

Self-efficacy and perfectionism as a function of resilient behaviour in dance students

Dr, Félix Arbinaga

Dpto. Psicología Clínica y Experimental- Universidad de Huelva

Research in Dance Education

DOI: 10.1080/14647893.2025.2465455

Abstract

Self-efficacy and perfectionism are important variables in the high-performance discipline of dance. This study aims to analyze the relationship between these constructs and resilient behaviours in dance students. The research design was a cross-sectional study with a sample of 147 dance students who have studied for more than three years in public conservatories or private academies; 75.5 % of whom were female, with a Mage = 28.34 (SD = 11.42). Resilient behaviours were assessed using the Resilience Scale, self-efficacy using the General Self-Efficacy Scale, and perfectionism using the short version of the Multidimensional Inventory of Perfectionism in Sport During Competition. Our findings show that high-resilience dance students report significantly higher self-efficacy scores ($t = 3.397$, $p = .001$) than their low-resilience counterparts. However, no differences were reported between the high and low resilience groups on total perfectionism scores or the striving for perfection and negative reaction to imperfection subscales. In conclusion, it could be said that constructs such as perfectionism, resilient behaviour, and self-efficacy are important for the careers of dancers due to the role they play in motor execution and performance, along with their susceptibility to modification

through intervention approaches. The findings are discussed concerning the significance of these constructs for dance pedagogy and teacher performance.

Keywords.- Dancer; perfection; resilience; motivational climate; effectiveness; dance conservatory.

INTRODUCTION

In addition to facing the academic demands of the discipline, dance students undergo long training sessions. These training routines often involve repetitive movements that are practiced until achieving perfection according to a specific choreography. This regimen is physically stressful and cognitively taxing for the students, increasing their vulnerability to physical fatigue, pain, psychological distress, injury, and dropout (Van Winden et al., 2019).

Dance -both for professionals and students- is a performance activity associated with various problems that, if not effectively managed, can hinder the healthy development of professional and artistic careers. Among other problematic and risk factors, it has been estimated that the average annual injury rate in ballet dancers is between 67 % and 95 % (Ojofeitimi & Bronner 2011) and between 17 % and 90 % in pre-professional and student dancers (Hincapié et al. 2008). In Flamenco dance students, 74.7 % reported having suffered pain during rehearsals or practice (Baena-Chicón et al. 2020), while it has been found that almost 80 % of students continue to dance despite pain (Wanke et al. 2020). A similar picture emerges when considering problems related to eating behaviour (Doria & Numer, 2022), where it is estimated that 12 % to 26.5 % of female dancers (across various genres) have an eating disorder (Arcelus et al. 2014; Liu et al. 2016), or sleep issues, where more than 59.5 % of dancers have reported poor sleep quality (Arbinaga, 2018). Regarding the use of

substances to enhance performance, fatigue, or weight control, it has been found that 45 % of classical dancers and 44 % of folk dancers reported smoking tobacco (Oreb et al. 2006). Among dance students, it has been observed that 20.7 % have smoked (Arbinaga, 2019) and 8.7 % openly declare themselves as smokers, and 9.4 % as ex-smokers (Stein et al. 2016).

This list of problems, which is by no means exhaustive, draws attention to the need for dance students to develop effective skills, competencies, and coping strategies in the face of such situations. The ultimate goal should be to have effective measures in place for enabling dancers to adaptively manage the challenges they face during their training and subsequent professional life. Among the competencies and skills recognized as relevant to high performance, two psychological constructs can be highlighted: self-efficacy (Feltz et al. 2008) and perfectionism (Flett & Hewitt 2002; Hill et al. 2019, 2020; Stoeber et al. 2007). However, there is little research examining these two constructs in the dance population (Silva et al. 2015).

Self-efficacy is an individual's belief about their capacity to manage demands and challenges based on two expectations: efficacy and outcome (Bandura 1982, 1986). Some consider general self-efficacy as a global construct, which refers to people's stable beliefs about their ability to manage daily stressors adequately (Baessler & Schwarzer 1996). An abundant literature supports the idea that self-efficacy arising from the experience of practicing a motor task predicts subsequent learning (Feltz et al. 2008; Stevens et al. 2012) and performance (Nordin-Bates et al. 2011). In dance, it has also been found that students with high self-efficacy scores tend to show better performance, lower dropout, and increased motivation and satisfaction (Garcia-Dantas & Caracuel, 2011; Garcia-Dantas & Quested, 2015; Pessali-Marques & Fonseca-Bicalho, 2016).

The second construct relevant to high performance is perfectionism, which is understood from a multidimensional perspective. The defining characteristics of this construct are high personal standards and negative self-evaluation (Frost et al. 1990; Hewitt & Flett, 1991; Hill et al. 2019). The first of these components is understood as an adaptive or functional form of perfectionism as opposed to the second, which has been considered essentially dysfunctional (Khawaja & Armstrong, 2005; Stoeber & Rennert, 2008). Flett and Hewitt (2005) proposed two distinct dimensions of perfectionism: Self-Oriented Perfectionism (SOP), which is the tendency to set exceedingly high personal standards, and Socially-Prescribed Perfectionism (SPP), which refers to the tendency for an individual to aim for extremely high standards that are perceived to be expected by others. Given that these two dimensions can coexist within any individual, Gaudreau and Thompson (2010) developed a 2×2 model of perfectionism.

In the context of high performance, the pursuit of excellence appears to favour perfectionism (Hill et al. 2019). Perfectionism has been observed in professional ballet and contemporary dance, with 85 % of elite dancers reporting perfectionist tendencies such as "worrying about mistakes" and "perceived pressure" (Nordin-Bates et al. 2011). Similarly, among young female competitive Irish dancers, reports have indicated that 79 % of dancers show perfectionistic tendencies, of which 40 % show mixed perfectionism, 29 % pure self-oriented perfectionism, and 10 % pure socially prescribed perfectionism (Pentith et al. 2021). While some findings suggest that "true" perfectionism may be uncommon in elite dancers, certain elements of perfectionism are prevalent and are associated with maladaptive characteristics (Nordin-Bates et al., 2011).

Like professionals, students of dance are also far from immune to the effects of these perfectionistic tendencies (Cumming & Duda, 2012; Nordin-Bates et al. 2011; Penniment & Egan, 2012). In students, perfectionism has been found to correlate with a higher frequency of injury (Liederbach & Compagno, 2001), and the interaction between perfectionism and learning context significantly influences eating disorder symptoms in female dancers (Penniment & Egan, 2012). A relationship has also been shown between perfectionism and low self-confidence or self-esteem, resulting in low self-efficacy in dance students (Nordin-Bates et al. 2011). If dancers aspire to perfection, they almost always fall short of their goals. In turn, feeling below the level at which one wants to be (or, worse, at which one believes one ought to be) logically lowers the individual's self-confidence, efficacy beliefs, and subsequent performance (Hill et al. 2019; Penniment & Egan, 2012).

Cluster analysis procedures have revealed up to four different profiles in dance students based on personal standards, concerns about errors, and doubts about action: (1) dancers with pure personal standards perfectionism; (2) dancers with non-perfectionism; (3) dancers with pure evaluative concerns perfectionism; and (4) dancers with a mixed profile of perfectionism. The findings suggested that these profiles of perfectionism are distinguished according to body-related concerns and psychological health indicators (Cumming & Duda, 2012). These authors reported that dancers with adaptive achievement tendencies showed greater psychological adjustment than the other three subtypes, while those with relatively greater concerns about errors and a high degree of doubt about their actions -regardless of their standards- reported greater psychological distress.

