



Decisional forgiveness across spanish and american samples: Translation, validation, and measurement invariance of the decision to forgive scale

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Abstract

More than twenty different models of how forgiveness occurs have been proposed within forgiveness literature. One idea highlighted in many of these models was that forgiveness entails, at some point, a decision to forgive the offender. The Decision to Forgive Scale (DTFS) is a 5-item measure that allows the assessment of this construct. The aim of this study is to translate and validate the DTFS into Spanish (DTFS-S) and to provide evidence of measurement invariance across Spanish and American samples. The scale was translated using the back-translation process. A total of $N = 571$ participants completed the final version of the DTFS-S. Confirmatory factor analyses were computed to assess dimensionality, test for measurement invariance across populations, and provide evidence differentiating decisional forgiveness from total forgiveness. Reliability and additional validity analyses were performed. Results indicated a unidimensional structure of the scale. Partial metric invariance was achieved between Spanish and American samples. A 4-factor model demonstrated that DTFS-S is different from the Transgression-Related Inventory of Motivations (TRIM)-18-S (i.e., Spanish version) subscales. The results obtained suggested that scores on the Spanish version of the Decision To Forgive Scale are reliable and correlate with theoretically consistent variables. Researchers should consider the differences between cultures when assessing decisional forgiveness.

Keywords Decisional forgiveness · Assessment · Psychometrics · Measurement invariance

Forgiveness is a possible response to interpersonal transgressions (Enright et al. 1989) that has been demonstrated to have potential benefits on mental health and well-being (Coyle and

Enright 1997). Within forgiveness context, numerous studies have tried to describe how the process of forgiveness occurs (e.g., Augsberger 1981; Donnelly 1982; Enright and The Human Development Study Group 1991; Worthington 2001). Previous literature reviewed different models of forgiveness with the aim of identifying commonalities across them (e.g., Wade et al. 2014; Walker et al. 2004;). One of the ideas highlighted in these reviews was that forgiveness entails, at some point, a decision to forgive the offender.

A decision to forgive implies a deliberate commitment to make an effort to achieve total forgiveness by vowing to act differently toward an offender (Davis et al. 2015). However, it still remains unclear which factors might influence a decision to forgive. Furthermore, the relationships between decision to forgive and outcomes are not clear: Is it an act of will? Does decisional forgiveness relate to the type of relationship with the offender? Does it influence the reduction of negative motivations? Does it increase the positive ones? Some people may decide to forgive and do so thoroughly, others might never decide to forgive, or if they do, they commit to their decision only tentatively. Still others might decide to forgive and yet not be able to follow through to the experience. In

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addition, for some, a decision to forgive is a rational thought-out act. For others, the decision spontaneously occurs and the person might not even have logical and rational reasons for the change of heart.

One reason for this lack of information is that, until recently, no sound measure to assess the construct existed. Worthington Jr et al. (2007) proffered an eight-item Decisional Forgiveness Scale (DFS; for a review and evaluation, see Worthington Jr. et al. 2015), however, theorizing about decisional forgiveness (Hook et al. 2009) and subsequent research on the DFS showed it to have weak theoretical and psychometric support. Davis et al. (2015) developed an empirically well-supported instrument to assess decisional forgiveness—the Decision to Forgive Scale (DTFS). On their study, Davis et al. provided initial evidences of discriminant validity of the DTFS as different from total forgiveness as measured by the TRIM-12 (McCullough et al. 1998), and studied the association of the construct with a single item that assessed stage of change regarding forgiveness (i.e. to what extent the victim was considering forgiveness as an option). Their study was a good attempt to delve deeper about the construct of decisional forgiveness; however, it might still be interesting to explore how decisional forgiveness relates to other variables.

Little is known about the nomological network of associations with one's decision to forgive. Many studies evidenced the relation between forgiveness and mental health and well-being (Reed and Enright 2006; Toussaint et al. 2016). Thus it seems reasonable to think that one's decision to forgive would be associated with the reduction of negative constructs like anger or rumination, and with the increase of positive ones like empathy (Davis et al. 2015). Nonetheless, it has never been empirically demonstrated.

Some authors had hypothesized that the decision to forgive is the first step of the process (e.g., Donnelly 1982; Pettitt 1987), while some others stated that it appears within the course of forgiveness (e.g., Fitzgibbons 1986; Malcolm and Greenberg 2000; Worthington 2001), but all the studies were merely descriptive. It would be ideal to empirically study how one's decision to forgive could influence, or what role it could play, in the whole forgiveness process.

An important limitation emerged when trying to find answers to the questions presented above in Spanish population; very few instruments are available in Spanish language to assess forgiveness (i.e. TRIM-18-S, Fernández-Capo et al. 2017a; Guzmán et al. 2014). Moreover, none of them assess decisional forgiveness specifically (for a review see Fernández-Capo et al. 2017a).

