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Fear of Failure and Perfectionism in Sport

Miedo a Fallar y Perfeccionismo en el Deporte

Medo de Falhar e Perfeccionismo no Desporto

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Abstract: Previous studies have reported consistent associations between fear of failure and perfectionism in sport. This study investigated how aspects of perfectionism in athletes (*N = 350*) were related to their fears of failure, and how perfectionism predicted different fears of failure. Structural equation modelling indicated strong correlations between perfectionism and fear of failure, especially on concern over mistakes dimension, reflecting the most negative aspect of the perfectionistic construct. Results concerning the structural model, where perfectionism was a predictor of fear of failure, also showed a positive and significant effect on fear of failure. Specifically, concern over mistakes influences significantly all fears of failure dimensions, followed by doubts about actions dimension. The findings demonstrate that concern over mistakes and doubts about actions are central in the relationship between perfectionism and fear of failure, being both recognized as the core aspects of perfectionism, predicting all fears of failure in athletes.
Keywords: athletes, concern over mistakes, doubts about actions, perfectionism, sport.
Resumen: Los estudios previos han demostrado asociaciones entre el miedo a fallar y el perfeccionismo en el contexto deportivo. El presente estudio ha investigado la relación entre el perfeccionismo y el miedo a fallar en los atletas (*N = 350*), y de qué modo el perfeccionismo predice el miedo a fallar. El análisis de las ecuaciones estructurales realizada ha indicado fuertes correlaciones entre el perfeccionismo y el miedo a fallar, en concreto en la dimensión de la preocupación por los errores, reflejando los aspectos más desadaptativos de la dimensión perfeccionista. Los resultados del modelo estructural, donde el perfeccionismo era el predictor del miedo a fallar, han demostrado poseer un efecto positivo y significativo sobre el miedo a fallar. En particular, la dimensión preocupación por los errores influye de forma significativa en la dimensión miedo a fallar, seguida de las dudas sobre las acciones. Estos resultados demuestran que las dimensiones de la preocupación con los errores y dudas sobre la acción son centrales en la relación entre los constructos perfeccionismo y el miedo a fallar, siendo reconocidas como los aspectos centrales del perfeccionismo y predictores de todas las dimensiones del miedo a fallar en atletas.
Palabras clave: atletas, deporte, dudas sobre la acción, perfeccionismo, preocupación por los errores.
Resumo: Estudos prévios têm reportado associações entre o medo de falhar e o perfeccionismo no contexto desportivo. O presente estudo investigou o relacionamento entre o perfeccionismo e o medo de falhar em atletas (*N = 350*), e de que modo o perfeccionismo prediz o medo de falhar. A análise de equações estruturais realizada indicou fortes correlações entre o perfeccionismo e o medo de falhar, especialmente na dimensão preocupação com os erros, refletindo o aspeto mais desadaptativo da dimensão perfeccionista. Os resultados do modelo estrutural demonstraram que o perfeccionismo era preditor do medo de falhar possuindo um efeito positivo e significativo sobre o medo de falhar. Especificamente, a dimensão preocupação com os erros influencia significativamente todas as dimensões do medo de falhar, seguida pela dimensão dúvidas na ação. Estes resultados demonstram que as dimensões preocupação com os erros e dúvidas sobre a ação são centrais na relação entre os dois constructos, sendo as duas dimensões reconhecidas como aspetos fulcrais do perfeccionismo e sendo preditores de todas as dimensões do medo de falhar em atletas.
Palavras-chave: atletas, desporto, dúvidas sobre a ação, perfeccionismo, preocupação com os erros.

Fear of failure is frequently mentioned as a primary motivation underlying perfectionism, but there is a lack of information about the relations between these two constructs (Conroy, Kaye, & Fifer, 2007). This knowledge will be fundamental for all the players within the sport context, providing an understanding of the extent to which perfectionism thoughts motivate cognitions associated with fear of failure.

According to Frost and Henderson (1991) perfectionistic thinking has been presumed to play a powerful and incapacitating role in sport competition. According with some authors perfectionistic athletes fear failure and mistakes to such a degree that their sports enjoyment and performance is reduced and obstructed (Burns, 1980; Frost & Henderson, 1991).

Likewise, fear of failure in sport-related research has been associated with athletic stress, worry, and anxiety (cognitive and somatic; Conroy, Willow, & Metzler, 2002), drug abuse (Anshel, 1991), dropout (Orlick, 1974), maladaptive perfectionistic behavior (Sagar & Stoeber, 2009), interpersonal antisocial behavior (Sagar, Boardley, & Kavussanu, 2011), and impaired interpersonal behavior and sporting performance (Sagar, Lavallee, & Spray, 2009).

