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Strengths and Artistic Engagement: Insights from Positive Psychology

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Abstract

Despite the ongoing debate in academic circles regarding the impact of the arts on individual and collective well-being, there is a paucity of empirical research in this area. Nevertheless, recent studies have begun to establish a significant correlation between arts engagement and a range of positive outcomes. The objective of this study is to enhance the existing conceptual framework by providing empirical evidence of how early exposure to and active engagement with the arts can influence the development of character strengths within an educational context. A comparative design was employed in the study, which included 993 fifth- and sixth-grade students in Spain. The control group consisted of students with no interest or participation in artistic activities, while the experimental group demonstrated both interest and active participation in the arts. A quantitative approach was employed to collect data via a validated questionnaire, which was then analysed to discern relationships between variables using correlation techniques and non-parametric tests. The findings indicate a significant correlation between students' interest and participation in artistic activities and their perception of character strengths. In particular, engagement with the arts is associated with higher levels of character strengths linked to the virtue of wisdom and knowledge, including creativity and a love of learning. This research makes a significant contribution to the existing body of knowledge on the role of the arts in fostering character strengths and the application of positive psychology in well-being. It highlights the importance of integrating the arts into educational settings as a central component. Furthermore, the document puts forth recommendations for future interventions.

Introduction

In the academic field, there is ongoing debate regarding the impact of the arts on individual and collective well-being. However, as Tay et al. (2018) have highlighted, there is a surprising paucity of empirical studies in the scientific literature that explore this link. Nevertheless, an emerging corpus of research is beginning to reveal a substantial correlation between engagement with the arts and enhancements in well-being. Notable studies in this field, including those by Drake et al. (2023), Drake and Jose (2023), Cotter et al. (2023), Thapa et al. (2023), and Ruch and Gander (2022), indicate that engagement with diverse forms of artistic expression can have a beneficial impact on well-being.

At the educational level, the potential of the arts to enhance student well-being has long been acknowledged, as evidenced by the work of Kurtz and Lyubomirsky (2013) and Lee et al. (2017). Nevertheless, there is still a dearth of empirical evidence specifically demonstrating the positive impact of arts environments within a framework of positive education, as observed by Giráldez-Hayes (2020). The objective of our study is to make a significant contribution to the existing conceptual framework by providing empirical evidence on how early exposure to and engagement with the arts can influence the perception of character strengths in an educational context.

Theoretical Background

Positive Psychology, Wellbeing and Character Strengths

The concept of well-being has been a subject of interest across various disciplines throughout history, evolving significantly from early philosophical debates to modern interpretations. Dating back to Aristotle, who defined well-being through his notion of eudaimonia, emphasizing happiness as a life lived in accordance with virtue (Ames et al., 2022), contrasting views like Epicurus' hedonism, which equated well-being with pleasure and the absence of pain, presented alternative approaches (McMahan & Estes, 2011). Philosophers like Jeremy Bentham embraced utilitarianism, while John Rawls contributed a contractualist perspective through his work on justice (Rawls, 2005). Later, thinkers such as Nussbaum (1998) and Sen (1979, 1985) enriched the conversation with the capabilities perspective, which posits that well-being depends on the real opportunities individuals have to pursue meaningful and valuable activities.

In the 1980s, the notion of well-being was first developed as an overarching concept that encompasses all domains of life, including both tangible and subjective elements (Gómez & Sabeh, 2001). Since that time, considerable attention has been devoted to this topic, which has given rise to a multitude of studies (Vázquez & Hervás, 2009). The concept of well-being is inherently complex, encompassing not only positive or negative emotional states but also the

capacity to imbue one's life with meaning (Diener et al., 1997), as cited in Escarbajal-Frutos et al. (2014).

The advent of positive psychology prompted a redefinition of the concept of well-being in scientific terms. Seligman (2002) approached the concept of well-being from a perspective that emphasises human flourishing. This perspective postulates that well-being is not merely about happiness, but rather about living a full, engaged, and meaningful life.

Positive psychology is a field of psychological study that focuses on the scientific investigation of optimal human functioning. First proposed by Seligman in 1998, the model of well-being is based on the concept of 'trait theory', which examines 24 character strengths. These strengths inform patterns of behaviour, emotions, and thoughts, thereby influencing our reactions to a range of situations. These are classified into six universal virtues: wisdom and knowledge, courage, humanity, justice, moderation, and transcendence.

The model comprises 24 character strengths, including gratitude, kindness, creativity, and perseverance, which are essential for the manifestation of virtuous behaviour. Furthermore, these strengths facilitate the cultivation of positive traits and skills, thereby contributing to individuals' thriving in both personal and professional spheres (Peterson & Seligman, 2004). These traits are dynamic in nature and can be measured. They are also influenced by immediate factors such as the environment. Positive psychology provides an effective framework for enhancing quality of life, particularly within educational settings (Park & Peterson, 2009). This is because it focuses on positive psychological aspects such as well-being, resilience, gratitude, and life satisfaction.

Education and Positive Psychology

Seligman (2002, 2011) puts forth the proposition that happiness and personal development are inextricably linked processes. For individuals to experience happiness, it is essential to actively cultivate their unique strengths and capabilities, thereby achieving a state of balance and satisfaction.

