EDICIONES COMPLUTENSE

Revista Electrónica Complutense de **Investigación en Educación Musical**
e-ISSN: 1698-7454

ARTÍCULOS

High sensitivity and profesional music studies

Raquel Bravo-Marín
Departamento Didáctica de la Educación Física, Artística y Música. Facultad de Educación de Albacete, Universidad de Castilla-La Mancha (España)

Narciso José López-García
Departamento Didáctica de la Educación Física, Artística y Música. Facultad de Educación de Albacete, Universidad de Castilla-La Mancha (España)

Fátima Martín-Ruiz
Departamento Didáctica de la Educación Física, Artística y Música. Facultad de Educación de Albacete, Universidad de Castilla-La Mancha (España)

María José Sánchez-Parra
Departamento Didáctica de la Educación Física, Artística y Música. Facultad de Educación de Toledo, Universidad de Castilla-La Mancha (España)

https://www.doi.org/10.5209/reciem.98295

Received: 03/10/2025 • Accepted: 05/09/2025 • Published: 11/03/2026

ENG **Abstract:** Music, in any of its multiple facets, can be an effective instrument for the regulation and emotional balance of highly sensitive persons (HSPs), with musical expression being one of the most common pathways for self-knowledge and free expression of thoughts and emotions. The present research focused on identifying and analysing the connections described in the literature between high sensitivity and creativity, artistic language skills, rhythm and musicality, among other aspects, in music students of the Elementary and Professional levels of the Royal Professional Conservatory of Music of the Provincial Council of Albacete. We also analysed whether these connections are related to the participants' age, gender, level of studies and specialisation. For this purpose, the high sensitivity tests for children and adults, provided by the Spanish HSP Association (PAS-ESPAÑA), were used, previously adapted to this study. Subsequently, the data were entered into the SPSS v.28 statistical package. The main objective of the study was to explore these connections and correlations, if any, linking professional music studies with this personality trait. The results obtained yield sufficient evidence to suggest a direct and significant relationship between these studies and high sensitivity, opening up avenues for further exploration of these associations and the theoretical and methodological implications for the teaching-learning processes of musical performance with highly sensitive students.
Keywords: high sensitivity; music; music performance; music conservatories.

How to cite: Bravo-Marín, R., López-García, N. J., Martín-Ruiz, F. & Sánchez-Parra, M. J. (2026). High sensitivity and profesional music studies. *RECIEM. Revista Electrónica Complutense en Educación Musical, 2*3(1), 43-56, https://www.doi.org/10.5209/reciem.98295

1. Introduction

In the 1990's Elaine Aron defined high sensitivity as a personality trait, a genetic predisposition that is neither pathological nor presents neurotic characteristics, and which affects 15-20% of the world population (Pardo, 2019). Highly sensitive persons (HSPs) or individuals with sensory processing sensitivity (SPS) typically have a strong ability to connect with the feelings of others, a vell-developed sense of responsibility, exceptional inner depth, notable emotional richness and a significant capacity for empathy (Acevedo et al., 2017; Naegeli, 2018).

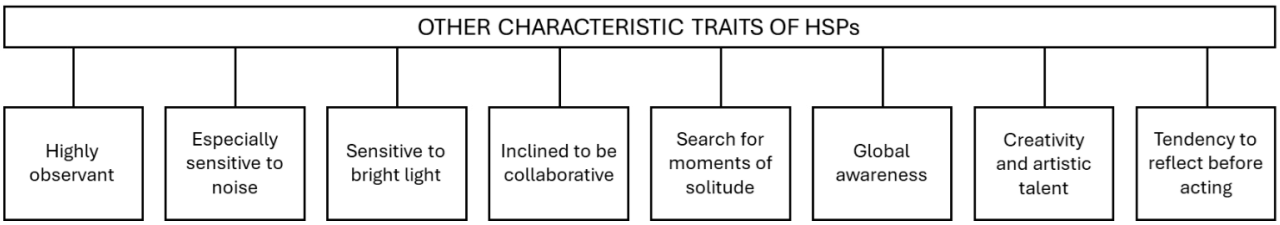
Aron (1996) established the characteristic traits of HSPs, commonly referred to under the acronym of DOES, as follows:

– *Depth of Processing*: deeper cognitive processing of environmental stimuli, a reflective and analytical mind and a tendency to deliberate and compare options.

- *Overstimulation*: an excess of stimuli that can lead to saturation, overwhelming and can even trigger mental shutdown.
- *Emotional Reactivity*: high levels of emotionality and empathy. Concern for other and the environment.
- *Sensing the Subtle*: perception of subtle details that are typically unnoticed by most people, such as small changes in the environment, emotional shifts in others and soft sounds.

Additionally, Aron & Aron (1997a) report that SPS involves greater awareness of sensory input, deeper cognitive processing of external stimuli, more intense emotional and physiological reactivity and behavioural inhibition. In this line, various studies (Aron et al., 2012; Botergerg & Warreyn, 2016; Grimen & Diseth, 2016; Chacón et al., 2021; Villagrán, 2021; Pérez-Chacón et al., 2023) underline that individuals with this personality trait exhibit greater activation of the autonomic nervous system in stressful situations, more intense positive and negative emotional responses and feelings towards others, a strong perception of subtle differences, recognition of long-term consequences and a low tolerance of pain and high levels of sensory stimulation (Figure 1).

Figure 1. Other characteristic traits of HSPs.



Own preparation based on Villagrán (2021, pp. 18-20).

They also suggest that HSPs tend to be particularly skilful in perceiving artistic language and using it as a means of expression, estimating that approximately 90% of artists are highly sensitive or exhibit personality traits associated with high sensitivity.

Drawing on the above and considering that humans are born with protomusical sensitivities that predispose us to becoming musical beings (Dissanayake, 2014), the aim of the present research is to delve deeper into the relationship between high sensitivity and music, focusing primarily on the search for connections between this phenomenon and professional music studies.

1.1. HSPs and Music

Although there is currently limited literature on the relationship between high sensitivity and music, musical performance and/or professional music studies, the characteristics of HSPs suggest that the musical domain, in all its facets; can serve as an effective tool for emotional regulation and balance in such individuals. Musical expression, in particular, represents one of the most common pathways for self-knowledge and the free expression of thoughts and emotions.

In this regard, Naegeli (2018) notes that a significant number of artists, musicians, composers, painters and poets, among others, are highly sensitive, with art and artistic expression being the means through which they express their feelings and mood, in short, their inner world. Moreover, their involvement in the world of music connects them deeply to their surrounding environment.