Trough time, a theorization has been made about perfectionism in a way that perfectionists are motivated by fear of failure. In the same way, any evaluated performance is viewed as an opportunity to fail rather than to succeed (Ha-

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machek, 1978). This earlier theorist argued that some aspects of perfectionism might be adaptive since they foster excellence and striving to meet important goals. Hamachek (1978) designated a more adaptive form of perfectionism as "normal perfectionism" and designated a maladaptive form as "neurotic perfectionism".

The two most common measures of perfectionism, both called The Multi-dimensional Perfectionism Scale (*FPMS*, Frost, Marten, Lahart, & Rosenblate 1990; *HMPS*, Hewitt & Flett, 1991), share the same perspective of an adaptive or "healthy" perfectionism and a maladaptive or "unhealthy" perfectionism (Bieling, Israeli, & Antony, 2004).

Frost et al.'s (1990) model distinguishes six dimensions of perfectionism: *personal standards, concern over mistakes, parental expectations, parental criticism, doubts about actions, and organization*. *Personal Standards* reflect a positive feature of perfectionism and is associated with a general attitude emphasizing accomplishment and success in sports contexts (Frost & Henderson, 1991). On the other hand, concern over mistakes, reflects negative features of perfectionism, since its associated with competitive anxiety, lower sport confidence, a general failure orientation, negative reaction to mistakes during competition, and fear of mistakes prior to competition (Frost & Henderson, 1991). *Parental Expectations* and parental criticism dimensions reflect the perception of parents' attitudes and behaviour. Parental expectations concern the perception of the extent to which parents have high expectations. *Parental Criticism Concerns* the extent to which parents are perceived to be overly critical. *Doubts About Actions* dimension reflects the individual doubts about one's ability. The *Organization* dimension reflects the excessive importance given to orderliness (Frost & Henderson, 1991).

Hewitt and Flett's (1991) model discern three dimensions, that accesses trait perfectionism directed at the self, namely, *self-oriented and socially prescribed perfectionism*, or at others, specifically, *other-oriented perfectionism* (Flett, Hewitt, Whelan, & Martin, 2007). According with Hewitt and Flett (2008) this is the first of the three-major personal and interpersonal components of a neurotic or maladaptive personality style. The second component is designated perfectionistic self-presentation and involves three facets (e.g., perfectionistic self-promotion; nondisplay of imperfection; nondisclosure of imperfection). The third component involves cognitive processes reflecting the processing of information with automatic thoughts with perfectionistic themes (Flett, Hewitt, Blankstein, & Gray, 1998) and with perfectionistic cognitive structures (Besser, Flett, Guez, & Hewitt, 2008; Hewitt & Genest, 1990).

The relations between these two multidimensional perfectionism measures were investigated and the results provided evidence that some subscales of the two perfectionism scales were positively correlated with negative affect (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). Furthermore, factor analysis of the nine subscales of the Frost and Hewitt measures revealed a two-factor solution with five subscales loading on one factor, and four subscales on a second factor. The authors labelled the first factor *"maladaptive evaluation concerns"* and the second factor *"positive striving"* (Bieling et al., 2004). The first factor comprises concern over mistakes, parental expectations, parental criticism, doubts about actions, and socially prescribed perfectionism. The second factor encompasses personal standards, organization, self-oriented perfectionism and other-oriented perfectionism. In addition, other correlation studies appear to provide evidence for a distinction between adaptive and maladaptive perfectionism (e.g., Bieling et al., 2004; Hill et al., 2004).

In sport context, the distinction between perfectionistic strivings and maladaptive evaluation concerns perfectionism is preponderant. There is congregating evidence that the aspects of perfectionism associated with the perfectionistic concerns dimension (e.g., concern over mistakes, parental expectations and criticism) have shown positive correlations with athletes' competitive anxiety (Stoeber, Otto, Pescheck, Becker, & Stoll, 2007), avoidance goal orientations (Stoeber, Stoll, Pescheck, & Otto, 2008), and burnout (Gould, Tuffey, Udry, & Loehr, 1996; Gould, Udry, Tuffey, & Loehr, 1996). Instead, the perfectionistic strivings have shown positive correlations with positive characteristics, processes, and outcomes in athletes such as competitive self-confidence (Koivula, Hassmén, & Fallby, 2002), approach goal orientations (Stoeber et al., 2008), and training performance (Stoll, Lau, & Stoeber, 2008).

