Validating the TDRT-Q to assess the quality of the teacher-dancer relationship

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KEYWORDS: teacher-dancer relationship, 3 + 1Cs model, Coach-Athlete Relationships Questionnaire (CART-Q), Teacher-Dancer Relationships Questionnaire (TDRT-Q)
ABSTRACT: The capacity of coaches to enable or disable athletes' engagement and ability to reach their potential through the quality of the relationship they develop with them has received substantial research attention, yet the equivalent dyad in dance contexts–the teacher-dancer relationship–has remained relatively unexplored. Thus, the purpose of this paper is to extrapolate Jowett's 3C's Coach-Athlete Relationship Model to the dance context and adapt and validate a Spanish translation of the CART-Q, a psychometric tool that has been extensively used to assess the coach-athlete relationship, to examine the teacher-dancer relationship. 175 Spanish dancers aged 18 to 40 (M = 22.47, SD = 4.85) of diverse performance levels and various dance disciplines completed the renamed Teacher-Dancer Relationship Questionnaire (TDRT-Q), the Spanish translation of the CART-Q adapted to dance contexts. A confirmatory factor analysis highlighted the hierarchical nature of the relationship as has been originally postulated containing Closeness, Commitment, and Complementarity. Overall the TDRT-Q demonstrated adequate psychometric properties. In line with these results, the 3C's model can be transferred to analyse the teacher-dancer relationship. Moreover, the TDRT-Q can be used to assess the quality of the teacher-dancer relationship and further advance knowledge and understanding in this achievement-orientated performing arts context.

Many similarities exist between sport and dance: substantial physical component, comparable occurrence of injuries, reliance on frequent feedback, working within a small group and under the supervision or monitoring of a coach/teacher, and the need to control psychological variables such as anxiety or arousal in order to accomplish top-level performance (Hays, 2002). Dance and sport are highly competitive contexts, although the purpose of competition varies between both fields. Dancers and athletes alike start training at an early age, with resulting implications for their emotional and social development. Furthermore, acquiring the abilities required to obtain expert status in either of these achievement domains demands that individuals engage in deliberate practice activities (Law, Côte, and Ericsson, 2007).

A further point of convergence between sport and dance is that both activities are executed in front of an audience although, again, distinctions exist. The presence of spectators may be of importance in the sport milieu, but it is not essential. Dance, however, depends upon the attendance of theatregoers since the fundamental objective of the performing arts is the presentation in front of an auditorium, establishing a connection with the public (Hays 2002).

These domains are also differentiated from each other in aspects such as the artistic element involved in dance, though several sport disciplines also incorporate a substantial artistic component (e.g. rhythmic gymnastics, synchronised swimming). Nonetheless, significant parallelisms can be drawn between athletic involvement and dance, legitimising the "borrowing" of knowledge from the sport domain by dance researchers. Thus, studies examining dancers' career transitions (Patton and Ryan, 2000), psychological reactions to physical injury (Mainwaring, Krasnow, and Kerr, 2001), types of imagery employed (Nordin and Cumming, 2008), or the experience of flow (Hefferon and Ollis, 2006) have used comparisons, models and/or concepts imported from the sport psychology field. However, research into the psychology of dance has primarily focused on dancers' intrapersonal characteristics. To the best of our knowledge, only a few studies have examined the interpersonal factors that contribute to this artistic discipline. Nordin-Bates, Quested, Walker and Redding (2012) found changes in dancers' perceptions of the teacher-created motivational climate to be predictive of changes in anxiety, and research on burnout among elite dancers (Quested and Duda, 2011) showed that those who perceived their teachers to be less autonomy supportive were at greater risk of burnout. Results such as these suggest that studies analysing the factors that determine the quality of the teacher-dancer relationship should become a priority since research in this area could inform intervention protocols devised to foster positive, healthy, and functional relationships.

Dancing demands an intense level of dedication, at times requiring over 30 hours of training per week, even before reaching professional level. Dancers rely on their teachers' feedback to perfect their technique and soak in the artistic tradition that is

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being passed on, and so teachers become decisive figures in their path towards excellence. It is therefore likely that the relationship that develops between teachers and dancers is at the core of the constellation of interpersonal relationships that are established in dance contexts, and is possibly the one with the greatest potential for shaping a dancer's experience. In fact, professional dance students pointed to the dance teacher as the person of greatest influence in their careers, as van Rossum (2001) found, and successful, prominent artists from different cultures performing in diverse dance disciplines bear witness to the significance their teachers had in their training and professional endeavours.