As a consequence, the present study aims to translate and validate the DTFS into Spanish and provide more knowledge about one's decision to forgive by exploring its associations with mental health and well-being variables. As one's decision to forgive has been demonstrated to be influenced by cultures

(Hook et al. 2009), we aim to study the measurement invariance of the DTFS across an American and a Spanish sample. This will allow the comparison across cultures, and to explore if decisional forgiveness occurs, or it is understood in the same way in different countries.

A Nomological Network of Associations with Decision to Forgive

Self-Construal Hook et al. (2009) theorized that one's decision to forgive is embedded in and influenced by culture, and consequently, Hook et al. (2012) lent empirical support to this theory. In individualistic cultures people more often act independently from their collectives. They are often more motivated by their own interests than by the interests of in-group others, whereas people from collectivistic cultures are more often strongly connected with their in-group. They tend to behave more often by following collectivistic social norms that prescribe thinking, experiencing, and acting in ways that maintain the harmony of the group (Kurniati et al. 2017; Lin et al. 2014). Originally, it was thought that both types of self-construals were opposite (e.g., Taras et al. 2014) and mutually exclusive. However, as research accumulated, we know that even in individualistic cultures people are enmeshed in a web of collective networks and thus feel pulled towards some level of collectivism. People in collectivistic cultures also act as individuals in various circumstances. Thus, Taras et al. (2014) found that one could perceive oneself as individualistic, collectivistic, or both at the same time. People with a more collectivistic self-construal tend more often to understand forgiveness within the context of at least reconciliation, relational repair, and social harmony. Those people—on the average—show higher levels of decisional forgiveness than people with a more individualistic self-construal do (Hook et al. 2012).

Motivations—Avoidance, Revenge, and Benevolence

McCullough et al. (1998) identified two primary motivations associated with unforgiveness. One was to avoid the transgressor, although physical avoidance is not always possible. It often happens that one must live with, work with, or interact in the community with an offender, and physical avoidance is simply not possible. True, people can limit the contact with the offender to some point, but might not be able to avoid contact completely. In addition, though, cognitive avoidance is another option. One might try to limit the amount of cognition related to the other person through distraction or some thought-control methods. However, rumination often occurs when emotions are raw, and cognitive avoidance is likely related to the level and content of ruminations. Berry et al. (2005) showed that people ruminated in different ways when offended. Some engaged in depressive rumination, thinking that they are helpless to control their thoughts or to manage

their interactions with the offender. Some ruminations were anxious. People were concerned or actively worried that they would be injured further on by the offender. Some ruminations were angry, and they tended to promote thoughts of *schadenfreude* or vengeance toward the offender. One's decision to forgive should be negatively correlated with avoidance motivations.

The other motivation after a transgression might be vengeance. Whereas avoidance seeks to distance oneself from the offender, revenge motives seek to engage with and harm the offender—or at a minimum see some harm come to the person from another quarter. Vengeful motives seek to self-energize the victim to get even, get back at, hurt (seen as a reciprocation), or arrange for negative consequences to befall the offender. Vengeful motives can also wish for ill-fate to befall the offender so one can enjoy the pain of the offender. Overall, making a decision to forgive might be negatively correlated with revenge motivations.

Finally, there exists a last possible motivation—usually not appearing until some time delayed from a hurt or offense—which is benevolence (McCullough et al. 2003; McCullough and Hoyt 2002). As people begin to experience reduction of avoidance and revenge motivations, they begin to experience more benevolent motives toward the offender. The relationship between a decision to forgive and benevolent motivations is generally positive. As one makes a decision, benevolent motives become transformed. Alternatively, as one experiences changed avoidance or revenge motivations and a rise in benevolent motives, one is more likely to make a decision to forgive if one has not already done so.

Negative Emotions Making a decision to forgive may also be associated with fewer and less intense negative (unforgiving) emotions (Berry et al. 2005) toward the offender. These emotions (like state anger) arise from and are maintained by rumination about the transgression. The content of the rumination will determine the type of emotion. For example, Berry et al. (2005) found that angry rumination led to anger (but not, surprisingly, to depression or anxiety), while fearful rumination led to anxiety. Sad rumination led to depression. The person usually seeks to cope with the unsettled emotions and motivations depending on the initial relationship with the offender and its value. Thus, the person might attempt to understand the offense by trying to see things from the offender's perspective empathically (McCullough et al. 1998). The decision to forgive might be casual, but just as easily the decision to forgive might be caused by the change in empathy or reduction in unforgiveness (i.e., avoidance and revenge). Alternatively, some event could simply move each of the variables simultaneously toward a more positive situation and thus lead to a less intense negative emotion. In addition, a decision to forgive would be likely related to lower scores in state anger.