Recent studies in sport domain have investigated how aspects of perfectionism are related to the fears of failure of Conroy et al. (2002) multidimensional model. Conroy et al. (2007) investigated the relations between fear of failure beliefs and three forms of perfectionism (e.g., self-oriented perfectionism, other-oriented perfectionism and socially prescribed perfectionism) among college students who participated in physical activity classes. Statistic correlations between multiple dimensions of perfectionism and the five fear of failure-related beliefs revealed that the two forms of perfectionism showed similar correlations. Socially prescribed perfectionism, which involves individuals feeling pressured to be perfect because of beliefs that significant others have excessively high standards for them to meet (Hewit & Fleet, 1991), showed positive correlations with all five fears of failure. Self-oriented perfectionism, which involves the tendency to set unrealistic standards for one's self and to harshly evaluate and criticize one's behaviour as a result of a drive to attain perfection and avoid failure (Hewit & Fleet, 1991), showed positive correlations with four of the five fears of failure (the correlation with fear of having an uncertain future was not significant).

Nevertheless, when regression analyses were computed, only socially prescribed perfectionism was associated with fear of important others losing interest and fear of upsetting important others (these were classified as aversive interpersonal consequences of failure), whereas self-oriented perfectionism did not show any associations. According to the authors, these findings suggest that the perfectionistic concerns dimension of perfectionism shows close links to fears of failure, but not with the perfectionistic strivings dimension, since the study indicated that fear of failure was more likely to motivate socially prescribed perfectionism than either of the other forms of perfectionism. In the same way, socially prescribed perfectionism was particularly linked to beliefs about aversive interpersonal consequences of failing.

A further study, conducted by Kaye, Conroy, & Fifer (2008), confirmed these relations, since it was examined how perfectionistic personal standards (the marker variable of personal standards perfectionism) and perfectionistic concern over mistakes (the marker variable of evaluative concerns perfectionism) related to the five fears of failure.

Additionally, perceived parental pressure, which represents athletes' perception that their parents expect them to be perfect and criticize them if they are not (Stöber, 1998; Stumpf & Parker, 2000), was also examined. Results showed positive correlations only between perfectionistic personal standards and fear of important others losing interest and fear of experiencing shame and embarrassment. In contrast, perfectionistic concern over mistakes showed positive correlations with all five fears of failure dimensions, as did perceived parental pressures. General findings pointed out that essentially concern over mistakes and perceived parental pressure are related to fear of failure, and not perfectionistic personal standards.

Stoeber & Becker (2008) investigated the relationships between perfectionism, hope of success and fear of failure in female soccer players. The results of the investigation showed a positive correlation between perfectionistic strivings and hope for success and a negative correlation with fear of failure. In contrast, perfectionistic concerns showed a positive correlation with fear of failure.

The relationships between perfectionism and fear of failure were further investigated by Sagar & Stoeber (2009) in a student athletes' population. When regression analyses were conducted, perfectionistic strivings predicted lower fear of experiencing shame and embarrassment. In contrast, perfectionistic concerns predicted higher fears of failure in all five dimensions.

The relationship between perfectionism and fear of failure in sport is evidenced in findings that indicate that aspects from both dimensions of perfectionism (i.e., perfectionistic strivings and perfectionistic concerns) displays positive correlations with fear of failure, suggesting that fear of failure is associated with all aspects of perfectionism (Kaye et al., 2008). However, a more detailed look reveals a predominantly positive correlation between the aspects of the evaluative concerns dimension of perfectionism and fear of failure.

The first aim of this study was to investigate the unique relationships between Conroy et al. (2002) model and Frost et al.'s dimensions of perfectionism in a sport context. According to previous findings exposed formerly, it is expected that concern over mistakes, doubts about actions, parental expectations, and parental criticism would be related to all five fears of failure. The second aim was to investigate how perfectionism predicts general fear of failure. The third aim was to verify how Frost et al. (1990) perfectionism dimensions predict each one of the fear of failure appraisals. According with the literature, perfectionism involves high standards of performance which are accompanied by tendencies for overly critical evaluations of one's behaviour, namely concerns over mistakes. This over concern for mistakes leads perfectionists to strive for their goals by a fear of failure (Burns, 1980; Hamachek, 1978; Pacht, 1984), and consequently all dimensions of perfectionism, except for those related with perfectionistic strivings (e.g., personal standards, organization), are expected to largely predict all dimensions of fear of failure.

Method

Participants

A total of 350 athletes (98 female, 252 male) participated in the study. They competed in a variety of individual (e.g., athletics, climbing, surfing, tennis, orienteering, swimming, 47.1%) and team sports (e.g., soccer, volleyball, basketball, 52.9%) at club and school level, belonging to a range of time of practice (65.7% 5 years or more, 34.3% less than 5 years). The mean age of the sample was 15.65 years old (*SD* = 2.45).

Procedures

This study was approved by the University Ethics Board prior to data collection. Clubs, sport associations and schools were contacted by e-mail or by telephone and were invited to participate.

Letters and parental consent forms were sent home to parents for participants under the age of 18 informing them of the nature of the study and requesting their permission for their child's participation in the study. All participants, including minors, signed consent forms.