Of the myriad of relationships that are formed in sport, the one that has often been described as central is that which is established between coaches and athletes (Jowett, 2003; Smith, Smoll, and Cumming, 2007). The importance attributed to this relationship has been reflected over the last decade in the growing number of studies investigating its nature (Jowett, 2003; Poczwardowski, Barott, and Henschen, 2002) and outcomes (Adie and Jowett, 2010; Jowett and Chaundy, 2004), as well as moderator and mediator effects (Felton and Jowett, 2013; Jowett, 2008; Hampson and Jowett, 2012). Successful coach-athlete dyads show that a well-established, stable, harmonious partnership can be a precursor for desirable outcomes. Indeed, recent studies have found that a congenial coach-athlete relationship is associated with, for example, athletes' physical self-concept (Jowett, 2008, Jowett and Cramer, 2010), coach-athlete efficacy perceptions (Jackson, Knapp, and Beauchamp, 2009), motivation (Adie and Jowett, 2010), passion (Lafrèniere, Jowett, Vallerand, and Carbonneau, 2011), satisfaction (Jowett and Nezlek, 2012), and social support (Jowett, 2009). Additionally, several case studies have revealed that a lack of positive relational components can negatively affect athletes by, for example, increasing the risk of sport injuries that result from overtraining (Kristiansen, Tomten, Hanstad and Roberts, 2012), contributing to the development of eating disorders (Jones, Glintmeyer and McKenzie, 2005), generating feelings of anger, frustration and isolation (Jowett, 2003) or even fostering abusive relationships (Stirling and Gretchen, 2009).

Based on Kelley and Thibaut's (1978) theory of interdependence, Jowett (2007) defined the coach-athlete relationship as a social situation comprising the interdependence of a coach's and an athlete's feelings, thoughts, and behaviours. Jowett operationalised coaches' and athletes' interdependent feelings, thoughts, and behaviours in terms of Closeness, Commitment, and Complementarity and measured the quality of the relationship via the Coach-Athlete Relationship Questionnaire (CART-Q; Jowett and Ntoumanis, 2004). A number of studies have tested the psychometric properties of the CART-Q revealing the multidimensional nature of the coach-athlete relationship and delineating the existence of these three interpersonal constructs that are known as the 3Cs. Closeness represents the affective component of the relationship and includes mutual feelings of respect, trust, appreciation, liking, and a sense of feeling emotionally connected to one another. Commitment describes the cognitive bond that exists between coaches and athletes and is characterised by the intention to maintain a close relationship over time, whilst Complementarity alludes to the behavioural dimension of the relationship quality and reflects relationship members' cooperation, responsiveness, acceptance, and approachability.

The CART-Q is an 11-item self-report questionnaire that evaluates athletes' and coaches' perceptions about their relationship with each other, as defined by Closeness (4 items), Commitment (3 items) and Complementarity (4 items) (Jowett and Ntoumanis, 2004). This questionnaire has been successfully validated after its use on diverse populations including student athletes (Jowett, 2009), children and adolescents between the ages of 12 and 18 (Jowett, 2008) or coaches (Balduck and Jowett, 2010). Studies have been carried out in several nations (Balduck and Jowett, 2010; Yang and Jowett, 2010). The psychometric properties displayed by the CART-Q in seven countries (Belgium, Britain, China, Greece, Spain, Sweden and the United States of America), attested to the cultural generalisability and factorial invariance of this instrument (Yang and Jowett, 2012). Collectively, these findings suggest that the hierarchical model of three distinct yet interconnected first order factors (the 3Cs) and an overarching second order factor (the coach-athlete relationship) is possibly the best representation of the coach-athlete relationship to date and universally reflects coaches' and athletes' thoughts, feelings and behaviours via the 3Cs.

As was mentioned, dance and sport share many common features (Nordin and Cumming, 2008), among them the role that coaches and teachers play in the personal and athletic development, performance, and support of the performer. Thus, it is reasonable to believe that the relationship that is established between dance teachers and dancers will retain many of the characteristics of the coach-athlete relationship. The purpose of the present investigation was to test the psychometric properties of the Teacher-Dancer Relationship Questionnaire (TDRT-Q), the translated and adapted version of the CART-Q adapted to reflect the context of the teacher-dancer relationship. But also to test whether the three-factor first-order model (with an overarching second-order factor) found in sport is replicated in dance. Testing the factorial validity of the latent structure of the items contained within the TDRT-Q would indicate the extent to which the 3Cs model can be transferred to this type of relationship and is thus capable to accurately measure it. Moreover, a good fit with the CART-Q structure would provide sound evidence of factorial validity for the TDRT-Q, and a high correlation with satisfaction with the teacher measure provide evidence of the convergent validity of the test. A sound measure of the quality of the teacher-dancer relationship is important as it could create an impetus for much needed basic, applied and interventional research.

Method

Participants

The sample comprised 175 dancers (72.57% females) in Spanish schools and companies (38.29% training at private schools; 46.86% at state-funded conservatoires; 14.85% at professional ballet companies). Age ranged between 18 to 40 years (M = 22.47, SD = 4.85). Seven dance disciplines or groups of related disciplines were represented in the sample: classical ballet (56 dancers), flamenco/Spanish dance (67), contemporary dance (24), jazz/funk/hip-hop (16), tap/swing (2), afro (1) and belly-dancing (1). Seven participants indicated their discipline of specialisation to be a combination of two, and one participant did not specify any. Dance schools in Spain typically categorise students into three broad proficiency levels: elementary, intermediate and advanced. Dancers who have completed their training either join professional companies as "apprentices" or continue taking classes while looking for work (pre-professional level), eventually achieving professional status. All these self-reported performance levels were represented in the sample (4

