Teachers' and children's perceptions about their relationships: Examining the construct of dependency in the Greek sociocultural context

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Abstract

The main purpose of this study is to examine teachers' and children's perceptions of dependency, and their linkages with other relationship dimensions, in a cultural context with a more collectivistic orientation (i.e., the Greek educational context). Additional purposes were to examine the factorial validity and reliability of the Greek version of the Child Appraisal of Relationship with Teacher Scale (CARTS) and the convergence between teachers' and children's perceptions of relationship quality. Participants were 348 kindergarten students (171 male, 177 female) and 35 teachers (all female) from 35 public classrooms in North and South Greece. The measures used in this study were the Student-Teacher Relationship Scale (STRS) and the CARTS. Results verified the factorial validity of the Greek version of CARTS by confirming the three-factor structure of the scale. Results also confirmed the internal consistency of the Greek CARTS. In addition, results replicated previous findings suggesting a positive association between Closeness and Dependency in both teachers' and children's perceptions. Finally, results showed significant multivariate association between teachers' and children's perceptions about their relationships. The finding about the positive association between closeness and dependency in both teachers' and children's perceptions in a cultural context with a more collectivistic orientation, challenges the cultural universality of the construct of dependency and highlights the need for a more in-depth examination of the construct of dependency. For example, future studies should test the measurement

equivalence of dependency across two countries with an individualistic and a collectivistic context.

Keywords: Teacher-child relationships, CARTS, Dependency, Attachment, STRS

Introduction

In recent years, numerous studies have associated the quality of teacher-child relationships with children's development (e.g., Hamre, Hatfield, Pianta, & Jamil, 2014; McGrath & Van Bergen, 2015), their academic performance and engagement (e.g., Hughes, Luo, Kwok, & Loyd, 2008; Roorda, Jak, Zee, Oort, & Koomen, 2017; Roorda, Koomen, Spilt, & Oort, 2011; Spilt, Hughes, Wu, & Kwok, 2012), their externalizing problem behaviors (Lei, Cui, & Chiu, 2016) and their socio-emotional success and social skills (e.g., Arbeau, Coplan, & Weeks, 2010; Brock & Curby, 2014). However, these studies have mainly focused on the relational dimensions of conflict and closeness, relying on teacher reports of relationship quality. Moreover, most of these studies have been conducted in Western societies, with mainly individualistic cultural values. In this study, we aimed to extend this body of research by examining teachers' and children's perceptions of dependency in a cultural context with a more collectivistic orientation. In this way, we aimed to shed more light on the understudied relational dimension of dependency, as it is perceived by teachers and children with an interdependent cultural background.

Attachment perspective on teacher-child relationships

Theoretically, the developmental significance of early teacher-child relationships has been mainly conceptualized from an attachment perspective (Sabol & Pianta, 2012; Vervoort, Doumen, & Verschueren, 2015). A major premise of attachment theory (Bowlby, 1969/1982) is that systematic interactions with main attachment figures are internalized into representational models of these relationships (Verschueren, Doumen, & Buyse, 2012). Bowlby considered

development as a dynamic process in which “established patterns of adaptation may be transformed by new experiences while, at the same time, new experiences are framed by, interpreted within, and even in part created by prior history of adaptation” (Sroufe, 2005, p. 350). Scaffolding on this viewpoint, contemporary attachment researchers emphasize that teacher-child relationships can potentially compensate for a child’s previous attachment experiences and have a regulatory function regarding its social and emotional well-being (e.g., Mashburn & Pianta, 2006). This is also the reason why teacher-child interactions in school are increasingly interpreted as key developmental contexts, not only for children’s academic, but also for their socio-emotional trajectories (Pianta, Hamre, & Stuhlman, 2003).