Meanwhile, Aron (2006) and Pardo (2019) assert that nearly all HSPs possess a strong artistic bent or a deep appreciation for some form of art, highlighting them as creative and having specific abilities to perceive artistic language and associate it with moments of relaxation, even endowing it with therapeutic value. Similarly, HSPs tend to have a good ear, a strong sense of rhythm and good musicality (Sohst, 2017). Additionally, Winner (2003) holds that special sensitivity is consistently present in persons with considerable musical potential.

In this respect, Zegers (2016) states:

> The artistic and creative domain is theoretically that which most fosters the free expression of emotions. Painting or drawing, sculpture, music in all its forms ... and dance in its various disciplines ... provide HSPs with a means to externalise what moves them internally, what excites them and touches the heart of their heightened sensitivity (p. 494).

Considering the above-described connections between musical expression and high sensitivity, the objective of the present study was to delve deeper into these links and to seek stronger correlations, if they exist, between professional music studies and this personality trait, with the ultimate aim being to provide a solid scientific and academic foundation on the topic.

Considering the above-described connections between musical expression and high sensitivity, the objective of the present study was to delve deeper into these links and to seek stronger correlations, if they exist, between professional music studies and this personality trait, with the ultimate aim being to provide a solid scientific and academic foundation on the topic.

2. PAS-ESPAÑA

The necessary preliminary step before implementing this study involved contacting experts on high sensitivity in the area in which the study population is located. Accordingly, contact was made with PAS-ESPAÑA, the Spanish Association of Psychologists and Professionals in High Sensitivity.

This association was founded in 2017 to help transform and improve society by addressing high sensitivity, generating a real and conscious impact based on the principles of sensitivity, scientific quality, creativity and innovation, teamwork, non-discrimination and harmony with society.

Their work focuses on the following areas:

- Certification of professionals involved with high sensitivity.
- Creation of a volunteer network to offer support to groups and individuals that need it.
- Attention to the diversity of persons that need such support.
- Prevention of misdiagnoses in children and promotion of respect for highly sensitive minors, eliminating labels.
- Work with older HSPs to enhance their quality of life.

Since its beginnings, it has been particularly meticulous regarding excellence in management, commitment, transparency, service orientation, ethics, integrity, humanism, quality and warmth. This has made it a reference in the field of high sensitivity at both national and international levels[1].

3. The Royal Professional Conservatory of Music of the Provincial Council of Albacete

Having completed the first phase, the next was to select the institute of musical studies where the research was to be conducted. We selected the Royal Professional Conservatory of Music of Albacete, an official public centre of teaching, administered by the Provincial Council and the Dean of Music in the Autonomous Community of Castilla-La Mancha.

The conservatory was founded in 1951, with its elementary musical studies being officially recognised through a Decree issued by the National Ministry of Education in 1954. Its position was consolidated in 1966, with the adoption of Decree 2618/1966, of 10 September, on the general regulation of conservatories of music. A period of expansion and provision of material and professional resources commenced in 1974, which would enable the introduction of new instrumental specialisations and facilitate the institution's transformation into a professional conservatory in 1981.

Royal Decree 756/1992, of 26 June, provided for a new study plan for the elementary and middle levels, in line with the guidelines set out in Organic Law 1/1990, of 3 October, on the General Organisation of the Educational System (LOGSE, in its Spanish acronym), which significantly regulated both the studies offered and the students enrolled in them, as well as providing a greater balance in the internal composition of the institution (Sarget, 2002).

In January 2000, the Regional Government of Castilla-La Mancha assumed responsibility for non-university education. Since then, the Regional Ministry of Education has been in charge of regulating and establishing the fundamental components of the professional music education curriculum. It has also a new system for assessing and admitting students to the conservatories in the autonomous community, with the aim of providing high-quality artistic training and ensuring the appropriate certification of future music professionals.

The Albacete Conservatory currently offers elementary and professional level studies in the following specialties (Table 1):

Table 1. Specialties taught at the Royal Conservatory of Music.

ELEMENTARY STUDIES	PROFESSIONAL STUDIES
Accordion	Accordion
Clarinet	Singing
Double bass	Clarinet
Bassoon	Double bass
Transverse flute	Bassoon
Guitar	Transverse flute
Oboe	Guitar
Percussion	Oboe

[1] Further information on PAS-ESPAÑA at: https://pasespana.org/

ELEMENTARY STUDIES	PROFESSIONAL STUDIES
Piano	Percussion
Saxophone	Piano
Trombone	Saxophone
French horn	Trombone
Trumpet	French horn
Tuba	Trumpet
Viola	Tuba
Violin	Viola
Cello	Violin
	Cello

Source: own preparation.

At the time of the research, there were 418 students at the conservatory, 199 of whom were enrolled in elementary studies and 219 in professional studies.

Finally, it is worth noting and recognising that, as underlined by Sarget (2002), the Royal Professional Conservatory of the Provincial Council of Albacete, aside from being the oldest in the region of Castilla-La Mancha, has traditionally pioneered the promotion and implementation of new specialisations.

4. Method

This quantitative, non-experimental research was conducted with students from the Royal Professional Conservatory of Music of the Provincial Council of Albacete. The method employed was that of a descriptive study using an online survey. Following Pérez (2009) and Sabariego (2010), the participants drawn from the setting under study provided us with significant information, in this case, on the possible links between high sensitivity, musical abilities and professional music studies, allowing us to emit value judgements on the reality examined.

4.1. Participants

The participants were recruited by means of non-probabilistic quota sampling (Cardona, 2002; Tójar & Matas, 2009), considering the number of students enrolled by year group. In this way, we ensured a representative example of the target population, while also meeting the sample criteria for finite populations (N= 418; confidence level= 95%; margin of error= 5%; n= 201) and respecting the sample size table proposed by Krejcie and Morgan (1970), where the required sample size for N= 420 is, n= 201.

Of a total of 418 (N= 418) students enrolled at the Albacete Conservatory, the final sample comprised 215 students (n= 215), of whom 102 were male, 105 were female and 8 specified no gender (Table 2). The participants were students ranging from the first year of the elementary level to the sixth year of the professional level, enrolled across the 18 specialisations taught by the institution. All those aged under 18 provided the prior informed consent from their parents or legal guardians to take part in the study.

Table 2. Students enrolled and participants by study and leven in the 2023/2024 academic year.

	ELEMENTARY LEVEL				PROFESSIONAL LEVEL						TOTAL
YEAR	1º	2º	3º	4º	1º	2º	3º	4º	5º	6º	
TOTAL Nº STUDENTS	60	45	53	41	59	41	31	32	35	21	418
Nº PARTICIPANTS	31	23	27	21	31	34	16	23	24	11	215

Source: own preparation.