It should be noted that in dance students, this perfectionist tendency may also develop under the influence of the "other-oriented perfectionism" observed in dance

teachers, who impose their perfectionist demands on their students, both technically and artistically (Flett & Hewitt, 2002).

However, positive influences of perfectionism have also been found.

Perfectionism is pointed to as a facilitator of positive, functional and adaptive aspects (Gotwals et al., 2012; Rasquinha et al., 2014; Rice, et al. 2012; Stoeber et al., 2014).

Adaptive perfectionism can be healthy by facilitating people's motivation to improve their effort and performance (Flett & Hewitt, 2020; Hill et al., 2020). Thus, individuals with high adaptive perfectionism scores show a tendency to generate realistic standards and greater satisfaction in achieving them (Ashby et al., 2012; Gnilka et al., 2013).

Adaptive perfectionism has been related to higher levels of self-esteem (Ashby & Rice, 2002), use of effective coping strategies (Rice & Lapsley, 2001), greater conscientiousness, openness to experience and extraversion (Ulu & Tezer, 2010), greater self-efficacy in decision-making (Ganske & Ashby, 2007), and higher levels of hope and lower levels of depression (Gnilka et al., 2012), all of which are adaptive characteristics.

Personal standards become maladaptive perfectionist when they are excessive, unrealistic and pursued with exaggerated tenacity (Flett & Hewitt, 2020; Gnilka et al., 2013; Liederbach & Compagno, 2001; Stoeber et al., 2014).

Despite the role that self-efficacy and perfectionism play in figuring out how individuals interact and cope with threatening situations, relatively little research has explored the relationship between these variables and resilient behaviours. Resilience is a construct that refers to the capacity of an individual to face challenges and new circumstances, facilitating functional adaptation to threatening situations with minimal adverse consequences (Barton et al., 2020; Southwick et al., 2014). It is a multidimensional construct, figured out by intrinsic and extrinsic factors that shape an

individual's behavioural functioning in its cognitive, social, motor, and emotional dimensions (Malhi et al. 2019). Unsurprisingly, low resilience scores are associated with performance difficulties (Arbinaga et al. 2019).

Lightsey (2006) proposed that a powerful sense of self-efficacy was important for maintaining high levels of resilience. Indeed, evidence supports the relationship between self-efficacy and resilience in adolescent and juvenile populations (Nowicki 2008; Sagone et al. 2020), that is, higher self-efficacy improves the capacity to cope with unfamiliar situations and adapt to new circumstances. In adults, on the other hand, self-efficacy has been reported to show a positive relationship with leadership qualities (Djourova et al., 2020). Furthermore, it has been found that resilience is strengthened by enhancing and developing protective factors such as self-efficacy (Pooley & Cohen, 2010; Reivich & Shatté, 2002). In summary, it appears that high self-efficacy helps to increase ego resilience (Martin and Marsh 2008), with resilience being a notably strong predictor of self-efficacy (Lazier-Leão et al. 2023). Thus, in dancers it has been suggested that high resilience scores are necessary to develop high levels of self-efficacy (San-Juan-Ferrer & Hípola, 2020).

Research exploring the relationship between perfectionism and resilient behaviours has also been relatively scarce. People with high scores on socially prescribed perfectionism tend not to use resilient skills (Besser et al. 2010; Hewitt & Flett, 2002; Klibert et al. 2014). Some findings also show that self-oriented and socially prescribed perfectionists show a tendency toward catastrophizing (Rudolph et al. 2007) and dependency (Sherry et al. 2003), characteristics that are not associated with resilience. Moreover, only socially prescribed perfectionism has shown to be negatively associated with resilience, while self-oriented perfectionism and other-oriented perfectionism appear to be unrelated to resilience scores (Klibert et al. 2014). Finally, it

has been reported that maladaptive perfectionism is negatively associated with resilience (Sheppard & Hicks, 2017).

While little research has explored the relationship between each of these variables (self-efficacy and perfectionism) and resilient behaviours, to the best of our knowledge, practically no research has examined the interrelationships among these three constructs. The only existing study to explore the three constructs simultaneously was conducted in soccer referees, with linear regression analyses showing that self-efficacy and adaptive perfectionism significantly predicted resilience scores, with self-efficacy having greater weight than perfectionism (Guillén et al. 2014).

Against this backdrop, the present work seeks to advance our knowledge on how self-efficacy and adaptive perfectionism are related to the resilient behaviours shown by dance students. These constructs are important in the dance domain, given their role in execution and performance and the fact that they can feasibly be modified by intervention strategies. As a first hypothesis, it is expected that dance students with high resilience will show higher self-efficacy scores than those with low resilience. The second hypothesis predicts that students with high resilience scores will also score higher on adaptive or functional perfectionism. The third hypothesis states that dance students with low resilience will obtain higher scores on dysfunctional perfectionism than students with high resilience scores. Finally, the fourth hypothesis predicts that scores on the self-efficacy test will correlate positively with functional perfectionism and negatively with dysfunctional or maladaptive perfectionism.

METHOD

Participants

This research adopted a cross-sectional study design and included a sample of 149 dance students, of which two were excluded as they did not meet all the inclusion criteria. The final sample consisted of 147 dance students (75.5 % female) with $M_{age} = 28.34$ ($SD = 11.42$). Of the total sample, 32 % specialized in Flamenco dance, 23.8 % in Latin dance, 17.7 % in Modern dance, 10.9 % in Classical dance, 8.8 % in Contemporary dance, and 6.8 % specialized in Spanish dance, ballroom dance, or other types of dances. The participants were recruited using consecutive non-probability sampling, selecting all possible participants to whom we had access and who met the inclusion criteria. These criteria were: 1) to be 18 years of age or older, 2) to have been a dance student for at least the last three years, 3) to have always had the guidance of one or more teachers during their years as a dance student (self-taught dancers were excluded), 4) to be studying an official dance course in a conservatory or public/private academy (Conservatory: professional and superior; Public/private academy: Latin dance, Ballroom, or other types of dances), and 5) to complete all the tests and sign the informed consent form.

Instruments

For data collection, an *ad hoc* interview was used to gather information on 1) socio-demographic variables (year of birth, gender, weight in kilograms, and height in meters), 2) variables related to dance (how many years have you been dancing with a teacher? How many days a week do you dance with a teacher? How many hours a week do you dance with a teacher?) and dance specialty (Classical, Contemporary, Modern, Latin, Flamenco, Spanish, Ballroom, or other).

