



Do adolescents want death to be included in their education?

Agustín de la Herrán Gascón¹ · Pablo Rodríguez Herrero¹ ·
José Javier Callejo González² · Ricardo Jiménez Aboitiz²

Received: 14 May 2020 / Accepted: 17 April 2021 / Published online: 10 June 2021
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Abstract

This study sets out to ascertain adolescents' attitudes and opinions towards death education. To this end two instruments were designed and validated: the 'Death Education Attitudes Scale-Students' and the 'Death Education Questionnaire-Students'. The total sample comprised 1897 secondary school students aged 12–19. Participants showed moderately positive attitudes towards death education. Variables such as gender, age and religious beliefs influenced results. Death is not unfamiliar to adolescents; on the contrary, it affects them through the loss of loved ones, and they saw themselves as capable of reflecting on it. The study has implications for the training of teachers and families and for the inclusion of the awareness of death in curricula and in educational policies on national and international levels.

Keywords Pedagogy of death · Death education · Teenagers · Attitudes · Secondary education

1 Introduction

International organizations are one of the main sources of guidelines for the design of national education systems. The directives issued and methods adopted by UNESCO (2014, 2015) for the forthcoming years link education to social development and to the specific needs of society. However, they make no reference to the

✉ Pablo Rodríguez Herrero
pablo.rodriguez@uam.es

Agustín de la Herrán Gascón
agustin.delaherran@uam.es

José Javier Callejo González
josejavier.callejo@uva.es

¹ Department of Pedagogy, Universidad Autónoma de Madrid, Calle Francisco Tomás Y Valiente, 3 28049, Madrid, Spain

² Department of Sociology and Social Work, Universidad de Valladolid, Valladolid, Spain

educational value of the awareness of death and the finiteness of life. This omission is common to education systems, schools, families and the media, thus deepening a previously-existing silence that is both institutionally endorsed and pedagogically questionable.

Some justifications for including death in adolescent education are the following. Firstly, it is a subject of interest and one that is important to them (Coombs, 2014; Wildfeuer, Schell, and Schulz 2015). Secondly, its inclusion in education may increase their existential awareness, enabling them to live more fully (Corr, Corr, and Doka 2019). There is also a third very important reason, and that is that death occurs in schools, where real losses affect pupils (McGovern and Barry, 2000). Lastly, adolescents also face issues relating to death: gender violence, violence among students, suicide (Forster et al., 2020; World Health Organization, 2017), shootings, terrorism (Zeidner, 2005), natural disasters, pandemics, etc. Nevertheless, teachers and tutors normally lack training in death education (Hinton and Kirk, 2015; Potts, 2013).

The Pedagogy of Death favours a change of perspective, moving from death as a taboo to death as an educational need, through its inclusion as normal course contents in the curriculum. This change of approach is justified by its educational value, since an appropriate awareness of death is linked to a greater understanding of life, better preparation for future losses, a firmer grounding in personal and social values, enhanced sensitivity and personal/social empathy, greater personal maturity, openness to other cultures, etc. (Herrán and Cortina, 2008).

Why is death excluded from educational processes and settings such as families and schools? This may be for various reasons. UNESCO and international education policy in general, for example, do not endorse or promote it as a school subject. Also, it does not fit easily with the currently prevailing competence-centred approach (Herrán et al., 2019); and it is absent from education law, curricula, academic projects, etc. (James, 2015; Stylianou and Zembylas, 2016). Another reason may be that educators lack training and confidence in the subject; or that school directors and staff fear that parents may object to its being taught (Dyregrov et al., 2013), since they do not see it as educationally valuable (Herrán and Cortina, 2008). In the social and cultural dimensions, another reason may be that social systems other than education have addressed death and shaped its image (Ariès, 2008), resulting in the dominance of a dehumanised image of death promoted by the media, social networks (Selfridge and Mitchell, 2020) and some videogames (Maté, 2017), and that this influences adolescents' perception of death (Castro and Morales, 2013).

Seen in this light, our schools will not educate people for life if they do not include an awareness of death in their teaching. For this reason, the gradual construction of the Pedagogy of Death is consistent with the improvement of education and compatible with the development of applied pedagogy in thanatology. Within the discipline of death studies, which analyses research on death from an interdisciplinary perspective, death education has yet to be scientifically developed (Fonseca and Testoni, 2012). The incorporation of a pedagogical dimension to the field of death studies is essential, since education is necessary for the psychological and philosophical dimensions of death to be elaborated in relation to each other (Testoni, Ancona, and Ronconi 2015).

One way of beginning this task is to look at the inclusion of death in education from the point of view of its main recipients: students at all levels. The purpose of this study is to determine adolescents' attitudes towards an education that takes death into account and includes it systematically into the curriculum. Adopting a participation-based research approach (Bourke and MacDonald, 2018), we consulted students directly on topics they saw as important in their education.

2 Background

2.1 The pedagogy of death: a brief outline

The Pedagogy of Death is the discipline that covers all forms of education encompassing death and the finiteness of life in all educational contexts. Within it, *death education* has been conceptualised as the field of study and application of the Pedagogy of Death. Traditionally, the literature has not distinguished between these two constructs (Tourinán, 2019).

Death education has its beginnings in the 1920s in health education. It developed to cater for the needs of healthcare professionals faced with situations of bereavement. One of the first educational plans intended for children suffering from illness is included in Sahler's *The child and death*, published in 1978.

As an area of the education sciences, the Pedagogy of Death is little more than forty years old (Rodríguez et al., 2012, 2019). Since the first studies by Bibeau and Eddy (1985) and Mèlich (1989), the volume of research has grown considerably (Jambolina, 2014), focussing mainly on bereavement and preparation for this. In professional and research terms, the Pedagogy of Death and death education have two distinct approaches to teaching and the curriculum. The first is a before-bereavement approach, which studies death through teaching. The second is an after-bereavement one, which involves educational guidance through tutorial intervention when a student suffers the death of a loved one. Both approaches see education encompassing death as part of an "education for awareness" (Herrán et al., 2000), associated with complexity and the meaning of life. The Pedagogy of Death is related to ontology, where it has been a central concern since the Pre-Socratics (Mèlich, 1989) but particularly in existentialist thinkers such as Heidegger (1978), Sartre (1993) and Nietzsche (2017, 2018), and on another level, Teilhard de Chardin (1999). If we focus on education, however, and on the holistic development of the person, philosophy as a discipline is not enough for learning to live with the awareness of death. Thus it is necessary to continue developing the Pedagogy of Death which, while incorporating the legacy of philosophy, can develop the two approaches (before- and after-bereavement) in education, bringing its theoretical and empirical advances of the last few decades to bear.