Within an attachment perspective on teacher-child relationships, three relational dimensions have been distinguished: closeness, conflict, and dependency. The most widely used and accepted instrument to assess these attachment-based relationship dimensions, is the Student-Teacher Relationship Scale (STRS; Pianta, 2001). This teacher rating scale has been applied to 4-12 year old children in numerous countries and different cultural and educational settings like Belgium, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, U.K., USA, etc. The Closeness subscale evaluates positive affect and the degree of children’s open and personal communication with the teacher and their use of the teacher as a safe haven. The Conflict subscale includes items that show that the teacher and the child are frequently at odds with each other, reflecting insecure adult-child interactions that are characterized with disharmony, and the Dependency

subscale assesses the level of developmentally inappropriate dependency a child shows toward the teacher. It also shows the difficulty a child is facing in using the teacher as a secure base from which to explore (Pianta, 1999; Verschueren & Koomen, 2012).

Child measures of teacher-child relationship quality

Collecting data based on teachers' reports is an important source of information regarding teacher-child relationship quality. Teachers can provide valuable insights regarding the context of their relationships with children. However, Pianta et al. (2003) suggest that both teachers' and children's relationship representations are crucial parts of teacher-child relationships. As mental representations are influenced by each relationship partners attachment history, they are likely to differ between teacher and child. In line with this argument, in a study in upper elementary school children, Koomen and Jellesma (2015) found only moderate associations between teacher and child perceptions regarding conflict and closeness, thus showing the value of including children's perspectives in studies of teacher-child relationships.

The available measures for assessing the quality of early teacher-child relationships based on children's perceptions are still very scarce. One instrument using young children's perspectives is the Young Children's Appraisals of Teacher Support (Y-CATS; Mantzicopoulos & Neuharth-Pritchett, 2003). The Y-CATS consists of 31 items that assess three relational dimensions, warmth, conflict and autonomy (as opposed to ependency). The Y-CATS was developed in a dichotomous response format, "yes" or "no". Y-CATS items are contained in cards and children respond to

them by placing the card either in a mailbox (i.e., if they agreed) or in a trashcan (i.e., if they disagreed). A second measure is the Feelings about School (FAS; Valeski & Stipek, 2001) which assesses children's feelings about the teacher and attitudes toward school. The FAS comprises 11 items that assess four factors, including children's feelings about their relationship with their teacher. The FAS adopts a more generic view of teacher-child relationships, examining the way children perceive the teacher's feelings, caring about them and the child's feelings about the teacher. The response scale is accompanied by a visual aid of five bars of increasing size. Both Y-CATS and FAS are instruments that do not measure the construct of dependency.

A recent measure developed by Vervoort and colleagues (2015) examines young children's (6-10 year olds') perceptions about the quality of teacher-child relationships based on the same attachment-based relational dimensions as the STRS does: closeness, conflict and dependency. CARTS is the first instrument that measures the dimension of dependency based on children's perceptions. In this study we used a Greek version of the CARTS, examining its factorial validity, reliability, and convergence with teacher reports.

Cross-cultural differences in relationship quality: the case of dependency

The previous decades, several scholars have examined the potential influence of the cultural context on social behaviors. Triandis (1990) was among the first to discuss the cultural manifestations and cultural differences in social relationships. He interprets people's social behaviors as a consequence of norms, duties, and obligation and attributes several characteristics of these behaviors to the context in which they occur. More specifically, Triandis (1990, 1994) described that people in

collectivistic cultures, compared to those in individualistic ones, are more likely to perceive their relationships and themselves as integral parts of groups, to pay more attention to external than to internal processes as determinants of social behavior, to define most relationships with ingroup members as communal and to prioritize in-group goals. In the more recent years, attachment scholars also seem to accept that a child's need for secure attachment and secure base behaviors towards an adult, is perceived differently in different cultures (Mesman, van IJzendoorn, & Sagi-Schwartz, 2016).

With regard to the construct of dependency, researchers have challenged its cultural universality (e.g., Beyazkurk & Kesner, 2005; Gregoriadis & Tsigilis, 2008; Webb & Neuharth-Pritchett, 2011). The existence of cultural differences has been assumed in both mother-child (Greenfield, Keller, Fuligni, & Maynard, 2003) and teacher-child relationships (Sroufe, 2005).