Resilient behaviour was assessed using the *Resilience Scale* (RS; developed by Wagnild and Young, 1987, 1993, in its Spanish adaptation by Ruiz-Barquín et al. 2012). The RS yields two factor scores and a total score. Factor 1 (F1) refers to "personal

competence" and includes items such as self-confidence, decision-making, and perseverance. Factor 2 (F2) refers to the "acceptance of self and life" and measures adaptability, balance, flexibility, and a stable life perspective that coincides with acceptance of life and a feeling of peace despite adversity. These two factors — F1 and F2 — represent five areas of resilience (personal satisfaction, feeling good alone, self-confidence, stability, and perseverance). The instrument consists of 25 items, where respondents assign a score to each item ranging from 1 (disagree) to 7 (totally agree). Thus, the total factor (TF) score ranges from 25 to 175 points, with high scores showing good resilience (Wagnild & Young, 1993). According to these authors, the scores can be categorized to show low resilience (< 147 RS points) and high resilience (\geq 147 RS points). In this work, the scale has shown good internal consistency, as assessed by Cronbach's alpha, both in the total score (TF) ($\alpha = .908$) and in the F1 "personal competence" ($\alpha = .902$) and the F2 "acceptance of self and life" ($\alpha = .715$).

Self-efficacy was assessed using the *General Self-Efficacy Scale* (GSES; Baessler and Schwarzer, 1996; Spanish version by Sanjuán-Suarez et al. 2000). This scale evaluates perceptions of personal competence to handle demanding situations and obtain the expected outcomes. Higher scores show greater self-efficacy. In the present study, the scale obtained a Cronbach's *alpha* of .80.

To measure perfectionism, we used the short version of the *Multidimensional Inventory of Perfectionism in Sport During Competition* (MIPS; Stoeber et al. 2007) in its Spanish version adapted by Pineda-Espejel et al. (2017). This instrument comprises ten items that begin with the phrase "During the dance or rehearsal..." five items assess Factor 1 (F1), "striving for perfection" (e.g., "I have the desire to do everything perfectly"), and the remaining five items assess Factor 2 (F2) "negative reactions to imperfection" (e.g., "I feel completely furious if I make mistakes"). The Likert-type

response scale ranges from never (1) to always (6). The measure of total perfectionism during competition was calculated by combining the scores of the striving for perfection and negative reactions to imperfection items. The scale has shown good internal consistency in the present study, assessed by Cronbach's alpha, both for the total score ($\alpha = .914$) and the dimensions of perfectionism: striving for perfection ($\alpha = .890$), and negative reactions ($\alpha = .888$).

Procedure

The data were collected in paper format by visiting three public dance conservatories and five private/public academies across three different cities. A call for participants was also made online, distributing the study details through the same center's social networks for those who had not completed the paper tests and in other similar centers, to create a snowball effect. The online procedure began by describing the aims of the research, legal terms, anonymity of responses, exclusive use of data for research, the possibility to withdraw at any time, and informed consent to participate, which had to be agreed upon to continue. Data were collected from 17 February 2022 to 13 June 2022.

All procedures followed the ethical standards of the responsible committee on human experimentation (institutional and national) and the Declaration of Helsinki of 1975, revised in 2013. The study was approved by the Andalusian Ethics Committee of Biomedical Research (Evaluation Committee of Huelva. Internal Code: 2159-N-21. Date of approval: 14/12/2021; Act: 11/21). All participants completed the informed consent form.

Data Analysis

An *a priori* power analysis was conducted using G*Power-3 (Faul et al. 2007) to determine the minimum sample size required to test the study hypothesis. The findings showed that the sample size required to achieve 95 % power to detect a minimum effect

with a significance criterion of $\alpha = 0.05$, was $N = 147$ using the student's t-test for independent groups. Therefore, the obtained sample size of $N = 147$ is adequate for testing the study hypothesis.

Following data collection, descriptive analyses (frequencies, percentages, means, and standard deviation) were conducted to characterize the main research variables. The reliability of the tests was calculated using Cronbach's alpha (α). The comparison of quantitative variables was conducted using the Student's t-test for independent groups. Effect sizes were estimated using Cohen's d ($d < 0.2$ - small effect size; $d = 0.2$ to 0.8 - medium effect size, and $d > 0.8$ - large effect size). In the case of quantitative variables with more than two categories, an ANOVA test was conducted, with Snedecor's F statistic and Bonferroni's post hoc tests. The effect size was calculated using *Eta Squared* η^2 , where the η^2 effect size coefficients were evaluated as follows: $0.01 \leq \eta^2 < 0.06$ = a small effect size, $0.06 \leq \eta^2 < 0.14$ = a medium effect size, and $\eta^2 \geq 0.14$ = a large effect size. In the case of categorical variables, the Chi-Square test (χ^2) was used. Cramer's V was used to estimate the effect size for categorical variables (< 0.2 - small effect size; between 0.2 and 0.6 - moderate effect size and > 0.6 - large effect size). Pearson correlations and Stepwise linear regression analysis were conducted to analyze the predictive capacity of the variables. All analyses were conducted using the SPSS statistical package (IBM version 20.0, SPSS Inc., Chicago, IL, USA).

RESULTS

The sample consisted of 147 dance students (see Table 1), of which 24.5 % ($N = 36$) were male ($M_{age} = 30.47$, $SD = 12.04$) and 75.5 % ($N = 111$) were female ($M_{age} = 27.65$ $SD = 11.18$). Significant gender differences were found for weight and height, with large ($d = 1.6$) and small ($d = 0.2$) effect sizes, respectively. However, there

were no differences between men and women according to age, the years reported dancing with a teacher, or the number of days or hours danced per week.

Table 1. Social and dance-related characteristics of the participants according to gender.

	TOTAL <i>n</i> = 147	Men <i>n</i> = 36 (24.5)	Women <i>n</i> = 111 (75.5)	<i>t</i> _(<i>df</i> = 145)	<i>p</i>
Age	28.34 (11.42)	30.47 (12.04)	27.65 (11.18)	1.292	.198
Weight (kg)	61.59 (10.66)	72.51 (10.12)	58.05 (8.16)	7.795	<.001
Height (m)	1.66 (0.92)	1.75 (0.89)	1.63 (0.07)	7.288	<.001
Years of practice	6.88 (3.96)	7.28 (3.62)	6.76 (4.08)	0.685	.495
Dances days/week	3.04 (1.22)	3.06 (1.39)	3.04 (1.16)	0.083	.934
Dance hours/week	6.37 (7.20)	6.33 (7.17)	6.38 (7.24)	0.033	.974
Dance specialty				$\chi^2_{(5,147)} = 28.234$	<.001
Classic	16 (10.9)	3 (18.8)	13 (81.2)		
Contemporary	13 (8.8)	2 (15.4)	11 (84.6)		
Modern	26 (17.7)	8 (30.8)	18 (69.2)		
Latin	35 (23.8)	12 (34.3)	23 (65.7)		
Flamenco	47 (32.0)	3 (6.4)	44 (93.6)		
Spanish, Ballroom, other	10 (6.8)	8 (80.0)	2 (20.0)		

Note: For quantitative variables M (SD); for categorical variables n (%).

Men and women differed in the distribution of dance specialties, with a moderate effect size (V Cramer = .438). These differences are notable in the Spanish, Ballroom, and other dances, with a greater presence of men, while significantly more women practice Flamenco dance than men.

Analysis of the variables and considering Kurtosis and Skewness revealed that the data present a normal distribution, respecting the interval criteria [-1.96; 1.96] proposed by Munro (2001). Thus, normal values were found in the three variables studied: Self-efficacy (Kurtosis = -0.206/Skewness = -0.078), Perfectionism (Kurtosis = -0.460; Skewness = -0.346), and Resilience (Kurtosis = 1.784; Skewness = -0.992).