elementary, 20 intermediate, 28 advanced, 58 pre-professional, and 65 professional dancers). In an attempt to obtain a sample of dancers comparable to the athlete samples in Jowett and colleagues' studies (Jowett and Ntoumanis, 2004), dancers who expressed their level to be recreational and/or danced less than four days a week were excluded. On average, the dancers had been dancing for 13.18 years (SD = 6.27), but with important differences according to performance levels (elementary: M = 3.63, SD = 3.20; intermediate: M = 8.80, SD = 4.91; advanced: M = 12.86, SD = 6.03; pre-professional , M = 12.15, SD = 4.77; professional: M = 16.17, SD = 6.45). They dedicated an average of 28.5 hours (SD = 11.57) a week to dance training/performance, but also with important differences among performance groups (elementary: M = 12.33, SD = 7.51; intermediate, M = 24.73, SD = 11.87; advanced, M = 26.00, SD = 12.21; pre-professional, M = 27.46, SD = 9.81; professional dancers, M = 32.52, SD = 11.50). Jowett (2008) distinguishes between two relationship categories in terms of their duration: newly or moderately developed (up to 2 years) and established relationships (over 2 years). According to this, 46.86% of dancers had a new or moderately developed relationship with their principal teacher and 53.14% had comparatively established relationships. The average duration of the relationship was 3.45 years (SD = 3.06).

Instrumentation

The Spanish version of the 11-item CART-Q (direct perspective version) employed in Yang and Jowett (2012) was adapted accordingly to fit the relational context of teachers and dancers. More specifically, minor adjustments were made to the wording of the Spanish translation in order to make it relevant to the dance context: for example, "When I am coached by my coach, I feel at ease" was substituted with, "When I am taught or rehearsed by my teacher, I feel at ease". Care was taken to retain the content and style of the original items as far as possible. All items were measured on a 7-point response scale ranging between 1 (completely disagree) and 7 (completely agree). The 11-item questionnaire renamed Teacher-Dancer Relationship Questionnaire (TDRT-Q) contained items evaluating dancers' perceptions of the quality and content of their relationship with their principal teacher (see Table 1). As was done when the original validation of the CART-Q was conducted (Jowett and Ntoumanis, 2004), two further items measuring dancers' satisfaction with the relationship were included and used in order to evaluate the convergent evidence of validity of the TDRT-Q scores.

Procedure

After obtaining IRB approval, the majority of dance schools and companies in the Madrid region (Spain) were contacted to explain the purpose of the study and request their collaboration. About 62% agreed to take part in the study. Although the schools and companies that chose not to collaborate do not appear to differ from those that did in terms of type of institution (public vs. private), dance styles imparted, social extraction

The CFA model (Figure 1) yielded a χ^2/df = 4.34; χ^2(23) = 99.729, p < .001. A value lower than 5 has been considered as a sufficient fit by Marsh and Hocevar (1985), but other authors suggest lower values than 3 or even 2 (Schreiber, Nora, Stage, Barlow, and King, 2006). Furthermore, other fit indexes obtained included CFI = .94, approaching the threshold for good fit

of the dancers or age-groups enrolled, it is worth noting that the final sampling was opportunistic rather than random. Data collection took place at different times and was fitted around dancers' commitments. Arrangements were generally made to administer the questionnaire to groups of dancers in school premises. The dancers signed consent forms and were informed about the voluntary nature of their participation. They then answered a brief questionnaire designed to obtain demographic information, followed by the TDRT-Q and the two additional items of interpersonal satisfaction. Participants were reminded to answer the questions referring to their principal teacher, or to have just one specific teacher in mind.

Data Analysis

Descriptive statistics were computed for all variables. The reliability of the items' scores contained within the 3Cs of the TDRT-Q was estimated using Cronbach's alpha and the Spearman-Brown coefficient for two parallel halves (sorting items by their mean score). These analyses were carried out using SPSS 20 (release 20.0.0.1). In order to assess the fit of the data with the theoretical structure and add evidence of internal validity, we completed a confirmatory factor analysis (CFA), using Mplus, version 4.1. All the items presented negative skewness, some exhibited ceiling effects and multivariate non-normality when considered globally. A robust Weighted Least Squares Means and Variance adjusted estimation (WLSMV, Muthén and Muthén, 2007) was used. Several fit indexes were used: the chi-square statistic (χ^2) and its significance level, the chi-square to degrees of freedom ratio (χ^2/df), comparative fit index (CFI) and Tucker-Lewis index (TLI), and standard root mean square residual (SRMR). The magnitude, direction and statistical significance (p < .05) of parameter estimates were interpreted. A multiple regression model was computed for assessing convergent validity using satisfaction with the relationship as a dependent variable, and the 3C's as predictors.

Results

Descriptive Analysis

A ceiling effect was observed for all items (except for items 5 and 7). The highest category was chosen by 35.4 – 69.1% of participants. Negative univariate skewness was observed for all items. The estimates of Mardia's multivariate kurtosis and skewness coefficients were high (206.38 and 41.52, respectively), thus rejecting the hypothesis of multivariate normality. According to the Kolmogorov-Smirnov test (z = 1.25, p = .086), total scores on the TDRT-Q were normally distributed. The distribution showed a good level of discrimination between subjects (M = 64.82, SD = 9.28, min = 27, max = 77). Spearman-Brown reliability coefficient was .94. Cronbach's alpha for the whole scale was .92. Table 2 shows Cronbach's alpha and descriptive statistics for each subscale.

