labelling of virtues. For example, in the USA, Gillham et al. (2011) proposed a 5-factor model and found that the transcendence virtue (e.g., love, zest, hope, gratitude) was a predictor of LS in adolescents aged between 13 and 15 years. In the same country, Dahlsgaard (2005) considered a 4-factor model and found that all virtue scores were positively correlated with LS among adolescents with a mean age of 12.9 years. Shoshani and Slone (2013) applied the same 4-factor model in a study of middle-school students in Israel and found that LS was predicted by strengths related to transcendence, temperance (e.g., authenticity, prudence, perseverance) and interpersonal virtues (e.g., humour, kindness, social intelligence). At 1-year follow-up, however, only transcendence strengths predicted adolescents' well-being. In another study of Israeli adolescents (13–18 years), Weber et al. (2013) found that LS was best predicted by the transcendence factor (e.g., religiousness, gratitude, love, zest and hope), followed by the leadership factor (e.g., perspective, leadership, humour, social intelligence and bravery).

Based on the findings of studies that analysed the relationship between LS and strengths in childhood and adolescence, Park and Peterson (2006a) suggested that the so-called 'strengths of the heart' such as zest, gratitude, hope and love show a robust association with LS. However, as already noted, the results of studies on virtues are more varied, since a relationship with LS has been found not only for transcendental virtues but also for interpersonal, temperance and intellectual virtues. These inconsistencies may be due to the use of different VIA-Y factor structures (leading to a different grouping of strengths in

higher-order factors), as well as to differences in the age range or countries and differences in the statistical analysis of data.

Regarding gender differences, research has consistently found that girls score significantly higher on some of the strengths considered by the VIA-Y, especially interpersonal ones such as love, kindness and perspective (Ferragut et al. 2013, 2014; Park and Peterson 2006a; Shimai et al. 2006; Toner et al. 2012). However, although previous studies have considered gender in their models, we are unaware of any published research that has examined gender differences with respect to the relationships between character strengths and life satisfaction in children and adolescents.

Taking into consideration these sources of variability in previous research, the aims of the present study were to extend knowledge about the relationship between character strengths and LS by examining it in a sample of Spanish early adolescents (a relationship not previously studied with this population), and to explore gender differences as regards which strengths predict LS. Strengths rather than virtues were considered for two reasons: (1) to avoid adding confusion through the use of different labels for grouping strengths, and (2) in order to determine which strengths are the most important for predicting LS. Since strengths are correlated with other strengths we use a regression modelling approach, introducing one strength in each step as a predictor so as to avoid overlap among them. Based on the empirical evidence, it is expected that some 'strengths of the heart' such as hope, love and zest will be better predictors of LS than will other strengths.

2 Method

2.1 Participants

The sample comprised 457 students in their first year of compulsory secondary education (238 males and 219 females). They ranged in age between 11 and 14 years (M = 12.28, SD = .068) and were recruited from 27 classrooms in eight schools in the province of Malaga (Spain). The exclusion criteria were: (1) age older than 14 years; (2) inadequate completion of the tests administered; (3) having been specifically diagnosed by the schools as having some type of psychological problem that would make it difficult for them to respond to the questionnaires; and (4) having difficulty speaking Spanish. Ninety percent of the sample were of Spanish nationality, while the remainder were mainly from Latin American countries.

2.2 Instruments

Students' life satisfaction scale (SLSS; Huebner 1991), in its Spanish version by Galindez and Casas (2010). This scale consists of 7 items designed to assess LS (e.g., my life is going well; I have what I want in life) and uses a response format comprised of a 4-point rating (1 = never; 4 = always). A total score for LS is obtained, with higher scores indicating more satisfaction with life. The Cronbach's alpha coefficient (α) in the present sample was .76.

Values in action inventory of strengths for youth (VIA-Y; Park and Peterson 2006a), in its Spanish version by Vázquez and Hervás (2007). This Spanish version of the VIA-Y was analysed and validated by Giménez (2010), who reported adequate psychometric properties. The VIA-Y consists of 198 items with a response format comprised of a 5-point rating

(1 = not at all like me; 5 = very much like me). The questionnaire assesses 24 character strengths, with higher scores indicating a stronger endorsement of the respective strength. The 24 strengths assessed are as follows (in parenthesis: α in the present sample and, where appropriate, the alternative name for the corresponding strength, as published by the VIA Institute on Character, www.viacharacter.org): Appreciation of Beauty and Excellence (α = .74), Authenticity (Honesty, α = .77), Bravery (α = .62), Creativity (α = .75), Curiosity (α = .64), Fairness (α = .67), Forgiveness (α = .79), Gratitude (α = .69), Hope (α = .74), Humour (α = .70), Kindness (α = .71), Leadership (α = .70), Love of Learning (α = .79), Love (α = .71), Modesty (Humility, α = .60), Open-mindedness (Judgement, α = .65), Persistence (Perseverance, α = .78), Perspective (α = .65), Prudence (α = .62), Religiousness (Spirituality, α = .79), Self-regulation (α = .72), Social Intelligence (α = .60), Teamwork (α = .79), and Zest (α = .66).