4.2. Instruments

The instruments used to collect the data were the children's and adults' HSP questionnaires (*PAS Infantil* and *Cuestionario PAS para Adultos*), both provided by the Spanish Association of Psychologists and Professionals in High Sensitivity (PAS ESPAÑA).

The children's HSP test was administered to participants between the ages of 7 and 14. It is a cross-cultural adaptation of the Highly Sensitive Person Scale (Aron & Aron, 1997b) for Spanish. The validation was conducted with a sample of 665 primary and secondary schoolchildren. The adaptation to Spanish was

developed by bilingual experts. Descriptive, statistical and performance analyses were carried out, as well as a confirmatory factor analysis. It was also tested for reliability, internal consistency and validity, finding that the adaptation was a reliable measure for use in Spanish contexts. The statistics can be consulted in the studies by Costa-López et al. (2022) and Flores-Vázquez et al. (2023).

The test comprises 22 items that are scored on a seven-point Likert-type scale (from 1= strongly disagree, to 7= strongly agree). Considering the needs of our research, we requested PAS-ESPAÑA include a series of items designed to identify the participants, namely, age, gender, year of study and specialisation, with these being used as the main study variables. The questionnaire was thus configured to be used exclusively in the present research, under the name of Music Conservatory Highly Sensitive People Project-Children (PCMAS-J, in its Spanish acronym)[2].

The adults' HSP Questionnaire, or High Sensitivity test for Spanish population by Pérez-Chacón, was administered to the students aged over 14. It is a translation and adaptation of the original Highly Sensitive Person Scale (HSPS) by Elaine Aron and Arthur Aron (1997b). The adaptation study was conducted with a sample of 12,000 individuals, with the instrument 's psychometric properties being analysed. The statistical data were found to be valid and reliable. Correlations such as Pearson's coefficient were calculated; test-retest assessment was performed, and Cronbach's Alpha and McDonald's omega coefficient were calculated. Moreover, it was evaluated by more than 40 experts in health and medicine, who found the items were reliable and accurate. The results of this adaptation can be consulted in the study by Chacón et al. (2021).

The 27 items of the test are rated on a seven-point Likert-type scale (from 1= strongly disagree, to 7 = strongly agree). As in the previous questionnaire, PAS-ESPAÑA included the same identification items, with the resulting instrument forming the Music Conservatory Highly Sensitive People Project-Adults (PCMAS-A, in its Spanish acronym)[3].

The results were entered into the statistical software package SPSS v.28 and subsequently subjected to Cronbach's alpha and McDonalds omega coefficients to verify the data obtained in the study. In both cases, the statistics exceeded .70.

4.3. Procedure

Before administering the tests, a meeting was held with the conservatory management team to explain and present the aims of the study and to request their collaboration. This governing body subsequently informed all the teaching staff and, having received their approval, took responsibility for distributing and collecting the informed consent forms from the parents or legal guardians that expressed their interest in their children under the age of 18 participating. Additionally, the management team organised and planned the dates on which to administer the tests, taking into account factors such as age, year group, reception of parental authorisation where necessary and collective subjects. Every effort was made to group together the largest possible number of students and to minimise disruptions to the regular functioning of the institution.

The researchers personally administered the questionnaires, previously providing information on their anonymous nature and explaining how to complete them. We also resolved any doubts that arose, checked that the participants completed the scale individually and handed a report with the results to all the individuals involved, for the purpose of informing the families. The mean time taken to complete the PCMAS-J was approximately 45 minutes, while those responding to the PCMAS-A took 30 minutes. All the above took place during the second term of the 2023-2024 academic year.

4.4. Data analysis

Although the adapted versions of the tests used have proven validity and reliability (Chacón et al., 2021; Costa-López et al., 2022; Flores-Vázquez et al., 2023), the results obtained in the present research were entered into the statistical software package SPSS v.28 to calculate Cronbach's alpha and McDonald's omega and to examine their reliability and suitability in detecting high sensitivity in the context under study. In both cases, the resulting index was favourable (PCMAS-J: α = .782; ω = .768; PCMAS-A: α = .882; ω = .877), aligning with the principles proposed by Russel (2018). It can thus be stated that the data obtained with reference to high sensitivity in students pursuing professional music studies at this educational institution are valid and reliable. Furthermore the software allowed us to calculate correlations between the main study variables (v1 = HSP, v2 = GENDER, v3 = YEAR, v4 = AGE AND v5 = SPECIALISATION) using Pearson's chi-squared: H0 (v1 is independent of v2, p = .070 and of v5, p = .524); H1 (v1 is associated with v3, p = .001; v1 is associated with v4, p = .001) and other descriptive statistics (frequency, central tendency and dispersion) related to the responses to the PCMAS-J and PCMAS-A, which helped draw conclusions related to the main aim of our research.

5. Results

The descriptive statistics reveal a clear correlation between the variables HSP, YEAR, and AGE, highlighting a significant increase in the number of HSP participants in relation to their year of study (Table 3), the age group to which they belong (Figure 2), and the type of studies (elementary level and professional level). This, in turn,

[2] Access to the Music Conservatory Highly Sensitive People Project-Adults-Children: https://pasespana.org/conservatorio-nas/
[3] Access to the Music Conservatory Highly Sensitive People Project-Adults: https://pasespana.org/conservatorio-PAS/