Measures

The Portuguese version of the Performance Failure Appraisal Inventory ($PFAI_p$ - Correia, Rosado, & Serpa, 2016) was

used to access threat appraisals associated with fear of failure. The measure assessed the 14 aversive consequences of failure in five domains: experiencing shame and embarrassment, devaluing one's self-estimate, having an uncertain future, important others losing interest, and upsetting important others. Items were answered on a five-point Likert scale from 1 (*do not believe at all*) to 5 (*truly believe*). The PFAI subscale scores were derived by summing scores on the individual items for each subscale. A composite fear of failure score can be derived by summing all 14 items. General fear of failure may be interpreted as the strength of a person's belief that failure is associated with negative consequences.

The Portuguese version of the Frost Multidimensional Perfectionism Scale (*MPS-F*) translated and adapted by Serpa, Alves, and Barreiros (2004) and validated for a Portuguese athlete's sample by Correia, Rosado, and Serpa (2017). This 21-item questionnaire generates an overall perfectionism score as well as scores for six subscales that reflect specific domains of perfectionism (e.g., concern over mistakes, doubts about actions, personal standards, parental expectations, parental criticism, and organization). Items were answered on a five-point Likert scale from 1 (*do not believe at all*) to 5 (*truly believe*). The total perfectionism score is the sum of all subscales except for organization (Frost et al., 1990).

Data Analysis

Data were analysed using AMOS 22.0 (SPSS Inc., Chicago IL), and a two-step maximum likelihood structural equation modelling procedure was performed.

Firstly, a confirmatory factor analysis was performed to confirm the measurement model of the two models suggested, for testing the hypothesis formulated. Reliability of the constructs was estimated through Cronbach's α coefficients and values above the .7 criterion were considered reliable (Nunnally & Bernstein, 1994). The average variance extracted (AVE) was estimated to evaluate convergent validity and values greater than .5 were considered to demonstrate convergent validity (Fornell & Larcker, 1981; Hair, Anderson, Tatham, & Black, 2009). Discriminant validity was assumed when AVE of each construct was greater than the squared correlation between that construct and any other (Fornell & Larcker, 1981).

Subsequently, the structural model estimation was performed to test the research hypotheses. The appropriateness of the data to both the measurement and structural models was estimated through a variety of goodness-of-fit indices. Specifically, a good fit of the models was assumed when chi-square (χ^2) was not statistically significant ($p < .05$), the ratio of χ^2 to its degrees of freedom was less than 3.0, comparative-of-fit-index (CFI) was higher than .90 and parsimony goodness-of-fit index (PCFI) was higher than .60 (Blunch, 2008; Mulaik et al., 1989). A root mean square error of approximation (RMSEA) value less than .06 was indicative of good fit while an acceptable fit was assumed for values between .08 and .10 (Byrne, 2000). The significance of the structural weights was evaluated using the Z tests produced by AMOS and statistical significance was assumed at a .05 level.

Results

Measurement Model (Model 1)

The skewness values for the items used in this study ranged from -0.808 to 1.439, while the kurtosis values ranged from -1.311 to 1.324. According to Kline (1998) these values do not represent non-normality problems that may limit further use in factor analysis. In contrast, Mardia's (1970) normalized coefficient of 33.43 indicated multivariate nonnormality (Byrne, 2010). Based on evidence that the multivariate normality assumption was untenable, the Bollen–Stine procedure was used (Bollen & Stine, 1993).

All items showed high factor loadings ranging from .50 to .84, while the Z-values ranged from 7.901 to 17.333 (Table 1). These results indicated that each item did load significantly on its construct. The Cronbach´s α values supported the constructs reliability, ranging from .65 (doubts about actions) to .86 (organization). Convergent validity was accepted for all constructs, since the AVE values of each met accepted levels.

Table 1. Factor loadings, Z-values and reliabilities (α).

Constructs/Items	Loadings	Z-value	CR
Fear of Experiencing Shame & Embarrassment			.77
When I am failing, it is embarrassing if others are there to see it.	.617	11.713	
When I am failing, I worry that others may think I am not trying.	.728	14.385	
When I am failing, I worry about what others think about me.	.818	16.664	
Fear of Devaluing One´s Self-Estimate			.74
When I am not succeeding, I get down on myself easily.	.583	10.840	
When I am failing, I blame my lack of talent.	.692	13.354	