Empathy The degree to which an offended person empathizes with the offender may be related to the likelihood of making a decision to forgive. Empathy is also related to the reduction of unforgiveness and to the amount of total forgiveness experienced (McCullough et al. 1998), including the reduction of avoidance and revenge motivations, and the experience of benevolence motivations. This can in turn affect the closeness of the relationship with the offender after the offense.

Mental Health and Well-Being Also, a decision to forgive might be related to mental health and well-being variables (for a review, see Worthington Jr. et al. 2018), these include less depression, less anxiety, and more satisfaction with life. The likely mediator connecting a decision to forgive with mental health and well-being is reduced rumination.

The Present Studies

The present article reports three studies. In Study 1, we sought to translate the DTFS (Davis et al. 2015) into Spanish (called the DTFS-Spanish; DTFS-S). Then we sought to provide basic psychometric evidence supporting validity and reliability of the scores of the DTFS-S in a Spanish-speaking sample. Specifically, we aimed to study the dimensionality of the scale. We examined whether the one-factor structure found in the English version of the DTFS would replicate for the Spanish version. We also aimed to provide additional validity evidence distinguishing scores on the DTFS-S from total forgiveness as measured by TRIM-18. In Study 2, we investigated the relationship of DTFS-S with other constructs (i.e., nomological network) to add evidence of construct validity. In Study 3, we aimed to measure invariance across Spanish and American samples. All the studies presented below received approval from the Ethics Committee.

Study 1

In Study 1, we reported the translation of the instrument and provided initial evidence of its internal structure. We estimated reliability of the scores on the DTFS-S and offered initial evidence related to interpreting the scores to have construct validity by distinguishing DTFS-S from Transgression-Related Inventory of Motivations-18-Spanish (TRIM-18-S) subscales.

Method

Participants

A total of 400 participants (133 males (33%); $M_{age} = 34.23$, $SD = 13.60$ and 267 females (69%); $M_{age} = 35.87$, $SD =$

12.95) completed the DTFS-S to test for its dimensionality, initial validity and reliability of the scores. From those, a subset of 52 participants (17 males (33%); $M_{age} = 29.53$, $SD = 13.57$ and 35 females (69%); $M_{age} = 24.71$, $SD = 11.16$) completed the protocol a second time after 1 week to allow the evaluation of estimated temporal stability of scores on the scale.

Instruments

Demographic Information Participants supplied their age, sex, and nationality.

Offense Characteristics Participants provided information about who was the offender and when the offense happened.

Decisional Forgiveness *Decision to Forgive Scale* (Davis et al. 2015). The scale is composed of 5 items that participants have to answer using a 5-point rating ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores range from 5 to 25 with higher scores indicating a stronger decision to forgive. The DTFS has been found to be related with lower existential distress. Information about the Spanish version is presented below in Results and will be called the DTFS-Spanish (DTFS-S).

Episodic Forgiveness *Transgression-Related Interpersonal Motivations Inventory* (TRIM-18; McCullough et al. (2006); psychometric data for the Spanish version, TRIM-18-S, Fernández-Capo et al. 2017b). The TRIM-18-S assesses revenge (5 items), avoidance (7 items) and benevolence (6 items) motivations following an offense. Participants were instructed to write a short summary about a hurtful transgression they could remember and then rate their motivations toward the offender by indicating their agreement with each item using a 5-point response option (1 = *strongly disagree* to 5 = *strongly agree*). Higher scores indicate higher motivations. It is possible to obtain a forgiveness total score by reverse coding the items on the avoidance and revenge subscales and summing them together with the direct scores on the benevolence items. Cronbach's alphas from the original scale were above .85 for the three subscales. For the TRIM-18-S (Fernández-Capo et al. 2017b), alphas were between .71 and .81. In our sample, alphas were all above .80.

Translation Process

Following the recommendations by Muñiz et al. (2013), the scale was translated first into Spanish and then translated again into English using the back-translation process. First, two psychologists whose first language was Spanish and second language was English separately translated the scale into Spanish. Then they shared both versions and discussed the discrepancies. The final version was then sent to two

psychologists whose first language was English and second language was Spanish. Each independently translated the scale into English again and resolved their differences. The final (English) version was then compared to the original one. No significant discrepancies were found between the both versions. As a final step, we conducted a pilot study with 15 people to ensure understandability and appropriateness of the items. The final Spanish version was called the DTFS-S.

Procedure

Participants were invited to participate in an online survey via e-mail or posts in social networks. To be eligible for the study, participants needed to identify with Spanish nationality, speak and write Spanish fluently, and be at least 18 years old. After giving their informed consent, participants completed demographic questions followed by the instruments used for the study. They were not offered any form of compensation for their participation (most people took less than 10 min to complete the study).