Table 2 shows the scores obtained on each scale according to gender. While there is an absence of gender differences, there is a marginal difference ($p = .060$) in self-efficacy scores, where men score higher than women.

Table 2. Comparisons of self-efficacy, perfectionism, and resilience scores according to gender in the sample of dance students.

	TOTAL <i>n</i> = 147	Men <i>n</i> = 36 (24.5)	Women <i>n</i> = 111 (75.5)	<i>t</i> (<i>df</i> = 145)	<i>p</i>
Self-efficacy (GSES)	30.07 (4.11)	31.19 (4.29)	29.71 (4.00)	1.898	.060
Perfectionism (MIPS)	39.60 (10.61)	38.25 (10.53)	40.04 (10.65)	0.877	.382
PF-F1	21.61 (5.74)	20.86 (5.49)	21.86 (5.83)	0.902	.368
PF-F2	17.99 (6.03)	17.39 (6.34)	18.18 (5.94)	0.683	.495
Resilience (RS-TOTAL)	131.24 (19.16)	132.14 (19.25)	130.95 (19.21)	0.324	.747
RSF1	91.90 (13.93)	92.86 (13.66)	91.59 (14.09)	0.473	.637
RSF2	39.33 (6.89)	39.28 (6.90)	39.35 (6.92)	0.055	.956
RS-CATEGORIES				$\chi^2_{(1,147)} = 0.037$.848
Low	116 (78.9)	28 (24.1)	88 (75.9)		
High	31 (21.1)	8 (25.8)	23 (74.2)		

For quantitative variables M (SD), for categorical variables n (%). Self-efficacy (GSES): Total score on the General Self-Efficacy Scale (GSES); Perfectionism (MIPS): Total score on the Multidimensional Inventory of Perfectionism in Sport During Competition; PF-F1: Score on Factor 1 ‘Striving for Perfection’ of the MIPS Scale; PF-F2: Score on Factor 2 ‘Negative Reaction to Imperfection’ of the MIPS Scale; RS- TOTAL: Total score in resilience; RSF1: Factor 1 resilience or personal competence; RSF2: Factor 2 resilience or acceptance of self and life; RS-CATEGORIES: resilience categories; Low: low resilience (<147 RS points); High: high resilience (≥ 147 RS points).

When comparing the scores obtained for each of the constructs (self-efficacy, perfectionism, and resilience) according to dance specialty (see Table 3), significant differences were found in the perfectionism and resilience scores.

Table 3. Comparison of scores (ANOVA) on self-efficacy, perfectionism and resilience according to dance specialty in the sample of students.

	Classic	Contemporary	Modern	Latin	Flamenco	Spanish, Ballroom, other	<i>F</i> (<i>5,146</i>)	<i>p</i>
	16 (10.9)	13 (8.8)	26 (17.7)	35 (23.8)	47 (32.0)	10 (6.8)		
GSES	30.06 (4.22)	32.00 (2.79)	29.54 (3.67)	29.86 (3.85)	9.66 (4.48)	31.70 (5.27)	1.091	.368
PF-TOTAL	47.25 (9.83)	39.31 (10.48)	40.35 (10.56)	39.63 (8.69)	37.11 (11.19)	37.40 (11.82)	2.407	.040
PF-F1	25.00 (4.95)	22.62 (6.01)	22.00 (5.52)	21.11 (4.89)	20.45 (6.26)	21.10 (6.35)	1.712	.136
PF-F2	22.25 (5.77)	16.69 (5.72)	18.35 (6.16)	18.51 (5.61)	16.66 (5.88)	16.30 (6.33)	2.534	.031
RS-TOTAL	129.75 (14.27)	135.31 (11.60)	130.65 (17.21)	124.60 (25.19)	135.02 (17.86)	135.30 (17.13)	1.461	.206
RSF1	92.13 (10.73)	96.23 (7.59)	91.96 (13.53)	85.11 (17.82)	95.13 (12.28)	94.40 (11.44)	2.622	.027
RSF2	37.63 (5.48)	39.08 (5.77)	38.69 (6.06)	39.49 (7.90)	39.89 (7.03)	40.90 (8.63)	0.406	.844

For quantitative variables: M (SD); for categorical variables: n (%). GSES: Total score on the General Self-Efficacy Scale; PF-TOTAL: total score on the Multidimensional Inventory of Perfectionism in Sport During Competition; PF-F1: Score on Factor 1 ‘Striving for Perfection’ of the MIPS Scale; PF-F2: Score on Factor 2 ‘Negative Reaction to Imperfection’ of the MIPS Scale; RS-TOTAL: Total resilience score; RSF1: Factor 1 resilience or personal competence; RSF2: Factor 2 resilience or acceptance of self and life.

Classical and Flamenco dancers showed differences in the total score of the perfectionism scale ($p = .014$), with a medium effect size ($\eta^2 = 0.09$), and in the subscale

= - .054, $p = .517$), days per week dancing ($r = -.016$, $p = .850$) or hours per week of dancing ($r = .048$, $p = .564$).

A Stepwise linear regression analysis was conducted to explore the possible relationships between self-efficacy and the age of the dance students. These variables were included as predictors of the total resilience score (see Table 5). The regression models met the assumptions of linearity, homoscedasticity, and normal distribution of the residuals. These assumptions were confirmed by the Durbin-Watson value (1.758), and the collinearity statistics for the Variance Inflation Factor (Self-Efficacy = 1.001 and age = 1.001) and the Tolerance Index (Self-Efficacy = 0.999 and age = 1.001).

Table 5. Stepwise regression analysis, taking resilience as the predicted variable and age and self- efficacy as predictor variables.

	β	t	p	R^2	ΔR^2	p	F	p
Model 1				.028	.028	.042	$F_{(1,146)} = 4.204$.042
Age	.168	2.050	.042					
Model 2				.185	.157	< .001	$F_{(2,146)} = 16.324$	< .001
Age	.158	2.100	.038					
Self-efficacy	.396	5.260	< .001					

Table 5 shows that age explains 2.8 % of the variance in resilience scores ($p = .042$), with a predictive value of $\beta = .168$ ($p = .042$). When the self-efficacy variable was introduced into the model, the explanatory power of the model increased to explain 18.5 % of the variance ($p < .001$), while age showed a predictive value of $\beta = .158$ ($p = .038$) and self-efficacy predicted resilience scores with a $\beta = .396$ ($p < .001$).

DISCUSSION

The present study aimed to explore whether, and how, self-efficacy and perfectionism are related to the resilience displayed by dance students. As a first hypothesis, it was expected that highly resilient dance students would obtain higher self-efficacy scores than those with low resilience. The second hypothesis predicted that students with high resilience scores would also score higher on adaptive or functional

perfectionism. The third hypothesis proposed that dance students with low resilience would obtain higher scores on dysfunctional perfectionism than those with high resilience scores. Finally, the fourth hypothesis predicted positive correlations between self-efficacy and functional perfectionism and negative correlations between self-efficacy and dysfunctional perfectionism.

Our data fully support that dance students with high resilience scores showed higher self-efficacy. In this sense, self-efficacy has also been shown to be highly predictive of resilient behaviours.