Constructs/Items	Loadings	Z-value	CR
When I am failing, I am afraid that I might not have enough talent.	.818	16.340	
Fear of Having an Uncertain Future			.71
When I am failing, my future seems uncertain.	.719	13.538	
When I am failing, it upsets my "plan" for the future.	.770	14.516	
Fear of Important Others Losing Interest			.78
When I am not succeeding, people are less interested in me.	.746	14.919	
When I am not succeeding, some people are not interested in me anymore.	.745	14.894	
When I am not succeeding, my value decreases for some people.	.725	14.386	
Fear of Upsetting Important Others			.77
When I am failing, it upsets important others.	.569	10.615	
When I am failing, important others are not happy.	.766	15.231	
When I am failing, important others are disappointed.	.837	16.978	
Concern Over Mistakes			.79
If I do not do well all the time, people will not respect me.	.781	16.024	
If I do not do as well as other people, it means I am an inferior human being.	.725	14.293	
People will probably think less of me if I make a mistake.	.745	13.502	
If I fail at work/school, I am a failure as a person.	.605	11.537	
Doubts About Actions			.65
It takes me a long time to do something "right".	.827	9.571	
I tend to get behind in my work because I repeat things over and over.	.555	7.901	
Parental Expectations			.75
My parents have expected excellence from me.	.731	14.127	
My parents wanted me to be the best at everything.	.753	14.641	
My parents set very high standards for me.	.623	11.628	
Parental Criticism			.74
I never felt like I could meet my parents' standards.	.786	15.547	
I never felt like I could meet my parents' expectations.	.788	15.588	
My parents never tried to understand my mistakes.	.503	9.116	
Personal Standards			.81
It is important to me that I be thoroughly competent in everything I do.	.700	13.735	
I expect higher performance in my daily tasks than most people.	.727	14.441	
I have extremely high goals.	.706	13.893	
I set higher goals than most people.	.737	14.691	
Organization			.86
I am an organized person.	.675	13.281	
I try to be a neat person.	.818	17.333	
I try to be an organized person.	.799	16.790	
I am a neat person.	.719	14.467	
Organization is very important for me.	.658	12.955	

In addition, the results of the CFA indicated a good fit to the data [$\chi^2(504) = 816.562$ (B-S $p < .001$), $\chi^2/df = 1.620$; CFI = .93, PCFI = .79, RMSEA = .042 (CI = .037, 0.47)]. The values of CFI, PCFI and RMSEA meet the recommended criteria for good fit, and the ratio of qui-square to its degrees of freedom was less than 3.0. Overall, the final model showed

a good fit to the data and was within the required criteria for good psychometric proprieties. Consequently, the proposed structural model (Model 1) was examined.

Furthermore, evidence of discriminant validity was refused since all the squared correlations didn't exceed the AVE values for each associated construct, consequently exhibiting discriminant validity, as can be seen in Table 2.

Table 2. Discriminant validity results.

		FSE	FDSE	FUF	FIOLI	FUIO	COM	DAA	PE	PC	PS	O
	AVE	.53	.50	.56	.55	.54	.50	.50	.50	.50	.52	.54
FSE	.53	1.00										
FDSE	.50	.47	1.00									
FUF	.56	.38	.40	1.00								
FIOLI	.55	.30	.25	.46	1.00							
FUIO	.54	.34	.15	.28	.40	1.00						
COM	.50	.24	.26	.30	.38	.15	1.00					
DAA	.50	.07	.13	.05	.06	.03	.10	1.00				
PE	.50	.08	.04	.04	.20	.14	.31	.03	1.00			
PC	.50	.07	.18	.08	.12	.03	.29	.20	.34	1.00		
PS	.52	.11	.04	.09	.06	.07	.18	.00	.20	.00	1.00	
O	.54	.00	.00	.00	.00	.00	.01	.00	.00	.01	.18	1.00

Note. FSE = fear of experiencing shame & embarrassment; FDSE = fear of devaluing one's self-estimate; FUF = fear of having an uncertain future; FIOLI = fear of important others losing interest; FUIO = fear of upsetting important others; COM = concern over mistakes; DAA = doubts about actions; PE = parental expectations; PC = parental criticism; PS = personal standards; O = organization; AVE = average variance extracted.

Measurement Model (Model 2)

After confirming the appropriateness of the first-order model, the model including the second-order constructs was examined. The goodness-of-fit indices produced for the second-order measurement model indicate good fit to the data [$\chi^2(547) = 1033.323$ (B-S $p < .001$), $\chi^2/df = 1.89$; CFI = .90, PCFI = .81, RMSEA = .05 (CI = .046, .055)]. The paths between the second-order factors and their proposed sub-scales were all significant at $p < .001$. Inspection of the correlation between the second-order constructs indicated a significant correlation of .7.