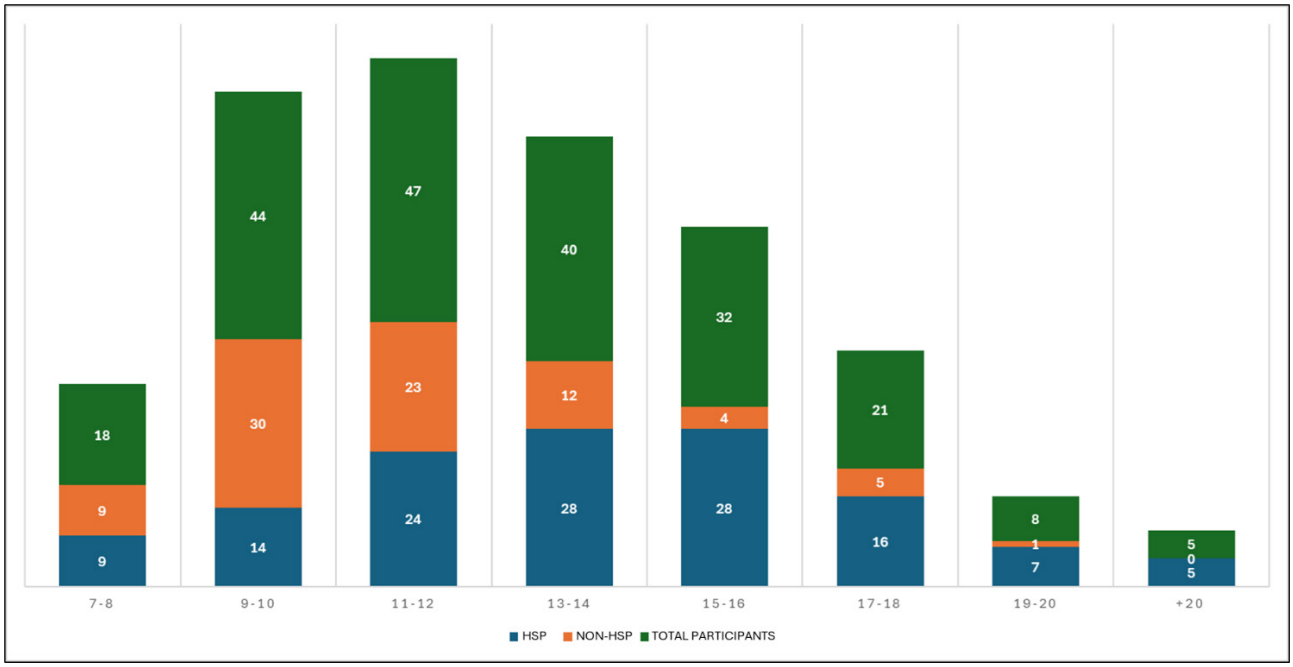
is accompanied by a decrease in the number of students enrolled at each of the ten levels (Fig. 3), particularly in the final years of the professional studies.

Table 3. Students. Contingency table for v3 by v4 segmented by v1.

			7-8	9-10	11-12	13-14	15-16	17-18	19-20	+20	Total
HSP	YEAR	1EL	9	1	3	0	0	0	0	0	13
		2EL	0	9	0	0	0	0	0	0	9
		3EL	0	4	7	0	0	0	0	0	11
		4EL	0	0	9	2	0	0	0	0	11
		1PL	0	0	5	12	1	0	0	1	19
		2PL	0	0	0	10	3	2	0	0	15
		3PL	0	0	0	4	7	1	0	0	12
		4PL	0	0	0	0	12	1	0	1	14
		5PL	0	0	0	0	5	7	4	1	17
		6PL	0	0	0	0	0	5	3	2	10
	TOTAL		9	14	24	28	28	16	7	5	131
NON HSP	YEAR	1EL	9	9	0	0	0	0	0	0	18
		2EL	0	12	2	0	0	0	0	0	14
		3EL	0	9	6	1	0	0	0	0	16
		4EL	0	0	9	1	0	0	0	0	10
		1PL	0	0	6	5	0	0	0	0	11
		2PL	0	0	0	5	0	1	0	0	6
		3PL	0	0	0	0	2	2	0	0	4
		4PL	0	0	0	0	2	1	0	0	3
		5PL	0	0	0	0	0	1	0	0	1
		6PL	0	0	0	0	0	0	1	0	1
	TOTAL		9	30	23	12	4	5	1	0	84
TOTAL	YEAR	1EL	18	10	3	0	0	0	0	0	31
		2EL	0	21	2	0	0	0	0	0	23
		3EL	0	13	13	1	0	0	0	0	27
		4EL	0	0	18	3	0	0	0	0	21
		1PL	0	0	11	17	1	0	0	1	30
		2PL	0	0	0	15	3	3	0	0	21
		3PL	0	0	0	4	9	3	0	0	16
		4PL	0	0	0	0	14	2	0	1	17
		5PL	0	0	0	0	5	8	4	1	18
		6PL	0	0	0	0	0	5	4	2	11
	TOTAL		18	44	47	40	32	21	8	5	215

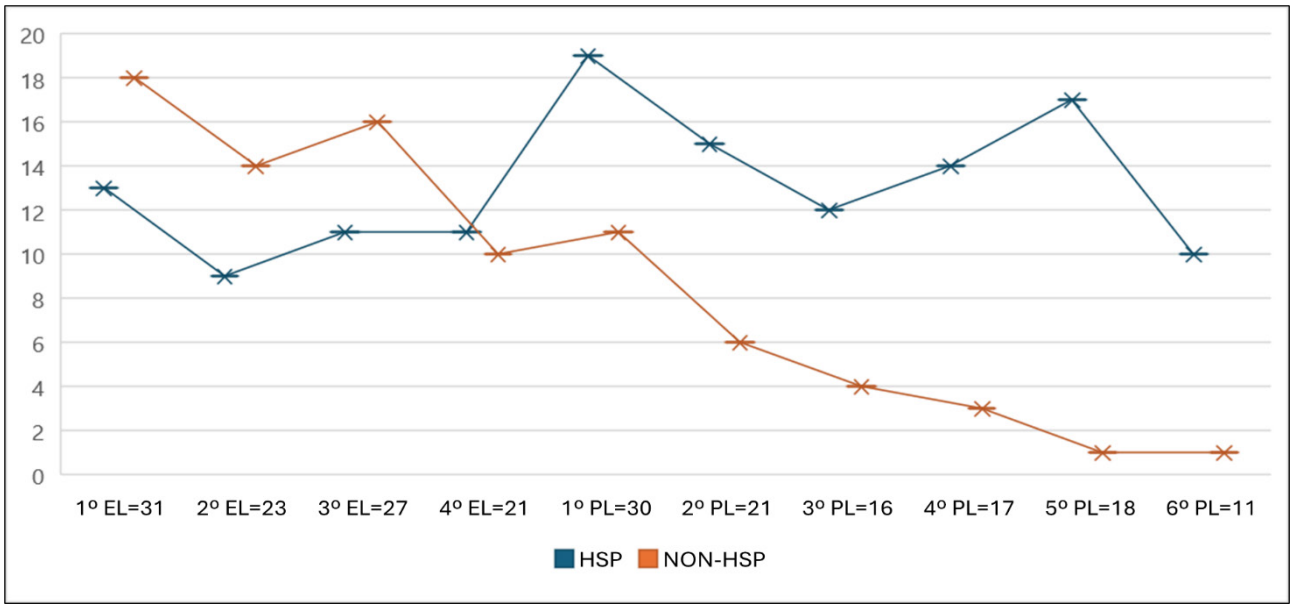
Source: own preparation.