2.3 Procedure

The research team contacted the schools and informed heads, the governing board and the parents' association about the objectives and procedures of the study. Those schools which agreed to participate took responsibility for obtaining informed consent from the students' parents. Eight schools from the province of Malaga agreed to participate in the study. Data were collected in each school during a 1-h group session. Participation was voluntary and anonymous, and the sessions took place in the students' usual classroom during the ordinary school timetable.

2.4 Data Analysis

The correlation coefficients between each strength and LS were calculated for the total sample and for girls and boys separately. Multiple regression analysis was then performed to examine which character strengths are the best predictors of LS as a function of gender. We began by conducting a preliminary analysis separately for boys and girls in order to select the variables that would be entered into the regression model. With sufficiently large sample sizes (as in the present study) a small correlation coefficient may be statistically significant, but this does not necessarily mean that the relationship is strong. According to Cohen's criterion (1988), correlation coefficients of |.10| are considered small and |.30| are considered moderate. When it comes to psychological data, however, some authors have discussed the need to adopt more liberal criterions. Hemphill (2003) proposed an extension of Cohen's guidelines to psychological studies by examining 380 meta-analytical studies, and provided evidence of the adequacy of considering an intermediate cut-off equal to .20. On this basis, and in order to maximize the value of our data, those strengths for which the correlation coefficient with respect to LS was above |.20| were selected for inclusion in the model as possible predictors for each gender. Based on this criterion, 13 strengths were entered into the regression model for each gender.

A modelling approach was then used to determine the model with the best fit to the data, adding one potential predictor (character strength) in each step to avoid overlap among them. The increment in R^2 was computed in several nested models, testing the change in R^2 significance when a predictor was added to the model. If the change was significant (*p* equal to or less than .05), the predictor remained in the model; otherwise, the predictor was excluded. In the next step, a new predictor was added, and so on. Separate regression modelling was performed for each gender, and the predictors were entered according to a

statistical criterion (in descending order according to their corresponding correlation coefficient).

Once the best model for boys and girls had been selected we performed a multiple regression analysis that included gender and the interaction between gender and significant strengths in order to identify gender differences in the strengths that best predicted LS. The contribution of interactions was also evaluated following a modelling approach. Gender was coded as 0 for girls and 1 for boys.

3 Results

Table 1 shows correlations between LS and the 24 strengths for the total sample and for girls and boys separately. Eighteen strengths were positively and significantly correlated with LS, the highest correlation coefficients being those for love, hope, authenticity and

Table 1 Correlations between life satisfaction and each of the 24 strengths for the total sample and for boys and girls separately

Strengths	Total sample	Boys	Girls
Love	.414**	.389**	.458**
Hope	.373**	.338**	.403**
Authenticity	.323**	.262**	.383**
Persistence	.315**	.237**	.387**
Gratitude	.291**	.257**	.322**
Self-regulation	.279**	.241**	.312**
Prudence	.276**	.224**	.317**
Teamwork	.271**	.204**	.344**
Perspective	.268**	.214**	.324**
Zest	.265**	.238**	.292**
Social intelligence	.248**	.133*	.360**
Fairness	.241**	.194**	.281**
Open mindedness	.222**	.259**	.184**
Leadership	.199**	.223**	.173**
Humour	.167**	.207**	.126
Kindness	.165**	.114	.212**
Love of learning	.143**	.128	.153*
Bravery	.100*	.070	.125
Forgiveness	.069	−.012	.135*
Religiousness	.057	.030	.077
Creativity	.053	.055	.047
Appreciation of beauty/excellence	.047	.018	.061
Curiosity	.042	.024	.057
Modesty	.020	−.047	.068

N boys 219, *N* girls 238

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

persistence. Regression modelling was then performed in order to determine which of these strengths are the best predictors of LS as a function of gender. The results of regression modelling for boys are presented in Tables 2 and 3. The significant predictors of LS were love and hope, with an R^2 equal to .17 and F (2, 216) = 21.99, $p < .01$. The results of regression modelling for girls are presented in Tables 4 and 5. The significant predictors of LS were love, hope and authenticity, with an R^2 equal to .26 and F (3, 234) = 29.26, $p < .01$.

Having identified the best model for boys and girls we then performed a multiple regression analysis including gender and the interaction between gender and significant strengths. The contribution of interactions was also evaluated following a modelling approach. The only significant interaction was gender by authenticity, showing, in line with the separate regression analysis by gender, that authenticity is a predictor of LS among girls. Table 6 presents the significant predictors of LS, with an R^2 equal to .23 and F (5, 451) = 26.12, $p < .01$. Overall, these results indicate that love and hope are positively related to LS in both boys and girls, such that when the other predictors are kept constant, LS: (a) increases by .30 for each point increase in the love score, and (b) increases by .14 for each point increase in the hope score. For girls, however, LS also increases by .16 for each point increase in the authenticity score.