2.2 Death education research

Since its inception, research in the Pedagogy of Death has centred on a range of different topics, some of which are summarised in Table 1 below.

A certain number of studies have enquired into the perceptions and attitudes of teachers, parents and students towards teaching about death in schools. Two pioneer surveys (Herrán et al., 2000; McGovern and Barry, 2000) among teachers in early childhood education and primary schools ($n=123$ and $n=142$ respectively) found that approximately three out of four teachers had experienced a bereavement among their pupils in the previous five years; more than 75% of participants thought that death should be dealt with in schools and families; women teachers had more positive attitudes towards the topic than their male counterparts; having experienced the loss of a loved one was positively associated with attitudes of greater interest in death education; teachers were unable to find specific educational materials for death education; an essential role was attributed to school-family communication and communication with the child. In a study by McGovern and Barry (2000), teachers were more favourable than parents towards discussion of death outside the family circle.

A study by Dyregrov et al., (2013), also among early childhood and primary school teachers ($n=138$), concurred with the two mentioned above with respect to gender and experiences of bereavement as variables associated with favourable

Table 1 Some research topics in the Pedagogy of Death

Some objects of study	Selected studies
Teacher training	Dyregrov et al. (2013), Herrán and Cortina (2008), Herrán et al. (2000), Hinton and Kirk (2015), Potts (2013)
Different concepts of death applied to education	Herrán and Cortina (2008), Herrán et al. (2000)
Dimensions and approaches of the Pedagogy of Death	Affifi and Christie (2019), Aspinall (1996), Bos (2014), Corr et al. (2019), Herrán and Cortina (2008), Herrán et al. (2000), Lindquist (2007), Mantegazza (2004), Petitfils (2016), Zembylas (2011)
Objectives and outcomes of the Pedagogy of Death	Glass (1990), Herrán and Cortina (2008), Herrán et al. (2000), Shackelford (2003)
Theoretical grounding for teaching about death	Colomo (2016), Colomo and Oña (2014), Cortina and Herrán (2011), Herrán et al. (2000), Herrán and Cortina (2008), Mèlich (1989), Rodríguez et al. (2015)
Inclusion in curricula at different stages of schooling	Herrán and Cortina (2008), Herrán et al. (2000), Herrán et al. (2019), James (2015), Rodríguez, Herrán, and Miguel (2020), Stylianou and Zembylas (2016)
Educational guidance in situations of bereavement in schools and classrooms	Cortina and Herrán (2008), Dyregrov et al. (2013), Herrán and Cortina (2008), Herrán et al. (2000), Holland (2008), Willis (2002)
Application among students with special educational needs	Rodríguez, de la Herrán, et al. (2015), Rodríguez, Izuzquiza, et al. (2015))
Studies of historical precedents	Rodríguez et al. (2012, 2019)
Bibliographical studies	Jambrina (2014)

attitudes towards death education in schools. The study also found that 90% of participants had no training for dealing with the topic of death. This finding was confirmed by Hinton and Kirk (2015) and Potts (2013). Having a positive attitude towards discussing death in class or, conversely, being afraid to do so, may be related to whether teachers had prior educational experience in the topic or not (Engarhos et al., 2013).

Studies by Herrán et al. (2000), and McGovern and Barry (2000) surveyed 87 and 119 parents of schoolchildren respectively. In the first, 93% agreed that their school should give some kind of pedagogical response to the death of loved ones. In the second, 72% agreed that death should be included in the curriculum and in teaching. Once again, gender was a significant variable, with mothers more in favour than fathers. Also, previous experience of bereavement was linked with parents having a more favourable attitude towards talking about death with their children.

Research undertaken among students has studied a wide range of topics, amongst them: the views of children aged 3–6 (Herrán et al., 2000) the construct of death among pupils in early childhood education (Vlok and Witt, 2012), primary schools (Paul, 2019; Yang and Chen, 2010) and secondary schools (Yang and Chen, 2009) the concept of a “good death” among university students (Lee et al., 2008, Mari-Klose and Miguel, 2000) fear of death in adolescence (Hong and Choon, 2012) death education in universities (Harrawood et al., 2013); and training needs around death for university students in the health sciences (Birkholz et al., 2004). A study of adolescents in China ($n = 329$) by Yang and Chen (2009) found that variables such as gender, age, family background and the experience of bereavement influenced the concept of death. They found that female adolescents showed more negative feelings towards death and had greater difficulty in accepting it; older students had a more complex and abstract understanding of death; and those who had lost a loved one also seemed to have a wider concept of death and a more favourable attitude towards the normalisation of the topic in society. Other studies (Coombs, 2014, Wildfeuer et al., 2015) have found that when parents do not talk about the topic, this does not reduce adolescents’ interest in death, since they seek models in the media and in popular culture to help them understand it and form their own opinions. Also, perceptions of one’s own death can be distorted in adolescence, a period in many cases marked by the need to transgress and to act without taking the risks into account. In this area, the perception of invincibility has been studied in adolescents, with results suggesting the need to educate them in the prevention of health risks (Wickman et al., 2008).

Using this research as a starting point, the following objectives were set for the present study: firstly, to ascertain secondary school students’ attitudes towards the inclusion of death in education; secondly, to identify the influence of the variables of gender, age, school setting (rural or urban), type of school (state or private), school religion (religious or non-confessional), students’ own religious beliefs and the experience of bereavement on their attitudes towards death education; and thirdly, to gather students’ opinions on how death is dealt with in schools.

3 Method

3.1 Study design

A quantitative approach was adopted, with attitudes towards death education among adolescents in compulsory secondary education and sixth form as the main variable. The core construct of the study was “attitudes towards death education”. The existing literature was taken as a starting point and positive or negative attitudes towards the inclusion of death in education were studied. Other socio-demographic variables and opinions on how death is dealt with in schools were also taken into account.