In the absence of an experimental approach that can establish causal relationships, determining the directionality of the relationship between both constructs is problematic. However, the findings of this research support other observations in the literature showing that self-efficacy is a key variable for maintaining resilient behaviours in students (Lightsey, 2006), adolescents and minors (Nowicki 2008; Sagone et al. 2020), and adults (Djourouva et al. 2020). It has also been pointed out that high scores in self-efficacy facilitate the ability to face novel and unfamiliar situations adaptively. Similarly, evidence suggests that resilient skills are strengthened by enhancing factors such as self-efficacy (Pooley & Cohen, 2010; Reivich & Shaté, 2002), which helps to increase ego resilience (Martin & Marsh, 2008). In the context of the dance domain studied in the work, resilience has been shown to be a good predictor of self-efficacy, with high resilience scores facilitating the development of high levels of self-efficacy in dance students (Lazier-Leão et al., 2023; San-Juan-Ferrer & Hípola 2020).

On the other hand, it should be noted that this study has not been able to confirm that students with high resilience scores would also score higher on adaptive or functional perfectionism. In this sense, differences could be observed between high and

low resilience. The literature has already questioned the possible existence of "true" perfectionism traits in dancers (Nordin-Bates et al., 2011). However, according to these authors, certain elements of perfectionism seem to be common and are more strongly associated with maladaptive characteristics.

This apparent lack of a relationship between resilience and functional perfectionism could make sense if we consider that professionals and students are encouraged to strive for and achieve perfection by showing continual improvements in performance. Therefore, regardless of their resilient skills and competencies, all dancers would show similarly high efforts directed toward achieving their goals. Indeed, various instruments have been used to assess perfectionism (The Frost Multidimensional Perfectionism Scale-MPS and the Positive and Negative Perfectionism Scale-PANPS), finding no differences in positive or functional perfectionism in elite athletes across various high-performance activities such as basketball, gymnastics, and ballet (Kronvall-Parkinson et al. 2007). However, as showed by Nordin-Bates et al. (2011), dancers can differ in their reaction to errors rather than their expectations of achieving optimal performance. Moreover, and contrary to the findings observed with dance students, a study by Guillén et al. (2014) with soccer referees found that adaptive perfectionism significantly predicted resilience scores, although to a lesser extent than self-efficacy.

The affirmation that low resilience dance students would score higher on dysfunctional perfectionism than their high resilience counterparts was not corroborated by our data, as both groups of dancers showed similar scores on the scale of negative reactions to imperfection, which has been termed dysfunctional perfectionism.

Although there were no significant differences between the high and low resilience groups in either functional or dysfunctional perfectionism, the differences

were numerically greater for dysfunctional perfectionism. This trend supports the line of argument developed in the literature (Nordin-Bates et al. 2011), where differences could be observed in the reaction shown by dancers to errors (regarded as dysfunctional perfectionism). In this sense, it has been indicated that people with high scores in socially prescribed perfectionism tend not to resort to the use of resilient skills (Besser et al. 2010; Hewitt & Flett 2002; Klibert et al. 2014) and both self-oriented and socially prescribed perfectionists show greater catastrophizing and dependence (Rudolph et al. 2007; Sherry et al. 2003), characteristics not associated with resilience. Moreover, only socially prescribed perfectionism has shown to be negatively associated with resilience, while self-oriented perfectionism and other-oriented perfectionism were not related to resilience scores (Klibert et al. 2014).

All of these findings in the literature are in line with the trend observed in the present sample of dance students in which high resilience behaviours were associated with a lower score in the negative reaction to imperfection, supporting the observation that ballet dancers obtained higher scores in positive perfectionism (Kronvall-Parkinson et al. 2007).

Finally, the data show an absence of significant correlations between self-efficacy and functional perfectionism scores and negative correlations between self-efficacy and dysfunctional perfectionism. However, it should be noted that a marginal correlation ($p = .070$) was observed between self-efficacy and functional perfectionism. This finding supports those of a study conducted with students in a school setting (Zhang et al. 2005), where adaptive perfectionism traits were positively correlated with self-efficacy in study and commitment.

On the other hand, while the negative correlation between self-efficacy and dysfunctional perfectionism was not significant, it could be taken indicate a trend in the

relationship between the two constructs, as observed in the literature. For example, Sheppard and Hicks (2017) reported a negative relationship between maladaptive perfectionism and resilience, and, consequently, lower self-efficacy. Similarly, the dysfunctional or maladaptive component of perfectionism has shown to be associated with problems, mismatches, poorer performance expectations, increased concerns about mistakes, doubts about actions, and increased parental criticism predicting poorer future performance (Khawaja and Armstrong 2005).

The limitations of this study include the correlational nature of the design, which does not allow for determining causal relationships between the variables analyzed. In addition, the small sample size prevented us from forming groups of dance students according to their specialty (inspection of some of the trends in our findings suggests that our study variables may have differed as a function of this factor). Likewise, it would have been interesting to group the students according to their future expectations (to devote themselves to teaching or the arts/stage). It might also have been informative to analyze the students according to the characteristics of their teachers to ascertain whether other-oriented perfectionism influences the dancers. Similarly, it might be useful to classify students according to their perfectionism scores (functional vs. dysfunctional) and explore the specific links with self-efficacy and resilience. Therefore, future research should employ more rigorous designs that provide greater control of variables, along with control or comparison groups.

CONCLUSION

Dance is a high-performance activity associated with various problems that can hinder a dancer's professional and artistic career. For this reason, it is necessary that dancers are able to develop highly effective coping skills to manage the various situations

they will encounter during their training and professional life. In this regard, the goal will be to manage adversity adaptively and, to this end, conservatories and academies are places that can play a significant role in helping to develop such a preventive approach.

Self-efficacy -but not perfectionism- is related to and adequately predicts resilient behaviour in dance students. However, non-significant trends in our data suggest that adaptive perfectionism is positively related to resilient behaviour, while dysfunctional perfectionism is negatively related to such behaviour. These constructs are important for dancers to their influence on execution and performance and because such skills are susceptible to intervention and modification.

In this regard, it is interesting to note that if a teacher can help students to move from perfectionism to the pursuit of excellence, they will be setting their students' performance goals in a way that is fully aligned with recent advances in knowledge based on perfectionism, motivation, and goal-setting research.

As mentioned above, personal standards are characterized as maladaptive perfectionism when they are excessive, unrealistic, and pursued with exaggerated tenacity. In this context, the behaviours that characterize the construct of perfectionism can be modified. Thus, teachers should try to design adaptive strategies that facilitate the establishment of realistic, progressive goals and relevant coping strategies for dance students. Complementary to this, consideration should be given to reducing maladaptive perfectionism. To this purpose, effective coping strategies must be developed to reduce the impact of non-achievement of goals and to enhance more adaptive skills.

Interventions must be evaluated, allowing for quick interventions, easy to apply and adapted to the teaching method of the conservatoires.

To this end, academic institutions should dedicate efforts toward promoting self-oriented or functional perfectionism, minimizing the influence of other-oriented, socially prescribed, or dysfunctional perfectionism.

Disclosure statement

No potential conflict of interest was reported by the author.

Funding

This work has been funded in part by the EPIT-UHU support to the [CTS-980] Research Group.