4 Discussion

The main aim of the present study was to examine the relationship between character strengths and LS in a sample of Spanish early adolescents and to explore gender differences in the prediction of LS. Overall, the simple correlation analysis showed that the majority of strengths are positively related to LS at this stage of adolescence, supporting the idea that the use of strengths is essential for living a satisfying life (Seligman 2002).

Table 2 Model comparison from the regression analysis for boys, with life satisfaction as the dependent variable

Model	Variables	Model comparison	R^2	R^2 increment	p
1	Love (L)		.151		
2[a]	L, hope (H)	1 versus 2	.169	.018	.03
3	L, H, authenticity	2 versus 3	.169	<.001	.91
4	L, H, open-mindedness	2 versus 4	.171	.002	.55
5	L, H, gratitude	2 versus 5	.170	.001	.62
6	L, H, self-regulation	2 versus 6	.173	.004	.35
7	L, H, zest	2 versus 7	.170	.001	.56
8	L, H, persistence	2 versus 8	.169	<.001	.92
9	L, H, prudence	2 versus 9	.171	.002	.43
10	L, H, leadership	2 versus 10	.173	.004	.33
11	L, H, perspective	2 versus 11	.169	<.001	.92
12	L, H, humour	2 versus 12	.172	.003	.36
13	L, H, teamwork	2 versus 13	.177	.008	.14

[a] Selected model

Table 3 Regression coefficients (B), standard error (SE β), standardized regression coefficients (β), and t and p values of the selected regression model for boys with life satisfaction as the dependent variable

Predictor	B	SE β	β	t	p
Constant	1.59	.24		6.53	<.01
Love	.27	.072	.29	3.78	<.01
Hope	.15	.067	.17	2.16	<.01

Table 4 Model comparison from the regression analysis for girls, with life satisfaction as the dependent variable

Model	Variables	Model comparison	R^2	R^2 increment	p
1	Love (L)		.210		
2	L, hope (H)	1 versus 2	.253	.043	<.01
3	L, H, persistence	2 versus 3	.264	.011	.06
4[a]	L, H, authenticity (A)	2 versus 4	.273	.019	.01
5	L, H, A, social intelligence	4 versus 5	.276	.003	.34
6	L, H, A, teamwork	4 versus 6	.273	<.001	.77
7	L, H, A, perspective	4 versus 7	.273	<.001	.97
8	L, H, A, gratitude	4 versus 8	.276	.003	.33
9	L, H, A, prudence	4 versus 9	.274	.001	.54
10	L, H, A, self-regulation	4 versus 10	.274	.001	.50
11	L, H, A, zest	4 versus 11	.274	.001	.59
12	L, H, A, fairness	4 versus 12	.273	<.001	.97
13	L, H, A, kindness	4 versus 13	.284	.012	.06

[a] Selected model

Table 5 Regression coefficients (B), standard error (SE β), standardized regression coefficients (β), and t and p values of the selected regression model for girls with life satisfaction as the dependent variable

Predictor	B	SE β	β	t	p
Constant	.71	.27		2.63	<.01
Love	.33	.07	.32	4.97	<.01
Hope	.13	.07	.15	2.05	.04
Authenticity	.15	.06	.17	2.50	.01

Love, hope, authenticity and persistence were the strengths with correlation coefficients higher than .30, indicating that adolescents with higher scores on these strengths reported greater LS.

Regarding gender, girls showed higher correlations between the majority of strengths and LS than did boys. However, since strengths are inter-correlated, regression modelling was performed in order to determine which of these strengths are the best predictors of LS

Table 6 Regression coefficients (B), standard error (SE β), standardized regression coefficients (β), and t and p values of the regression model examining gender and its interactions with life satisfaction as the dependent variable

Predictor	B	SE β	β	t	p
Constant	.80	.24		3.30	<.01
Gender	.72	.27	.60	2.68	<.01
Love	.30	.05	.32	6.05	<.01
Hope	.14	.05	.15	2.80	<.01
Authenticity	.16	.06	.19	2.83	<.01
Gender × authenticity	−.16	.07	−.51	−2.33	.02

for girls and boys separately, thus enabling us to explore gender differences in this association. Specifically, this approach determines what each strength adds to the explanation of LS, as a function of gender, once the overlap among the other strengths has been removed. The results of the regression modelling analysis indicated that love and hope were the most relevant strengths for predicting LS among both girls and boys, which is in line with our expectations. Gender differences were found for authenticity as a predictor. Specifically, this variable made a significant contribution to the model for girls, for whom higher scores on authenticity were associated with greater LS.

