

## Psychological virtues during adolescence: A longitudinal study of gender differences

Marta Ferragut<sup>1</sup>, Maria J. Blanca<sup>2</sup>, and Margarita Ortiz-Tallo<sup>1</sup>

<sup>1</sup>Department of Personality, Assessment, and Psychological Treatment, University of Malaga, Málaga, Spain

<sup>2</sup>Department of Behavioral Sciences Methodology, University of Malaga, Málaga, Spain

### Abstract

Adolescence is a key stage in terms of character formation, and it is important to study positive aspects such as character strengths and virtues by means of longitudinal studies. To this end, this study uses longitudinal methodology to analyse character virtues over three consecutive years during adolescence. Participants were 282 school students, whose mean age at the first measurement point was 12.10 years. Results show that character virtues remain relatively stable between the ages of 12 and 14 years, with a slight increase over time in scores on humanity and justice. Girls scored higher than boys on all six virtues analysed, and this trend was maintained over time. The paper discusses these findings and their possible implications for achieving optimal psychological development in adolescence.

**Keywords:** Character strengths; Virtues; Adolescence; Positive psychology; Longitudinal.

Over the last decade, the field of positive psychology has promoted the scientific study of the social and personal conditions that enhance the quality of life and prevent psychological disturbances. Seligman and Csikszentmihalyi (2000) have been pioneers in showing how positive psychology can generate both research and effective interventions capable of fostering the growth of individuals, families and society. Indeed, the advances made by this branch of psychology can contribute not only to tackling distress and psychological disorders, but also to developing ways of preventing them (Seligman, 2002).

Research on the positive aspects that enable optimal human development initially focused on adulthood, although attention is now also turning to the period of adolescence. The latter is a key stage in the formation of personality and character, and it is therefore interesting to study the variables that enable us to understand, prevent and address the difficulties which may arise during adolescence (Ferragut, Blanca, & Ortiz-Tallo, 2013; Steen, Kachorek, & Peterson, 2003).

Within the framework of positive psychology, Peterson and Seligman (2004) have focused on the study of human strengths and virtues. Character strengths are regarded as positive psychological traits that define and underpin basic virtues. The latter are core characteristics that have been valued by philosophers and thinkers throughout human history (Dahlsgaard, Peterson, & Seligman, 2005) and that are common to different cultures, theories and authors. These virtues appear to be universal and most likely have their roots in biology and survival of the species (Peterson & Seligman, 2004).

Based on their research, Peterson and Seligman (2004) proposed a classification involving 24 strengths grouped into six broad virtues: wisdom and knowledge (comprising the strengths of creativity, curiosity, love of learning, open-mindedness and perspective); courage (where the strengths are bravery, persistence, authenticity and zest); humanity (involving the strengths of love, kindness and social intelligence); justice (which includes the strengths of teamwork, fairness and leadership); temperance (the strengths of forgiveness, modesty, prudence and self-regulation) and transcendence (which covers the strengths of appreciation of beauty and excellence, gratitude, hope, humour and religiousness). Based on this theory, these virtues are considered universal and go to make up what is regarded as a “good character” (Peterson & Seligman, 2004).

In order to assess strengths and virtues in the adolescent population, Park and Peterson developed the Values in Action Inventory for Youth (VIA-Y) (Park & Peterson, 2006), which was based on the original classification developed for adults. This instrument has subsequently been used in several studies of adolescents. Character strengths have proven to be of importance in different researches that have taken into account these variables. In this way, they have been linked to other variables such as well-being, satisfaction and depression; it being found that temperance and transcendence strengths predict well-being in 12–13-year-olds (Shoshani & Slone, 2012), that transcendence strengths are associated with higher levels of satisfaction and that the strengths included under humanity predict fewer depressive symptoms (Gillham et al., 2011).

These positive variables have also been related to academic success and school adjustment; it being found that the strengths included under wisdom and knowledge and temperance predict school performance (Shoshani & Slone, 2012), while strengths such as persistence, self-regulation and love of learning are associated with academic success (Weber & Ruch, 2012). Proctor et al (2011) studied the effect of strengths training for adolescent students

and found that it led to greater life satisfaction as compared with a control group. These results suggest that the inclusion of character strengths-based exercises, even brief ones, as part of the school curriculum could contribute to increased life satisfaction among adolescents.

With respect to gender, the scientific literature consistently reports differences between adolescent boys and girls in relation to character strengths, with girls in different countries and cultures scoring significantly higher than boys on most strengths (Ferragut et al., 2013; Gime'nez, 2009; Karris, 2009; Park & Peterson, 2003, 2006; Shimai, Otake, Park, Peterson, & Seligman, 2006; Toner, Haslam, Robinson, & Williams, 2012).