Notes on contributor

Félix Arbinaga holds a Ph.D. in Psychology from the University of Seville. He currently teaches in the Area of Basic Psychology at the Department of Clinical and Experimental Psychology, Faculty of Education, Psychology, and Sports Sciences at the University of Huelva. For more than 20 years, he has worked as a specialist in Clinical Psychology. His current professional activities are focused on teaching and research, studying the relationships between exercise and health, placebo, along with the role of expectations and performance in motor behavior. In addition, within the field of dance, he has conducted research related to resilient behavior, eating behaviors, smoking, and sleep in dance students.

ORCID

Félix Arbinaga <http://orcid.org/0000-0001-6649-1904>

Helsinki declaration

All procedures were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and the Declaration of Helsinki of 1975, revised in 2013. Informed consent Informed consent was obtained from all

individual participants included in the study. Approved by the Andalusian Ethics Committee of Biomedical Research (Evaluation Committee of Huelva. Internal Code: 2159-N-21. Date of approval: 14 December 2021; Act: 11/21).

Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

REFERENCES

- Arbinaga, F. 2018. Self-reported perceptions of sleep quality and resilience among dance students. *Perceptual and Motor Skills* 125(2):351-368.
<https://doi.org/10.1177/0031512518757352>
- Arbinaga, F. 2019. Dependence on nicotine and subjective quality of sleep in dance students. *Journal of Dance Medicine and Science* 23(3):97-103.
<https://doi.org/10.12678/1089-313X.23.3.97>
- Arbinaga, F., E.J. Fernández-Ozcorta, P.P. Herrera-Macías, and D. Vela-Calderón. 2019. Burnout syndrome and resilience in football and basketball referees. *Journal of Sport Psychology* 28(2):23-32.
- Arcelus, J., G. L. Witcomb, and A. Mitchell. 2014. Prevalence of eating disorders amongst dancers: A systemic review and meta-analysis. *European Eating Disorders Review: The Journal of the Eating Disorders Association* 22(2):92-101.
<https://doi.org/10.1002/erv.2271>.
- Ashby, J.S., C.M. Noble, and P.B. Gnilka. 2012. Multidimensional perfectionism and anxiety: Differences among individuals with perfectionism and tests of a coping mediation model. *Journal of Counseling and Development*, 90(4):427-436.
<https://doi.org/10.1002/j.1556-6676.2012.00054.x>

- Ashby, J.S. and K.J. Rice. 2002. Multidimensional perfectionism, dysfunctional attitudes, and self-esteem: A structural equations analysis. *Journal of Counseling and Development*, 29(2):197-203. <https://doi.org/10.1002/j.1556-6678.2002.tb00183.x/abstract>
- Baena-Chicón, I., S. Gómez-Lozano, L. Abenza-Cano, and A. Vargas-Macías. 2021. Pain catastrophizing among professional dance conservatoire flamenco students. *Archivos de Medicina del Deporte* 38(2):86-90. <https://doi.org/10.18176/archmeddeporte.00030>
- Baessler, J., and R. Schwarzer. 1996. Evaluation of self-efficacy: Spanish adaptation of the General Self-Efficacy Scale. *Anxiety and Stress* 2:1-8.
- Bandura, A. 1982. Self-efficacy mechanism in human agency. *American Psychologist* 37(2):122-147. <https://doi.org/10.1037/0003-066X.37.2.122>.
- Bandura, A. 1986. *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Barton, G., L. McKay, S. Garvis, and V. Sappa. 2020. Introduction: Defining and theorizing key concepts of resilience and well-being and arts-based research. In *Arts-based research, resilience and well-being across the lifespan*, edited by L. McKay, G. Barton, S. Garvis and V. Sappa, 1-12. Springer International Publishing. <https://doi.org/10.1007/978-3-030-26053-8-18>
- Besser, A., G.L. Flett, and P.L. Hewitt. 2010. Perfectionistic self-presentation and trait perfectionism in social problem-solving ability and depressive symptoms. *Journal of Applied Social Psychology* 40(8):2121-2154. <https://doi.org/10.1111/j.1559-1816.2010.00653.x>.

- Carr, S., and W. Matthew. 2003. The impact of motivational climate on dance students' achievement goals, trait anxiety, and perfectionism. *Journal of Dance Medicine and Science* 7(4):105-114.
- Cumming, J., and J.L. Duda. 2012. Profiles of perfectionism, body-related concerns, and indicators of psychological health in vocational dance students: An investigation of the 2×2 model of perfectionism. *Psychology of Sport and Exercise* 13(6):729-738. <https://doi.org/10.1016/j.psychsport.2012.05.004>.
- Djourova, N.P., I. Rodríguez Molina, N. Tordera-Santamatilde, and G. Abate. 2020. Self-efficacy and resilience: Mediating mechanisms in the relationship between the transformational leadership dimensions and well-being. *Journal of Leadership and Organizational Studies* 27(3):256-270. <https://doi.org/10.1177/1548051819849002>
- Doria, N., and M. Numer. 2022. Dancing in a culture of disordered eating: A feminist poststructural analysis of body and body image among young girls in the world of dance. *PLoS ONE* 17(1):e0247651. <https://doi.org/10.1371/journal.pone.0247651>.
- Faul, F., E. Erdfelder, A.G. Lang, and A.G. Buchner. 2007. *Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods* 39(2):175-191. <https://doi.org/10.3758/bf03193146>
- Feltz, D.L., S.E. Short, and P. Sullivan. 2008. *Self-Efficacy in Sport*. Champaign, IL: Human Kinetics,
- Flett, G.L., and P.L. Hewitt. 2002. *Perfectionism: Theory, Research and Treatment*. Washington, DC. American Psychological Association.

- Flett, G.L., and P.L. Hewitt. 2005. The perils of perfectionism in sports and exercise science. *Current Directions in Psychological Science* 14(1):14-18.
<https://doi.org/10.1111/j.0963-7214.2005.003>
- Flett, G.L., and P.L.Hewitt. 2020. Reflections on three decades of research on multidimensional perfectionism: An introduction to the special issue on further advances in the assessment of perfectionism. *Journal of Psychoeducational Assessment*, 38(1):3-14. <https://doi.org/10.1177/0734282919881928>
- Frost, R.O., P. Marten, C. Lahart, and R. Rosenblate. 1990. The dimensions of perfectionism. *Cognitive Therapy and Research* 14(5):449-468.
<https://doi.org/10.1007/BF01172967>.
- Ganske, K.H. and J.S. Ashby. 2007. Perfectionism and career decision-making selfefficacy. *Journal of Employment Counseling*, 44(March), 17-29.
<https://doi.org/10.1002/j.2161-1920.2007.tb00021.x>
- Garcia-Dantas, A., and E. Quested. 2015. The effect of manipulated and accurate assessment feedback on the self-efficacy of dance students. *Journal of Dance Medicine and Science* 19(1): 22-30.
- Garcia-Dantas, A., and J.C. Caracuel. 2011. Factors that influence the dance conservatoires dropping out. *Revista Iberoamericana de Psicología del Ejercicio y el Deporte* 6(1):79-97.
- Gaudreau, P., and A. Thompson. 2010. Testing a 2×2 model of dispositional perfectionism. *Personality and Individual Differences* 48(5):532-537.
<https://doi.org/10.1016/j.paid.2009.11.031>.
- Gnilka, P.B., J.S. Ashby, and C.M. Noble. 2012. Multidimensional Perfectionism and Anxiety: Differences Among Individuals with Perfectionism and Tests of a

Coping-Mediation Model. *Journal Of Counseling & Development*, 90(4):427-436.