The prediction of LS based on both love and hope is consistent with previous research in adolescents (Park and Peterson 2006a; Ruch et al. 2014; Toner et al. 2012) and provides empirical support for the idea that LS is more strongly related to the so-called 'strengths of the heart' (Park and Peterson 2006a). Likewise, this result is also in agreement with those studies that include these strengths in the transcendence virtue and which found that LS is best predicted by it (Gillham et al. 2011; Shoshani and Slone 2013; Weber et al. 2013).

Our findings indicate that valuing close relationships with others can help to foster LS. As pointed out by Sánchez-Jiménez et al. (2008), love can be viewed as a manifestation of the need for human affiliation and attachment. It is widely accepted that adolescence is a developmental stage in which new intimate relationships are developed, and LS among adolescents has been found to be associated with more positive relationships with others, with more parental support (Antaramian et al. 2008; Leung and Zhang 2000; Schwarz et al. 2012) and with peer attachment (Gilman and Huebner 2006; Nickerson and Nagle 2004). The significant contribution of love to the prediction of LS highlights the importance of positive relationships during early adolescence (Gillham et al. 2011), a period when parental and peer support may be differentially important to adolescent development (Saha et al. 2014).

The results also suggest that being confident in expecting the best for the future and working to achieve it helps to promote LS. Hope serves to connect a person optimistically to the future (Park et al. 2004; Toner et al. 2012), to generate and implement plans for the future (Bailey et al. 2007) and to achieve goals (Snyder 1994). Several researchers, using different measures of hope, have demonstrated that hope is related to subjective well-being as a latent variable measured by self-esteem and LS (Jackson et al. 2014), and also that it predicts future well-being particularly well in years when young people are in transition, for example, when starting high school and transitioning to senior high school (Ciarrochi et al. 2015). Hope is also associated with self-compassion, self-esteem, perceived competence and adaptive coping strategies (Yang et al. 2016; Snyder et al. 2003). Furthermore,

hopeful students show fewer symptoms of depression (Snyder et al. 2003), achieve greater academic and interpersonal life satisfaction (Chang 1998), obtain better school grades (Ciarrochi et al. 2007) and are also more motivated and energized by their life goals (Snyder 2002). In general, there is empirical evidence that hope can buffer against the effects of acute negative life events in adolescence (Valle et al. 2006). Therefore, the results of the present study provide support for the idea that hope, as a form of positive thinking, is a key strength in adolescent development, where it may play a protective role.

Importantly, the relationship between LS and love and/or hope has been found to be significant not only in adolescence but also in children (Park and Peterson 2006b), youth (Brdar and Kashdan 2010; Proctor et al. 2011a; Shimai et al. 2006) and adults (Lee et al. 2015; Park et al. 2004; Peterson et al. 2007; Proyer et al. 2011) from different countries. This may suggest that the positive association between these traits is stable and consistent across the lifespan and culture, and it underlines the importance of transcultural studies across different age ranges.

Our results also indicated that LS among girls is also predicted by authenticity. Peterson and Seligman (2004) define authenticity as the ability to be sincere and to accept responsibility for one's own feelings and actions. Authenticity is a relatively new construct in empirical psychology (Boyraz and Kuhl 2015; Wickham et al. 2016) and very little research on this topic has focused on adolescence. Studies with adult samples suggest that authenticity is positively associated with self-esteem, subjective well-being, life satisfaction and positive affect, and negatively related with depression symptoms, anxiety, physical symptoms, subjective vitality or perceived stress (Boyraz and Kuhl 2015; Boyraz et al. 2014; Ryan et al. 2005; Wood et al. 2008). Thus, it is possible that authenticity is already associated with positive psychological outcomes in early adolescence, although it is important to note, as Park and Peterson (2006b) point out, that authenticity requires a degree of cognitive maturation. Klimstra et al. (2009) assessed personality maturation across the entire period of adolescence (from 12 to 20 years) using a 5-year longitudinal design. They found evidence for gender differences in the timing of personality maturation, with girls maturing earlier than boys; however, this difference often disappeared by late adolescence. The authors also suggested that girls' advantage in terms of biological and neuronal development, as well as in the capacity for self-reflection, could explain gender differences in personality development. Therefore, the gender differences we observed in relation to authenticity as a predictor of LS may be due to differences in the timing of maturation between early-adolescent girls and boys, with girls showing earlier development and a greater capacity for self-reflection. This may also explain why correlations between the majority of strengths and LS were higher among girls. Further research is required to examine these relationships in greater detail. It would also be interesting to explore whether this differential result in the prediction of LS disappears in middle and late adolescence.