Data Analysis

Dimensionality and Structure of the DTFS-S To evaluate the dimensionality of the scale a one-factor CFA model was tested. The MLR estimator was used due to univariate and multivariate kurtosis. Missing data (less than 4%) were controlled with full information maximum likelihood. Because Chi-square is sensitive to sample size, model fit was evaluated also based on the comparative fit index (CFI), the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), and the evaluation of parameter estimates. CFI values around .95 indicate good fit. RMSEA values below .08 indicate a reasonable fit, whereas values below .05 are considered a good fit. SRMR values are expected to be below .08 (Hu and Bentler 1999).

Estimated Reliability of the Scores Reliability evidence was explored using Cronbach's alpha and Intraclass Correlation Coefficient (ICC) to calculate estimated internal consistency and estimated temporal stability of the scores, respectively.

Differentiating DTFS-S from TRIM-18-S To provide primary evidence supporting construct validity, we sought to differentiate decisional forgiveness from forgiveness (as measured by TRIM-18-S). We replicated the model tested in the original article (Davis et al. 2015). However, we expanded beyond Davis et al. (2015) by including the positive dimension of the TRIM-18-S (i.e., Benevolence). Thus, we tested a 4-factor CFA model with TRIM-18-S and DTFS-S items loading in 4 different correlated factors. The MLR estimator was applied again for this analysis.

Mplus version 6 was used to test the dimensionality of the DTFS-S and to define the model that distinguished it from the TRIM-18-S subscales. Reliability analyses were carried out with the SPSS statistical package.

Results

Dimensionality and Structure of the DTFS-S

According to the original scale, all the items of the DTFS-S were treated as indicators of a single factor. The results obtained for the one-factor model showed a good fit of the model to the data $\chi^2(5) = 14.12$, $p = .015$, CFI = .99, RMSEA = .07 (90% CI = .03–.11), SRMR = .01. All the standardized factor loadings were significant ($p < .05$) and ranged from .51 to .94.

Estimated Reliability of the Scores

Cronbach's alpha was .92 indicating good internal consistency of the DTFS-S score. Estimated temporal stability of the scale score was also supported obtaining an ICC of .72.

Differentiating DTFS-S from TRIM-18-S

The results obtained for the 4-factor model to distinguish DTFS-S from TRIM-18-S were $\chi^2(224) = 569.69$, $p < .001$, CFI = .93, RMSEA = .06 (90% CI = .06–.07), SRMR = .06. They indicated adequate fit of the model to the data. The factor loadings were all significant ($p < .05$) and ranged from .49 to .94. Correlations among the DTFS-S and avoidance, revenge and benevolence subscales were $r = -.60$, $r = -.54$, and $r = .74$, respectively.

Study 2

The aim of Study 2 was to provide evidence of convergent construct validity of the DTFS-S scores through the study of its relationship with conceptually related constructs. We also aimed to define a model that allows the exploration of the association between previous and current relationship with the offender with DTFS-S and TRIM-18-S by regressing all the latent factors (i.e. DTFS, avoidance, revenge and benevolence) on previous relationship and at the same time regressing actual relationship on the four latent factors.

Method

Participants

We sampled 171 students, who completed the DTFS-S and additional measures to assess convergent construct validity of the scores. One participant was excluded from the analyses

because the response pattern showed that he or she answered randomly. The final sample included 69 males (41%) ($M_{age} = 19.06$, $SD = 1.78$) and 101 females (59%) ($M_{age} = 20.26$, $SD = 4.09$). Participants came from the degrees of Nursing (41.2%), Business Management (22.4%), Media Studies (14.1%), Journalism (12.9%), Humanities (4.7%), Marketing (2.4%) and Law (1.2%).

Instruments

Participants completed the same measures presented in the Study 1 (i.e., demographic information, offense characteristics, DTFS-S and TRIM-18-S) together with the following instruments:

Closeness with the Offender Previous and actual relational closeness with the offender was assessed answering “On a scale from 0 to 6, please indicate how close you were (are) to the person who hurt you before the offense (right now)” (1 = *no at all* to 5 = *extremely close*; Tsang et al. 2006).

Self-Construal *Self-Construal Scale* (SCS; Singelis; psychometric data for the Spanish version from Singelis et al. 2006). The SCS is composed of 30 items divided into two subscales (15 items each) that assess the tendency to think of oneself as independent (e.g., “I enjoy being unique and different from others in many respects”) or interdependent (e.g., “I will sacrifice my self-interest for the benefit of the group I am in”) from others. To assess collectivistic self-construal we used the interdependent subscale composed of 15 items in which participants indicate their agreement on a 7-point response format from 1 (*strongly disagree*) to 7 (*strongly agree*). The estimated reliability of the SCS has alphas ranging from .62 to .70. In the present study, alpha was .75.