A cross-sectional study was designed, collecting data from participants in different contexts and locations within the same time period. The breadth of the sample enabled us to enquire into the views of students in a large number of schools and across a wide geographical area, and this favoured the participation of students of diverse backgrounds (Summers and Abd-El-Khalick, 2017). The study was performed among students in eight regions of Spain and many different types of schools: state and private, rural and urban, and religious and non-religious.

3.2 Instruments

Two internet-based self-administered digital instruments were used: the Death Education Attitudes Scale-Students (DEAS-S) and the Death Education Questionnaire-Students (DEQ-S). The questionnaire included a letter to the participant and items on socio-demographic data. The letter explained the type of project, its objectives, its funding, its commitment to preserving anonymity, its confidentiality, and the exclusive use of the data obtained for research purposes. It also included a declaration of agreement to take part in the project and the consent of parents and legal guardians. The study was assessed as suitable by the Ethical Committee of the Universidad Autónoma de Madrid (Autonomous University of Madrid, Spain).

Death Education Attitudes Scale-Students (DEAS-S). In the literature reviewed no valid, reliable scale analysing school students’ attitudes towards including the topic of death in education was found. Instruments have been developed for evaluating the concept of death among adolescents (Yang and Chen, 2009) and for ascertaining anxiety towards death (Ens and Bond, 2007), but no scientifically sound one exists for ascertaining attitudes towards death education.

In its final version the questionnaire comprised 7 items with a 5-point Likert scale. The questionnaire was developed and validated in the following phases. Firstly a battery of 65 initial items was drawn up on the basis of existing death education theory. Secondly, 13 experts with more than 5 years of research experience in the Pedagogy of Death assessed the contents of the questionnaire, resulting in a reduction to 60 items and an improvement in the clarity of the questions. Subsequently a pilot study was carried out with 7 students in compulsory secondary education and sixth form (at least one from each year), leading to a further reduction to 43 items. After the pilot study, a consistency analysis of the responses was performed through

a test–retest ($n=57$) with a time lapse of 7 days between the first and second applications and no related teaching in the intervening days, resulting in a further reduction to 19 items, eliminating those with low correlation according to Spearman's ρ (ρ). Lastly a factor analysis and Cronbach's α test were performed on the final sample ($n=1,897$).

Death Education Questionnaire-Students (DEQ-S). A complementary questionnaire on opinions on death education was also designed, with the objective of ascertaining students' views on how death is treated in formal education. It had a total of 9 items with a range of 2 to 9 different nominal response options.

This questionnaire was developed and validated in the following phases. Firstly a battery of 25 initial items was drawn up on the basis of prior studies on how death is treated in education. Subsequently the contents of the questionnaire were validated by the same experts who had assessed the attitudes scale, reducing the questionnaire to 9 final items. Lastly a pilot study was carried out with the same students who had taken part in the validation of the previous scale, resulting in an improvement in the clarity of the remaining items. This final version was taken as the definitive one.

3.3 Participants and data collection

Schools from 8 different regions of Spain (Andalusia, Catalonia, Castile la Mancha, Castile and Leon, the Community of Madrid, Valencia, Extremadura and the Region of Murcia) were invited to participate in the study. The sample was constructed by convenience through members of the research group, public listings of schools and personal contacts. The participating schools were sent instructions on how students should respond to the instruments, which had the same digital format in all cases. The questionnaires were administered in the presence of tutors, who were instructed to communicate the study objective without attempting to influence participants. The voluntary, confidential nature of the study and the use of its data exclusively for research was stressed. Participants were also invited to provide an email address to receive the results if they so wished. A total of 1,897 students completed the instruments (see Table 2).

4 Results

4.1 Descriptive study of the scale

Table 3 displays the descriptive data of the scale in its final version.

The scale mean was 3.48. All means were above 3 points out of 5. The students, therefore, showed a moderately positive attitude towards death education.

4.2 Exploratory and confirmatory factor analyses of the scale

Firstly an exploratory factor analysis (EFA) was performed on the 19-item version of the scale, after obtaining suitable values for the sample from the

Table 2 Characteristics of the sample ($n=1897$)

Variable	Percentage (%)
Gender	Female. 52.03 Male. 47.97
Age	11 or less. 0.16 12–13. 21.61 14–15. 32.58 16–17. 37.37 18–19. 7.70 20 or more. 0.58
School year	1st year compulsory secondary. 11.91 2nd year compulsory secondary. 16.55 3rd year compulsory secondary. 17.61 4th year compulsory secondary. 18.92 1st year sixth form. 18.92 2nd year sixth form. 12.44 Other*. 3.64
School setting	Rural. 14.07 Urban. 85.93
Type of school	State. 93.62 Private. 6.38
School religious ethos	Non-confessional. 86.03 Faith or religious school. 13.97
Religion or religious beliefs*	Catholic. 46.49 Atheist. 32.19 Agnostic. 17.14 Other*. 4.18
Experience of loss of loved ones	Yes. 77.70 No. 22.30

*Minority results lower than 1.5% were grouped under “Other”

Kaiser–Meyer–Olkin statistic ($KMO=0.816$) and Bartlett’s sphericity test ($p=0.00$). The analysis yielded 2 factors, explaining 60% of variance. The final scale, after eliminating items with low saturation in the EFA and testing for theoretical consistency, was reduced to 7 items. Factor 1, titled “inclusion of death in education” (items 1, 2, 3 and 4; see Table 3), explained 43% of total variance, while factor 2, “educational awareness of death” (items 5, 6 and 7) explained 17% of total variance. The mean for factor 1 was 3.61 and for factor 2, 3.28.

Principal axis factoring and oblique rotation (Oblimin with Kaiser normalisation) were used for the factor analysis (Table 4), showing a positive correlation of 0.42 between the factors. The rotation yielded suitable factor loadings.