Studies from different countries and various cultural backgrounds that examined teacher-child relationships, have shown the existence of cultural differences regarding the interpretation of dependency (Tsigilis, Gregoriadis, & Grammatikopoulos, 2018). More specifically, in a cross-cultural study, Beyazkurk and Kesner (2005) found that Turkish teachers perceived their children as more close and more dependent than teachers in the United States. The authors of this study explained the variations in closeness and dependency dimensions "by examining the underlying family structures found in the two cultures" (p. 551). They attributed their findings to a more collectivistic orientation found in Turkish families

(Oyserman, Coon, & Kemmelmeier, 2002) compared to the emphasis American families give to autonomy and individuality.

In the same period, a Greek study (Gregoriadis, 2005) found a significant positive moderate association between closeness and dependency, showing that Greek kindergarten teachers, in contrast with the majority of their colleagues in other Western countries, do not necessarily perceive dependency and dependent behaviors as a negative construct. Following that study, a series of four studies conducted in Greek early childhood settings – with the last one applied to a nationally representative sample – have reported significant small to moderate positive associations between closeness and dependency (Gregoriadis & Tsigilis, 2008; Gregoriadis & Grammatikopoulos, 2014; Tsigilis et al., 2018a; Tsigilis, Gregoriadis, Grammatikopoulos, & Zachopoulou, 2018b). This recurring finding constrasts with findings from other Western countries like Germany, Italy, the Netherlands, the USA (e.g., Glüer & Gregoriadis, 2017; Fraire, Longobardi, Prino, Sclavo, & Settani, 2013; Koomen, Verschueren, van Schooten, Jak, & Pianta, 2012; Milatz, Glüer, Harwardt-Heinecke, Kappler, & Ahnert, 2014; Webb & Neuharth-Pritchett, 2011), suggesting that dependency is perceived differently in these contexts. As for the relationship between conflict and dependency, several studies from different cultural contexts have shown considerable fluctuations ranging from non-significant (e.g., Gregoridis & Tsigilis, 2008) to moderate or even strong (e.g., Gluer & Gregoriadis, 2017; Solheim, Berg-Nielsen, & Wichstrøm, 2012). On the other hand, however, the association between conflct and closeness was consistently

statistically significant, yielding moderate to strong values (e.g., Drugli & Hjemdal, 2013).

One possible explanation of the cultural differences found in the way dependency is perceived can be given in terms of the contrasting continuum between individualistic and collectivistic cultures (Gregoriadis & Tsigilis, 2008). Independent cultures (individualistic) prioritize autonomy, independent exploration of the environment as well as developmentally appropriate instrumental dependency (Sroufe, 1983), perceive dependent behaviors as negative behaviors, and focus on strategies to help children cope with overdependency. On the other hand, interdependent cultures (collectivistic) may acknowledge more the helplessness aspect of dependency and invest in proximity, support and provision of emotional security to improve the relationship (Milatz et al., 2014). For collectivistic cultures, interdependence has a long sociological basis and constitutes an important life and survival concept for the people. Therefore, people from more collectivistic cultural backgrounds do not necessarily perceive dependency as a disturbing aspect of a child's behavior or as a negative trait.

Such cross-cultural differences could also be evident in children's perceptions. However, to date, much less is known about children's perspectives on dependency and their relationships with their teachers (Spilt, Vervoort, & Verschueren, 2018). A recent study (Vervoort et al., 2015) revealed a moderate significant positive correlation between children's perceptions of closeness and dependency. Since the study was applied within an individualistic context, such a finding could mean that the impact of developmental issues is equally crucial and that children interpret the

202 construct of dependency differently than do adults (Vervoort et al., 2015).
203 Moreover, it could also show that our knowledge about how dependent
204 relationships function and our understanding of children's perceptions about their
205 relationships with their teachers is limited.