Structural Model (Model 1)

An acceptable fit to the data indices was found [$\chi^2(514) = 890.950$ (B-S $p < .001$), $\chi^2/df = 1.73$; CFI = .92, PCFI = .80, RMSEA = .046 (CI = .041, .051)] regarding the overall assessment of the structural model indicated. Table 3 reports the path coefficients of the structural model. The path coefficients were all significant, except for the path between parental criticism and fear of shame and embarrassment, fear of having an uncertain future, and fear of important others losing interest; the path between personal standards and fear of important others losing interest and fear of upsetting important others; the path between parental expectations and fear of shame and embarrassment; and for all the paths of the organization dimension. Concern over mistakes and doubts about actions showed positive and significant effects on all the fear of failure dimensions. Furthermore, path coefficients between doubts about actions and all dimensions of fear of failure showed a positive significant relation, supporting the hypothesis formulated. Parental criticism and parental expectations was expected to have a significant positive effect, but this hypothesis was only partial confirmed, since solely parental expectations had a significant effect on fear of important others losing interest ($\beta = .19$, B-S $p < .05$) and on fear of upsetting important others ($\beta = .32$, B-S $p < .05$). Likewise, only parental criticism presented a positively significant path for fear of devaluating one's self-estimate ($\beta = .27$, B-S $p < .001$).

Table 3. Summary results of the structural model (Model 1)

Path		β	Z-value
COM	→	FSE	.403***	4.384
COM	→	FDSE	.339***	4.636
COM	→	FUF	.501***	6.068
COM	→	FIOLI	.444***	6.053
COM	→	FUIO	.272**	3.127
DAA	→	FSE	.647***	8.803
DAA	→	FDSE	.404***	6.691
DAA	→	FUF	.507***	8.297

Path		β	Z-value	
DAA	→	FIOLI	.437***	7.896
DAA	→	FUIO	.592***	8.774
PE	→	FSE	-.076	-.788
PE	→	FDSE	-.257***	-3.352
PE	→	FUF	-.188*	-2.192
PE	→	FIOLI	.191*	2.530
PE	→	FUIO	.316***	3.312
PC	→	FSE	.054	.576
PC	→	FDSE	.266***	3.560
PC	→	FUF	.034	.408
PC	→	FIOLI	-.103	-1.404
PC	→	FUIO	-.205*	-2.217
PS	→	FUIO	.092	1.338
PS	→	FIOLI	.012	.222
PS	→	FUF	.198**	3.149
PS	→	FDSE	.139*	2.593
PS	→	FSE	.256***	3.519
O	→	FUIO	-.002	-.037
O	→	FIOLI	-.049	-.925
O	→	FUF	-.121	-1.985
O	→	FDSE	-.097	-1.882
O	→	FSE	-.064	-.930

Note. FSE = fear of experiencing shame & embarrassment; FDSE = fear of devaluing one's self-estimate; FUF = fear of having an uncertain future; FIOLI = fear of important others losing interest; FUIO = fear of upsetting important others; COM = concern over mistakes; DAA = doubts about actions; PE = parental expectations; PC = parental criticism; PS = personal standards; O = organization.

* B-S $p < .05$; ** B-S $p < .01$; *** B-S $p < .001$

Structural Model (Model 2)

The overall assessment of the structural model indicated an acceptable fit to the data indices [$\chi^2(581) = 1116.854$ (B-S $p < .001$), $\chi^2/df = 1.92$; CFI = .90, PCFI = .82, RMSEA = .051 (CI = .047, .056)]. The path coefficients for the model indicated that the main hypothesis was supported (see Figure 1), since perfectionism showed a significant positive effect on general fear of failure ($\beta = .70$, B-S $p < .001$).

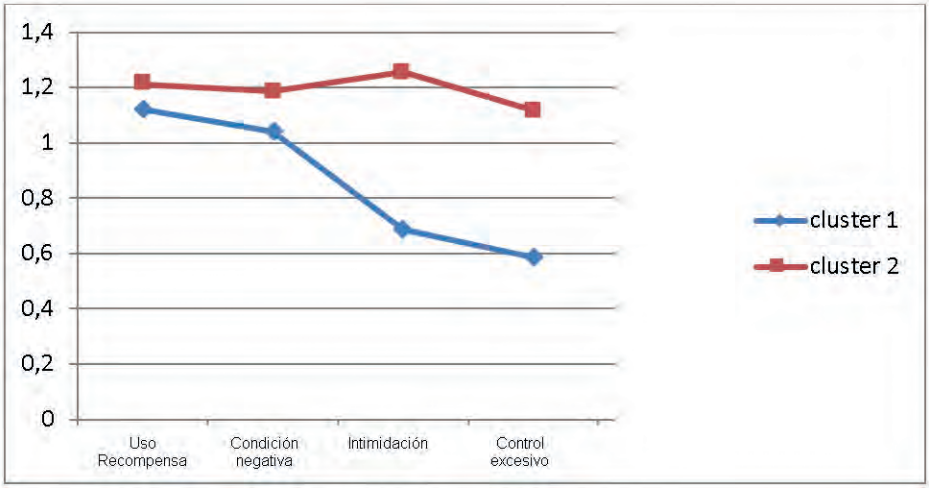

Figure 1. Estimate standardized direct effects for the structural model (Model 2).
Note. *** B-S p < .001

Discussion

The purpose of this study was to examine the relationships between fear of failure and perfectionism in a sports context and to observe the direct influence that perfectionism thinking has on fear of failure among athletes in a structural equation modelling framework.