<https://doi.org/10.1002/j.1556-6676.2012.00054.x>

Gnilka, P.B., J.S. Ashby, and C.M. Noble. 2013. Adaptive and maladaptive

perfectionism as mediators of adult attachment styles and depression,

hopelessness, and life satisfaction. *Journal of Counseling & Development*,

91(1):78-86. <https://doi.org/10.1002/j.1556-6676.2013.00074.x>

Gotwals, J. K., J. Stoeber, J.G. Dunn and O. Stoll. 2012. Are perfectionistic strivings in

sport adaptive? A systematic review of confirmatory, contradictory, and mixed

evidence. *Canadian Psychology*, 53(4):263-279. <https://doi.org/10.1037/a0030288>

Guillén, F., A. Hernández-Mendo, and R.E. Reigal-Garrido. 2014. "*General self-*

efficacy, adaptive perfectionism and resilience in referees." Poster presented at

the meeting for the Spanish Federation of Sport Psychology, Cáceres, Spain, May

14-17.

Hewitt, P.L., and G.L. Flett. 1991. Perfectionism in the self and social contexts:

Conceptualization, assessment, and association with psychopathology. *Journal of*

Personality and Social Psychology 60(3):456-470. [https://doi.org/10.1037//0022-](https://doi.org/10.1037//0022-3514.60.3.456)

[3514.60.3.456](https://doi.org/10.1037//0022-3514.60.3.456).

Hewitt, P.L., and G.L. Flett. 2002. Perfectionism and stress processes in

psychopathology. *In: Perfectionism: Theory, research, and treatment*, edited by

G.L. Flett and P.L. Hewitt, 255-284. American Psychological Association.

<https://doi.org/10.1037/10458-011>

Hill, A.P., S.H. Mallinson-Howard, D.J. Madigan, and G.E. Jowett. 2019. Perfectionism

in sport, dance, and exercise: An extended review and reanalysis. *In: Handbook of*

Sport Psychology, edited by G. Tenenbaum and R.C. Eklund, 121-157. (4th ed).

Hoboken, NJ: Wiley. <https://doi.org/10.1002/9781119568124.ch7>.

- Hill, A.P., D.J. Madigan, M.M. Smith, S.H. Mallinson-Howard, and T.C. Donachie. 2020. Perfectionism. *In: The Routledge International Encyclopedia of Sport and Exercise Psychology V.1: Theoretical and Methodological Concepts*, edited by D. Hackfort and R. Schinke (Chap.29). London, Routledge.
<https://doi.org/10.4324/9781315187259>
- Hincapié, C.A., E.J. Morton, and J.D. Cassidy. 2008. Musculoskeletal injuries and pain in dancers: A systematic review. *Archives of Physical Medicine and Rehabilitation* 89(10):1819-1829. <https://doi.org/10.1016/j.apmr.2008.02.020>
- Khawaja, N.G., and K.A. Armstrong. 2005. Factor structure and psychometric properties of the Frost Multidimensional Perfectionism Scale: Developing shorter versions using an Australian sample. *Australian Journal of Psychology* 57(2):129-138. <https://doi.org/10.1080/10519990500048611>
- Klibert, J., D.A. Lamis, W. Collins, K.B. Smalley, J.C. Warren, C.T. Yancey, and C. Winterowd. 2014. Resilience mediates the relations between perfectionism and college student distress. *Journal of Counseling and Development* 92(1):75-82. <https://doi.org/10.1002/j.1556-6676.2014.00132.x>.
- Kronvall-Parkinson, M., S.J. Hanrahan, R. Stanimirovic, L. Sharp. 2007. "*The effects of perfectionism and physical self-concept on pre-performance anxiety in elite female gymnasts, basketball players, and ballet dancers.*" Paper presented at the 17th Annual Meeting of the International Association for Dance Medicine and Science, Canberra, October 25-27.
- Lazier-Leão, T.R., L. Ferreira, C.M. Leão-Junior, G.L. Morais-Freire, N.L. Gomez-Costa, J.R. Nascimento-Junior, and J.L. Lopes-Vieira, 2023. Does resilience predict self-efficacy and motivation in dancers? *Retos* 48(2):229-234.
<https://doi.org/10.47197/retos.v48.96799>

- Liederbach, M., and J.M. Compagno. 2001. Psychological Aspects of Fatigue-Related Injuries in Dancers. *Journal of Dance Medicine and Science* 5(4):116-120.
- Lightsey, O.R. 2006. Resilience, Meaning, and Well-Being. *The Counseling Psychologist* 34(1):96-107. <https://doi.org/10.1177/0011000005282369>
- Liu, C.Y., M.C. Tseng, C.H. Chang, D. Fang, and M.B. Lee. 2016. Comorbid psychiatric diagnosis and psychological correlates of eating disorders in dance students. *Journal of the Formosan Medical Association* 115(2):113-120. <https://doi.org/10.1016/j.jfma.2015.01.019>.
- Malhi, G.S., P. Das, E. Bell, G. Mattingly, and Z. Mannie. 2019. Modelling resilience in adolescence and adversity: A novel framework to inform research and practice. *Translational Psychiatry* 9(1):316. <https://doi.org/10.1038/s41398-019-0651-y>.
- Martin, A., and H.W. Marsh. 2008. Academic buoyance: Towards an understanding of students' everyday academic resilience. *Journal of School Psychology* 46(1):53-83. <https://doi.org/10.1016/j.jsp.2007.01.002>
- Munro, B. 2001. *Statistical Methods for Health Care Research*. Lippincott: Philadelphia.
- Nordin-Bates, S.M., J. Cumming, D. Aways, and L. Sharp. 2011. Imagining yourself dancing to perfection? Correlates of perfectionism among ballet and contemporary dancers. *Journal of Clinical Sport Psychology* 5(1):58-76.
- Nowicki, A. 2008. *Self-efficacy, sense of belonging and social support as predictors of resilience in adolescents*. PhD diss., Jundaloo, WA: Edith Cowan University.
- Ojofeitimi, S., and S. Bronner. 2011. Injuries in a modern dance company: Effect of comprehensive management on injury incidence and cost. *Journal of Dance Medicine and Science* 15(3):116-122.