A confirmatory factor analysis (CFA) was performed to check the results of the EFA. Since the multivariate distribution did not meet normality assumptions, an

Table 3 Descriptive data of the results of the DEAS-S ($n = 1,897$)

Item	Mean	Standard deviation	Asymmetry	Kurtosis
1. Dealing with the topic of death in education would contribute to a more mature society	3.97	1.04	-.92	-.40
2. Death should be included as a topic in the contents of the subjects we study	3.29	1.25	-.29	-.84
3. I would like my parents to have training in the topic of death	3.67	1.15	-.55	-.46
4. Death should be included among the topics we discuss in tutorials	3.51	1.25	-.54	-.68
5. Knowing that one day I'll die can help me be a better person	3.37	1.43	-.45	-1.09
6. Knowing that one day I'll die can help me to know better what I want to do in the future	3.33	1.39	-.35	-1.11
7. Knowing that one day I will die influences the way I value my everyday life	3.13	1.32	-.17	1.02

Table 4 EFA: component analysis

Item	Factor 1	Factor 2
1	.78	
2	.81	
3	.71	
4	.73	
5		.72
6		.78
7		.72

Table 5 Items eliminated in the EFA and CFA

Eliminated item	Mean (SD)
Knowing that life has a beginning and an end in time can improve my education	3.62 (1.16)
Dealing with death in education would contribute to making students happier people	2.29 (1.19)
It is appropriate to deal with the topic of death in compulsory secondary education	3.65 (1.19)
It is appropriate to deal with the topic of death in training for families expecting a baby	3.36 (1.25)
I would like my teachers to have training in the topic of death	3.64 (1.14)
It is appropriate to deal with the topic of death in primary education	2.72 (1.29)
It is appropriate to deal with the topic of death in early childhood education	1.87 (1.18)
I think that experiencing the death of a loved one could help me see death as something natural	3.40 (1.30)
I feel able of reflecting on death	4.00 (1.25)
All teachers should be able to guide me in a situation of bereavement	4.00 (1.20)
When a loved one has a terminal illness (is going to die) we should be offered the chance to take our leave of them	4.65 (.83)
It is appropriate to deal with the topic of death in sixth form	4.08 (1.09)

asymptotically distribution-free method was used to analyse the principal goodness-of-fit measures for large-scale samples (Henson, 2006). We found adequate values, higher than those recommended (Hair et al., 2010): CMIN/DF=3.83 (≤ 5.0); GFI=0.99 (≥ 0.9); CFI=0.99 (≥ 0.9); RMSEA error=0.04 (≤ 0.05). In the CFA the two-factor model resulting from the exploratory analysis showed good fit rates. This model was compared with others that had been ruled out previously due to their less good theoretical fit and unsuitable fit rates. Table 5 shows the items eliminated from the final version and their descriptive results, as they may be useful for future studies with different populations.

The mean of the eliminated items was 3.44, virtually the same as that of the final 7-item scale ($M=3.48$).

4.3 Scale reliability

The internal consistency of the scale was tested using Cronbach's *alpha*, with results of 0.77 for the scale total, 0.75 for factor 1 and 0.70 for factor 2. These results were considered acceptable (Taber, 2018).

4.4 Relationships of socio-demographic variables to scale results

The large size of the sample ($n = 1,897$) implied correct behaviour even for populations deviating noticeably from normality (Moore, 2007; Pardo and San Martín, 2010), and permitted the use of mathematical tests such as student *t* and ANOVA. The variables analysed were: gender, age, school setting, type of school, religion or non-religious school, student religious beliefs and experience of a loved one's death (Table 6). In all tests of hypotheses with significant differences, the analysis of statistical power yielded values higher than 0.9.

As Table 6 shows, there were significant differences according to gender in both the scale total and factor 1 ("inclusion of death in education"). In both cases female participants had higher scores than their male counterparts. In the scale total, $M = 24.70$ ($SD = 5.64$) among female students, while $M = 23.82$ ($SD = 5.86$) among males. The effect size was small ($d = 0.15$) according to Cohen's criteria (Cohen, 1988).

Age had a significant influence on the results for factor 1 ("inclusion of death in education") and factor 2 ("educational awareness of death"), but not in the scale total. Applying a Games-Howell post-hoc test, significant differences were observed for factor 1 among students aged 12–13, 16–17 ($p = 0.00$) and 18–19 ($p = 0.02$). In factor 2, differences were found among students aged 12–13, 14–15 ($p = 0.00$) and 16–17 ($p = 0.01$). As Fig. 1 shows, while for factor 1 (attitudes towards the inclusion of death in education) the higher the age, the more positive the attitude, for factor 2 (attitudes towards the educational awareness of death), the group with the highest scores was the youngest (aged 12–13), contrasting with the lowest scores for the 14–15 age group, with scores rising gradually thereafter in line with age.

Regarding the school's religious or non-religious ethos, significant differences were only found for factor 1, with higher scores among students in non-religious schools ($M = 14.57$, $SD = 3.56$) than in faith or religious schools ($M = 13.69$, $SD = 3.56$). The effect size was small ($d = 0.25$) (Cohen, 1988).

Students' own religious beliefs significantly influenced the results of the scale total and factor 1. Applying Tukey's post-hoc test, differences were found in the scale total between students stating that they were Catholics and those stating that they were agnostics ($p = 0.03$), and between Catholics and atheists ($p = 0.04$), with agnostics registering the highest scores ($M = 24.79$), followed by atheists ($M = 24.59$) and lastly Catholics ($M = 23.85$); the latter thus emerged as the students with the least favourable attitudes towards death education. The group tendency was the same for factor 1.

Table 6 Relationships of socio-demographic variables to scale results

Variable	Levene $F (p^*)$	$T (p^{**})$	ANOVA $F (p^{**})$
<i>1. Gender</i>			
Scale total	.44 (.40)	-3.35 (.01)	
Factor 1	.71 (.75)	-6.00 (.00)	
Factor 2	.10 (.51)	.61 (.54)	
<i>2. Age</i>			
Scale total	2.18 (.09)		1.43 (.23)
Factor 1	2.67 (.05)		4.37 (.00)
Factor 2	4.19 (.00)		4.54 (.00)
<i>3. Rural or urban setting</i>			
Scale total	4.28 (.04)	.12)	
Factor 1	.28 (.60)	.99 (.32)	
Factor 2	1.93 (.16)	1.83 (.07)	
<i>4. Type of school</i>			
Scale total	4.28 (.04)	1.65 (.10)	
Factor 1	.28 (.60)	.97 (.32)	
Factor 2	1.93 (.16)	1.83 (.07)	
<i>5. Religious/non-religious school</i>			
Scale total	.03 (.87)	1.67 (.09)	
Factor 1	.06 (.81)	3.74 (.00)	
Factor 2	.83 (.36)	-1.19 (.26)	
<i>6. Student's religion/religious beliefs</i>			
Scale total	1.26 (.28)		4.60 (.01)
Factor 1	5.91 (.00)		14.17 (.00)
Factor 2	.06 (.94)		.09 (.92)
<i>7. Loss of a loved one experienced</i>			
Scale total	.56 (.45)	1.53 (.13)	
Factor 1	.10 (.75)	1.79 (.07)	
Factor 2	2.76 (.10)	1.80 (.07)	

*When $p > .05$ equality of variances was assumed. **When $p \leq .05$ significant differences were found

4.5 Results of the DEQ-S

DEQ-S results are shown in Table 7.