Confirmatory Factor Analysis (CFA)

(.95), as well as TLI = .98 and SRMR = .05, both reaching the recommended values (TLI > .95; SRMR < .08, Schreiber et al., 2006). Standardised factor loadings for first order latent factors were .82 to .87 for Closeness, .79 to .83 for Commitment, and .75 to .90 for Complementarity. All the factor loadings were statistically significant (p < .050). The factor loadings of the

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Table 1
Descriptive statistics of ítems (in brackets the Spanish versión)

	M	SD	As	Min.	Max.
Closeness					
1.- I trust my teacher (Confío en mi maestro/a)	5.87	1.15	-1.09	1	7
2.- I like my teacher (Aprecio a mi maestro/a)	6.07	1.17	-1.47	1	7
3.- I respect my teacher (Respeto a mi maestro/a)	6.55	0.78	-1.83	3	7
4.- I appreciate the sacrifices my teacher has experienced to improve my performance (Aprecio los sacrificios que ha hecho mi maestro/a para mejorar mi rendimiento)	5.74	1.27	-0.93	1	7
Commitment					
5.- I am close to my teacher (Me siento cercano a mi maestro/a)	5.13	1.40	-0.56	1	7
6.- I am committed to my teacher (Estoy comprometido/a con el trabajo de mi maestro/a conmigo)	5.95	1.09	-1.06	1	7
7.- I feel like my dance career is promising with my teacher (Siento que mi trayectoria en el mundo de la danza es prometedora con mi maestro/a)	5.29	1.38	-0.58	1	7
Complementary					
8.- When I am taught by or rehearsed with my teacher, I feel at easy (Me siento a gusto cuando doy clase o ensayo con mi maestro/a)	5.81	1.27	-1.17	1	7
9.- When I am taught by or rehearsed with my teacher I am ready to do my best (Estoy dispuesto a sacar lo mejor de mí mismo/a cuando doy clase o ensayo con mi maestro/a)	6.34	0.81	-0.96	4	7
10.- When I am taught by or rehearsed with my teacher I am responsive to his/her efforts (Respondo a los esfuerzos de mi maestro/a cuando me da clase o dirige un ensayo)	6.09	0.86	-.050	4	7
11.- When I am taught by or rehearsed with my teacher I adopt a friendly stance (Adopto una actitud abierta y distendida cuando doy clase o ensayo con mi maestro/a)	6.00	1.06	-1.36	2	7
Satisfaction items					
I feel satisfied with my overall teacher–dancer relationship (En general, me siento satisfecho/a con la relación con mi maestro/a)	5.68	1.28	-0.80	1	7
I think my teacher feels satisfied with my teacher–dancer relationship as a whole (Creo que mi maestro/a se siente satisfecho/a con nuestra relación en general)	5.43	1.18	-0.58	2	7

second order to the first order factors ranged from .92 to .99 (also significant). Using the squared factor loadings, the variance accounted for by the items ranged from .56 to .73. The variance accounted for by the first order factors ranged from .85 to .99.

Discussion

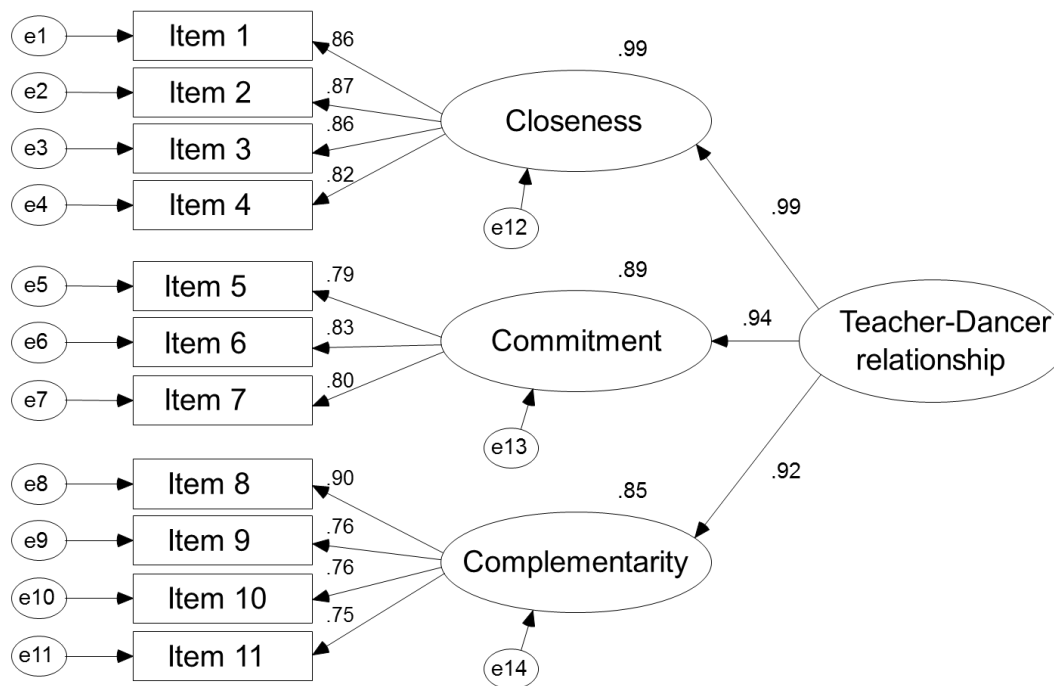The aim of this study was to examine the psychometric

Figure 1. Second order factor model. Standardised Coefficients. Each first order factor displays the variance accounted for by the second order factor. N = 175.