The Positive Education model, which is grounded in positive psychology, advocates for the integration of psychological growth and human developmental stages (Linley et al., 2006; Seligman & Csikszentmihalyi, 2000). The implementation of positive psychology in education has been the subject of extensive research, particularly in the context of emotions in teaching and learning. Notable contributions to this field include the works of Duckworth et al. (2007), Eskreis-Winkler et al. (2014), Fredrickson & Branigan (2005), Froh et al. (2009), Ryan & Deci (2001), Shernoff & Csikszentmihalyi (2014), Caruana Vañó (2010), and Taylor & Dymnicki (2007).

The efficacy of Positive Education in developing personal skills, enhancing resilience and well-being, and fostering "values in action" alongside character strengths has been demonstrated. These elements are of great importance in the promotion of positive emotions and the fostering of healthy relationships, as evidenced by the findings of Reivich et al. (2013) and Seligman (2002).

The Arts and Positive Psychology in the Search for Well-being

A growing body of evidence from studies conducted by Clift et al. (2010), DeNora (2000), Keyes (1998), Ryff and Singer (2008), and C. Ryff and Keyes (1995) indicates a positive correlation between engagement in artistic pursuits and enhanced emotional well-being. Furthermore, a substantial body of research has demonstrated the beneficial effects of artistic pursuits on the mental, emotional, and social well-being of young people. This is evidenced by the findings of Araújo et al. (2017) and Baker et al. (2018), Burnard and Dragovic (2015), Croom (2015), Ennis and Tonkin (2018), Gustems Carnicer and Calderón Garrido (2016), Hu et al. (2021), Judd and Pooley (2014), MacDonald et al. (2020), Mungas and Silverman (2014), and others.

In educational settings, artistic practice has been demonstrated to serve as a catalyst for well-being. This indicates that the study of artistic disciplines bolsters the strengths essential for achieving eudaimonic happiness and overall well-being. This conclusion is supported by research from Clift et al. (2010), Hanser (1993), Lehmberg and Fung (2010), MacDonald (2013), McNeill (2008), Miranda and Gaudreau (2011), Pelletier (2004), Rickard and McFerran (2012), Saarikallio (2010), Sloboda et al. (2009), and Southgate and Roscigno (2009).

The conceptual framework proposed by Tay et al. (2018) and Shim et al. (2019) represents a significant advancement in the field, identifying five key processes that elucidate the link between the arts environment and personal well-being. The aforementioned processes comprise the following: (1) Reflection, which involves a conscious endeavour to cultivate, reinforce, or reassess one's habits, values, or worldviews; (2) Acquisition, which pertains to the enhancement of skills, experiences, or knowledge through artistic engagement; (3) Immersion, characterised by a profound focus on artistic activities, frequently resulting in a state of flow or profound engagement; (4) Socialisation, which encompasses the formation of social connections and the exchange of ideas during artistic participation; and (5) Expression, which refers to the capacity for creative and original communication.

The authors emphasise that, while their model focuses on the direct impact of the arts on well-being, there are also moderating factors that significantly influence these effects. Such factors operate at the individual, institutional, and societal levels, encompassing elements such as

personality, personal preferences, the organisational climate, and the cultural appreciation of the arts.

Research Objectives

Our study is designed to deepen the understanding of how the artistic environment impacts personal development and well-being through character strengths. With this in mind, our research has specific objectives:

1. To analyse students' self-perceptions of their Character Strengths and the relationships among these strengths, providing insights into their well-being.
2. To examine how artistic environments, defined as engagement in artistic activities and general interest in the arts, affect the self-perception of Character Strengths. This will be compared with the perceptions of students who do not practice or show interest in the arts.

Methods

Design

In order to achieve our stated objectives, we conducted a comparative study using a post hoc ex-post facto design. This involved two distinct student groups: a control group comprising students with no interest or participation in arts activities, and an experimental group of students showing interest in and/or actively participating in the arts. This approach allows for a more precise examination of the influence of arts environments on character strengths perception.

While this design cannot definitively establish causality, it allows for an in-depth exploration of the statistical relationships between arts environments and students' character strengths. A cross-sectional method was employed to collect data at a single point in time, thereby capturing a representative snapshot of students' self-perception of character strengths at that juncture. Subsequently, the data is subjected to comparison with that of the control group, which indicated no interest or involvement in arts activities.

Site and Participants

The study sample consisted of 993 students from 5th and 6th grades (502 and 491, respectively). A simple random sampling procedure was employed to select the 993 cases from a population of 3,492 students. Each participant was assigned a unique identification number (ID). The sample consisted of 453 males and 539 females, with one student failing to specify their gender. The participants' ages ranged from 10 to 13 years, with the majority falling within the 10- and 11-year-old age groups, comprising 373 and 470 students,

respectively. Additionally, eight participants were 13 years of age, while the remaining students were 12 years of age.