Given that LS in adolescence contributes to healthy development it is particularly important to understand its relationship with character strengths. In this respect, one of the main strengths of the present study is that it provides empirical evidence regarding the prediction of LS in a sample of Spanish adolescents. Although research on this topic has been conducted in several different countries (mostly, to our knowledge, in the USA, Europe and the Middle East) no study to date has reported evidence from a sample of Spanish adolescents. Our study does, however, have certain limitations that need to be acknowledged. First, the variables of interest have been measured by self-report. Second, the participants were all from the south of Spain and it would be interesting in future studies to explore other geographical areas of the country. Third, data were collected using

a cross-sectional design and, therefore, we have studied the association at a specific point in time. Future longitudinal studies should include assessments of LS and character strengths so as to further our understanding of this association across the lifespan, especially as regards the observed association with authenticity. Finally, the fact that the present data are correlational in nature means that while it is possible to establish whether an increase or decrease in strengths corresponds to an increase or decrease in LS, no conclusions can be drawn regarding causal relationships. Thus, we cannot categorically state that higher scores on character strengths lead to a greater level of life satisfaction.

In sum, by focusing on a critical stage of human development in which biological and psychosocial changes are expected the present study adds to existing knowledge and provides evidence of the association between character strengths and LS. Love, hope and authenticity were identified as being the most important predictors of LS, a finding that may be relevant to the development of prevention and intervention programmes. In fact, several character-strength-based interventions have previously been proposed for use in schools with children and adolescents (Froh et al. 2008; Proctor et al. 2011b; Seligman et al. 2009), as well as in the university context with adults (Duan et al. 2014; Govindji and Linley 2007). In terms of outcomes, these studies reported an increase in LS and positive affect, and a decrease in negative affect. As Quinlan et al. (2012) have pointed out, it is necessary to explore new and different ways of developing strengths, designing different strategies that take into account contextual and individual factors. Our results provide further support for interventions that target strengths of the heart, and they should be especially useful when it comes to adapting these strategies to Spanish adolescents. A hope-based intervention might, for example, help students to explore, identify and take action towards their own life goals (Marques et al. 2012; Snyder et al. 2003). Likewise, an intervention focused on love might help young people to value close relationships with parents and peers and to experience greater support and more secure attachments.

References

Antaramian, S. P., Huebner, E. S., & Valois, R. F. (2008). Adolescent life satisfaction. *Applied Psychology, 57,* 112–126. doi:10.1111/j.1464-0597.2008.00357.x.

Bailey, T., Eng, W., Frisch, M., & Snyder, C. (2007). Hope and optimism as related to life satisfaction. *Journal of Positive Psychology, 2,* 168–175. doi:10.1080/17439760701409546.

Bendayan, R., Blanca, M. J., Fernández-Baena, J. F., Escobar, M., & Trianes, M. V. (2013). New empirical evidence on the validity of the satisfaction with life scale in early adolescents. *European Journal of Psychological Assessment, 29,* 36–43. doi:10.1027/1015-5759/a000118.

Boyraz, G., & Kuhl, M. (2015). Self-focused attention, authenticity, and well-being. *Personality and Individual Differences, 87,* 70–75. doi:10.1016/j.paid.2015.07.029.

Boyraz, G., Waits, B., & Felix, V. A. (2014). Authenticity, life satisfaction, and distress: A longitudinal analysis. *Journal of Counseling Psychology, 61,* 498–505. doi:10.1037/cou0000031.

Brdar, I., & Kashdan, T. B. (2010). Character strengths and well-being in Croatia: An empirical investigation of structure and correlates. *Journal of Research in Personality, 44,* 151–154. doi:10.1016/j.jrp.2009.12.001.

Chang, E. (1998). Hope, problem-solving ability, and coping in a college student population: Some implications for theory and practice. *Journal of Clinical Psychology, 54,* 953–962. doi:10.1002/(SICI)1097-4679(199811)54:7<953:AID-JCLP9>3.0.CO;2-F.

Ciarrochi, J., Heaven, P., & Davies, F. (2007). The impact of hope, self-esteem, and attributional style on adolescents' school grades and emotional well-being: A longitudinal study. *Journal of Research in Personality, 41,* 116–1178. doi:10.1016/j.jrp.2007.02.001.

Ciarrochi, J., Parker, P., Kashdan, T. B., Heaven, P. C. L., & Barkus, E. (2015). Hope and emotional well-being: A six-year study to distinguish antecedents, correlates, and consequences. *The Journal of Positive Psychology, 10,* 1–13. doi:10.1080/17439760.2015.1015154.

Cikrikci, O., & Odaci, H. (2016). The determinants of life satisfaction among adolescents: The role of metacognitive awareness and self-efficacy. *Social Indicators Research, 125,* 977–990. doi:10.1007/s11205-015-0861-5.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Dahlsgaard, K. K. (2005). *Is virtue more than its own reward? Character strengths and their relation to well-being in a prospective, longitudinal study of middle school-aged adolescents.* Doctoral dissertation. Philadelphia, PA: University of Pennsylvania.

Dahlsgaard, K. K., Peterson, C., & Seligman, M. E. P. (2005). Shared virtue: The convergence of valued human strengths across culture and history. *Review of General Psychology, 9,* 203–213. doi:10.1037/1089-2680.9.3.203.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125,* 276–302. doi:10.1037/0033-2909.125.2.276.