Rumination *Ruminative Responses Scale* (RRS; Treynor, Gonzalez, and Nolen-Hoeksema; psychometric data for the Spanish version from Hervás 2008). The RRS is a self-report measure composed of 22 items to assess ruminative response style, that is a patterns of responses focused on causes and consequences of depressive symptoms. The items must be answered using a 4-point response option ranging from 1 (*almost never*) to 4 (*almost always*), obtaining a total score that ranged from 22 to 110 and higher scores indicating a more ruminative pattern of response. Cronbach's alpha was .93 in the original version. In the present study, alpha was .90.

Anger *State-Trait Anger Expression Inventory-2* (STAXI-2; Spielberg; psychometric data for the Spanish version from Miguel-Tobal et al. 2001). The STAXI-2 is a self-report measure that evaluates general predisposition to express and feel anger. For the present study, we used the “state anger” subscale composed of 15 items that have to be answered using a

4-point response option (1 = *not at all* to 4 = *very much so*). Good psychometric properties were reported in the original study for this subscale with an alpha value of .89. In the present study, alpha was also .89.

Empathy *Test de Empatía Cognitiva y Afectiva* (TECA; López-Pérez et al. 2008). The TECA is a Spanish language self-report instrument that assesses cognitive and affective empathy. It can be divided in four subscales (i.e., perspective adoption, emotional comprehension, empathic stress, and empathic joy) or used as a global measure of empathy by summing the scores of those subscales. It is composed of 33 items answered using a 5-point response option where 1 = *I totally disagree* and 5 = *I totally agree*. Cronbach's alpha from the original study was .86. In the present study, alpha was .82.

Anxiety *Beck Anxiety Inventory* (BAI; Beck, Epstein, Brown, & Steer; psychometric data for the Spanish version from Beck and Steer 2011). The BAI is a self-report measure to assess anxious symptomatology. Participants have to rate how much they were bothered in the last week by the 21 different symptoms of the scale within a 4-point response option from 0 (*It did not bother at all*) to 3 (*I almost could not stand it*). Cronbach's alpha from the original study of the Spanish version (Beck and Steer 2011) was .85. In the present study, alpha was .91.

Depression *Beck Depression Inventory* (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh; psychometric data for the Spanish version from Sanz and Vázquez 1998). The BDI is a 21-item self-report measure in which each item presents four statements indicating different levels of severity of a particular symptom experienced in the last week. Participants select the statement that best reflects their behavior during the last week. Scores range from 21 to 84, with high scores indicating higher levels of depression. Alpha for scores on the scale was .86. In the present study, alpha was .90.

Satisfaction with Life *Satisfaction with Life Scale* (SWLS; Diener, Emmons, Larson, & Griffin; psychometric data for the Spanish version from Atienza et al. 2000). The SWLS is an instrument designed to assess global cognitive judgments of one's satisfaction with life. It is composed of 5 items answered using a 7-point response option ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha in the original study was .84. In the present study, alpha was .85.

Procedure

Participants were recruited in undergraduate courses in exchange for a breakfast ticket. To qualify, participants had to be at least 18 years old, identify as Spanish in nationality, and

also read and speak Spanish fluently. Participants received a paper-pencil packet with all the tests. They read the consent form and signed it before moving on to questionnaires. Most participants took between 15 and 20 min to complete the packet.

Data Analysis

Evidence Regarding Association with Conceptually Related Constructs SPSS statistical package version 21 was used to compute bivariate correlations to assess the degree of association between the DTFS-S and TRIM-18-S subscales (i.e., avoidance, revenge, benevolence) and total score, collectivistic self-construal, rumination, state anger, empathy, anxiety, depression, and satisfaction with life. We also computed means, standard deviations and alpha coefficients for all the measures.

Additional Evidence Differentiating DTFS-S from TRIM-18-S *Mplus* version 6 was used to define the model with all 4 factors (i.e. DTFS, avoidance, revenge and benevolence) regressed on previous relationship, and at the same time actual relationship regressed on the 4 factors (see Fig. 1). The MLR estimator was used due to univariate and multivariate kurtosis. Missing data (less than 4%) were controlled with full information maximum likelihood.