Moreover, the sample exhibited a diverse range of educational institutions, reflecting a heterogeneous composition. A total of 88 students were enrolled in private schools, 434 in public schools, and 471 in concertado schools. In Spain, a concertado school is a semi-private educational institution that operates under a public-private partnership. These schools are privately owned but receive government funding to cover the costs of providing a basic education, which allows them to offer tuition free or at a low cost to students. In return for the financial support, concertado schools are obliged to comply with the regulations set out by the government, including those relating to curriculum standards and admissions policies. The objective of this system is to enhance accessibility to education and offer families a broader range of options, integrating aspects of both public and private educational models.

In order to ensure the representativeness of the sample, the characteristics of the sample population were contrasted with data from the educational records of Seville as a whole. A comparison of the distributions indicated that there were similar proportions of males and females, as well as of students in different age groups and at different educational levels. In particular, the population is comprised of approximately 51% males and 49% females, with an age distribution that closely aligns with that observed in the sample. In alignment with the available population data, 8% of students are enrolled in private schools, 51% in public schools, and 41% in semi-private schools, which align with the sample proportions. This distribution reflects the population proportions, thereby ensuring a representative analysis (Junta de Andalucía. CONSEJERIA DE EDUCACION, 2023).

Moreover, the sampling error was calculated, and confidence intervals were established for the key demographic variables. The margin of error was determined to be 3.5%, and the confidence intervals demonstrated that the sample parameters were in close alignment with the population parameters within a 95% confidence level. The comprehensive sampling and validation process guarantees that the study's findings are generalisable to the wider population of fifth and sixth-grade students in Seville, Spain.

Data Collection Techniques

In order to collect data, we employed the IVyF Children Questionnaire (Inventory of Virtues and Strengths for Children), which was adapted and validated by Grinhauz and Castro Solano in 2014. This questionnaire was selected on the basis of its established reliability and validity in measuring the variables relevant to our study. The work of Grinhauz and Castro Solano concentrated on the adaptation and validation of the IVyF Inventory for children between the ages of 10 and 12 years (Cosentino & Castro Solano, 2015). The IVyF Children Questionnaire

is an efficacious instrument for evaluating human virtues and strengths as delineated by Peterson and Seligman (2004), encompassing six virtues and 24 strengths. The results of the confirmatory factor analysis provided confirmation of an appropriate model fit for the questionnaire. Furthermore, evidence of convergent validity was demonstrated through the observation of statistically significant and positive correlations among the IVyF Children scores.

The questionnaire is comprised of 24 items, with each item corresponding to one of the 24 strengths. Responses were collected using a Likert-type scale, ranging from 'Not true for me at all' to 'Completely true for me', which permitted direct self-assessment by the participants.

Two key questions were included to determine the independent variables: 'Are you interested in the arts in general?' and 'Do you participate in artistic activities (such as music, dance, painting, etc.)?' with response options being 'Yes,' 'No,' and 'Don't know.'

The term 'pursuit of artistic activities' refers to active engagement in creative expressions like painting, music, theatre, and dance, encompassing personal practice across various artistic media over time. Conversely, 'interest in the arts in general' indicates a favorable attitude and inclination towards diverse art forms, not necessarily involving active participation. This interest may manifest through art appreciation, attendance at art events, or a desire to learn more about various artistic forms. These variables helped us identify individuals who, through their interest and consistent involvement in the arts, potentially engage in processes of Reflection, Acquisition, Immersion, Socialisation, and Expression as conceptualized by Tay et al. (2018).

Procedure

The questionnaires were completed by the students using pencil and paper during the regular school day, specifically after the conclusion of the examination and assessment period. The research was conducted in the students' usual classroom settings, during music and/or visual arts lessons. The data collection took place within the scheduled music class, with the classroom teacher present and, in some cases, the group tutor also in attendance. This configuration was selected to foster an optimal environment that would minimise any potential external influences on the students' self-perceptions while responding to the questionnaire. The data was processed, coded, and analysed using IBM SPSS Statistics 27 software.

Trustworthiness

The internal consistency of the questionnaire was evaluated through the application of the

Cronbach's alpha statistical test. The results of these tests indicated high reliability, with the tool achieving a Cronbach's Alpha score of 0.825, thereby substantiating the internal consistency of the instrument. This score indicates that the items in the questionnaire are internally consistent. In practical terms, this signifies that the questions or statements are logically interconnected and consistently measure the variables that are the focus of our study.

Data Analysis and Results

Analyzing Students' Self-Perception of Character Strengths and Well-being

Students' Self-perception of their Character Strengths

The mean scores obtained for each of the Character Strengths studied yielded the results shown in Table 1 below:

Table 1

Students' Self-perceived Character Strengths

Strength of Character	M	SD	N
P1. Appreciation of Beauty and Excellence	3.99	0.86	989
P2. Fairness	3.63	1.07	992
P3. Perseverance	3.64	1.16	985
P4. Creativity	3.80	1.15	988
P5. Love	4.31	0.99	991
P6. Self-regulation	3.43	1.21	989
P7. Gratitude	4.67	0.63	989
P8. Leadership	4.01	0.97	989
P9. Judgment	3.70	1.14	991
P10. Social Intelligence	3.56	1.35	991
P11. Forgiveness	2.83	1.24	990
P12. Spirituality	3.96	1.40	992
P13. Teamwork	3.91	0.94	989
P14. Bravery	3.76	1.07	992
P15. Curiosity	3.81	1.08	987
P16. Kindness	4.51	0.79	990
P17. Hope	3.45	1.22	987
P18. Honesty	4.06	1.01	984
P19. Perspective	3.29	1.24	984
P20. Prudence	3.86	1.08	986
P21. Humour	4.00	1.08	989
P22. Humility	3.45	1.28	989
P23. Love of Learning	2.73	1.36	991
P24. Zest	3.96	1.10	990

Note. M = Mean score, N = population, SD = Standard Deviation. Author's elaboration.