206 In other words, there is a growing need to systematically examine both
207 teachers' and children's perceptions about their relationships, and especially their
208 perceptions of child-teacher dependency in diverse cultural contexts in order to
209 increase our understanding of this construct. Based on that, the primary aim of the
210 current study was to investigate teachers' and children's perceptions of dependency,
211 and their linkages with other relationship dimensions, in a cultural context with a
212 more collectivistic orientation (i.e., the Greek educational context). Specifically, we
213 aimed at examining whether perceptions of dependency were positively related with
214 perceptions of closeness, in contrast with findings in more individualistic cultural
215 settings. These associations were tested for teachers' (STRS) as well as children's
216 perceptions (CARTS). In addition, we aimed at examining the factorial validity and
217 reliability of the Greek version of the CARTS, and the convergence between teachers'
218 and children's perceptions of relationship quality.
219

220 **Method**

221 **Participants**

222 Thirty-five public kindergarten classrooms from Crete (Southern Greece) and
223 Thessaloniki (Northern Greece) participated in the study. The participants in this
224 cross-sectional research were 35 teachers (all female) and 348 children (171 male

and 177 female) that completed the STRS and CARTS scales, respectively. Students' mean age was 64.56 months (*SD*±2.821, Range 58-71) and their teachers' experience was 16.96 years (SD±7.684, Range 1-33). The maximum allowed kindergarten class size in Greece is 25 children (class size usually ranges from 18 to 25 children). In the current study, from each classroom five girls and five boys were randomly selected to participate. The decision to not include all children from each classroom was based on two reasons: First, to collect data from as many different classrooms as possible, and second to have a representative sample size from each classroom, a condition satisfied with randomly selecting ten children. In classrooms with fewer or slightly more than 10 children, all of the children participated.

Measures

Child Instruments. Children's perceptions about their relationships with their teachers were measured with the Child Appraisal of Relationship with Teacher Scale – CARTS (Vervoort et al., 2015). The CARTS includes 16 items, four for closeness, seven for conflict and five for dependency. Following the procedure suggested by the developers of the instrument, the CARTS is completed in two steps. First, the researcher reads to the child a given statement and the child (dis)confirms it. Afterwards, the child indicates whether this is "always" or "sometimes true". Their responses are scored on a five-point Likert scale ("No, always", "No, sometimes", "Child understands the item, but does not answer with yes or no", "Yes, sometimes", "Yes, always").

The Greek version of CARTS was translated in Greek by a native speaker and was back translated again. Afterwards, a comparison of the original and the back-

translated version was made, and translation discrepancies were corrected. After this procedure, a brief pilot study was conducted to test the Greek version. The scale was administered to 13 kindergarten teachers in order to highlight potential problems or expressions that were difficult to understand for them. Based on their feedback, minor changes were introduced to improve the wording of two items (item 9 “My teacher often tells me that I do not cooperate in class”, and item 15 “I have a good match with my teacher”).

Teacher Instruments. Teachers’ perceptions about their relationship with their students were measured with the Greek version of the Dutch Student-Teacher Relationship Scale – STRS (Koomen et al., 2012). The Greek version was validated in a previous study using a nationally representative sample, providing acceptable psychometric properties (e.g., Tsigilis et al., 2018b). The Greek adaptation of STRS consists of 28 items that assess three dimensions: Closeness (11 items; e.g., “I share an affectionate warm relationship with this child”, Conflict (11 items; e.g., “this child and I always seem to be struggling with each other”), and Dependency (6 items, e.g. “this child is overly dependent on me”). The items are rated by a five-point Likert scale from 1 (“definitely does not apply”) to 5 (“definitely applies”). The internal consistency of the Greek version of STRS in a previous study using a nationally representative sample was good (Closeness ω =.888, Conflict ω =.950, Dependency ω =.797; Tsigilis et al., 2018b).