According to the theory of Peterson and Seligman (2004), for a character strength to be regarded as such it should be relatively stable but flexible enough to allow further development, as occurs with personality traits. In this context, research on the temporal stability of the VIA-Y has obtained significant test– retest correlations of around .60 (Park & Peterson, 2006).

Changes in the character strengths of youth have been studied by comparing the scores obtained by adolescents of different ages, it being found that younger individuals score significantly higher than their older peers (Gime'nez, 2009; Park & Peterson, 2006). A possible explanation put forward by these authors is that as adolescence progresses, there is an increased capacity for self-criticism and a greater awareness of one's own skills, leading to a change in self-evaluations (Gimenez, 2009; Park & Peterson, 2006). Above all, girls appear to be more capable in these self-evaluations because gender differences are found in verbal and language skills, in which girls usually have better levels (Halpern, 2000). Also, boys become less skilled at understanding both their own and others' emotions and also expressing them (Eisenberg, Martin, & Fabes, 1996; Kindlon & Thompson, 2000). Whatever the case, it should be noted that these comparisons were derived from cross-sectional studies, there being a lack of longitudinal data on changes in character strengths.

The rationale for the present research rests on the fact that adolescence is a key moment in character formation, coupled with the importance of studying strengths and virtues and the need for longitudinal data on how these aspects may evolve over time. Specifically, the aim of the study is to analyse by means of longitudinal methodology whether character virtues change over a 3-year period during adolescence (12–14 years), and to examine any differences between boys and girls in this regard. It is expected that girls will obtain higher scores than boys in virtues. Also, it is expected that the virtues will remain stable over time.

## **METHOD**

### **Participants**

Participants in this longitudinal study were 502 first-year secondary students who were followed up across three consecutive years of their secondary schooling (years 1–3). The inclusion criteria were (1) being enrolled in secondary year 1 during the 2010–2011 academic year and (2) having correctly completed the assessment measures in all 3 years of the study. The exclusion criteria were (1) having to repeat a year during any of the 3 years of the study period; (2) not having completed fully the inventory in any of the 3 years; (3) having to change schools during the study period; (4) having a diagnosed psychological problema that was recognized by the school (i.e., autism spectrum disorder, developmental disorder and cognitive disabilities) that would impede

or difficult the response to the inventory and (5) not understanding Spanish or difficulties with expressing oneself in this language.

The initial sample comprised 502 first-year secondary students (245 boys and 257 girls), of whom 220 were excluded from the analysis on the basis of the aforementioned criteria. The sample loss was basically due to the three first exclusion criteria, that is, more than 50% disappeared because participants were not assessed during the following year, had changed schools or had repeated course. About 40% of the excluded participants were for not having completed fully one of the 3 years' measurements. Of the remaining 282 participants, 125 were boys and 157 were girls, who were recruited from among eight schools in the Spanish province of Ma'laga. Their mean ages at each of the three measurement points were 12.10 years (SD  $\frac{1}{4}$  0.53), 13.16 (SD  $\frac{1}{4}$  0.52) and 14.09 (SD  $\frac{1}{4}$  0.50). Ninety-two per cent of participants were Spanish nationals, 6% were of Latin American origin and 2% came from other European countries. Eighty-five per cent of the sample lived with their family of origin, and 92.6% had at least one sibling.

### **Instruments**

Character strengths were assessed using the Spanish adaptation (Vazquez & Hervas, 2007) of the VIA-Y (Park & Peterson, 2006). The VIA-Y assesses 24 character strengths that are grouped into six virtues, and each of its 198 items is responded to using a five-point scale, ranging from 1 ("not like me at all") to 5 ("very much like me"). The six virtues it considers are as follows:

- Wisdom and knowledge, comprising the strengths of creativity, curiosity, love of learning, open-mindedness and perspective (a for the three measurement points ranged from .82 to .86).
- Courage, which includes bravery, persistence, authenticity and zest (a for the three measurement points ranged from .72 to .79).
- Humanity, which involves love, kindness and social intelligence (a for the three measurement points ranged from .72 to .78).
- Justice, which covers teamwork, fairness and leadership (a for the three measurement points ranged from .71 to .77).
- Temperance, where the strengths are forgiveness, modesty, prudence and self-regulation (a for the three measurement points ranged from .67 to .70).
- Transcendence, covering the appreciation of beauty and excellence, gratitude, hope, humour and religiousness (a for the three measurement points ranged from .64 to .72).