Douglass, R. P., & Duffy, R. D. (2015). Strengths use and life satisfaction: A moderated mediation approach. *Journal of Happiness Studies, 16,* 619–632. doi:10.1007/s10902-014-9525-4.

Duan, W., Ho, S. M. Y., Tang, X., Li, T., & Zang, Y. (2014). Character strength-based intervention to promote satisfaction with life in the Chinese university context. *Journal of Happiness Studies, 15,* 1347–1361. doi:10.1007/s10902-013-9479-y.

Fergusson, D. M., McLeod, G. F. H., Horwood, L. J., Swain, N. R., Chapple, S., & Poulton, R. (2015). Life satisfaction and mental health problems (18–35 years). *Psychological Medicine, 45,* 2427–2436. doi:10.1017/S0033291715000422.

Ferragut, M., Blanca, M. J., & Ortiz-Tallo, M. (2013). Psychological values as protective factors against sexist attitudes in preadolescents. *Psicothema, 25,* 38–42. doi:10.7334/psicothema2012.85.

Ferragut, M., Blanca, M. J., & Ortiz-Tallo, M. (2014). Psychological virtues during adolescence: A longitudinal study of gender differences. *European Journal of Developmental Psychology, 11,* 521–531. doi:10.1080/17405629.2013.876403.

Froh, J. J., Sefick, W. J., & Emmons, R. A. (2008). Counting blessings in early adolescents: An experimental study of gratitude and subjective well-being. *Journal of School Psychology, 46,* 213–233. doi:10.1016/j.jsp.2007.03.005.

Galindez, E., & Casas, F. (2010). Adaptación y validación de la Students' Life Satisfaction Scale (SLSS) con adolescentes [Adaptation and validation of the Students' Life Satisfaction Scale (SLSS) with adolescents]. *Estudios de Psicología, 31,* 79–87.

Gillham, J., Adams-Deutsch, Z., Werner, J., Reivich, K., Coulter-Heindl, V., Linkins, M., et al. (2011). Character strengths predict subjective well-being during adolescence. *The Journal of Positive Psychology, 6,* 31–44. doi:10.1080/17439760.2010.536773.

Gilman, R., & Huebner, E. S. (2006). Characteristics of adolescents who report very high life satisfaction. *Journal of Youth and Adolescence, 35,* 293–301. doi:10.1007/s10964-006-9036-7.

Giménez, M. (2010). *La medida de las fortalezas psicológicas en adolescentes* (*VIA-Youth*): *Relación con clima familiar, psicopatología y bienestar psicológico* [Measurement of psychological strengths in adolescents (VIA-Youth): Relationship to family atmosphere, psychopathology and psychological well-being]. Doctoral dissertation. Madrid: Universidad Complutense.

Govindji, R., & Linley, P. A. (2007). Strengths use, self-concordance and well-being: Implications for strengths coaching and coaching psychologists. *Coaching Psychology Review, 2,* 143–153.

Hemphill, J. F. (2003). Interpreting the magnitudes of correlation coefficients. *American Psychologist, 58,* 78–79. doi:10.1037/0003-066X.58.1.78.

Huebner, E. S. (1991). Initial development of the students' life satisfaction scale. *School Psychology International, 12,* 231–240. doi:10.1177/0143034391123010.

Jackson, L. T. B., van de Vijver, F. J. R., & Fouché, R. (2014). Psychological strengths and subjective well-being in South African white students. *Journal of Psychology in Africa, 24,* 299–307. doi:10.1080/14330237.2014.980617.

Klimstra, T. A., Hale, W. W., III, Raaijmakers, Q. A. W., Branje, S. J. T., & Meeus, W. H. J. (2009). Maturation of personality in adolescence. *Journal of Personality and Social Psychology, 96,* 898–912. doi:10.1037/a0014746.

Lee, J. N. T., Foo, K. H., Adams, A., Morgan, R., & Frewen, A. (2015). Strengths of character, orientations to happiness, life satisfaction and purpose in Singapore. *Journal of Tropical Psychology, 5,* 22–35. doi:10.1017/jtp.2015.2.

Leung, J. P., & Zhang, L. W. (2000). Predictors of life satisfaction in Chinese adolescents: Self-concepts and relationships with significant others. In N. N. Singh, J. P. Leung, & A. N. Singh (Eds.), *International perspectives on child and adolescent mental health* (Vol. 1, pp. 77–89). Amsterdam: Elsevier. doi:10.1016/S1874-5911(00)80006-8.

Lyons, M. D., Huebner, E. S., & Hills, K. J. (2016). Relations among personality characteristics, environmental events, coping behavior and adolescents' life satisfaction. *Journal of Happiness Studies, 17,* 1033–1050. doi:10.1007/s10902-015-9630-z.