5 Discussion

This study attempts to fill a gap in research into the inclusion of death in adolescent education. Secondary-school and sixth-form students' attitudes towards death education were found to be moderately positive. The study of the scale factors showed that

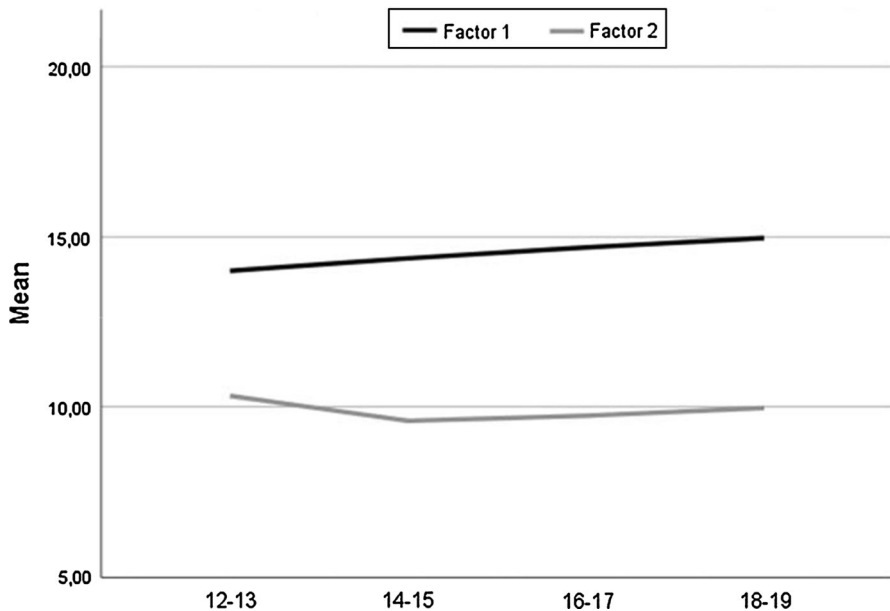


Fig. 1 Relationships of the results of factors 1 and 2 to the variable “age”

these students wanted death to be included in their education and that they seemed to think an awareness of death had educational value. It cannot be affirmed that their attitudes to death education were highly favourable; however, bearing in mind that death is a societal taboo and is absent from the teaching they receive, we can say that their reasonably positive attitudes suggest that death should be included in their education (factor 1), and that it has educational value (factor 2).

These results concur with prior studies, which have also found that death is not an alien topic to adolescents, despite the fact that parents and teachers tend to pass over it in silence (Coombs, 2014; Wildfeuer, Schell, and Schulz 2015). Our findings are also consistent with studies into teachers’ and parents’ opinions, which in general have shown positive attitudes towards death as an educational topic (Herrán et al., 2000; McGovern and Barry, 2000).

One contribution of this study is the DEAS-S, a valid and reliable instrument that can be replicated or adapted for other contexts. The measures included in the EFA and CFA are statistically sound. In addition, the eliminated items may be useful for use by researchers in scales applied to different contexts.

On a general level, the results from some items are striking. For example, the items referring to the inclusion of death at each stage of education indicated that this tended to be more valued in secondary school than in primary or early childhood education. It was notable that students saw themselves as capable of reflecting on death and of taking leave of terminally ill loved ones. Possibly this self-evaluation relates to their prior public experiences in the area of death and grief. From the massive presence of death in the media we can deduce that adolescents live with and witness publicly important deaths, and that emotional and cognitive processes are

Table 7 Results of the DEQ-S ($n=1,897$)

Item	Results
1. In my view the best figures for dealing with the topic of death in our education are: * **	<p>Father, mothers or legal guardians. 83.6%</p> <p>The school counsellor. 44.1%</p> <p>The tutor. 38.6%</p> <p>Other educators or teachers with whom students have a good relationship. 27%</p> <p>All teachers and education professionals 19.6%</p> <p>The teacher of the subject. 11.1%</p> <p>The teacher specialised in support. 9.5%</p> <p>The school director. 6.3%</p> <p>Others.*</p>
2. Have you or one of your classmates experienced the death of a loved one in the last five years?	<p>Yes. 63.8%</p> <p>No. 17.3%</p> <p>I don't know. 18.9%</p>
3. When in your school the death of someone important for a pupil or group of pupils occurred, what was done? **	<p>I don't know what was done. 45.3%</p> <p>I don't remember if a death that was important to a pupil or group of pupils occurred. 20.8%</p> <p>Nothing was done, or we carried on as if nothing had happened. 18.2%</p> <p>The school counsellor dealt with it. 9.1%</p> <p>The pupil's tutor dealt with it. 8.6%</p> <p>A non-religious rite or ceremony was performed. 6.9%</p> <p>A religious rite or ceremony was performed. 6.1%</p> <p>A commemorative space was set aside in the school or classroom. 4%</p> <p>The school sent flowers to the family. 3.4%</p> <p>Others.*</p>
4. Do you think that your tutor is trained to deal with the topic of death in class?	<p>Yes. 36.7%</p> <p>No. 23%</p> <p>I don't know. 40.3%</p>
5. Do you think that your teacher is trained to support you naturally when you experience bereavement?	<p>Yes. 44.3%</p> <p>No. 20.9%</p> <p>I don't know. 34.8%</p>
6. My teachers should deal with the topic of death when we experience the loss of a loved one:	<p>Through a non-religious educational approach. 50.9%</p> <p>They should not deal with the topic. 21.7%</p> <p>Through an approach based on my religious beliefs, if I have any. 12.2%</p> <p>Through an approach based on my family's religious beliefs, if they have any. 7.3%</p> <p>Through an approach based on the school's religious beliefs, if it has any. 4.6%</p> <p>Through an approach based on the teacher's religious beliefs, if s/he has any. 3.3%</p>