### **Procedure**

The research team contacted the schools and informed their respective management team and board of governors of what would be required for participation in the study. Those schools which agreed to participate took responsibility for obtaining informed consent from the students' parents. The schools that accepted the participation were eight different schools from the province of Malaga, out of which two are concerted and six publics. Only one school had a religious education, the rest had a secular education. In relation to location, two schools belong to provincial towns and the other six are located in the capital city of Malaga province, also called Malaga.

The longitudinal design involved three measurement points, one for each academic year considered (average ages of 12.10, 13.16 and 14.09 years). Data were collected during the first term of each school year, with the first measurement point corresponding to the 2010–2011 academic year. Researchers trained in this task explained and supervised the questionnaire administration, which lasted around an hour and took place in the students' usual classrooms during the normal school day. Questionnaires were administered in groups and a code was assigned to each student so as to preserve anonymity of responses.

## RESULTS

A total of six, 2x3 mixed analyses of variance were performed, with gender as the between-subjects factor and the three measurement points (at ages 12.10, 13.16 and 14.09) as the repeated measures factor. The dependent variables were the six character virtues: wisdom and knowledge, courage, humanity, justice, temperance and transcendence. Table 1 shows the mean scores and standard deviations for the two genders on each of these dependent variables at the three measurement points.

TABLE 1. Mean scores (standard deviations) by gender for each dependent variable at the three measurement points

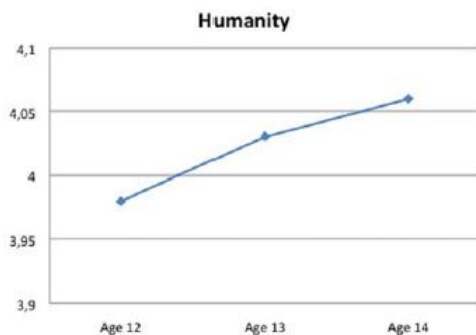
	<i>Age 12</i>		<i>Age 13</i>		<i>Age 14</i>	
	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>
Wisdom and knowledge	3.67 (0.52)	3.80 (0.46)	3.68 (0.50)	3.78 (0.51)	3.68 (0.55)	3.81 (0.49)
Courage	3.70 (0.54)	3.93 (0.48)	3.68 (0.46)	3.88 (0.48)	3.67 (0.50)	3.86 (0.48)
Humanity	3.81 (0.49)	4.12 (0.41)	3.89 (0.45)	4.14 (0.42)	3.90 (0.45)	4.18 (0.40)
Justice	3.55 (0.56)	3.77 (0.45)	3.64 (0.57)	3.80 (0.47)	3.65 (0.53)	3.83 (0.43)
Temperance	3.52 (0.46)	3.76 (0.49)	3.46 (0.47)	3.71 (0.48)	3.48 (0.45)	3.71 (0.48)
Transcendence	3.77 (0.49)	3.95 (0.45)	3.76 (0.46)	3.94 (0.44)	3.76 (0.48)	3.96 (0.40)

With respect to wisdom and knowledge, the analysis revealed a significant gender difference [ $F(1, 280) = 5.03, p = .02$ ] but no differences between the three measurement points [ $F(2, 560) = 0.14, p = .86, \eta^2_{\text{partial}} = .001$ ], nor an interaction effect between these two variables [ $F(2, 560) = 0.32, p = .72, \eta^2_{\text{partial}} = .001$ ]. Specifically, girls scored higher than boys on wisdom and knowledge ( $M = 3.80$  vs.  $M = 3.68$ ;  $d = \frac{1}{4} 0.27$ ), and this pattern of results was maintained over time.

The results for courage also showed a significant difference by gender [ $F(1, 280) = 15.59, p < .001$ ] but not between measurement points [ $F(2, 560) = 1.70, p = .18, \eta^2_{\text{partial}} = .006$ ]; nor was there an interaction effect [ $F(2, 560) = 0.18, p = .83, \eta^2_{\text{partial}} = .001$ ]. Once again, it was girls who scored higher on courage ( $M = 3.89$  vs.  $M = 3.69$ ;  $d = 0.48$ ), and they did so at all three measurement points.