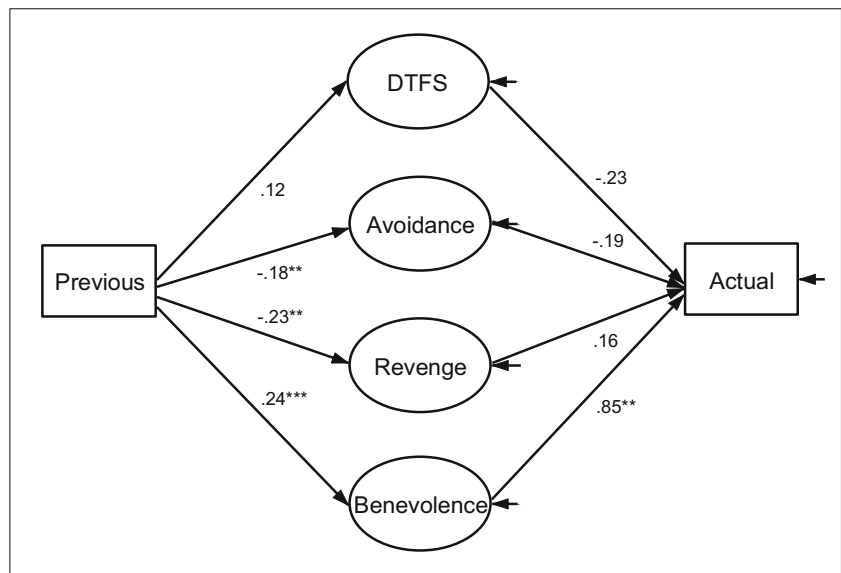
Results

Evidence Regarding Association with Conceptually Related Constructs

Prior to conducting the statistical analyses, we checked the data for normality assumptions. Boxplot examination and Kolmogorov-Smirnov tests revealed that some variables were not normally distributed (i.e., revenge and state anger). Thus, we used non-parametric tests in the analyses that included those variables.

In Table 1, we show the correlations among forgiveness variables and the other associated constructs. We applied Bonferroni correction to prevent inflating type I error. The DTFS-S was correlated negatively with avoidance ($r = -.63$), revenge ($r = -.49$), and positively with benevolence ($r = .76$). Also, DTFS-S correlated positively with collectivistic self-construal ($r = .29$). It was not significantly correlated with rumination and neither with state anger. The DTFS-S was marginally correlated positively with empathy ($r = .24$). As far as mental health and well-being correlates, the DTFS-S scores were not correlated with either anxiety or depression, and neither with satisfaction with life.

Fig. 1 Model relating forgiveness variables with closeness with the offender before and after the offense *Note:* correlations between latent factors and indicators of each factor were not represented in the figure for clarity. *** $p < .001$ ** $p < .01$ * $p < .05$



Additional Evidence Differentiating DTFS-S from TRIM-18-S

Testing the structural model yielded an adequate model fit $\chi^2(263) = 431.977, p < .001, CFI = .93, RMSEA = .06$ (90% CI = .05–.07), SRMR = .06 (see Fig. 1). The regression paths between the avoidance, revenge, and benevolence subscales with closeness of previous relationship with the offender were significant ($\beta = -.18, p = .02; \beta = -.23, p = .01; \beta = .24, p < .01$, respectively) but not the one with DTFS-S ($\beta = .12,$

$p = .18$). In addition, only the regression path between benevolence and actual relationship with the offender was significant ($\beta = .85, p = .02$).

Study 3

In Study 3, we aimed to test for measurement invariance of the DTFS-S across American and Spanish samples.

Table 1 Means, standard deviations, internal consistency estimates and bivariate correlations among all instruments used in Study 2 ($N = 171$)

	M (SD)	α	DTFS	AVD	REV	BEN
DTFS	16.77 (5.51)	.90	1	–	–	–
Avoidance	21.45 (8.00)	.90	-.630* ($<.001$)	1	–	–
Revenge	8.67 (3.87)	.83	-.490* ($<.001$)	.497* ($<.001$)	1	–
Benevolence	18.85 (6.29)	.88	.759* ($<.001$)	-.835* ($<.001$)	-.545* ($<.001$)	1
Collectivistic Self-Construal	71.13 (10.10)	.75	.286* ($<.001$)	-.059 (.467)	-.221 (.006)	.230 (.004)
Rumination	45.94 (15.36)	.90	-.027 (.744)	.026 (.757)	.043 (.608)	.049 (.555)
State Anger	19.02 (6.18)	.89	-.209 (.008)	.110 (.169)	.367* ($<.001$)	-.121 (.126)
Empathy	115.17 (12.54)	.82	.237 (.004)	-.032 (.698)	-.297* ($<.001$)	.166 (.043)
Anxiety	15.14 (11.11)	.91	-.060 (.451)	-.013 (.870)	.030 (.713)	.023 (.775)
Depression	10.66 (8.17)	.90	-.062 (.436)	.021 (.797)	.045 (.577)	.026 (.743)
Satisfaction with life	23.24 (6.54)	.85	.186 (.018)	-.083 (.296)	-.109 (.172)	.102 (.200)

*significant correlations at $p < .0015$ (α/n) according to Bonferroni correction for an overall alpha level of .05

Method

Participants

We used original data from Davis et al. (2015) to assess measurement invariance across Spanish and American samples. The American sample included 432 participants; 134 males ($M_{age} = 25.36$, $SD = 6.38$) and 298 females ($M_{age} = 26.24$, $SD = 7.54$). We used the sample from Study 1 to represent the Spanish population.

Instruments

For this study only demographic information (i.e., age and gender) and DTFS-S and DTFS scores were used.