Convergent validity

The correlation between the variables of relationship quality and satisfaction was .79, p < .001. There were also positive correlations between the 3Cs (Table 1). A multivariate linear regression model (forward method) was tested to assess whether the 3Cs (relationship quality) can predict satisfaction with the relationship. This model accounted for 61.60% of the relationship satisfaction score variance (F(3, 171) = 94.00, p < .001, adjusted R2 = .62). The three factors showed a significant contribution (Closeness, β = .34; Complementarity, β = .27; Commitment, β = .26).

Table 2
TDRT-Q. Correlation matrix and descriptive statistics of total score, factor scores and satisfaction criterion

	TDRT-Q				
	1	2	3	4	5
1.- TDRT-Q Tot.	1	.94	.90	.88	.79
2.- Closeness		1	.79	.75	.75
3.- Commitment			1	.67	.70
4.- Complementarity				1	.70
5.- Satisfaction					1
Mean	64.82	24.23	16.36	24.23	11.11
SD	9.28	3.70	3.31	3.21	2.29
Cronbach's α	.92	.86	.81	.80	.84

Note. N = 175. All correlation coefficients are significant (p < .001).

properties of a new measure, the Teacher-Dancer Relationship Questionnaire (TDRT-Q), based on the CART-Q designed to assess the coach-athlete relationship. Moreover, it was also aimed at testing whether the three dimensional conceptualisation of the coach-athlete relationship as measured by the CART-Q is an adequate model for a corresponding dyad in the dance domain. Specifically, this study set out to examine whether the 3Cs model of relationship quality and content can be applied as successfully in the teacher-dance relationship.

The CFA model fit reached several recommended values. The first order factors statistically accounted for their respective allocated indicators, as did the second order factor, 'Teacher-Dancer Relationship', which accounted for the first order factors. The significance of the factor loadings allows the model depicted to account for the correlation matrix. Moreover, the squared factor loadings showed a strong relationship between items and their related factors, and between factors and the global Teacher-Dancer Relationship. Overall, the findings seem to suggest that the TDRT-Q captures the multidimensionality of the 3Cs model in a three-factor solution. An overarching second order factor, Teacher-Dancer Relationship, was capable of capturing all three dimensions. The 3C's model would appear to explain well the content and quality not only of the coach-athlete relationship and the coach-coachee relationship in the executive coaching context (Jowett, Kanakoglou, and Passmore, 2012), but also the teacher-dancer relationship.

The TDRT-Q, an adaptation from the CART-Q for use in the teacher-dancer relationship, showed good variability and high internal consistency of its scores. Furthermore, the bivariate correlation and multiple regression analysis–using interpersonal satisfaction as convergent evidence as was used with the CART-Q (Jowett and Nezlek, 2012; Jowett and Ntoumanis, 2004)–revealed strong positive coefficients for the factors individually considered and for the global score. Thus, the TDRT-Q seems to have the potential to become a useful diagnostic tool for assessing the quality of teacher-dancer relationships.

Research into the psychology of dance has primarily focused on dancers' intrapersonal characteristics and there are just a few studies that have examined the interpersonal factors involved. Among them, the teacher-dancer dyad emerges as one of the most important aspects for improving performance as well as promoting positive, healthy and functional learning environments (Quested and Duda, 2010). Our results suggest that even though there might be special facets involved in teacher-dancer relationships, the nature of this interpersonal connection can be characterised by closeness, commitment, and complementarity and in turn is comparable to the coach-athlete relationship.

The findings of this study must, however, be interpreted in the light of its limitations since there are a few methodological issues that should be taken into account. This study directly addressed factorial and convergent validity, and, indirectly, content and face validity through the translation and adaptation of the test. However, the validation is an ongoing process, and further studies should address criterion validity as well. Besides, the population of dancers that meet the selection criteria for participation in this study is modest and, consequentially, the available sample was limited. Although similar studies in the sport domain (Balduck and Jowett, 2010) have drawn on comparable participant numbers, further advances in the understanding of the teacher-dancer relationship and the applicability of the TDRT-Q would benefit from larger samples. From a methodological perspective, there are several rules of thumb to decide when a sample is large enough to conduct CFA. Our sample falls short when using the "10 participants per estimated parameter" rule; however, it is large enough when using the "10 participants per item" rule. Hair, Black, Babin, Anderson and Tatham (2006) suggest that models with fewer than six constructs, each with at least three observed indicators and item communalities of .600 or higher, can be adequately estimated with samples as small as 100 subjects (raised to about 200 subjects with modest communalities, of about .450). Our model has three latent constructs, each with three or four indicators; the communalities of the items in an EFA model range around the Hair et al.'s (2006) criterion. Hence, using this recommendation, our sample size should not be an issue.