By accomplishing this goal, this investigation provided one more important empirical study concerning the relationships between fear of failure and perfectionism in sport. The results of the factorial structure obtained for the measurement model indicated that there is a strong correlation between fear of failure and perfectionism constructs, as previously suggested by the literature (Conroy et al., 2007; Kaye et al., 2008; Stoeber & Becker, 2008; Sagar & Stoeber, 2009). A more detailed look, however, discloses that concern over mistakes' dimension displayed the highest positive correlations with fear of failure. Similar with Sagar and Stoeber's (2009) study, perfectionism concern over mistakes dimension showed also significant positive relations with all five fears of failure dimensions. These results provide corroboration that concern over mistakes is a perfectionist's dimension that reflects the more negative aspect, being highly correlated with worries about what others are thinking following mistakes during competition (Frost & Henderson, 1991).

The structural equation analysis indicated the significant predictive effects of several dimensions of perfectionism on fear of failure. Concern over mistakes was the strongest predictor on all fear of failure dimensions. This result emphasizes the magnitude of concern over mistakes as a negative aspect of perfectionism, and the association with a general attitude which highlights failure and mistakes in sport context (Frost & Henderson, 1991). It should be acknowledged that this dimension is the most central to perfectionism concept, being the major component of other measures of perfectionism, and the most closely related with symptoms of psychopathology (Frost et al., 1990). This specific dimension of perfectionism (i.e., concern over mistakes) can have negative implications in athletes, since interpretations of theirs mistakes and performances as a failure will be a sign of being worthless (Tangney, 2002), specifically for perfectionist athletes who typically strive to achieve high standards of performance and are concerned about mistakes and other's negative evaluation. Mistakes and failures are exposed, both to others' negative evaluation and as well as to their own negative self-evaluation, usually in sports public arenas events. This will, most likely, prompt fear of failure, specifically each one of the fear of failure dimensions. Doubts about actions was the second larger predictor of all fear of failure dimensions. Despite this dimension doesn't have strictly relation with the recognition of specific mistakes, but with the sense that a performance was somehow unsatisfactory, it plays too an important role concerning the several fears of failure in athletes (Frost & Henderson, 1991). Parental expectations in achievement contexts have been associated with fear of failure in children (e.g., Schmalt, 1982; Teevan & McGhee, 1972), and with high levels of stress and pressure, and low levels of enthusiasm and enjoyment among young athletes (Scanlan & Lewthwaite, 1988; Woolger & Power, 1993). Additionally, it has been the most frequently reported source of stress by young athletes (Scanlan, Stein, & Ravizza, 1991). Feelings of shame and guilt can be felt by children when they do not meet parental expectations (Lewis, 1992), and fear of disappointing and upsetting important others (e.g., parents; Conroy et al., 2002). Our findings support these assertions. However, some results concerning the dimensions of perception of parents' attitudes and behaviours (e.g., parental expectations; parental criticism), were somehow inconsistent with previous researches. The first incongruent result was the significant negative effect that parental expectations had on fear of devaluing one's self-estimate and on fear of having an uncertain future. Secondly, parental criticism had a significant negative effect on fear of upsetting important others. Thirdly, the insignificant statistical effects observed in parental expectations on fear of devaluating one's self-estimate, and on parental criticism in fear of having an uncertain future and in fear of important others losing interest. We must deliver some attention to these outcomes, since parents have been implicated in the development of children's fear of failure because of their primary caregiver role and attachment (e.g., Krohne, 1992; Sideridis & Kafetsios, 2008; Teevan & McGhee, 1972). It is our understanding that one or several variables could function as mediators, explaining the underlying mechanisms of the links between the dimensions of perception of parents' attitudes and behaviours and fear of failure (e.g., athlete's level of self-esteem, auto efficacy, perceptions of parent's expectations, athletic identity). On this behalf, it's fundamental to develop more research trying to ascertain how parental sport socialization practices can contribute to the development of fear of failure in athletes, offering a valuable insight into parental socialization practices and the developmental origins of fear of failure.

Personal standards was not significant in predicting fear of upsetting important others and fear of important others losing interest, corroborating previous researches regarding perfectionist personal standards, witch points out a non-relation with fear of failure.