Data Analyses

As a first step we checked if the groups were comparable in terms of age and sex. As we did not find differences we proceeded with the measurement of invariance across samples. Invariance was evaluated through different increasingly restrictive models. First, we assessed configural invariance by studying whether the structure and dimensionality (i.e., same items loading into the same number of factors) of the scale were the same in both groups. Second, we tested for metric invariance by constraining factor loadings to be equal across groups. Third, a model constraining factor loadings and intercepts to be equal was run to assess scalar invariance. Finally, a last model evaluating strict factorial invariance was performed by fixing also the residuals to be equal across groups. The MLR estimator was applied. Chi square difference test (adjusted taking into account the use of the MLR estimator, described at the Mplus website <http://www.statmodel.com/chidiff.shtml>) was used to assess differences between models.

Results

Measurement Invariance

American Sample Compared to Spanish Sample Results for the different models tested can be found in Table 2. The configural model (Model 5) was estimated with no cross-group equality constraints, and although the Chi-square was significant, the remaining indices indicated an adequate fit of the model to the data. Thus, we tested for metric invariance (Model 6) by constraining factor loadings to be equal across both groups. A significant change in the Chi-square, $\Delta \chi^2(5) = 29.314$, $p < .01$, indicated that the fit of the model was significantly worse. To identify which items differed across groups, we checked the modification indices (Van de Schoot et al. 2012), which suggested that the factor loading of item 4 (i.e., *My choice is to forgive him or her*) should be estimated

freely for every group. As a consequence, we tested for partial measurement invariance (i.e., a condition where the majority of the items are invariant across groups but some are not; Model 7) by allowing item 4 to load differently across groups. The partial metric model provided an adequate fit and did not differ significantly, $\Delta \chi^2(4) = 5.723$, $p = .22$, from the configural model (Model 5). Almost all the items (i.e., not item 4) were invariant across cultures, meaning that American and Spanish samples attribute similar meaning to the latent construct (i.e., decisional forgiveness; Van de Schoot et al. 2012).

Retaining Model 5 as reference, we tested for partial scalar invariance by constraining intercepts to be equal (Model 8); however the Chi-square difference was significant, $\Delta \chi^2(5) = 27.506$, $p < .01$, indicating that the level of the underlying items (intercepts) are different across groups. Because scalar invariance was not achieved, testing of invariance across residuals was not considered.

General Discussion

The purposes of this article were (1) to translate the Decision to Forgive Scale into Spanish, (2) to provide initial evidence supporting construct validity, and then (3) to test for its measurement invariance across different populations.

The scores on the Spanish version of the Decision to Forgive Scale (DTFS-S) demonstrated psychometric adequacy. They provided evidence of estimated reliability of scores and primary evidence supporting construct validity in interpreting the scores to indicate a decision to forgive and it is ready for its use for research purposes.

Internal Structure and Reliability

The DTFS-S has a simple factor structure, with all the items loading significantly in a single factor. Our findings are in line with our expectations that the Spanish version of the DTFS-S would show the same structure as the original DTFS version (Davis et al. 2015). Cronbach's alpha showed good estimated internal consistency (González and Pazmiño 2015) of the scores on the Spanish version of the DTFS-S. Moreover, the alpha obtained in our study (.92) is very close to the one obtained in the original one in English (.93). Scores on the scale also presented good estimated 1-week temporal stability as demonstrated by the results obtained on the ICC. Altogether these results provided enough evidence to support estimated reliability of the scores of the DTFS-S.

Distinguishing DTFS from TRIM-18

As Davis et al. (2015) pointed out; many forgiveness models emphasized the importance on distinguishing making a decision to forgive from total forgiveness or from motivations

Table 2 Goodness of fit indicators of the different models tested to assess measurement invariance (Study 3)

Model	S-B χ^2	df	CFI	TLI	RMSEA	SRMR	Model Comparison		
							S-B $\Delta \chi^2$	Δ df	<i>p</i>
Spain vs. USA									
5.Configural	26.364*	10	.986	.971	.063	.013	–	–	–
6.Metric	50.188*	15	.969	.958	.076	.052	29.314	5	<.01
7.Partial Metric	34.024*	14	.982	.975	.059	.052	5.728	4	.22
8.Scalar	65.400*	19	.959	.957	.077	.078	27.506	5	<.01

S-B χ^2 Satorra-Bentler chi square, *df* degrees of freedom, S-B $\Delta \chi^2$ Satorra-Bentler scaled difference, Δ df difference in degrees of freedom between nested models, CFI Comparative fit index, TLI Tucker-lewis index, RMSEA Root mean square error of approximation, SRMR Standardized root mean square residual

related to transgressions—like avoidance, revenge, or benevolence motivations. Namely, Exline et al. (2003) theorized that a decision to forgive was separate from motivational changes. The DTFS-S assesses the decision to forgive, and the TRIM-18-S assesses motivations. We replicated the model tested by the authors of the original scale. They used the TRIM-12, however, as the positive dimension of forgiveness (i.e. benevolence) has been gaining attention, we worked with the TRIM-18 (McCullough et al. 2006). A 4-factor solution presented adequate overall model fit, meaning that although making a decision to forgive is related with avoidance, revenge and benevolence (TRIM-18 dimensions that assess motivations), they are not the same. These results provide additional evidence of construct validity of the scores, and initial evidences of the distinction of DTFS from total forgiveness.