Figure 2. Evolution of HSP and NON-HSP participants by age group.



Own preparation.

Figure 3. Evolution of HSP and NON-HSP participants by level and year of study.



Own preparation.

Drawing on these results and, given that the p value in both correlations (v1-v2 and v1-v3) is below the standard significance level (α = 0.05), there is sufficient evidence to suggest a statistically significant association between the variables [v1 and v3 (X2 (9) = 32,857, p = 0.001); v1 and v4 (X2 (7) = 36,995, p = 0.001]. Hence, the null hypothesis can be rejected.

Furthermore, there is an interesting correlation between HSP and gender (Tables 4,5 and 6). This is striking if we consider that the parameters obtained through Pearson's chi-squared revealed an independent relationship between the two variables [v1 y v2 (X2 (2) = 5,318, p = 0.070].

Table 4. Contingency table for v3 by v2 segmented by v1.

		YEAR										
		1EL	**2EL**	**3EL**	**4EL**	**1PL**	**2PL**	**3PL**	**4PL**	**5PL**	**6PL**	**TOTAL**
HSP Gender	H	3	5	4	3	10	5	5	5	11	3	54
	M	8	4	6	8	8	10	6	9	6	7	72
	IND	2	0	1	0	1	0	1	0	0	0	5
	Total	13	9	11	11	19	15	12	14	17	10	131
NON-HSP Gender	H	7	6	9	7	8	4	3	3	0	1	48
	M	9	7	7	3	3	2	1	0	1	0	33
	IND	2	1	0	0	0	0	0	0	0	0	3
	Total	18	14	16	10	11	6	4	3	1	1	84
Total Gender	H	10	11	13	10	18	9	8	8	11	4	102
	M	17	11	13	11	11	12	7	9	7	7	105
	IND	4	1	1	0	1	0	1	0	0	0	8
	Total	31	23	27	21	30	21	16	17	18	11	215

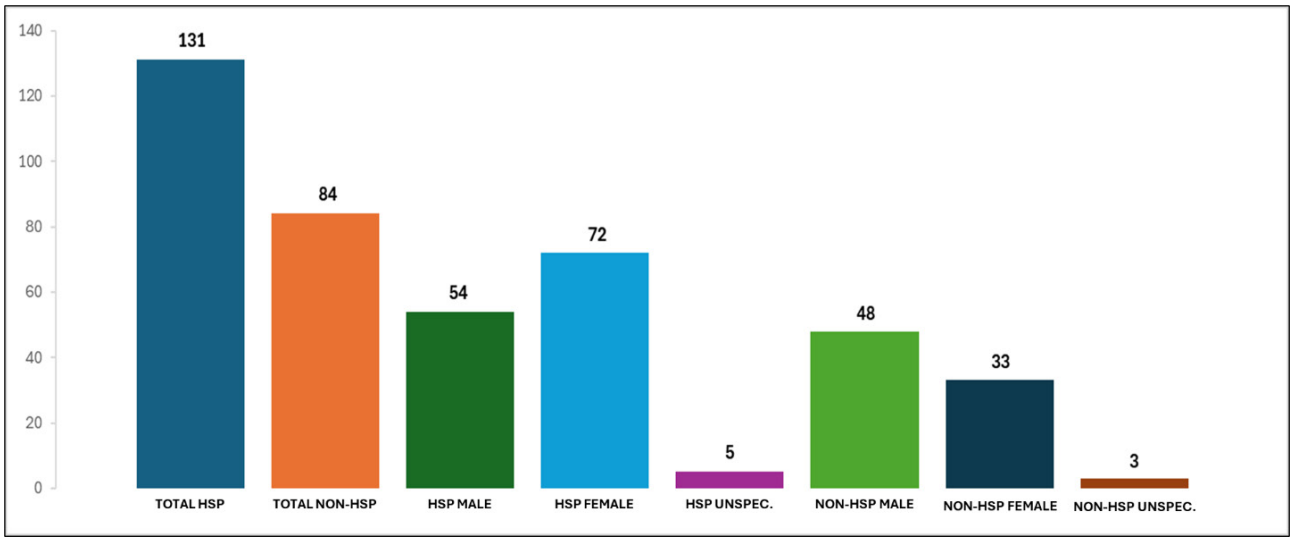
Source: own preparation

Table 5. Correlations and contingency table between v1 and v3.

	MALE		**FEMALE**		**UNSPECIFIED**		**TOTAL**	
	f	%	*f*	%	*f*	%	*f*	%
HSP	54	52,94	72	68,57	5	62,5	131	60,93
NON-HSP	48	47,06	33	31,43	3	37,5	84	39,07
TOTAL	102	100,0	105	100,0	8	100,0	215	100,0

Source: own preparation

Figure 4. Total number of HSP participants by gender. Own preparation.



Source: own preparation.

Focusing on the number of participants with unspecified gender, eight individuals selected this option. Of these, five obtained a positive result on the HSP test. Furthermore, the age range of these students is that of 7 to 14 years (Table 6).

Although, a priori, this finding might seem irrelevant, it is striking that this situation corresponds to such young students, especially considering that six of them are aged 7 to 12.

Table 6. Contingency table for participants of unspecified gender by age group and year of study.

		AGE GROUP								
		7-8	**9-10**	**11-12**	**13-14**	**15-16**	**17-18**	**19-20**	**+20**	**TOTAL**
HSP Year	1EL	1	-	1	-	-	-	-	-	2
	2EL	-	-	-	-	-	-	-	-	-
	3EL	-	-	1	-	-	-	-	-	1
	4EL	-	-	-	-	-	-	-	-	-
	1PL	-	-	-	1	-	-	-	-	1
	2PL	-	-	-	-	-	-	-	-	-
	3PL	-	-	-	1	-	-	-	-	1
	4PL	-	-	-	-	-	-	-	-	-
	5PL	-	-	-	-	-	-	-	-	-
	6PL	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	5
NON-HSP Year	1EL	2	-	-	-	-	-	-	-	2
	2EL	-	1	-	-	-	-	-	-	1
	3EL	-	-	-	-	-	-	-	-	-
	4EL	-	-	-	-	-	-	-	-	-
	1PL	-	-	-	-	-	-	-	-	-
	2PL	-	-	-	-	-	-	-	-	-
	3PL	-	-	-	-	-	-	-	-	-
	4PL	-	-	-	-	-	-	-	-	-
	5PL	-	-	-	-	-	-	-	-	-
	6PL	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	3
Total Year	1EL	3	-	1	-	-	-	-	-	4
	2EL	-	1	-	-	-	-	-	-	1
	3EL	-	-	1	-	-	-	-	-	1
	4EL	-	-	-	-	-	-	-	-	-
	1PL	-	-	-	1	-	-	-	-	1
	2PL	-	-	-	-	-	-	-	-	-
	3PL	-	-	-	1	-	-	-	-	1
	4PL	-	-	-	-	-	-	-	-	-
	5PL	-	-	-	-	-	-	-	-	-
	6PL	-	-	-	-	-	-	-	-	-
	Total	3	1	2	2	-	-	-	-	8

Furthermore, we selected the three items directly related to artistic expression, creativity and imagination, since we considered them to be the most relevant to our research (J3 and J4, from the PCMAS-J and A10, from the PCMAS-A).