The negative skew observed for all variables reflected a bias towards high scores in every item in the questionnaire. Although this tendency, indicating a generally adaptive and functional teacher-dancer relationship, is also found in studies examining the coach-athlete relationship (Jowett, 2009), it may not always reflect the quality of the exchanges between teachers and dancers. In the sport domain, athletes usually train with one main coach who sometimes, especially, at the higher-end of competitive sport, is supported by a number of assistant coaches and other professionals. In dance, however, performers take class from a variety of teachers. For example, a classical ballet student may learn technique, pas de deux and repertoire from three different teachers. When asking participants to complete the questionnaire thinking of their "main teacher" (an adaptation of the instructions in the original CART-Q, that required athletes to think of their "principal coach"), it is possible that dancers may have opted for the instructor with whom they had better rapport. Comments made by the dancers during questionnaire administration suggest that this was indeed the case. Future studies should attempt to delimit the meaning of main or principal teacher by for example establishing this person to be the teacher with whom the dancers enjoy a greater number of contact hours, thus controlling the bias towards the highest scores. Moreover, paying attention to the frequency and duration of interpersonal exchanges may help understand the quality and content of the teacher-dancer relationship better. Thus, collecting data concerning the number of hours dancers spend being taught or coached by their main teacher instead of, or as well as, the number of hours they devote to dance activities per week may provide a more detailed picture of the effectiveness of the developed relationship.

The study of interpersonal relationships in dance is a relatively unexplored field (Quested and Duda, 2010). There is therefore scope for more and better research in the dance domain of the performing arts. Future investigations that employ dyadic research designs would provide knowledge about the effects of both members on relationship quality and its outcomes (Jowett and Wylleman, 2006). Moreover, given the dynamic nature of relationships, longitudinal studies may also add to the understanding of its evolution over time, helping shed light over the processes and mechanisms that lead to its initiation, establishment and dissolution. Also, following the example of research conducted in sport contexts (Adie and Jowett, 2010; Lorimer and Jowett, 2009), mediating and moderating variables should be examined, as well as potential existing associations between the teacher-dancer relationship and other variables of interest (e.g. performance, burnout, injury, motivation). The new knowledge generated could thus inform practical interventions that could help strengthen or repair the quality of the teacher-dancer relationship.

Finally, the availability of a diagnostic tool such as the TDRT-Q can help evaluate the quality of the relationship between teachers and dancers and contribute to effective psychological counselling and education by improving the experience of both members. Understanding the content, functions, and significance of this relationship may be central for developing skills, achieving a satisfactory level of performance, and reaching success while fully enjoying this process. This study represents a step in this direction. The TDRT-Q has demonstrated satisfactory psychometric properties, which indicates this instrument has the potential to become a tool of use to researchers and applied psychologists alike.

VALIDAR EL TDRT-Q PARA EVALUAR LA CALIDAD DE LA RELACIÓN PROFESOR-BAILARÍN

PALABRAS CLAVE: Relaciones maestro-bailarín. Modeo 3+1Cs de las relaciones Enrenador-Deportista, Cuestionario sobre Relaciones Deportista-Entrenador (CART-Q), Cuestionario sobre Relaciones Maestro-Bailarín (TDRT-Q)

RESUMEN: La capacidad de los entrenadores para potenciar o desincentivar el compromiso de sus deportistas y para desarrollar su potencial a través de la cualidad de las relaciones que entre ellos se establecen ha recibido una considerable atención desde la investigación; sin embargo, la diada equivalente en el contexto de la danza, la relación entre el maestro y el bailarín, ha sido un área relativamente poco explorada. El propósito de este artículo es extrapolar el modelo de las 3C's de las Relaciones Entrenador-Deportista de Jowett al contexto de la danza y adaptar y validar al español el CART-Q, un instrumento ampliamente utilizado para la evaluación de las relaciones deportista-entrenador. Para ello, 175 bailarines y bailarinas españoles de entre 18 y 40 años (M = 22.47; DT = 4.85) de diferentes niveles y disciplinas de baile completaron el denominado Cuestionario sobre las Relaciones entre Maestro y Bailarín (TDRT-Q), la traducción española del CART-Q adaptado al contexto de la danza. El análisis factorial confirmatorio puso de manifiesto la estructura jerárquica de las relaciones como habían sido originalmente postuladas, incluyendo las dimensiones de Cercanía, Compromiso y Complementariedad. En términos generales, el TDRT-Q demostró unas adecuadas propiedades psicométricas. En línea con los resultados obtenidos, el modelo de las 3C's puede ser transferido para el análisis de las relaciones maestro-bailarín. Más aún, el TDRT-Q puede utilizarse para la evaluación de la cualidad de las relaciones maestro-bailarín y para avanzar en el conocimiento y comprensión de este contexto artístico orientado al rendimiento.

VALIDANDO O TDRT-Q PARA AVALIAR A QUALIDADE DO RELACIONAMENTO PROFESSOR-DANÇARINO

PALAVRAS-CHAVE: Relações professor-dançarino. Modelo 3+1Cs das Relações Treinador-Atleta. Questionário sobre Relações Professor-Dançarino (TDRT-Q).