Table 7 (continued)

Item	Results
7. Do you think that your parents or legal guardian/s are trained to deal with the topic of death in an educational way with you?	Yes. 72.4% No. 9.2% I don't know. 18.4%
8. Do you think that your parents or legal guardian/s are trained to support you naturally when you experience the death of a loved one?	Yes. 84% No. 4.7% I don't know. 11.3%
9. Do you think that death is a taboo topic in our society?	Yes. 60.3% No. 39.7%

*Minority responses with a result lower than 1.5% have been grouped under "Others"

**Multiple response option

interwoven in these experiences. This experiential baggage and its associated processes can be understood through the construct of "flashbulb memory" (Luminet and Curci, 2009), which refers to an experience of great impact and emotional resonance that can also involve associated social and cognitive processes (Curci and Belletti, 2004). While for the adolescents participating in the study it seemed that death was not taboo, this interweaving of the collective and the individual levels brings greater complexity to the idea that death is taboo among adolescents.

Regarding the influence of socio-demographic variables (our second objective), female adolescents showed more favourable attitudes towards death education than males. This finding differs from that of Yang and Chen (2009) for Chinese adolescents, although their study was not centred on death education but on the concept of death and feelings towards it. It may be that a favourable attitude towards death education is associated with negative emotions around death itself. In other words, accepting that death should be addressed by education does not imply an absence of fear or anxiety towards the issue, but simply indicates the possibility of treating it in an educational way. These results, however, should be seen in context, since they include cultural, social, family and psychological factors. On the other hand, our findings coincide with other studies in which women teachers and mothers had a more positive attitudes towards death in education than their male counterparts (Dyregrov, Dyregrov, and Idose 2013; McGovern and Barry, 2000).

Favourable attitudes towards the inclusion of death in education (factor 1) also increased with age. This may be due to young people's growing capacity to construct a more complex and abstract concept of death (Yang and Chen, 2009). However, older students did not confer an educational value on the awareness of death (factor 2), while younger students with more favourable attitudes did. This finding may be associated with differences between each group's concept of death, or it may be because the younger children had been affected by fewer experiences of bereavement.

Students declaring themselves to be agnostic or atheist were more favourable than Catholics towards death being included in education, and findings were similar for

non-religious compared to religious schools. This may be because Catholic students and Catholic schools believed that death should only be dealt with in religious settings (i.e. not in schools). The variable of whether students had suffered a bereavement or not did not significantly influence results, and this finding differs from other studies of parents, teachers (Dyregrov, Dyregrov, and Idose 2013; McGovern and Barry, 2000) and adolescents (Yang and Chen, 2009).

When significant differences were identified, the effect size was small, but this may be due to the size of the sample (Cheung and Slavin, 2016); also such differences were difficult to interpret, since they could not be compared with other studies of the same construct (Bakker et al., 2019). In all cases, however, statistical power was higher than 0.9, which indicates that the results were valid.

The results of the DEQ-S offered interesting and conclusive findings on the students' opinions on how death is treated in schools and society. In general participants believed that death is a taboo topic in society. Despite this, most students perceived that both their teachers and especially their parents were capable of discussing the topic with them. The students' perceptions, however, did not necessarily tie in with the real ability of their educators, since the majority lacked training in death education (Hinton and Kirk, 2015; Potts, 2013).

Another finding was that, according to participants, losses of loved ones are frequent in adolescence. However, the majority did not remember how the school reacted to these losses, or said that nothing had been done. In a minority of cases the school counsellor or the tutor had intervened, or ceremonies (not necessarily religious) had been held. In other words, it seems that schools do not offer educational support to students who have suffered a bereavement. This coincides with what has also been observed for early childhood education (Herrán et al., 2000). In the context of these situations the students were of the opinion that parents, counsellors and tutors were important educational actors who could guide them through the experience.

5.1 Limitations and future directions

This study presents a series of limitations that also suggest future lines of research. Firstly, our findings come from a survey among adolescents in Spanish schools. These findings may be extrapolated to other contexts, but it is also likely that cultural factors affect them to some extent. Another limitation is that the statistical validation of the final version of the DEAS-S excluded items that seemed interesting on a theoretical level. Thus these items are included in this paper, since they may be useful for the development and validation of scales in other countries. In addition to the possibility of performing this study in different contexts, another future line of research would to investigate attitudes towards death education among primary school pupils (aged 6–12), if our instruments can be adapted to this age group.

5.2 Conclusions

Our findings enable us to draw two main conclusions. Firstly, death is not a topic that is alien to adolescents, and affects them directly and frequently through the loss of loved ones. This suggests that we need to provide training in death education for tutors, teachers, counsellors and parents. The second conclusion is that students are favourable to the inclusion of death in education. These findings are new in the literature on the Pedagogy of Death and strengthen the argument for including an awareness of death in national curricula, in international organisations' curriculum guidelines, in the design of protocols or educational guidelines for situations of loss in schools, and in death education training for teachers and families.

To sum up, due to its topic and breadth this study is a pioneering one in death education research, and opens up further horizons for research aiming to give sound foundations to an education for life that takes death into account.

Funding This work was supported by the *Agencia Estatal de Investigación* (AEI) (Spain) and the European Regional Development Fund (FEDER) under Grant EDU2017-85296-R.

Declaration

Conflict of interest All authors report no conflicts of interests.