The statistics obtained for these three items revealed a high level of creativity, imagination and artistic interest in the participants. It is worth noting that, in the case of the respondents aged over 18, item A10 specifically refers to the performing arts and music (Table 7).

Table 7. Items directly related to artistic expression, creativity and imagination.

		ELEMENTARY				PROFESSIONAL					
ÍTEMS		**1º**	**2º**	**3º**	**4º**	**1º**	**2º**	**3º**	**4º**	**5º**	**6º**
J3	Likert scale	***f***									
	1	2	1	0	1	0	0	0	-	-	-
	2	1	1	3	0	1	0	0	-	-	-
	3	1	0	0	0	0	1	0	-	-	-
	4	4	0	2	3	2	2	1	-	-	-
	5	2	8	9	2	5	2	1	-	-	-
	6	5	3	7	4	10	6	0	-	-	-
	7	16	10	6	11	10	4	2	-	-	-
		M									
		5,65	5,70	5,30	5,90	5,89	5,67	5,75	-	-	-
		σ									
		1,87	1,60	1,49	1,58	1,20	1,23	1,50	-	-	-
J4		***f***									
	1	2	1	0	0	0	1	0	-	-	-
	2	0	2	0	0	0	0	0	-	-	-
	3	0	1	3	0	1	0	0	-	-	-
	4	2	0	1	2	1	0	0	-	-	-
	5	4	6	4	4	5	4	1	-	-	-
	6	9	4	8	1	4	4	1	-	-	-
	7	14	9	11	14	17	6	2	-	-	-
		M									
		5,87	5,43	5,85	6,29	6,25	5,80	6,25	-	-	-
		σ									
		1,59	1,83	1,32	1,10	1,11	1,57	,96	-	-	-
A10		***f***									
	1	-	-	-	-	0	1	0	0	0	0
	2	-	-	-	-	0	0	0	0	0	0
	3	-	-	-	-	0	0	0	0	1	0
	4	-	-	-	-	0	0	2	1	1	0
	5	-	-	-	-	0	2	2	6	5	1
	6	-	-	-	-	0	2	4	7	7	4
	7	-	-	-	-	2	1	4	3	4	6
		M									
		-	-	-	-	7,00	5,00	5,83	5,71	5,67	6,45
		σ									
		-	-	-	-	,00	2,09	1,11	,85	1,08	,69

Source: own preparation.

6. Discussion

The present research evidences a clear association between the participants and high sensitivity. The findings support this hypothesis, as reported in the existing literature (Aron & Aron, 1997a; Aron, 2006; Botergerg &

Warreyn, 2016; Grimen & Diseth, 2016; Zegers, 2016; Sohst, 2017; Naegeli, 2018; Pardo, 2019; Chacón et al., 2021; Pérez-Chacón et al., 2023), in which the studies confirm the existence of a link between this trait and artistic disciplines and skills. Although there lacks previous research on the relationship between highly sensitive persons and elementary and professional music studies, our data are significantly conclusive, which is consistent with the studies cited above.

There is a marked correlation between the professionalisation of music studies and the presence of HSPs. In this regard, it is worth noting that one of the most significant findings indicates that the higher the level of musical education—and, consequently, the level of difficulty—the greater is the percentage of students with high sensitivity. Moreover, this trend is reflected in the total number of students enrolled in each year of study: in the higher years, there is a decline in enrolment accompanied by an increase in the proportion of highly sensitive students.

The relationship between participant age and high sensitivity also provides similar data to those above; the statistics show a significant increase in HSPs in the higher age groups. This suggests connections with the concept of vocational maturity proposed by Polanco (2013). This might explain the reduction in student enrolment in the more advanced levels, suggesting that HSP students exhibit a higher degree of vocational maturity. This, in turn, may account for the considerable increase in both the number and age of the HSP students as musical studies become more professionalised.

One of our most striking findings relates to the gender of the respondents and high sensitivity. In contrast to the assumptions established in early research on HSP and gender (Aron, 1996; Aron & Aron, 1997a), our statistics reveal a significant association between the male and female participants and sensitivity, with a higher percentage of HSPs among the latter group. This finding coincides with those reported by Racine et al. (2012), Bartley and Fillingim (2013), and Dixon et al. (2016), among others, who suggest that women typically exhibit greater sensitivity. Although conclusive evidence is lacking, these studies highlight aspects of hormonal processes, gender roles, and even familial and social contexts.

It is also worth considering the results related to unspecified gender identification. In this regard, it is interesting that, of the eight individuals that selected this option in the questionnaires, five were found to be HSPs. Furthermore, we find it particularly striking that all eight participants are in the 7 to 14 age range. This finding opens the door to future research on gender identity at early ages, which might yield more conclusive data in this regard.

With regard to the participants' chosen specialisations, no conclusive data were found suggesting a relationship between high sensitivity and this particular variable, as evidenced by the statistical indicators employed. In fact, the various tests conducted using SPSS v.28 point to a high degree of independence between the two variables. It is worth noting that neither the Chi-squared tests nor the symmetric measures provided evidence of significant correlations. Given that the results on high sensitivity appear not to be influenced by the participants' specialisation, we decided not to explore these potential associations so as to avoid spurious arguments that might distort the data collected.

With respect to the creative and artistic abilities of the HSPs identified, the statistical analyses reveal clear correspondences, which coincides with the postulates of Zegers (2019; 2021) on the importance of using and developing these abilities as a means of externalising emotions and feelings. These findings are also consistent with those reported by Martín et al. (2005) and Alonso et al. (2015), who highlighted statistically significant correlations between creativity and musical aptitudes.

7. Conclusion

This study evidences the specific associations between high sensitivity and professional music studies. In this sense, it is important to underline that, to the best of our knowledge, there is no dedicated research on such relationships, apart from the assumptions of Winner (2003), Aron (2006) and Zegers (2016), among others, who describe the association between musical abilities and this personality trait. This lack of prior research, in our view, points to one of the strengths of our study since, on the one hand, it confirms the correlations described in previous theoretical works and, on the other, opens an important avenue for new works to delve deeper into these correlations.