RESUMO:A capacidade dos técnicos para potencializar ou desencorajar o compromisso de seus atletas e para desenvolver o potencial dos mesmos através da qualidade das relações que se estabelecem entre ambos tem recebido considerável atenção da investigação; no entanto, a díade equivalente no contexto da dança, a relação entre o professor e o dançarino, tem sido uma área relativamente pouco explorada. O propósito deste artigo é extrapolar o modelo dos 3C's das Relações Treinador-Atleta de Jowett ao contexto da dança e adaptar e validar ao espanhol o CART-Q, um instrumento amplamente utilizado para a avaliação das relações atleta-treinador. Para tanto, 175 dançarinos e dançarinas espanhóis entre 18 e 40 anos (M = 22.47; DT = 4.85) de diferentes níveis e disciplinas de dança responderam o denominado Questionário sobre as Relações entre Professor e Dançarino (TDRT-Q), a tradução espanhola do CART-Q adaptado ao contexto da dança. A análise fatorial confirmatória revelou a estrutura hierárquica das relações como haviam sido originalmente postuladas, incluindo as dimensões de Proximidade, Compromisso e Complementaridade. Em termos gerais, o TDRT-Q demonstrou propriedades psicométricas adequadas. Em linha com os resultados obtidos, o modelo dos 3C's pode ser transferido para a análise das relações professor-dançarino. Além disso, o TDRT-Q pode ser utilizado para a avaliação da qualidade das relações professor-dançarino e para avançar no conhecimento e na compreensão deste contexto artístico orientado ao rendimento.

References

Adie, J. W., and Jowett, S. (2010). Meta-perceptions of the coach-athlete relationship, achievement goals, and intrinsic motivation among sport participants. *Journal of Applied Social Psychology*, 40, 2750-2773. doi; 10.1111/j.1559-1816.2010.00679.x

Balduck, A. L., and Jowett, S. (2010). Psychometric properties of the Belgian coach version of the Coach-Athlete Relationship Questionnaire (CART-Q). *Scandinavian Journal of Medicine and Science in Sports*, 20, 779-786. doi: 10.1111/j.1600-0838.2009.01020.x

Felton, L., and Jowett, S. (2013). The mediating role of social environmental factors in the associations between attachment styles and basic needs satisfaction. *Journal of Sports Sciences*, 31, 618-628. doi: 10.1080/02640414.2012.744078

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., and Tatham, R. L. (2006). *Multivariate data analysis* (6th ed). NJ: Pearson Prentice Hall.

Hampson, R., and Jowett, S. (2012). Effects of coach leadership and coach-athlete relationship on collective efficacy. *Scandinavian Journal of Medicine and Science in Sports*, 24, 454-460. doi: 10.1111/j.1600-0838.2012.01527.x.

Hays, K. F. (2002). The enhancement of performance excellence among performing artists. *Journal of Applied Sport Psychology*, 14, 299-312. doi: 10.1080/10413200290103572.

Hefferon, K. M., and Ollis, S. (2006). 'Just clicks': an interpretive phenomenological analysis of professional dancers' experience of flow. *Research in Dance Education*, 7, 141-159. doi: 10.180/14647890601029527

Jackson, B., Knapp, P., and Beauchamp, M.R. (2009). The Coach-Athlete Relationship: A tripartite efficacy perspective. *The Sport Psychologist*, 23, 203-232. doi: 10.1016/j.psychsport.2009.12.005.

Jones, R.L., Glintmeyer, N., and McKenzie, A. (2005). Slim bodies, eating disorders and the coach-athlete relationship. *International Review for the Sociology of Sport*, 40, 377-391. doi : 10.1177/1012690205060231

Jowett, S. (2003). When the "honeymoon" is over: a case study of a coach-athlete dyad in crisis. *The Sport Psychologist*, 17, 444-460.

Jowett, S. (2007). Interdependence analysis and the 3 + 1Cs in the coach-athlete relationship. In S. Jowett and D. Lavalle (Eds.), *Social psychology in sport* (pp. 15-27). Champaign, IL: Human Kinetics.

Jowett, S. (2008). Moderators and mediators of the association between the quality of the coach-athlete relationship and athletes' physical self concept. *International Journal of Sport Science and Coaching*, 2, 43-62.

Jowett, S. (2009). Validating coach-athlete relationship measures with the nomological network. *Measurement in Physical Education and Exercise Science*, 13, 34-51. doi: 10.1080/10913670802609136

Jowett, S., and Chaundy, V. (2004). An investigation into the impact of coach leadership and coach-athlete relationship on group cohesion. *Group Dynamics: Theory, Research and Practice,* 8, 302-311.doi: 10.1037/1089-2699.8.4.302

Jowett, S., and Cramer, D., (2010). The prediction of young athletes' physical self from perceptions of relationships with parents and coaches. *Psychology of Sport and Exercise*, 11, 140-147. doi: 10.1016/j.psychsport.2009.10.001

Jowett, S., Kanakoglou, K., and Passmore, J. (2012). The application of the 3+1Cs relationship model in executive coaching. *Consulting Psychology Journal: Practice and Research*, 64, 183-197. doi: 10.1037/a0030316

Jowett, S., and Nezlek, J. (2012). Relationship interdependence and satisfaction with important outcomes in coach-athlete dyads. *Journal of Social and Personal Relationships*, 29, 287-301.