From the collected data, it is important to note the character strengths that achieved the highest mean scores. These include Gratitude (M=4.67; SD=0.63), Kindness (M=4.51; SD=0.79), Love (M=4.32; SD=0.99), Honesty (M=4.06; SD=1.01), Leadership (M=4.01; SD=0.97), and Humor (M=4.00; SD=1.08).

Conversely, the strengths with the lowest mean scores were Forgiveness (M=2.83; SD=1.24) and Love of Learning (M=2.73; SD=1.36). Notably, both these strengths exhibited high Standard Deviations (SD=1.24 and SD=1.36, respectively), indicating a considerable variation in student responses. This variation suggests that while some students might strongly identify with these strengths, others may not recognize or value them as highly. Additionally, two particular strengths demonstrated exceptionally high Standard Deviations: Social Intelligence (SD=1.35) and Spirituality (SD=1.40), reflecting significant diversity in students' self-perceptions regarding these strengths.

Relationships between Character Strengths

Given the ordinal nature of the data collected, the analysis in this study was conducted using Pearson's correlation coefficients. It is important to note that these statistical measures do not establish cause-and-effect relationships. Nevertheless, they offer insights into the existing influences among the variables under investigation. This entails an investigation into the nature of the relationships, including whether they are direct or inverse, and the strength or intensity of these relationships.

Table 2 below shows the results of the Pearson correlation coefficients obtained between the different Strengths:

Table 2

Relationship between the character strengths of the students under study.

	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24
P1	.228**	.229**	.197**	.317**	.228**	.191**	.294**	.228**	.177**	.236**	.145**	.247**	.206**	.258**	.222**	.219**	.203**	.263**	.246**	.201**	.130**	.204**	.187**
P2		.266**	.126**	.154**	.276**	.133**	.294**	.291**	.136**	.407**	.117**	.360**	.131**	.227**	.220**	.231**	.288**	.235**	.379**	.140**	.146**	.274**	.177**
P3			.075*	.137**	.486**	.084**	.192**	.217**	.097**	.247**	.104**	.205**	.136**	.265**	.158**	.227**	.258**	.184**	.333**	.140**	.170**	.286**	.180**
P4				.094**	.107**	.126**	.246**	.193**	.170**	.178**	.060	.167**	.202**	.288**	.149**	.142**	.106**	.081*	.149**	.182**	.109**	.261**	.160**
P5					.089**	.261**	.193**	.216**	.209**	.227**	.207**	.224**	.143**	.175**	.279**	.257**	.123**	.187**	.199**	.220**	.057	.142**	.232**
P6						.071*	.165**	.264**	.058	.293**	.113**	.269**	.106**	.243**	.161**	.160**	.265**	.181**	.349**	.081*	.185**	.294**	.126**
P7							.155**	.160**	.094**	.181**	.184**	.156**	.128**	.136**	.212**	.124**	.161**	.065*	.185**	.133**	.067*	.094**	.120**
P8								.185**	.227**	.205**	.193**	.377**	.239**	.246**	.277**	.255**	.188**	.286**	.198**	.276**	.091**	.149**	.203**
P9									.065*	.238**	.181**	.267**	.171**	.190**	.209**	.196**	.229**	.164**	.310**	.072*	.179**	.186**	.190**
P10										.125**	.193**	.197**	.180**	.264**	.113**	.236**	.066*	.202**	-.005	.250**	.044	.105**	.279**
P11											.175**	.274**	.140**	.283**	.205**	.257**	.298**	.198**	.332**	.121**	.231**	.306**	.213**
P12												.169**	.138**	.173**	.147**	.218**	.093**	.174**	.103**	.170**	.059	.068*	.233**
P13													.128**	.268**	.317**	.292**	.304**	.295**	.295**	.255**	.142**	.235**	.270**
P14														.184**	.181**	.178**	.157**	.137**	.120**	.208**	.109**	.135**	.183**
P15															.179**	.199**	.184**	.230**	.206**	.180**	.130**	,300**	.355**
P16																.132**	.270**	.253**	.274**	.262**	.198**	.144**	.217**
P17																	.157**	.209**	.223**	.186**	.135**	.211**	.318**
P18																		.216**	.316**	.123**	.185**	.177**	.132**
P19																			.171**	.288**	.147**	.173**	.206**
P20																				.062	.244**	.275**	.185**
P21																					.059	.088**	,300**
P22																						.227**	.119**
P23																							.201**

Note. **The correlation is significant at the 0.01 level (bilateral). *The correlation is significant at the 0.05 level (bilateral).