Meanwhile, the fact that our statistical data clearly align with the most current trends related to high sensitivity and gender (Racine et al., 2012; Bartley & Fillingim, 2013; Dixon et al., 2016) encourages further research in this direction, which, in our view, may yield significant findings, from both a scientific and academic standpoint and from perspectives related to psychology and education. Additionally, we consider it necessary to delve deeper into the data obtained on non-gender identification, the highly sensitive traits exhibited of such participants and, above all, the age range within which these cases were detected.

Meanwhile, it is interesting to note that, based on the results obtained, no significant differences can be identified between high sensitivity and the participants' instrumental specialisation. In this sense, it is worth underscoring that, although differences might be found in learning processes or even in cognitive processing—for instance, between students of composition or harmony and those specialising in melodic or harmonic instruments, in relation to their sensitivity to harmonic structures and musical forms—it cannot be asserted that these specific abilities are associated with being a highly sensitive person.

A further aspect worth underlining is that of the concept of vocational maturity proposed by Polanco (2013). It was observed that while the number of HSPs is greater in the higher levels of professional music education, overall student enrolment at these stages tends to decline compared to the elementary level and the initial years of the professional level. This finding suggests that highly sensitive students may possess

deeper, even more affective, musical abilities, which could facilitate their academic development, and which could arguably be interpreted as a process of natural selection. This hypothesis, which, in our opinion, is highly significant, encourages us to continue exploring the possible connections between high sensitivity and the arts in other institutions devoted to education in music and the arts, given this finding.

Additionally, the links identified between musical and creative aptitudes and high sensitivity corroborate the findings of Martín et al. (2005) and Alonso et al. (2015), underlining that the use and development of these abilities facilitate the externalisation of emotions and feelings in HSPs.

Focusing on teaching and learning processes, and in line with Martínez (2020), the present research may have considerable implications for educational practice, given that teaching staff's knowledge of the high sensitivity trait in their students could result in a deeper understanding and assimilation of the particular characteristics associated with such learners. This, in turn, could foster a more effective adaptation of teaching techniques and methodologies.

With regard to the aim of the present study, it can be concluded that there is clear evidence of a significant connection between high sensitivity and students enrolled in elementary and professional music studies. This underscores the need to broaden the sample in future studies by extending the scope to other regional and national professional conservatories of music, as well as higher conservatories, institutions responsible for providing advanced training to future music professionals and for promoting, among other things, activities of artistic creation and research.

Furthermore, considering that the results are limited to a single institution, we propose studies on high sensitivity among students in other entities, such as art schools, dance conservatories, drama schools and faculties of fine arts. Such research might help bolster the consistency of the data presented and provide novel knowledge about the relationship between high sensitivity and artistic expression. The aim is thus to identify, acknowledge and address the needs of highly sensitive students, thereby enhancing their emotion regulation skills and psychological well-being.

8. References

Acevedo, B. P., Jagiellowicz, J., Aron, E., Marhenke, R., & Aron, A. (2017). Sensory processing sensitivity and childhood quality's effects on neural responses to emotional stimuli. *Clinical Neuropsychiatry, 14*(6), 359-373. https://www.clinicalneuropsychiatry.org/download/sensory-processingsensitivity-and-childhood-qualitys-effects-on-neural-responses-toemotional-stimuli/

Alonso, R. K., Martínez, M. C., & Martín, P. (2015). Creatividad, atención y rendimiento académico en alumnado de conservatorio profesional. International Joornal of Developmental and Educational Psychology. *INFAD. Revista de Psicología, 1*(1), 473-482. https://doi.org/10.17060/ijodaep.2015.n1.v1.32

Aron, E. (1996). *El don de la sensibilidad. Las personas altamente sensibles.* Ediciones Obelisco.

Aron, E., & Aron, A. (1997a). Sensory-processing sensitivity and its relation to introversion and emotionaly. *Journal of Personality and Social Psychology, 73*(2), 345-368. https://doi.org/10.1037/0022-3514.73.2.345

Aron, E., & Aron, A. (1997b). *Highly Sensitive Person Scale (HSPS)*. APA PsycTests.

Aron, E. (2006). *El don de la sensibilidad. Las personas altamente sensibles.* Ediciones Obelisco.

Aron, E., Aron A., & Jagiellowicz, J. (2012). Sensory Processing Sensitivity: a review in the light of the evolution of biological responsivity. *Personality and Social Psychology Review, 16*(3), 262-282. https://doi.org/10.1177/1088868311434213

Bartley, E. J., & Filingim, R. B. (2013). Sex differences in pain: a brief review of clinical and experimental findings. *British Journal of Anaesthesia, 111,* 52-58. https://doi.org/10.1093/bja/aet127

Botergerg, S., & Warreyn, P. (2016). Making sense of it all: the impact of sensory processing sensitivity on daily functioning of children. *Personality and Individual Differences, 92,* 80-86. http://dx.doi.org/10.1016/j.paid.2015.12.022

Cardona, J. (2002). *Introducción a los métodos de investigación en educación.* EOS.

Chacón, A., Pérez-Chacón, M., Borda-Mas, M., Avargues-Navarro, M. L., & López-Jiménez, A. M. (2021). Cross-Cultural Adaptation and Validation of the Highly Sensitive Person Scale to the Adult Spanish Population (HSPS-S). *Psychology and Behaviour Management 14,* 1041-1052. https://doi.org/10.2147/PRBM.S321277

Costa, B., Ruiz, N., Albaladejo, N. Baryla, M., & Ferrer, R. (2022). Propiedades psicométricas de la versión española de la Hyghly Sensitive Child scale: the parent version. *Revista Internacional de Investigación Ambiental y Salud Pública, 19,* 1-12. https://doi.org/10.3390/ijerph19053101

Dissanayake, E. (2014). Homo musicus: ¿Estamos biológicamente predispuestos para ser musicales? En S. Español (Comp.), *Psicología de la música y del desarrollo. Una exploración interdisciplinaria sobre la musicalidad humana* (pp. 260-288). Paidós.