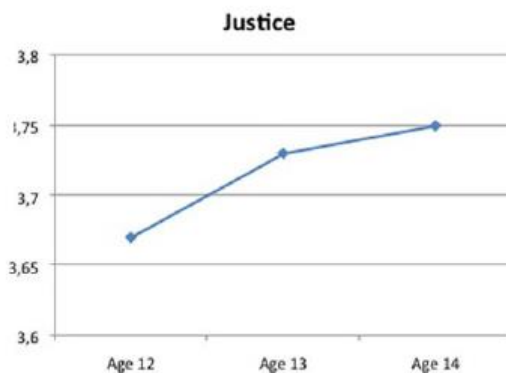
With regard to humanity, the analysis revealed significant differences both between genders [ $F(1, 280) = 38.52, p < .001$ ] and measurement points [ $F(2, 560) = 5.89, p = .003, \eta^2_{\text{partial}} = .021$ ], although the interaction effect was not significant [ $F(2, 560) = 0.81, p = .44, \eta^2_{\text{partial}} = .003$ ]. Girls always scored higher than boys on this virtue ( $M = 4.14$  vs.  $M = 3.87$ ;  $d = 0.75$ ), although the scores obtained by both genders increased by a similar magnitude with age (Figure 1). Post hoc comparison of means with Bonferroni correction indicated that significant

differences were only present between the first (age 12.10) and third (age 14.09) measurement points, equivalent to a difference of 0.08 points.



**Figure 1.** Mean scores for humanity at the three measurement points

The results for justice also showed significant differences between genders [ $F(1, 280) = 12.77, p < .001$ ] and measurement points [ $F(2, 560) = 6.25, p < .002, \eta^2_{\text{partial}} = .022$ ], although once again the interaction effect was not significant [ $F(2, 560) = 1.12, p < .33, \eta^2_{\text{partial}} = .004$ ]. Girls always scored higher than boys on justice ( $M = 3.80$  vs.  $M = 3.61; d = 0.42$ ), but the scores of both genders increased with age (Figure 2). Post hoc comparison of means with Bonferroni correction indicated that there were significant differences between the first (age 12.10) and second (age 13.16) measurement points, with a difference of 0.07 points, as well as between the first and third (age 14.09) measurement points, where the difference was 0.08 points.



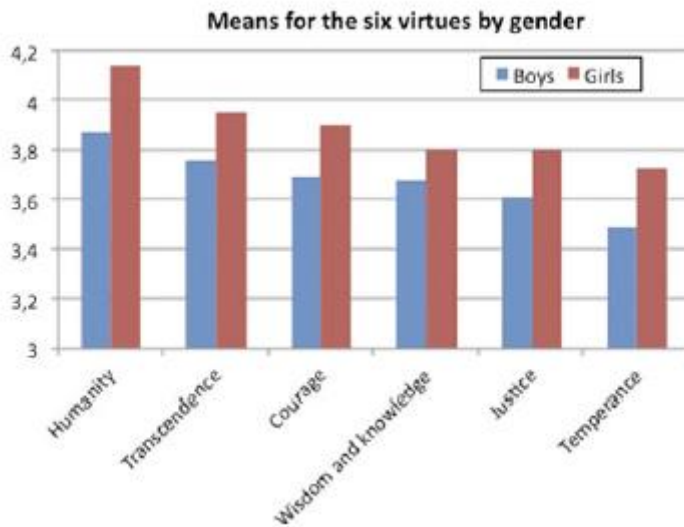
**Figure 2.** Mean scores for justice at the three measurement points.

With respect to temperance, the analysis revealed a significant gender difference [ $F(1, 280) = 25.11, p < .001$ ] but no differences between the three measurement points [ $F(2, 560) = 2.90, p = .06, \eta^2_{\text{partial}} = .010$ ], nor an interaction effect between the two variables [ $F(2, 560) = 0.07, p = .93, \eta^2_{\text{partial}} < .001$ ]. As in the case of the previous virtues, girls scored higher than boys on temperance ( $M = 3.73$  vs.  $M = .49; d = 0.60$ ), and this trend was maintained over time.

Finally, the results for transcendence showed a significant difference by gender [ $F(1, 280) = 15.88, p < .001$ ] but not between measurement points [ $F(2, 560) = 0.04, p < .96, \eta^2_{\text{partial}} < .001$ ]; nor was there an interaction effect [ $F(2, 560) = 0.14, p = .87, \eta^2_{\text{partial}} < .001$ ]. Girls scored higher than boys on transcendence ( $M = 3.95$  vs.  $M = 3.76; d = 0.48$ ), and this pattern of results was maintained over time.

Overall, the results show that girls scored higher than boys on all six virtues. For both genders, the highest scores were obtained on humanity and transcendence, while the lowest

scores corresponded to temperance. Figure 3 shows the means for each virtue by gender, ordered according to the score obtained.