Another key variable in the forgiveness process was the relationship with the offender before and after the offense happened (Strelan et al. 2017). We defined a latent model to explore the association of TRIM-18-S subscales and DTFS-S with closeness with the offender before and after the offense happened. We found that, while the previous relationship with the offender is a significant predictor of change in the TRIM-18-S dimensions (in line with what Burnette et al. (2012) found), it does not predict one's decision to forgive. These results support the idea that decisional forgiveness is a willing act or a voluntary choice intra-motivated and thus, less dependent on offense characteristics (Hope 1987; Kaminer et al. 2000; Pingleton 1997). Also, these findings provide further evidence that demonstrates that decisional forgiveness is different from TRIM-18-S.

DTFS and Related Constructs

To provide initial evidence supporting construct validity, we ran different bivariate correlations between DTFS-S and constructs theoretically related with it. However, the DTFS-S only showed significant correlations with collectivistic self-construal and the TRIM-18-S motivations, and marginally with empathy. Although we expected the DTFS-S to be

correlated with more variables, the results supported the idea previously presented regarding closeness with the offender. If one's decision to forgive is really a willful act that depends only on oneself, then, it makes sense that the results indicated this absence of association to other variables (e.g., previous relationship with the offender, rumination, anger, anxiety, depression).

In relation to the idea presented above, is understandable that the DTFS-S correlated with self-construal and (marginally) empathy, as they are constructs that could be considered traits of the individual. As far as self-construal, it refers to the degree with which one perceives oneself as a collectivistic person or not, thus, as part of his or her personality that in turn affects his or her decisions. Collectivistic cultures recognize forgiveness within the context of harmony and reconciliation. Also, it has been demonstrated that some people within collectivistic cultures could feel more conditioned (by their culture or community) to forgive (Davis et al. 2013; Hook et al. 2009, 2012), hence the correlation between both constructs supported what previous theory suggested.

In relation to empathy, something similar happens. Empathy is the tendency that a person has to adopt spontaneously the psychological point of view of others (Davis 1983). A person with higher levels of empathy would be more able to put him or herself in the place of his or her offender and thus more easily make the decision to forgive him/her. The correlation between DTFS-S and empathy obtained in our study supported this idea, which is in line with what McCullough et al. (1998) reported when studying the influence of empathy in the forgiveness process.

Measurement Invariance

It is typically assumed that an instrument operates the same way in different groups and populations; however, in practice, is unlikely to achieve full measurement invariance (Milfont and Fischer 2010). Configural invariance of the DTFS was achieved across Spanish and American samples, but not

metric. By freeing item 4 to load differently in both groups we were able to establish partial metric and partial scalar invariance. These results indicate that American and Spanish people answer differently to item 4 and might not understand the construct in the same way. Nonetheless, when reviewing the factor loadings, we observed that they did not differ that much (Spanish = .942 vs American = .923). The small difference in the factor loading and the achievement of partial metric invariance indicated that cross-cultural comparisons can be done using the DTFS (Milfont and Fischer 2010) across different cultures.

Limitations

This study had several limitations. First, self-report questionnaires can be influenced by social desirability. Second, although a general population was used for the majority of the analyses, only students were used to explore the association of the DTFS-S with other measures. Thus, our evidence for validly interpreting the scores to indicate connections with other variables in the nomological network of associations is limited. Also, the samples used to test measurement invariance were convenient samples. Although they were comparable in terms of sample size and sex proportions, and no significant differences were found regarding age, future studies should consider more homogeneous samples. Third, there was a general absence of many psychometrically sound instruments for a Spanish population that made it difficult to measure other constructs that could be of interest for the study (e.g., trait forgiveness, measures indicating whether apologies had been offered or restitution had been made, measures of communication of regret by the offender, etc.). In addition, the lack of many instruments to assess processes during the discussion of transgressions and the experience of forgiveness did not permit the investigation of the time-course of forgiving. However, with the DTFS-S in the literature, we hope to overcome such limitations in further studies.

Conclusion

Making a decision to forgive is a key experience in forgiving an offender. Having a psychometrically sound measure that allows its assessment in Spanish population will help researchers to find out and explore whether making a decision to forgive is the starting point that facilitates thorough forgiveness, and, if so, to design psychotherapeutic interventions that facilitate this experience.

Compliance with Ethical Standards

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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