Dixon, E.A., Benham, G., Sturgeon, J. A., Mackey, S., Johnson, K.A., & Young J. (2016). Development of the Sensory Hypersensitivity Scale (SHS): a self-report tool for assessing sensitivity to sensory stimuli. *Journal of Behavioral Medicine 39,* 537-550. https://doi.org/10.1007/s10865-016-9720-3

Flores, M. A., Álvarez, J. F., Collado, R., Trigueros, R., Salinas, S., & Aguilar, J. M. (2023). Adaptación transcultural de la "Highly Sensitive Person Scale" a población española de entre 12 y 19 años. *Revista de Educación Inclusiva, 16*(1), 119-128. https://revistaeducacioninclusiva.es/index.php/REI/article/view/883

Grimen, H. L., & Diseth, A. (2016). Sensory Processing Sensitivity: factors of the Highly Sensitive Person Scale and their relationships to personality and subjective health complaints. *Comprehensive Psychology, 5,* 1-10. https://doi.org/10.1177/2165222816660077

Krejcie, R. V., & Morgan, D. V. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30,* 607-610.
Martín, E., León, B. & Vicente, F. (2005). Influencia de la creatividad y la atención en las aptitudes musicales de niños entre diez y doce años. *Campo Abierto, 28*¸15-25. https://dehesa.unex.es/bitstream/10662/14761/1/0213-9529_28_15.pdf
Martínez, L. M. (2020). *Una pedagogía del nosotros: sociedad, familia y educación en esencia.* Ediciones FERSE.
Naegeli, A. S. (2018). *Vivir con alta sensibilidad. Entre el talento y la fragilidad.* HERDER.
Pardo, R. (2019). *Personas altamente sensibles. Claves psicológicas y espirituales.* Desclée de Brouwer.
Pérez, M. (2009). Los métodos de investigación en educación. En A. Pantoja (Coord.), *Manual básico para la realización de tesinas, tesis y trabajos de investigación* (pp. 71-98). EOS.
Pérez-Chacón, M., Borda, M., Chacón, A., & Avargues, M. L. (2023). Personality traits and coping strategies as psychological factors associated with health-related quality of life in Highly Sensitive Persons. *International Journal of Environmental Research and Public Health, 20,* 1-16. https://doi.org/10.3390/ijerph20095644
Polanco, R. (2013). La orientación académica y profesional en los Conservatorios de Música. *ARTSEDUCA, 5,* 1-7. https://dialnet.unirioja.es/servlet/articulo?codigo=4339753
Racine, M., Tousignant-Laflamme, Y., Kloda, L. A., Dion, D., Dupuis, G., & Choinière, M. (2012). A systematic literature review of 10 years of research on sex/gender and pain perception: Do biopsychosocial factors alter pain sensitivity differently in women and men. *Pain, 153,* 619-635. https://doi.org/10.1016/j.pain.2011.11.025
Russell, J. A. (2018). *Statistics in Music Education research.* Oxford University Press.
Sabariego, M. (2010). Etnografía y estudio de casos. En S. Nieto (Ed.), *Principios, métodos y técnicas esenciales para la investigación educativa* (pp. 425-445). Dykinson.
Sarget, M. A. (2002). *Los conservatorios de música en Castilla-La Mancha.* Junta de Comunidades de Castilla-La Mancha, Servicio de Publicaciones, Consejería de Educación y Cultura.
Sohst, K. (2017). *El poder de la sensibilidad. Cómo identificar a las personas altamente sensibles y qué podemos aprender de ellas.* Ariel.
Tójar, J. C., & Matas, A. (2009). Fundamentos metodológicos básicos. En A. Pantoja (Coord.), *Manual básico para la realización de tesinas, tesis y trabajos de investigación* (pp. 121-147). EOS.
Villagrán, P. (2021). *Personas altamente sensibles.* Guía esencial para PAS. Asociación de Profesionales de la Alta Sensibilidad.
Winner, E. (2003). Musical giftedness. *Bulletin of Psychology and the Arts, 4*(1), 2-5.
Zegers, K. (2016). *Personas altamente sensibles.* La Esfera de los Libros.
Zegers, K. (2021). *La alta sensibilidad.* KDP Print US.

Raquel Bravo Marín. Doctorate in Humanities, Arts and Education from the University of Castilla-La Mancha, Master's Degree in Music Education and Early Childhood Education from the UCLM, Bachelor's Degree in Humanities (UCLM) and in History and Music Sciences (University of La Rioja). Professional Clarinet Degree from the Tomás de Torrejón y Velasco Conservatory in Albacete. Assistant Professor in the Music Education Department of the Faculty of Education in Albacete. Member of the LabinTic research group and Principal Investigator of the Research Project on High Sensitivity and Artistic Languages. She has published several scientific papers and has participated in numerous international conferences.

Narciso José López García. Career civil servant in the teaching profession (Music Education) from 1999 to December 2024. Diploma in Primary Education Teaching-Humanities (UCLM-1994), Bachelor's Degree in History and Music Sciences (UNIRIOJA-2005) and Doctorate in Specific Didactics-Music Education (UMA-2015). Assistant Professor in the Department of Physical Education, Art and Music Teaching at the UCLM. Member of the LabinTic research group (UCLM) and the Research Project on High Sensitivity and Artistic Languages (UCLM). Speaker and communicator at various national and international conferences and symposiums, and collaborator in various regional, national and international research and innovation projects.

Fátima Martín Ruiz. Professional Clarinet Degree from the Alcázar de San Juan-Campo de Criptana Conservatory. Bachelor's degree in Music History and Musicology (UGR): Extraordinary End-of-Degree Award (UGR) and National End-of-Degree Award (MICIU). Master's degree in Musical Heritage and a Master's degree in Teacher Training for Compulsory Secondary Education (UGR, UNIA, and UniOvi). Career civil servant in the Corps of Secondary Education Teachers (Music) and an Associate Lecturer in Music Education at the Faculty of Education of Albacete. Member of the Research Project on High Sensitivity and Artistic Languages (UCLM). She has authored several scientific publications and has participated in various international conferences.

María José Sánchez Parra. PhD in Humanities, Arts, and Education from the University of Castilla-La Mancha; Master's degree in Musical Creation and Performance from URJC; Bachelor's degree in Language Pedagogy and Music Education from the Royal Higher Conservatory of Music of Madrid; and Degree in

Music Education from UCLM. Professional qualification in violin and percussion from the Jacinto Guerrero Conservatory of Toledo. Assistant Professor (PhD) in the Area of Music Education at the Faculty of Education of Toledo. Member of the Ciberimaginario research group and Principal Investigator of the Regional Project *Visibility and Analysis of the Role of Women in Artistic Education in Conservatories and Art Schools of Castilla-La Mancha*. Member of the Research Project on High Sensitivity and Artistic Languages (UCLM). She has authored several scientific publications and has participated in numerous international conferences.