Lyons, M. D., Huebner, E. S., Hills, K. J., & Van Horn, M. L. (2013). Mechanisms of change in adolescent life satisfaction: A longitudinal analysis. *Journal of School Psychology, 51,* 587–598. doi:10.1016/j.jsp.2013.07.001.

Ma, C. Q., & Huebner, E. S. (2008). Attachment relationships and adolescents' life satisfaction: Some relationships matter more to girls than boys. *Psychology in the Schools, 45,* 177–190. doi:10.1002/pits.20288.

Marques, S. C., Lopez, S. J., & Mitchell, J. (2012). The role of hope, spirituality and religious practice in adolescents' life satisfaction: Longitudinal findings. *Journal of Happiness Studies, 14,* 251–261. doi:10.1007/s10902-012-9329-3.

Moksnes, U. K., Løhre, A., & Espnes, G. A. (2013). The association between sense of coherence and life satisfaction in adolescents. *Quality of Life Research, 22,* 1331–1338. doi:10.1007/s11136-012-0249-9.

Moksnes, U. K., Løhre, A., Lillefjell, M., Byrne, D. G., & Haugan, G. (2016). The association between school stress, life satisfaction and depressive symptoms in adolescents: Life satisfaction as a potential mediator. *Social Indicators Research, 125,* 339–357. doi:10.1007/s11205-014-0842-0.

Nickerson, A. B., & Nagle, R. J. (2004). The influence of parent and peer attachments on life satisfaction in middle childhood and early adolescence. *Social Indicators Research, 66,* 35–60. doi:10.1023/B:SOCI.0000007496.42095.2c.

Park, N. (2004). The role of subjective well-being in positive youth development. *The Annals of the American Academy of Political and Social Science, 591,* 25–39. doi:10.1177/0002716203260078.

Park, N., & Peterson, C. (2006a). Moral competence and character strengths among adolescents: The development and validation of the Values in Action Inventory of Strengths for Youth. *Journal of Adolescence, 29,* 891–909. doi:10.1016/j.adolescence.2006.04.011.

Park, N., & Peterson, C. (2006b). Character strengths and happiness among young children: Content analysis of parental descriptions. *Journal of Happiness Studies, 7,* 323–341. doi:10.1007/s10902-005-3648-6.

Park, N., Peterson, C., & Seligman, M. E. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology, 23,* 603–619. doi:10.1521/jscp.23.5.603.50748.

Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. (2007). Strengths of character, orientations to happiness, and life satisfaction. *The Journal of Positive Psychology, 2,* 149–156. doi:10.1080/17439760701228938.

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification.* Washington, DC: American Psychological Association and Oxford University Press.

Proctor, C., Maltby, J., & Linley, P. A. (2011a). Strengths use as a predictor of well-being and health-related quality of life. *Journal of Happiness Studies, 12,* 153–169. doi:10.1007/s10902-009-9181-2.

Proctor, C., Tsukayama, E., Wood, A. M., Maltby, J., Eades, J. F., & Linley, P. A. (2011b). Strengths gym: The impact of a character strengths-based intervention on the life satisfaction and well-being of adolescents. *The Journal of Positive Psychology, 6,* 377–388. doi:10.1080/17439760.2011.594079.

Proyer, R. T., Gander, F., Wyss, T., & Ruch, W. (2011). The relation of character strengths to past, present, and future life satisfaction among German-speaking women. *Applied Psychology: Health and Well-Being, 3,* 370–384. doi:10.1111/j.1758-0854.2011.01060.x.

Quinlan, D., Swain, N., & Vella-Brodrick, D. A. (2012). Character strengths interventions: Building on what we know for improved outcomes. *Journal of Happiness Studies, 13,* 1145–1163. doi:10.1007/s10902-011-9311-5.

Ruch, W., Weber, M., Park, N., & Peterson, C. (2014). Character strengths in children and adolescents: Reliability and initial validity of the German values in action inventory of strengths for youth (German VIA-youth). *European Journal of Psychological Assessment, 30,* 57–64. doi:10.1027/10155759/a000169.

Ryan, R. M., LaGuardia, J. G., & Rawsthorne, L. J. (2005). Self-complexity and the authenticity of self-aspects: Effects on well-being and resilience to stressful events. *North American Journal of Psychology, 7,* 431–448.

Saha, R., Huebner, E. S., Hills, K. J., Malone, P. S., & Valois, R. F. (2014). Social coping and life satisfaction in adolescents. *Social Indicators Research, 115,* 241–252. doi:10.1007/s11205-012-0217-3.

Sánchez-Jiménez, V., Ortega-Rivera, F. J., Ortega-Ruiz, R., & Viejo, C. (2008). Las relaciones sentimentales en la adolescencia: Satisfacción, conflictos y violencia [Romantic relationships in adolescence: Satisfaction, conflicts and dating violence]. *Escritos de Psicología, 2,* 97–109.