Procedure

The research design of this study was approved by the national educational policy institute. The authors informed the participating teachers about the study’s

purpose and procedures and asked for their consent. Then, they administered the STRS questionnaires, and teachers returned them completed by the end of the day. The parents of the children attending the 35 kindergartens were also informed and they were asked to sign a consent form in the event that their child would be randomly selected to participate. The researchers visited the 35 kindergarten centers and collected data from the selected children. Each child responded to the CARTS statements in a separate room in a dyadic setting. The study took place during the spring of 2017.

Statistical analysis

Confirmatory factor analysis was first used to examine the underlying structure of the CARTS item scores. Based on the existing body of literature a three correlated factors model was postulated and tested. M*plus* 7.3 was used for the analyses. In order to provide additional evidence for the adequacy of the proposed model, two alternative models were also tested. The first model examined the unidimensionality of CARTS in which all items assessed one latent factor. The second model combined the items measuring Closeness and Dependency into one factor. This way, the second model postulated a two-latent factor structure of CARTS. This alternative two-factor model was tested because previous studies using teacher ratings in the Greek context suggested that Closeness and Dependency were positively associated, whereas Conflict and Dependency were not associated (e.g., Tsigilis et al., 2018b). Given that responses were on an ordinal scale, the WLSMV estimator was selected as the most appropriate. The fit of the proposed models was based on chi-square, the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation

(RMSEA). Values around .95 for the CFI and .06 for the RMSEA are indicative of a good fit of the data to the model (Hu & Bentler, 1999). Moreover, when the WLSMV estimator is used, M*plus* also provides the Weighted Root Mean Square Residual (WRMSR). WRMSR values of 1.00 or lower denote a good fit (Yu, 2002). As for the STRS, a series of previous studies in Greece showed that STRS comprises three robust factors (e.g., Gregoriadis & Grammatikopoulos 2014; Gregoriadis & Tsigilis, 2008). The above structure was also replicated using the Exploratory Structural Equation Modeling framework in a nationally representative sample (Tsigilis et al., 2018b).

For the calculation of internal consistency of the latent factors this study used the Omega coefficient (McDonald, 1999). Omega is considered a better choice in comparison to Cronbach's alpha, because it does not require equal factor loadings or uncorrelated error variances (Dunn, Baguley, & Brunsden, 2014; Trizano-Hermosilla & Alvarado, 2016). Thus, ω takes into account the strength of the association between the indicators and the latent factors as well as the item-specific measurement bias.

Next, the convergence between the CARTS and STRS was tested. Given that both instruments are multidimensional, a multivariate approach seemed warranted. Thus, a canonical correlation analysis was applied. Canonical correlation analysis examines simultaneously the relationships among the two sets of variables, restricting Type I error to the nominal alpha level (e.g., .05). Moreover, by applying a multivariate technique, we can better approximate complex social situations and human relationships (Thompson, 2000).

Results

Factorial structure of CARTS

The data of this study have a hierchical structure, which means that children's responses are nested within the classroom level. To take into account the hierarchical structure of the data, TYPE=COMPLEX was included in the MPlus code to correct the standard errors. Initially, confirmatory factor analysis was applied to select the most teanable of the alternative models. Results showed that the three-factor model yielded a substantially better fit (χ^2 = 227.96, *df* = 101, *p<.001*, *CFI* = .894, *RMSEA* = .060, *WRMR* = 1.292) compared to the unidimensional (χ^2 = 749.05, *df* = 104, *p<.001*, *CFI* = .463, *RMSEA* = .134, *WRMR* = 2.606) and the two-factor model (χ^2 = 346.67, *df* = 103, *p<.001*, *CFI* = .797, *RMSEA* = .082, *WRMR* = 1.716). Thus, the three-factor model was selected as the most appropriate to represent the factorial structure of CARTS.