In accordance with Mukaka's (2012) framework for interpreting correlation degrees, it can be inferred from the data table that correlations are present across all the dimensions that have been established. It is noteworthy that the majority of these correlations are positive, with the exception of the relationship between Social Intelligence (P10) and Prudence (P20), where the correlation coefficient is r = -0.005. While the majority of these correlations can be classified as moderate to weak, it is clear that certain competencies exert a direct influence on others. This suggests that a positive evaluation in one domain is likely to be associated with a positive evaluation in another.

The most substantial correlation was observed between Persistence (P3) and Self-regulation (P6), with a correlation coefficient of r=.486. Similarly, a strong positive correlation exists between fairness (P2) and forgiveness (P11), with a correlation coefficient of r=.407. The strength of Prudence (P20) is particularly noteworthy in terms of its high correlations with other strengths, as is Teamwork (P13) in its correlation with Fairness (P2) and Leadership (P8), which have correlation coefficients of p=.360 and .377, respectively. Another notable correlation is between Curiosity (P15) and Zest (P24), marked by r=.355.

Conversely, some strengths display weaker or no correlations with each other, suggesting that these strengths are perceived or manifested distinctively by individuals. This is exemplified in the relationship between Social Intelligence (P10) and Humility (P22) with other strengths, underscoring their unique attributes. The aforementioned non-existent correlation between Social Intelligence (P10) and Prudence (P20), with r=-.005, further illustrates this point.

Examining Artistic Environments' Impact on Character Strengths

The following section presents the results of the analysis of the mean scores for each character strength in relation to the variables of general interest in the arts and active participation in artistic activities among both student groups. The results of this analysis are presented in Table 3, which can be found below.

Table 3

Comparison of the Means (M), Population (N), Standard Deviation (SD) and Mean Difference (±) of the Students who Express Interest in the Arts in General and Those Who Engage in Arts Activities in Relation to the General Population of Each Variable

	INTEREST IN THE ARTS IN GENERAL									CARRYING OUT ARTISTIC ACTIVITIES								
	YES			NO		±	Total population			YES			NO		±	Total population		
	M	N	D.S.	M	N	D.S.	M	N	D.S.	M	N	D.S.	M	N	D.S.	M	N	D.S.
P1	4.13	588	0.755	3.73	146	1,019	0.4	4.05	734	0.829	4.1	422	0.841	3.93	479	0.853	0.17	4.01	901	0.851
P2	3.78	591	1,019	3.27	146	1,176	0.51	3.68	737	1,071	3.71	424	1,066	3.56	479	1,075	0.15	3.63	903	1,073
P3	3.69	587	1,132	3.68	145	1,289	0.01	3.69	732	1,164	3.71	423	1,144	3.58	474	1,188	0.13	3.64	897	1,169
P4	4.05	589	1,038	3.32	146	1,307	0.73	3.9	735	1,134	3.97	422	1,077	3.63	477	1,182	0.34	3.79	899	1,146
P5	4.4	591	0.898	4.1	145	1,189	0.3	4.34	736	0.968	4.34	423	0.979	4.32	479	0.987	0.02	4.33	902	0.983
P6	3.53	589	1,164	3.22	145	1,431	0.31	3.47	734	1,227	3.49	424	1,155	3.4	478	1,244	0.09	3.44	902	1,203
P7	4.71	589	0.585	4.52	145	0.737	0.19	4.67	734	0.622	4.73	422	0.562	4.62	478	0.679	0.11	4.67	900	0.629
P8	4.13	590	0.905	3.81	146	1,072	0.32	4.07	736	0.949	4.07	421	0.967	3.98	478	0.945	0.09	4.03	899	0.956
P9	3.82	590	1,085	3.53	146	1,298	0.29	3.76	736	1,135	3.81	424	1,094	3.63	478	1,177	0.18	3.72	902	1,142
P10	3.6	590	1,315	3.53	146	1.42	0.07	3.59	736	1,336	3.59	423	1,353	3.53	479	1,361	0.06	3.56	902	1,357
P11	3	590	1.21	2.47	146	1,324	0.53	2.89	736	1,251	3.03	422	1,268	2.7	479	1,203	0.33	2.85	901	1,244
P12	3.94	592	1,428	3.97	146	1,359	-0.03	3.94	738	1,414	3.94	423	1,446	3.97	480	1,388	-0.03	3.96	903	1,415
P13	4.02	588	0.886	3.8	146	1,093	0.22	3.98	734	0.934	3.99	421	0.911	3.87	479	0.962	0.12	3.93	900	0.94
P14	3.86	592	0.992	3.57	146	1,214	0.29	3.81	738	1,045	3.85	424	1,059	3.69	480	1,061	0.16	3.76	904	1,062
P15	3.94	590	1,056	3.55	146	1,157	0.39	3.87	736	1,088	3.92	423	1,071	3.73	477	1,077	0.19	3.82	900	1,077
P16	4.61	591	0.698	4.34	146	0.905	0.27	4.55	737	0.75	4.56	422	0.771	4.5	480	0.797	0.06	4.53	902	0.785
P17	3.57	590	1,185	3.31	144	1,242	0.26	3.52	734	1.2	3.45	422	1,228	3.43	477	1,248	0.02	3.44	899	1,238
P18	4.19	589	0.914	3.86	146	1,163	0.33	4.13	735	0.977	4.11	421	1,004	4	476	1,014	0.11	4.05	897	1.01
P19	3.37	587	1,179	3.19	144	1,333	0.18	3.33	731	1,212	3.3	420	1.23	3.29	476	1,247	0.01	3.3	896	1,238
P20	4.01	589	0.989	3.5	146	1,205	0.51	3.9	735	1,054	3.98	423	1,055	3.75	475	1,108	0.23	3.86	898	1,089
P21	4.05	590	1,026	3.96	146	1,197	0.09	4.03	736	1,062	4.08	422	1,048	3.97	479	1,064	0.11	4.02	901	1,058
P22	3.52	590	1,266	3.21	146	1,339	0.31	3.46	736	1,286	3.59	422	1,252	3.33	480	1,292	0.26	3.45	902	1,279
P23	2.95	592	1,348	2.12	146	1,185	0.83	2.79	738	1,358	3.01	424	1,386	2.49	480	1,287	0.52	2.73	904	1,359
P24	4.02	592	1,071	3.79	146	1,261	0.23	3.97	738	1,114	4.02	424	1,103	3.92	479	1.1	0.1	3.97	903	1,102