References

- Affifi, R., & Christie, B. (2019). Facing loss: Pedagogy of death. *Environmental Education Research*, 25(8), 1143–1157
- Ariès, P. (2008). *The hour of our death. The classic history of western attitudes toward death over the last one thousand years*. Vintage Books.
- Aspinall, S. (1996). Educating children to cope with death: A preventive model. *Psychology in the Schools*, 33(4), 341–349
- Bakker, A., Cai, J., English, L., Kaiser, G., Mesa, V., & Van Dooren, W. (2019). Beyond small, medium, or large: Points of consideration when interpreting effects sizes. *Educational Studies in Mathematics*, 102, 1–8
- Bibeau, D., & Eddy, J. (1985). The effect of death education course on dying and death knowledge, attitudes and fears. *Health Educator*, 17(1), 15–18
- Birkholz, G., Clements, P., Cox, R., & Gaume, A. (2004). Students' self-identified learning needs: A case study of baccalaureate students designing their own death and dying course curriculum. *Journal of Nursing Education*, 43(1), 36–39
- Bos, P. (2014). Empathy, sympathy, simulation? Resisting a Holocaust pedagogy of identification. *Review of Education, Pedagogy, and Cultural Studies*, 26(5), 403–421
- Bourke, R., & MacDonald, J. (2018). Creating a space for student voice in an educational evaluation. *International Journal of Research & Method in Education*, 41(2), 156–168
- Castro, M., & Morales, M. E. (2013). Perspectiva de las personas menores de edad acerca de la violencia en los medios de comunicación: Videojuegos, televisión y música (Perspective of minors about violence in the media: Video games, television and music). *Revista Electrónica Educare*, 17(3), 229–258
- Cheung, A., & Slavin, R. (2016). How methodological features affect effect sizes in education. *Educational Researcher*, 45(5), 283–292
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Academic Press.

- Colomo, E. (2016). Pedagogía de la muerte y proceso de duelo. Cuentos como recurso didáctico (Pedagogy of death and the grieving process. Stories as a teaching resource). *Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 14(2), 63–77.
- Colomo, E., & Oña, J. M. de (2014). Pedagogía de la muerte. Las canciones como recurso didáctico (Pedagogy of death. Songs as a teaching resource). *Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 13(3), 109–121.
- Coombs, S. (2014). Death wears a t-shirt – Listening to young people talk about death. *Mortality*, 19(3), 284–302
- Corr, C., Corr, D., & Doka, K. (2019). *Death and dying, life and living*. Brooks/Cole.
- Cortina, M., & de la Herrán, A. (2008). La práctica del acompañamiento educativo desde la tutoría en situaciones de duelo (The practice of educational accompaniment from mentoring in situations of grief). *Tendencias Pedagógicas*, 13, 157–173
- Cortina, M., & Herrán, A. de la (2011). *Pedagogía de la muerte a través del cine (Pedagogy of death through cinema)*. Humanitas.
- Curci, A., & Bellelli, G. (2004). Cognitive and social consequences of exposure to emotional narratives: Two studies on secondary social sharing of emotions. *Cognition and Emotion*, 18, 881–900
- Herrán, A. de la, & Cortina, M. (2008). *La muerte y su didáctica (Death and its didactics)*. Humanitas.
- Herrán, A. de la, González, I., Navarro, M. J., Bravo, S., & Freire, M. V. (2000). *¿Todos los caracoles se mueren siempre? Cómo tratar la muerte en educación infantil (Do all snails always die? How to treat death in early childhood education)*. Torre.
- de la Herrán, A., Rodríguez, P., & de Miguel, V. (2019). Is death in the Spanish curriculum? *Revista de educación*, 385, 201–226
- Dyregrov, A., Dyregrov, K., & Idsoe, T. (2013). Teachers' perceptions of their role facing children in grief. *Emotional and Behavioural Difficulties*, 18(2), 125–134
- Engarhos, P., Talwar, V., Schleifer, M., & Renaud, S. (2013). Teachers' attitudes and experiences regarding death education in the classroom. *Alberta Journal of Educational Research*, 59(1), 126–128
- Ens, C., & Bond, J. (2007). Death anxiety in adolescents: The contributions of bereavement and religiosity. *Omega*, 55(3), 169–184
- Fonseca, L. M., & Testoni, I. (2012). The emergence of thanatology and current practice in death education. *OMEGA Journal of Death and Dying*, 64(2), 157–169
- Forster, M., Grigsby, T. J., Gower, A. L., Mehus, C. J., & McMorris, B. (2020). The role of social support in the association between childhood adversity and adolescent self-injury and suicide: Findings from a statewide sample of high school students. *Journal of Youth and Adolescence*. <https://doi.org/10.1007/s10964-020-01235-9>
- Glass, J. (1990). Changing death anxiety through death education in the public schools. *Death Studies*, 14(1), 31–52
- Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis: A global perspective*. Pearson Prentice Hall.
- Harrawood, L., Doughty, E., & Wilde, B. (2013). Death education and attitudes of counselors-in-training toward death: An exploratory study. *Counseling and Values*, 56, 83–95
- Heidegger, M. (1978). *Being and time*. Blackwell Publishers.
- Henson, R. (2006). Effect-size measures and meta-analytic thinking in counseling psychology research. *The Counseling Psychologist*, 34, 601–629
- Hinton, D., & Kirk, S. (2015). Teachers' perspectives of supporting pupils with long-term health conditions in mainstream schools: A narrative review of the literature. *Health and Social Care in the Community*, 33(2), 107–120
- Holland, J. (2008). How schools can support children who experience loss and death. *British Journal of Guidance & Counselling*, 36(4), 411–424
- Hong, W., & Choon, H. (2012). Self-control and the fear of death among adolescents in Hong Kong. *Journal of Youth Studies*, 16(1), 70–85
- Jambrina, M. A. (2014). Revisión bibliográfica sobre la muerte y el duelo en la etapa de educación infantil (Bibliographic review on death and bereavement in early childhood education). *International Journal of Developmental and Educational Psychology*, 1(7), 221–232
- James, S. (2015). *The nature of informed bereavement support and death education in selected English primary schools*. University of Hull.
- Lee, H., Jo, K., Chee, K., & Lee, Y. (2008). The perception of good death among human service students in South Korea: A Q-methodological approach. *Death Studies*, 32, 870–890