- Oreb, G., L. Ruzic, B. Matkovic, M. Misigoj-Duraković, J. Vlasić, and D. Ciliga 2006. Physical fitness, menstrual cycle disorders and smoking habit in Croatian National Ballet and National Folk Dance Ensembles. *Collegium Antropologicum* 30(2):279-283.
- Penniment, K.J., and S.J. Egan. 2012. Perfectionism and learning experiences in dance class as risk factors for eating disorders in dancers. *European Eating Disorders Review* 20(1):13-22. <https://doi.org/10.1002/erv.1089>
- Pentith, R., S.L. Moss, K. Lamb, and C. Edwards. 2021. Perfectionism among young female competitive Irish dancers: Prevalence and relationship with injury Responses. *Journal of Dance Medicine and Science* 25(2):152-157. <https://doi.org/10.12678/1089-313X.061521k>
- Pessali-Marques, B., and C.C. Fonseca-Bicalho. 2016. "Self-efficacy and performance in dancers: A systematic review." Presented at the 26 th annual meeting for the Society of Conference: International Association for Dance and Medicine Science, Wanchai, Hong Kong 20-23. <https://doi.org/10.13140/RG.2.2.12196.37764>.
- Pineda-Espejel, A., E.I. Alarcón, J.M. López-Walle, and I. Tomas-Marco. 2017. Adaptation to Spanish of the Short Version of Multidimensional Inventory of Perfectionism in Sport during Competition. *Revista Iberoamericana de Diagnóstico y Evaluación-e Avaliação Psicológica* 43(1):45-57.
- Pooley, J.A., and L. Cohen. 2010. Resilience: A definition in context. *Australian Community Psychologist* 22(1):30-37.
- Rasquinha, A., J.G.H. Dunn, and J.C, Dunn. 2014. Relationships between perfectionistic strivings, perfectionistic concerns, and competitive sport level.

Psychology of Sport and Exercise, 15(6):659-667.

<https://doi.org/10.1016/j.psychsport.2014.07.008>

Reivich, K., and A. Shatté. 2002. *The resilience factor: 7 essential skills for overcoming life's inevitable obstacles*. New York, NY: Random House.

Rice, K.G. and D.K. Lapsley. 2001. Perfectionism, coping, and emotional adjustment. *Journal of College Student Development*, 42(2):157-168.

Rudolph, S.G., G.L. Flett, and P.L. Hewitt. 2007. Perfectionism and deficits in cognitive emotion regulation. *Journal of Rational-Emotive and Cognitive-Behavior Therapy* 25(4):343-357. <https://doi.org/10.1007/s10942-007-0056-3>

Ruiz-Barquín, R., R. De la Vega, J. Poveda, A. Rosado, and S. Serpa. 2012. Psychometric analysis of the Resilience Scale in the sport of football. *Journal of Sport Psychology* 21(1):143-151.

Sagone, E., M.E. De Caroli, R. Falanga, and M.L. Indiana. 2020. Resilience and perceived self-efficacy in life skills from early to late adolescence. *International Journal of Adolescence and Youth* 25(1):882-890. <https://doi.org/10.1080/02673843.2020.1771599>

San-Juan-Ferrer, B., and P. Hípola. 2020. Emotional intelligence and dance: a systematic review. *Research Dance Education* 21(1):57-81. <https://doi.org/10.1080/14647893.2019.1708890>

Sanjuán-Suarez, P., A.M. Pérez-García, and J. Bermúdez-Moreno. 2000. The general self-efficacy scale: Psychometric data from the Spanish adaptation. *Psicothema* 12(suppl. 2):509-513.

Sheppard, L., and R.E. Hicks. 2017. Maladaptive perfectionism and psychological distress: The mediating role of resilience and trait emotional intelligence.

International Journal of Psychological Studies 9(4):65-75.

<https://doi.org/10.5539/ijps.v9n4p65>.

Sherry, S.B., P.L. Hewitt, G.L. Flett, and M. Harvey. 2003. Perfectionism dimensions, perfectionistic attitudes, dependent attitudes, and depression in psychiatric patients and university students. *Journal of Counseling Psychology* 50(3):373-386. <https://doi.org/10.1037/0022-0167.50.3.373>

Silva, A.M.B.D., T.S.R. Luz, R.D.M. Afonso, M.F.D. Araújo, I.G. Bittencourt, L.D.F. Carvalho, and S.R.F. Enumo, 2015. Escala de Autoeficácia para Bailarinos (AEBAI): construção e evidências de validade. *Avaliacao Psicológica* 14(1):83-88. <https://doi.org/10.15689/ap.2015.1401.09>.

Southwick, S.M., G.A. Bonanno, A.S. Masten, C. Panter-Brick, and R. Yehuda. 2014. Resilience definitions, theory, and challenges: Interdisciplinary perspectives. *European Journal of Psychotraumatology* 5,25338. <https://doi.org/10.3402/ejpt.v5.25338>.

Stein, C., C. Gleason, M. Pepin, S.A., Kinney, H.L., Southwick, E.R. Park, and A. Stracciolini. 2016. Cigarette smoking among dancers of different ages and levels of training. *Journal of Dance Medicine and Science*. 20(4):174-180. <https://doi.org/10.12678/1089-313X.20.4.174>

Stevens, D., D.I. Anderson, H.J. O'Dwyer, and A.M. Williams. 2012. Does self-efficacy mediate transfer effects in the learning of easy and difficult motor skills? *Consciousness and Cognition* 21(3):1122-1128. <https://doi.org/10.1016/j.concog.2012.03.014>.

Stoeber, J., K. Otto, and O. Stoll. 2006. *Multidimensional Inventory of Perfectionism in Sport (MIPS): English Version*. University of Kent, United Kingdom.

- Stoeber, J., K. Otto, E. Pescheck, C. Becker, and O. Stoll. 2007. Perfectionism and competitive anxiety in athletes: Differentiating striving for perfection and negative reactions to imperfection. *Personality and Individual Differences*, 42(6):959-969.
- Stoeber, J., and D. Rennert. 2008. Perfectionism in schoolteachers: Relations with stress appraisals, coping styles, and burnout. *Anxiety, Stress, and Coping* 21(1):37-53.
<https://doi.org/10.1080/10615800701742461>
- Stoeber, J., N. Schneider, R. Hussain, and K. Matthews. 2014). Perfectionism and negative affect after repeated failure: Anxiety, depression, and anger. *Journal of Individual Differences*, 35(2):87-94. <https://doi.org/10.1027/1614-0001/a000130>
- Ulu, I.P. and E. Tezer. 2010. Adaptive and maladaptive perfectionism, adult attachment, and big five personality traits. *The Journal of Psychology*, 144(4):327-340.
<https://doi.org/10.1080/00223981003784032>
- van Winden, D.R., M. Van Rij, A. Richardson, G.J.P. Savelsbergh, R.R.D. Oudejans, and J.H. Stubbe. 2019. Detailed injury epidemiology in contemporary dance: A 1-year prospective study of 134 students. *BMJ Open Sport & Exercise Medicine*, 5(1):e000453. <https://doi.org/10.1136/bmjsem-2018-000453>.
- Wagnild, G.M., and H.M. Young. 1987. *The Resilience Scale*. Unpublished manuscript. Master's Thesis, University of Washington, Seattle.
- Wagnild, G.M., and H.M. Young. 1993. Development and psychometric evaluation of the Resilience Scale. *Journal of Nursing Measurement* 1(2):165-178.
- Wanke, E.M., J. Haenel, and D.A. Groneberg. 2020. Musculoskeletal pain in Latin American formation dance: Localization, assessment, and related behavior. *Journal of Dance Medicine and Science* 24(1):24-32.
<https://doi.org/10.12678/1089-313X.24.1.24>

Zhang, Y., Y. Gan, and H. Cham. 2005. Perfectionism, academic burnout and engagement among Chinese college students: A structural equation modelling analysis. *Personality and Individual Differences* 43(6):1529-1540.
<https://doi.org/10.1016/j.paid.2007.04.010>