Note. Data for students who show interest in the arts in general or do art activities are in the YES columns. The NO columns show the data for students who have no interest in the arts or do not engage in arts activities. ± shows the difference in the mean between the two groups (YES and NO).

In light of the data presented in the above table, it is essential to distinguish between two sets of character strengths, classified according to the mean scores reported in the questionnaires. These categories are based on students' general interest in the arts, as well as their lack thereof. It is noteworthy that strengths such as perseverance (P3), gratitude (P7), social intelligence (P10), and humor (P21) exhibited minimal score differences between the two groups. In particular, Spirituality (P12) demonstrated a higher score in self-perception among students with no general interest in the arts in comparison to those with such interest.

In contrast, strengths including fairness (P2), creativity (P4), forgiveness (P11), prudence (P20), and love of learning (P23) were reported at significantly higher levels by students with a general interest in the arts. For students who were actively engaged in artistic activities, the score differences were minimal in comparison to those who expressed a general interest in the arts. It is noteworthy that Spirituality (P12) once again demonstrated a higher score among students who were not engaged in artistic activities.

Similarly, students who were actively engaged in artistic activities exhibited significantly higher scores for Love of Learning (P23) compared to those who were not. Meanwhile, creativity (P4), forgiveness (P11), and prudence (P20) continued to demonstrate higher scores among this group, albeit with a smaller discrepancy compared to students not engaged in artistic activities.

A comparison of these findings with those outlined in Table 1, which did not account for artistic environments, reveals that the highest scores are predominantly attributed to students with a general interest in the arts. However, this is not the case for strengths such as perseverance (P3), gratitude (P7), forgiveness (P11), humour (P21), humility (P22) and love of learning (P23), where the highest scores were reported by students engaged in artistic activities.

It is noteworthy that Spirituality (P12) exhibited the highest scores among students who were neither engaged in artistic activities nor interested in the arts. In contrast, the lowest scores were observed among students who did not express a general interest in the arts, with the exception of Perseverance (P3) and Social Intelligence (P10), where the lowest scores were reported among students who were not engaged in artistic activities.

Following the completion of normality tests, which correlated general interest in the arts and engagement in artistic activities with the strengths, it was determined that the data did not follow a normal distribution. Therefore, a comparison of the means using the Student's t-test was not a viable option. Furthermore, as the data were ordinal in nature, a non-parametric

approach was employed, specifically the Mann-Whitney U test. The results of this test are presented in Table 4 below.

Table 4

Comparison of Mann-Whitney U Statistics in Terms of Interest in the Arts in General and Performance of Artistic Activities and Character Strengths