Schwarz, B., Mayer, B., Trommsdorff, G., Ben-Arieh, A., Friedlmeier, M., Lubiewska, K., et al. (2012). Does the importance of parent and peer relationships for adolescents' life satisfaction vary across cultures? *Journal of Early Adolescence, 32,* 55–80. doi:10.1177/0272431611419508.

Seligman, M. E. P. (2002). Positive psychology, positive prevention, and positive therapy. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 3–9). London: Oxford University Press.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology. An introduction. *American Psychologist, 55,* 5–14. doi:10.1037//0003-066X.55.1.5.

Seligman, M. E., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education, 35,* 293–311. doi:10.1080/03054980902934563.

Shimai, S., Otake, K., Park, N., Peterson, C., & Seligman, M. E. P. (2006). Convergence of character strengths in American and Japanese young adults. *Journal of Happiness Studies, 7,* 311–322. doi:10.1007/s10902-005-3647-7.

Shoshani, A., & Slone, M. (2013). Middle school transition from the strengths perspective: Young adolescents' character strengths, subjective well-being, and school adjustment. *Journal of Happiness Studies, 14,* 1163–1181. doi:10.1007/s10902-012-9374-y.

Snyder, C. R. (1994). *The psychology of hope: You can get there from here*. New York, NY: Free Press.

Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry, 13,* 249–275. doi:10.1207/S15327965PLI1304_01.

Snyder, C. R., Lopez, S. J., Shorey, H. S., Rand, K. L., & Feldman, D. B. (2003). Hope theory, measurements, and applications to school psychology. *School Psychology Quarterly, 18,* 122–139. doi:10.1521/scpq.18.2.122.21854.

Suldo, S. M., Minch, D. R., & Hearon, B. V. (2015). Adolescent life satisfaction and personality characteristics: Investigating relationships using a five-factor model. *Journal of Happiness Studies, 16,* 965–983. doi:10.1007/s10902-014-9544-1.

Sun, R. C. F., & Shek, D. T. L. (2012). Positive youth development, life satisfaction and problem behaviour among Chinese adolescents in Hong Kong: A replication. *Social Indicators Research, 105,* 541–559. doi:10.1007/s11205-011-9786-9.

Tian, L., Zhang, J., & Huebner, E. S. (2015). Preliminary validation of the brief multidimensional students' life satisfaction scale (BMSLSS) among Chinese elementary school students. *Child Indicators Research, 8,* 907–923. doi:10.1007/s12187-014-9295-x.

Toner, E., Haslam, N., Robinson, J., & Williams, P. (2012). Character strengths and wellbeing in adolescence: Structure and correlates of the Values in Action Inventory of Strengths for Children. *Personality and Individual Differences, 52,* 637–642. doi:10.1016/j.paid.2011.12.014.

Valle, M. F., Huebner, E. S., & Suldob, S. H. (2006). An analysis of hope as a psychological strength. *Journal of School Psychology, 44,* 393–406. doi:10.1016/j.jsp.2006.03.005.

Vázquez, C., & Hervás, G. (2007). *Adaptación española del Cuestionario VIA de Fortalezas para niños* (Spanish adaptation of the VIA Inventory of Strengths for Children). Retrieved from http://www.authentichappiness.sas.upenn.edu/Default.aspx.

Weber, M., & Huebner, E. S. (2015). Early adolescents' personality and life satisfaction: A closer look at global vs. domain-specific satisfaction. *Personality and Individual Differences, 83,* 31–36. doi:10.1016/j.paid.2015.03.042.

Weber, M., & Ruch, W. (2012). The role of a good character in 12-year-old school children: Do character strengths matter in the classroom? *Child Indicators Research, 5,* 317–334. doi:10.1007/s12187-011-9128-0.

Weber, M., Ruch, W., Littman-Ovadia, H., Lavy, S., & Gai, O. (2013). Relationships among higher-order strengths factors, subjective well-being, and general self-efficacy—The case of Israeli adolescents. *Personality and Individual Differences, 55,* 322–327. doi:10.1016/j.paid.2013.03.006.

Wickham, R. E., Williamson, R. E., Beard, C. L., Kobayashi, C. L. B., & Hirst, T. W. (2016). Authenticity attenuates the negative effects of interpersonal conflict. *Journal of Research in Personality, 60,* 56–62. doi:10.1016/j.jrp.2015.11.006.

Wood, A. M., Linley, P. A., Maltby, J., Baliousis, M., & Joseph, S. (2008). The authentic personality: A theoretical and empirical conceptualization and the development of the Authenticity Scale. *Journal of Counseling Psychology, 55,* 385–399. doi:10.1037/0022-0167.55.3.385.

Yang, Y., Zhang, M., & Kou, Y. (2016). Self-compassion and life satisfaction: The mediating role of hope. *Personality and Individual Differences, 98,* 91–95. doi:10.1016/j.paid.2016.03.086.