Jowett, S., and Ntoumanis, N. (2004). The Coach – Athlete Relationship Questionnaire (CART – Q): Development and initial validation. *Scandinavian Journal of Medicine and Science in Sports*, 14, 245-257. doi: 10.1111/j.1600-0838.2003.00338.x

Jowett, S., and Wylleman, P. (2006). Interpersonal relationships in sport and exercise settings: Crossing the chasm. *Psychology of Sport and Exercise*, 7, 119-123. doi: 10.1016/j.psychsport.2005.08.001

Kelley, H., and Thibaut, J. (1978). *Interpersonal relations: A theory of independence*. New York: Wiley.

Kristiansen, E., Tomten, S. E., Hanstad, D. V., and Roberts, G. C. (2012). Coaching communication issues with elite female athletes: Two Norwegian case studies. *Scandinavian Journal of Medicine and Science in Sports*, 22, 156-167. doi: 10.1111/j.1600-0838.2012.01521.x

Lafrenière, M.-A. K., Jowett, S., Vallerand, R. J., and Carbonneau, N. (2011). Passion for coaching and the quality of the coach-athlete relationship: The mediating role of coaching behaviors. *Psychology of Sport and Exercise*, 12, 144-152. doi: 10.1016/j.psychsport.2010.08.002

Law, M. P., Côté, J., and Ericsson, A. (2007). Characteristics of expert development in rhythmic gymnastics: a retrospective study. *International Journal of Sport and Exercise Psychology*, 5, 82-103. doi: 10.1080/1612197X.2008.9671814

Lorimer, R., and Jowett, S. (2009). Empathic accuracy, meta-perspective, and satisfaction in the coach-athlete relationship. *Journal of Applied Sport Psychology*, 21, 201-212. doi: 10.1080/10413200902777289

Mainwaring, L. M., Krasnow, D., and Kerr, G. (2001). And the dance goes on: psychological impact of injury. *Journal of Dance Medicine and Science*, 5, 105-115.

Marsh, H. W., and Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First- and higher-order factor models and their invariance across groups. *Psychological Bulletin*, 97, 562–582. doi: 10.1037/0033-2909.97.3.562

Muthén, L. K., and Muthén, B. O. (2007). *Mplus User's Guide*. 5th Ed. Los Angeles, CA: Muthén and Muthén.

Nordin, S. M., and Cumming, J. (2008). Exploring common ground: comparing the imagery of dancers and aesthetic sport performers. *Journal of Applied Sport Psychology*, 20, 375-391. doi: 10.1080/10413200802210795

Nordin-Bates, S. M., Quested, E., Walker, I. J., and Redding, E. (2012). Climate changes in the dance studio: findings from UK Centres for Advanced Training. *Sport, Exercise, and Performance Psychology*, 1, 3-16. doi: 10.1037/a0025316

Poczwardowski, A., Barott, J. E., and Henschen, K. P. (2002). The athlete and coach: Their relationship and its meaning. Results of an interpretive study. *International Journal of Sport Psychology*, 33, 116-140.

Patton, W., and Ryan, R. (2000). Career transition among dancers. In D. Lavallee and P. Wylleman (Eds.), Career transitions in sport: *International perspectives* (pp. 169-180). Morgantown, WV: Fitness Information Technology.

Quested, E., and Duda, J. L. (2010). Exploring the social-environmental determinants of well- and ill-being in dancers: a test of basic needs theory. *Journal of Sport and Exercise Psychology*, 32, 39-60.

Quested, E., and Duda, J. L. (2011). Antecedents of burnout among elite dancers: a longitudinal test of basic needs theory. *Psychology of Sport and Exercise*, 12, 159-167. doi: 10.1016/j.psychsport.2010.09.003

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., and King. J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99, 323–338. doi: 10.3200/JOER.99.6.323-338

Smith, R. E., Smoll, F. L., and Cumming, S. P. (2007). Effects of a motivational climate intervention for coaches on young athletes' sport performance anxiety. *Journal of Sport and Exercise Psychology*, 29, 39-59.

Stirling, A.E., and Gretchen, A. (2009). Abused athletes perceptions of the coach-athlete relationship. *Sport in Society: Cultures, Commerce, Media, Politics*, 12, 227-239.

Van Rossum, J. H. A. (2001). Talented in dance: The Bloom Stage Model revisited in the personal histories of dance students. *High Ability Studies*, 12, 181-197. doi: 10.1080/13598130120084320

Yang, X., and Jowett, S. (2010). An examination of the psychometric properties of the Chinese Coach-Athlete Relationship Questionnaire (CART-Q). *International Journal of Coaching Science*, 4, 73-89.

Yang, X., and Jowett, S. (2012). Psychometric properties of the Coach-Athlete Relationship Questionnaire (CART-Q) in seven countries. *Psychology of Sport and Exercise*, 13, 36-43. doi:10.1016/j.psychsport.2011.07.010