	INTEREST IN THE ARTS IN GENERAL				ARTS ACTIVITIES			
	Mann-Whitney U	Wilcoxon W	Z	Sig. asin. (bilateral)	Mann-Whitney U	Wilcoxon W	Z	Sig. asin. (bilateral)
P1	33813.5	44544.5	-4,319	0	89307.5	204267.5	-3,279	0.001
P2	32532	43263	-4,797	0	93212	208172	-2,217	0.027
P3	41617	214195	-0.428	0.669	93981.5	206556.5	-1,676	0.094
P4	29350.5	40081.5	-6,236	0	84400.5	198403.5	-4,351	0
P5	37988	48573	-2,404	0.016	100517.5	215477.5	-0.23	0.818
P6	38195.5	48780.5	-2,033	0.042	98108	212589	-0.853	0.394
P7	37034.5	47619.5	-3,227	0.001	93520	208001	-2,464	0.014
P8	35829	46560	-3,347	0.001	94131	208612	-1,771	0.077
P9	38210	48941	-2,197	0.028	93083.5	207564.5	-2,193	0.028
P10	42237.5	52968.5	-0.374	0.708	98338.5	213298.5	-0.785	0.432
P11	32628	43359	-4,655	0	86390	201350	-3,864	0
P12	43128.5	53859.5	-0.041	0.967	101316.5	216756.5	-0.057	0.955
P13	38996	49727	-1,823	0.068	94347	209307	-1,765	0.078
P14	37760.5	48491.5	-2,471	0.013	92626	208066	-2,433	0.015
P15	34452.5	45183.5	-3,924	0	90361.5	204364.5	-2,824	0.005
P16	36460.5	47191.5	-3,519	0	97072	212512	-1,292	0.196
P17	37282.5	47722.5	-2,355	0.019	99837	213840	-0.215	0.83
P18	36587	47318	-2,986	0.003	93360	206886	-1,875	0.061
P19	39232	49672	-1,377	0.169	99659	188069	-0.08	0.936
P20	32814	43545	-4,653	0	87922	200972	-3,383	0.001
P21	42656.5	53387.5	-0.191	0.849	94643	209603	-1,746	0.081
P22	37313.5	48044.5	-2,573	0.01	89643.5	205083.5	-3,065	0.002
P23	28203.5	38934.5	-6,657	0	80131.5	195571.5	-5.65	0
P24	39489.5	50220.5	-1,706	0.088	95049.5	210009.5	-1,753	0.08

With regard to the general interest in the arts, it can be observed that for almost all character strengths, the 'Sig. asin.' The bilateral values are statistically significant at the $p < 0.05$ level. This indicates that there are statistically significant differences in interest in the arts between the compared groups. A negative Z-value indicates that the mean rank of one group is lower than that of the other. In cases where the significance values are greater than 0.05, this indicates that there are no statistically significant differences between the groups with regard to these strengths in terms of interest in the arts. These observations pertain to the strengths of Perseverance (P3, p=0.669), Social Intelligence (P10, p=0.708), Spirituality (P12, p=0.967), Teamwork (P13, p=0.068), Perspective (P19, p=0.169), Humor (P21, p=0.849), and Zest (P24, p=0.088).

With regard to participation in artistic activities, significant differences were observed in a number of strengths, including Appreciation of Beauty and Excellence (P1), Fairness (P2), Creativity (P4), Gratitude (P7), Judgment (P9), Forgiveness (P11), Bravery (P14), Curiosity (P15), Prudence (P20), Humility (P22), and Love of Learning (P23), all of which yielded a 'Sig. asin.' result. The bilateral p-values were less than 0.05. This indicates that there are notable differences in the engagement with artistic activities among these groups with regard to these specific strengths. Nevertheless, no significant differences were identified with regard to the engagement with artistic activities for the remaining strengths.

It can be seen that certain character strengths, such as creativity (P4), appreciation of beauty and excellence (P1), gratitude (P7), love of learning (P23), and forgiveness (P11), are particularly associated with an inclination towards the arts and active participation in them. There are significant differences both in general interest and active engagement in these areas. Conversely, strengths such as Perseverance (P3), Social Intelligence (P10), Zest (P24), Perspective (P19), Teamwork (P13), Humour (P21), and Spirituality (P12) did not demonstrate significant differences in either aspect, indicating that these strengths may not be directly associated with interest in or engagement with the arts.

Discussion

The conceptual framework of Tay et al. (2020), along with the wider literature in positive psychology, indicates that the perception of one's character strengths can be influenced by various factors, including cultural context, education, life experiences, and individual personality traits. It has been observed that character strengths that align with societal values receive reinforcement from family and school environments, are seen as beneficial for personal and social success and are more readily recognised and valued by individuals (Park & Peterson, 2006).

In this context, the character strengths deemed most prominent by the students in our study include gratitude, love, leadership, humour, and kindness. This finding is consistent with the findings of Fredrickson (2009), Emmons (2007), and Lyubomirsky (2007), who explored the connection between these character strengths and well-being. It is noteworthy that none of these highly valued strengths fall under the virtues of wisdom and temperance.

In contrast, the strengths associated with the virtues of wisdom and temperance, namely Love for Learning and Forgiveness, were less frequently identified by the students. This corroborates the assertion put forth by Linley et al. (2010) regarding the significance of being conscious of one's character strengths, which can foster enhanced self-assurance and accomplishment. Should students perceive Love of Learning and Forgiveness as lesser strengths, targeted interventions could prove beneficial in helping them to recognise and value

these traits, thereby enhancing their academic achievement. As Seligman (2011) and Dweck (2006) have observed, the self-perception of character strengths is subject to change over time and in response to different circumstances. Consequently, interventions based on positive psychology can assist individuals in identifying and cultivating strengths that they may have previously overlooked.

In examining the interrelationships between the character strengths as perceived by the students, it is notable that the majority of these correlations are positive. This indicates that an increase in one strength is typically associated with increases in other strengths, thereby supporting the concept that character strengths are interdependent and mutually reinforcing (Niemiec, 2013). However, this pattern does not hold for the strengths of Social Intelligence and Prudence, which show a correlation coefficient of $r = -0.005$, or for those with a correlation coefficient close to zero, indicating negligible or non-existent correlations.