However, despite the fact that the three factor model showed a better fit, its fit indices did not meet the predetermined cut off values. Examination of the modification indices revealed that the Dependency item 11 ("*I like my teacher to be close when performing a task*") was proposed to load on the two other latent factors, Closeness and Conflict. Subsequently, this item was excluded, and the analysis was rerun.

Despite the fact that chi-square value was still significant, all alternative fit indices were considerably improved, suggesting a good fit to the data (χ^2 = 166.35, *df*

= 87, *p<.001*, *CFI* = .933, *RMSEA* = .051, *WRMR* = 1.095). Item loadings ranged from .395 to .791 (Table 1). The internal consistency of the Greek version of CARTS was good, with the exception of Closeness which was moderate (Closeness ω =.65, Conflict ω =.91, Dependency ω =.74). Associations among the latent factors were significant and in the expected direction in view of the Greek cultural context (Table 1). Closeness was negatively correlated with Conflict and positively with Dependency, yielding moderate values. The correlation between Conflict and Dependency was positive and significant, yet only small. Based on previous findings, and the hypothesized factorial structure, the three-factor model was selected as the most appropriate to describe the factorial structure of CARTS.

-insert Table 1 around here-

Estimation of the internal consistency of the STRS subscales provided acceptable values, which were comparable to the nationally representative sample (Tsigilis et al., 2018b). Internal consistency coefficients were .88 for Closeness, .96 for Conflict and .79 for Dependency.

Correlations among CARTS and STRS subscales

Regarding the associations among the STRS subscales, a negative correlation was found between Closeness and Conflict (r = -.33, p < .001) and a positive correlation between Closeness and Dependency (r = .26, p < .001). The correlation between Conflict and Dependency was not statistically significant (r = .11, p = .229).

The intercorrelations among the CARTS and the STRS subscalescores are presented in Table 2. Two small to moderate significant positive associations

emerged, one between the two conflict subscales and the other between the two dependency subscales. This indicates that when children perceived their relationship with the teacher as more conflicted or more dependent, teachers also perceived this relationship as more conflicted or dependent.

-insert Table 2 around here-

Multivariate association between CARTS and STRS

Canonical correlation analysis (CCA) revealed two significant canonical functions r_c = .26 (*Wilk's λ*. = .91, $p < .001$) and r_c = .16 (*Wilk's λ*. = .97, p = .046). It should be noted that the number of canonical functions produced in CCA is equal to the smaller set of the group of variables (three in our case). Functions in canonical correlation analysis, represent linear combinations of the observed variables for each set of variables. Table 3 presents the loadings of the two sets of variables on the canonical functions. A cut-off score of .30 was used to interpret the loadings (Tabachnick & Fidell, 2013). The first significant canonical variate pair extracted 32.73% of the variance from CARTS scores and 37.51% of the variance from STRS scores?. The second significant canonical variate pair extracted 38.83% of the variance from CARTS and 36.69% of the variance from STRS. All subscales showed significant loadings to their respective canonical variates, suggesting that they are all contributing to the multivariate association. Regarding the first canonical correlation, teachers' and children's ratings about Conflict had the higher loading. Regarding the second canonical correlation, Dependency showed the strongest loading for both set of variables.

-please insert Table 3 around here-

Discussion

Extending the literature on teacher-child relationships, this study examined teachers' and children's perceptions of dependency, and their linkages to other relationship dimensions, in a cultural context with a more collectivistic orientation, namely the Greek educational context. In addition, this study aimed at testing the factorial validity and reliability of the Greek version of the CARTS, a new measure assessing the child's perspective on the teacher-child relationship. Also, the convergence was tested between child and teacher perspectives on relationship quality (i.e., between the CARTS and the STRS scores). The most relevant findings of the study will be discussed below.