Perfectionism organization dimension was not significant in predicting any fear of failure dimension. It should be recognized that perfectionist organization dimension frequently bared a weak correlation with their counter partners' subscales of perfectionism (Frost et al., 1990). Facing this particular result, the authors proposed that organization shouldn't be included in the overall PMS-F perfectionism score. With this

consideration in mind, assumed by the authors' instrument, any result considering organization subscale must be done prudently and wisely.

Despite the perfectionism multidimensionality, that can provide a two-factor solution related to the dual nature of perfectionism in sport (i.e., adaptive, maladaptive), a strong predictive effect on fear of failure was revealed. These results provide, once more, evidence that fear of failure and perfectionism are associated at all levels (Kaye, et al., 2008). Moreover, this investigation affords indication that perfectionism explained 49% of the variance in fear of failure, highlighting the significant role of perfectionism thinking in fear of failure construct and consequently in sport domain.

The findings in this research have important implications for coaches and athletes, since most of the perfectionism dimensions related with maladaptive evaluative concerns have positive effects on fear of failure, which will consequently undermine sport performance and negatively affect athletic development. However, it must be acquired that perfectionism is a paradoxical construct, since it could encompass aspects of positive affect and, on the other hand, comprise aspects associated with negative affect (Stoeber, 2011). In this regard, we could verify some dimensions of perfectionism, associated with perfectionist strivings, that did not present effects on fear of failure. It is possible that increasing the levels of perfectionism strivings will decrease fear of failure levels, and consequently may help athletes to an augmented performance on training and competitions. Nevertheless, in sport context, most of the athletes who have higher levels of perfectionism strivings usually presents elevated levels of perfectionistic concerns (e.g., Gaudreau & Antl, 2008; Stoeber, Stoll, Salmi, & Tiikkaja, 2009; Zarghmi, Ghamary, Shabani, & Varzaneh, 2010). Having in mind this paradox, perhaps the best approach should be an effort in reducing the levels of perfectionistic concerns, that consequently should also reduce the fear of failure levels on athletes. Further research should be made regarding the effectiveness of programs and techniques which may reduce perfectionistic concerns and fear of failure in athletes.

It is important to note that, as with another study, there are limitations that should be acknowledged and considered in future research. First, this study was based on a sample of Portuguese young athletes, and thus, the findings may lack generalizability to sport setting in general. Furthermore, it is important to replicate the present factorial structure in future studies using samples of sport athletes from different cultural contexts.

It also should be recognized, that the strength of the correlations between fear of failure and perfectionism may have been, somehow, wide-ranging by the diverse nature of sports, competitive level, and time of practice of the sample employed in this study. Future research should be done with stratified samples.

We followed Frost et al.'s (1990) model of perfectionism investigating six central aspects (e.g., concern over mistakes, doubts about actions, parental expectations, parental criticism, personal standards, and organization). In addition to parents, coaches are an important source of pressure for athletes (Dunn, Dunn, & Syrotuik, 2002; Dunn et al., 2006). In this regard, coaches, more than parents, have a direct influence on athletes, since they evaluate their performances (Dunn et al., 2006). Therefore, it is important to examine this factor in future studies, since perceived pressure from coaches may be more significant for athletes than perceived pressure from parents (Sagar & Stoeber, 2009).

Conclusions

Furthermore, all responses in this study were self-reported on a single occasion. Longitudinal research is needed to better understand the nature of perfectionism in developing healthy/adaptive or unhealthy/maladaptive sport and exercise cognitions and behaviours.

The present study provides evidence for several relational processes between perfectionism and fear of failure factors in sport setting. However, perfectionist traits and cognitive and behavioural elements of sport perfectionism can be dichotomized as maladaptive or adaptive, which may illuminate finer-grained differences that underpin the two forms of perfectionism and the relationships with fear of failure. Future research should consider the application of perfectionism having in consideration his ambivalent characteristics (i.e., perfectionistic strivings, perfectionistic concerns).

Although further research is warranted, the present study provides preliminary support for the argument that Perfectionism can have a predictive effect on fear of failure. It should also be considered in future studies the role of coping in sport, specifically if coping strategies used by athletes are an important mediator between the broad dimensions of perfectionism and between fear of failure.

In the context of a structural equation modelling analysis, our findings are congruent with the consideration that perfectionism is a consistent personality trait associated and a predictor of fear of failure. Future research should be designed to analyse, preferably in longitudinal context, the exact role of this personality trait in terms of positive or negative valence capacity to explain fear of failure.

In conclusion, the present study is unique in reckoning the relationship between fear of failure and perfectionism in a sample of young male and female athletes from team and individual sports. These results should remain tentative until researchers replicate the current study. We hope that the current findings stimulate debate regarding a clear understanding of the important role that perfectionism has in fear of failure appraisals.

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