A principal outcome of our investigation is that the strengths associated with the virtue of Temperance (self-regulation, forgiveness, prudence, and humility), despite being less highly esteemed by students in general, demonstrated the most substantial correlations with other competencies. Specifically, these strengths correlated with the strengths of justice (fairness) and courage (perseverance), but showed weaker correlations with the strengths of humanity (love, social intelligence, and kindness). This observation is consistent with the theoretical perspectives of Littman-Ovadia et al. (2021), Niemiec (2013), and Peterson & Seligman (2004), who have demonstrated that specific character strengths tend to correlate and reinforce each other. It is noteworthy that perseverance exhibits a robust correlation with self-regulation, which is in accordance with the existing literature that indicates their interrelation. The virtue of perseverance is associated with the capacity for self-regulation and the attainment of long-term objectives (Duckworth & Gross, 2014).

With regard to the interaction with arts environments, the strengths most closely associated with the arts fall under the virtues of Wisdom and Knowledge, particularly Creativity and the Love of Learning, followed by Appreciation for Beauty and Excellence. These strengths were particularly prevalent among students who expressed a general interest in the arts, whereas forgiveness, a strength associated with the virtue of temperance, was significantly more pronounced among students who were actively engaged in artistic pursuits. These findings align with those of Winner et al. (2013) and Kaufman et al. (2010), who posit that engagement in the arts foster creativity and critical thinking abilities.

In contrast with the findings discussed earlier, character strengths associated with the virtue of Transcendence (Spirituality and Hope), along with Perspective, Social Intelligence, and Prudence, demonstrated a reduced level of association with artistic environments. It is

important to note that these relationships have not been as thoroughly explored in existing literature as, for example, the link between creativity and the arts. It is therefore recommended that a more focused study be conducted in order to gain a deeper understanding of this area.

Further research is required to elucidate the underlying causes of the pronounced discrepancies observed in specific character strengths that are intimately associated with an affinity for the arts and their practice. These strengths include creativity, appreciation of beauty and excellence, gratitude, love of learning, forgiveness, fairness, perseverance, bravery, judgment, curiosity, social intelligence, prudence, and humility. Collectively, these strengths are encompassed within the six virtues defined by positive psychology. A particularly intriguing avenue for further investigation is to ascertain why other strengths, despite belonging to these same virtues, do not exhibit a comparable correlation with the arts.

Conclusions

This research makes a significant contribution to the scientific understanding of the impact of the arts on individual and collective well-being, particularly in the context of education. By comparing students in primary school who are engaged in artistic activities with those who are not, the study provides valuable empirical evidence on how early engagement with the arts can shape the development of specific character strengths, thereby enhancing student well-being.

The findings illustrate a definitive correlation between students' engagement with artistic pursuits and their perception of character strengths. Students who are actively engaged in artistic pursuits tend to report higher levels of various character strengths, particularly those associated with the virtue of wisdom and knowledge, such as creativity and a love of learning.

However, the study also reveals that the positive influence on character strengths varies significantly based on the specific strength in question. While some strengths, such as creativity and gratitude, demonstrate a stronger correlation with engagement in the arts, others, including spirituality and hope, appear to be less influenced by these factors.

These findings underscore the crucial importance of incorporating the arts into educational settings. Such integration represents a strategic approach to fostering the growth of character strengths that contribute to greater student well-being and enhance educational practices. Such an approach not only supports personal well-being but also equips students with the skills and knowledge to make meaningful contributions to their communities and society at large.

Limitations and Recommendations

The findings of our study are, nevertheless, limited by a number of factors. One area for potential improvement is the refinement of the research instrument. A more comprehensive assessment of each strength, utilising a greater number of items, would likely serve to reduce the variability in students' responses.

It would be beneficial to expand the age range of participants to include those aged between 10 and 15 years. This would facilitate a more nuanced comprehension of the developmental shifts occurring during adolescence and their influence on the perception of character strengths.

Furthermore, the study should consider the perceptions of character strengths in students who have repeated a grade, as this could be related to their academic performance and self-perception of strengths. A comprehensive examination of these processes could inform the design of educational interventions with the objective of fostering a more balanced development of character strengths within the school context.

Further research is required to build on existing evidence regarding the benefits of arts environments in education and to extend the empirical data from our study, which supports the link between arts education and the development of character strengths.

Furthermore, additional research is required to examine the moderating factors that shape the relationship between art engagement and character strengths. Further studies could investigate the impact of various moderators on this relationship, with a view to gaining insight into the underlying mechanisms and developing more effective interventions. Longitudinal research would be particularly valuable, examining the long-term effects of arts engagement on the evolution and perception of character strengths throughout different life stages. In addition, consideration could be given to the role of social moderators, such as cultural appreciation of the arts, with comparative studies across diverse cultural contexts being particularly beneficial in this regard, as they would help to identify commonalities and differences in the arts' impact on well-being.

Compliance with Ethical Standards

The participants were selected on a voluntary basis, with the prior consent of their legal guardians obtained in accordance with the guidelines set by the Ethics Committee of Loyola Andalucia University. All study information and documentation were managed and disseminated by the administrative teams of the educational institutions and the teaching staff involved in data collection.

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