- Lindquist, D. H. (2007). Avoiding inappropriate pedagogy in middle school teaching of the Holocaust. *Middle School Journal*, 39, 24–31
- Luminet, O., & Curci A (2009). *Flashbulb memories: New issues and new perspectives*. Psychology Press.
- Mantegazza, R. (2004). *Pedagogia della Morte (Pedagogy of death)*. Città Aperta.
- Mari-Klose, M., & de Miguel, J. M. (2000). El canon de la muerte (The canon of death). *Política y Sociedad*, 35, 115–143
- Maté, D. (2017). La representación de la muerte en el videojuego (The representation of death in the video game). *JangwaPana*, 17(1), 61–71
- McGovern, M., & Barry, M. (2000). Death education: Knowledge, attitudes, and perspectives of Irish parents and teachers. *Death Studies*, 24, 325–333
- Mèlich, J. C. (1989). *Situaciones-límite y educación. Estudio sobre el problema de las finalidades educativas (Limit-situations and education. Study on the problem of educational purposes)*. PPU.
- Moore, D. (2007). *The basic practice of statistics*. Freeman & Co.
- Nietzsche, F. (2017). *The dawn of day*. CreateSpace Independent Publishing Platform.
- Nietzsche, F. (2018). *Thus spake Zarathustra*. Independently Published.
- Pardo, A., & San Martín, R. (2010). *Análisis de datos en Ciencias Sociales y de la Salud II (Data analysis in Social and Health Sciences II)*. Síntesis.
- Paul, S. (2019). Is death taboo for children? Developing death ambivalence as a theoretical framework to understand children's relationship with death, dying and bereavement. *Children & Society*, 33, 556–571
- Petitfils, B. (2016). Encountering mortality: A decade later, the pedagogical necessity of Six Feet Under. *Journal of Curriculum and Pedagogy*, 13(3), 249–260
- Potts, S. (2013). Least said, soonest mended? Responses of primary school teachers to the perceived support needs of bereaved children. *Journal of Early Childhood Research*, 11(2), 95–107
- Rodríguez, H., & A. de la, & Cortina, M. . (2019). Antecedentes internacionales de la Pedagogía de la muerte (International background of the Pedagogy of death). *Foro de Educación*, 17(26), 259–276
- Rodríguez, P., de la Herrán, A., & Cortina, M. (2012). Antecedentes de la Pedagogía de la muerte en España (Background of the Pedagogy of death in Spain). *Enseñanza & Teaching*, 30(2), 175–195
- Rodríguez, P., de la Herrán, A., & Cortina, M. (2015). Pedagogía de la muerte mediante aprendizaje servicio (Pedagogy of death through service learning). *Educación XXI*, 18(1), 189–212
- Rodríguez, P., de la Herrán, A., & de Miguel, V. (2020). The inclusion of death in the curriculum of the Spanish Regions. *Compare: A Journal of Comparative and International Education*. <https://doi.org/10.1080/03057925.2020.1732192>
- Rodríguez, P., Izuzquiza, D., & de la Herrán, A. (2015). Concept of death in young people with intellectual disability: A contribution to the Pedagogy on death. *Siglo Cero*, 46(1), 67–80
- Sahler, O. J. (1978). *The child and death*. Mosby.
- Sartre, J. P. (1993). *Being and nothingness*. Washington Square.
- Selfridge, M., & Mitchell, L. M. (2020). Social media as moral laboratory: Street involved youth, death and grief. *Journal of Youth Studies*. <https://doi.org/10.1080/13676261.2020.1746758>
- Shackelford, T. (2003). Assessing individual differences in death threat: A brief theoretical and psychometric review of the threat index. *Omega: Journal of Death and Dying*, 46, 323–333
- Stylianou, P., & Zembylas, M. (2016). Dealing with concepts of 'grief' and 'grieving' in the classroom: Children's perceptions, emotions and behaviour. *OMEGA—Journal of Death and Dying*, 77(3), 240–266
- Summers, R., & Abd-El-Khalick, F. (2017). Development and validation of an instrument to assess student attitudes toward science across grades 5 through 10. *Journal of Research in Science Education*, 55(2), 172–205
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48, 1273–1296
- Teilhard de Chardin, P. (1999). *The human phenomenon*. Sussex Academic Press.
- Testoni, I., Ancona, D., & Ronconi, L. (2015). The ontological representation of death: A scale to measure the idea of annihilation versus passage. *OMEGA—Journal of Death and Dying*, 71(1), 60–81
- Touriñán, J. M. (2019). Pedagogía, profesión, conocimiento y educación: Una aproximación mesoaxiológica a la relación desde la disciplina, la carrera y la función de educar (Pedagogy, profession, knowledge and education: A mesoaxiological approach to the relationship from discipline, career and the function of educating). *Tendencias pedagógicas*, 34, 93–115
- UNESCO (2014). *UNESCO education strategy 2014–2021*. UNESCO.

- UNESCO (2015). *Incheon Declaration: Education 2030: Towards inclusive and equitable quality education and lifelong learning for all*. UNESCO.
- Vlok, M., & de Witt, M. W. (2012). Naive theory of biology: The pre-school child's explanation of death. *Early Child Development and Care*, 182(12), 1645–1659
- Wickman, M. E., Anderson, N. L. R., & Greenberg, C. M. (2008). The adolescent perception of invincibility and its influence on teen acceptance of health promotion strategies. *Journal of Pediatric Nursing*, 23(6), 460–468
- Wildfeuer, J., Schnell, M. W., & Schul, C. (2015). Talking about dying and death: On new discursive constructions of a formerly postulated taboo. *Discourse & Society*, 26(3), 366–390
- Willis, C. (2002). The grieving process in children: Strategies for understanding, educating, and reconciling children's perceptions of death. *Early Childhood Education Journal*, 29(4), 221–226
- World Health Organization (2017). *Global accelerated action for the health of adolescents (AA-HA!)*. OMS.
- Yang, S., & Chen, S. (2009). The study of personal constructs of death and fear of death among Taiwanese adolescents. *Death Studies*, 33(10), 913–940
- Yang, S., & Chen, S. (2010). Content analysis of free-response narratives to personal meanings of death among Chinese children and adolescents. *Death Studies*, 30(3), 217–241
- Zeidner, M. (2005). Contextual and personal predictors of adaptive outcomes under terror attack: The case of Israeli adolescents. *Journal of Youth and Adolescence*, 34, 459–470
- Zembylas, M. (2011). Personal narratives of loss and the exhumation of missing persons in the aftermath of war: In search of public and school pedagogies of mourning. *International Journal of Qualitative Studies in Education*, 24(7), 767–784

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