**Figure 3.** Mean scores for the six virtues by gender.

## DISCUSSION

The aim of this study was to examine character virtues in a sample of Spanish boys and girls by means of longitudinal methodology. With a mean age of 12.10 at the first measurement point, they were assessed over three consecutive years using the VIA-Y (Park & Peterson, 2006), which considers 24 character strengths grouped into six virtues.

Specifically, it was expected that girls would obtain higher scores than boys and the results confirm this hypothesis. Girls scored significantly higher than boys on each of the six virtues considered. This is consistent with published research showing that females score higher than males on certain strengths, this being the case both among adolescents (Ferragut et al., 2013; Gimenez, 2009; Karris, 2009; Park & Peterson, 2003, 2006) and young adults (Shimai et al., 2006). It should be noted, however, that these previous studies observed gender differences on most but not all the variables examined. This result suggests for future researchers that it would be a good idea to focus on a possible strengths intervention on boys, so that they could increase their character strengths and approximate their scores to those of the girls.

In terms of changes over time, it was expected that the virtues remain stable over time and the results show that the majority of character virtues remain relatively stable between the ages of 12.10 and 14.09 years. From a theoretical point of view, Peterson and Seligman (2004) point out that the strengths which go to make up a character virtue should possess a certain degree of generality and stability. The temporal stability of the instrument used here has been examined (Park & Peterson, 2006), with moderate–high test–retest correlations being found, and comparisons have also been made between different age groups (Gimenez, 2009; Park & Peterson, 2006), but no longitudinal studies have previously been conducted to test the stability of these variables.

Taking into account both gender and time measurements points, no significant interaction was found in any of the virtues. So in this study, no differences were found between girls and boys in their virtues' development, which follows a similar evolution in both sexes.

Scores on both humanity and justice showed a slight upward trend over the 3-year period considered here. This suggests that in this early stage of adolescence, in which personality is being formed and values are being acquired, the present sample showed a slight improvement in terms of skills associated with relating to others and the sense of fairness and justice. This is consistent with those developmental theories that highlight the importance of social relationships as the individual enters adolescence. Indeed, psychoanalytic (Freud, 1923), psychosocial (Erikson, 1988), cognitive (Piaget, 1929) and sociocultural (Vygotsky, 1978) theories all consider this social aspect of adolescence, there being a broad consensus that it is a developmental stage in which relationships with others, especially peers, take on particular importance, and where the individual naturally develops strategies and skills designed to create and preserve these social relations.

For both genders, the virtue with the highest score was humanity, this being consistent with previous research showing that love, one of the character strengths included in this virtue, is always among the top five in terms of mean score, this being the case for different cultures and countries (Froh, Yurkewicz, & Kashdan, 2008; Gime'nez, 2009; Park & Peterson, 2003). Conversely, the lowest score for both boys and girls in the present sample corresponded to temperance, although it should be noted that this did not drop below 3.5 on a scale of 1–5. The original studies with the instrument used here also found that the lowest scores corresponded to strengths covered by this virtue, namely prudence and selfregulation (Park & Peterson, 2003, 2006).

In conclusion, character strengths and virtues are shown to be relatively stable between the average ages of 12.10 and 14.09 years, with a slight increase over time in scores on humanity and justice. Girls scored higher than boys on all six virtues considered, and this pattern of results did not vary with age.

The study does have a number of limitations. First, as with all longitudinal research, there was a considerable amount of sample attrition. Secondly, the results refer to a Spanish population and therefore need to be replicated with other nationalities and cultures. Finally, it would be useful to extend the study to later periods of adolescence so as to provide data for these character variables in individuals older than 14 years. To continue with the study of the implications and importance of these virtues, it would be relevant for future researches to consider the relationship with other variables that have demonstrated previous correlations (academic success, well-being or satisfaction).

Despite these limitations, we believe that the study has important strengths, notably the application of longitudinal methodology to a specific period of adolescence. This approach enables a reliable analysis of the results obtained when following up the same youth over three consecutive years.

Due to the gender differences found, in future researches it would be of interest to plan some interventions to improve boy's virtues scores. A possible objective could be to equate the scores between boys and girls in their adolescence.

The development of moral competence and good character among youth is a key foundation for societal well-being in the future (Park & Peterson, 2003). Consequently,



researches who take these aspects into account, examining how they evolve and how they relate to other variables, can make an important contribution when it comes to implementing interventions and educational programmes during adolescence.

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