Factorial validity and reliability of the Greek version of CARTS

This study examined the underlying factor structure of the Greek version of the CARTS in a Greek sample. CFA on the 15 items (item 11 was excluded), hypothesized to assess the three dimensions closeness, conflict and dependency, revealed a satisfactory fit. This finding is in agreement with findings for the original CARTS (Vervoort et al., 2015). Researchers can have increased confidence in the three-factor structure of the Greek version of the CARTS, since it provided the best fit in comparison to other alternative models. The internal consistency of the Closeness scale was relatively moderate and lower in comparison to the original Belgian study (.80 in general education, .81 in special education). This finding could perhaps be attributed to the way Greek students perceive closeness and dependency. It could be that children are finding it difficult to tell the two constructs apart, thus influencing the consistency of perceived closeness in a way. Another explanation might be related to the relatively small number of items (four) designed to capture

the concept of closeness. A third explanation could relate with the slight age difference between the Greek and the Belgian sample. The participating children in the Belgian sample were older, which could improve the reliability of their responses (Valeski & Stipek, 2001). Future applications of the Greek version of the CARTS should further test its psychometric properties.

Correlations among CARTS subscales

The correlations among the three factors of CARTS revealed a positive association between Closeness and Dependency, a finding that has been repeatedly reported in the past in studies with Greek early childhood teachers (e.g., Gregoriadis & Grammatikopoulos, 2014; Gregoriadis & Tsigilis, 2008; Tsigilis et al., 2018b), as well as in the current study. However, it has been the first time that it is reported in a study with Greek kindergartners as well. The consistent replication of this finding for teacher reports, and the extension to child reports supports the suggestion that there is a strong cultural influence in the way teacher-child relationships are perceived in different contexts, but it also suggests that this cultural influence may be formed, developed or acquired at a very early stage of life. In line with Greek teachers' views, children in Greek kindergarten centers also perceive the construct of dependency as not such a negative dimension. It is possible that children, and especially younger ones, feel better when they follow instructions or choices made by adults they are attached to and might feel closer to them (Bao & Lam, 2008). A similar, but rather unexpected finding was also found in the study of Vervoort et al. (2015), in which the CARTS was introduced. In this Belgian sample too, a low but significant positive association was found between children's perceptions of closeness and dependency. This finding is described as unexpected, because the

study was applied within an individualistic context. One possible explanation is that children assign a more positive value to dependency than their teachers (Vervoort et al., 2015). From a more developmental perspective, this could perhaps mean that young children all over the world, regardless of their cultural context, perceive dependency in a different, more significant way for them, than adults. Hence, more research is required to increase our understanding of the cultural and the developmental influences in the formation and interpretation of relationships described by high levels of dependency. An interesting proposal for future studies would be to examine how dependency is perceived by older children from different cultural settings or to conduct longitudinal studies to capture the development of this relationship dimension.

Convergence of teachers' and children's perceptions about their relationship

When it comes to examining the convergence between teachers' and children's perceptions about their relationships, this study showed small to moderate agreement between teachers and children regarding their perceptions of conflict and dependency. Moreover, canonical correlation analysis showed the existence of significant multivariate association between both perspectives. This finding implies that there are similarities in the way teachers and children assess their relationships. The three relational dimensions (closeness, conflict, dependency) of both measures are associated and thus they all contribute to the convergence of teachers' and children's perceptions. Specifically, results from the first and second canonical correlation showed that they are mainly characterised by conflict and dependency, respectively. This finding could mean that conflict and dependency may

influence more teachers' and children's criteria. The few available studies that have examined both teacher and child perspectives also report modest teacher-child agreement in both early and late grade schools (e.g., Mantzicopoulos, & Neuharth-Pritchett, 2003; Murray, Murray, & Waas, 2008 ; Valiente, Lemery Chalfant, Swanson, & Reiser, 2008). Hence, studies from various cultural settings appear to show a similar level of agreement between teacher and child perceptions. Moreover, Thijs, Koomen, Roorda and ten Hagen (2011) reported that interpersonal responses differ for teachers and children, and that interpersonal complementarity is moderated by shyness and relationship perceptions. Together with previous findings, the degree of convergence reported in the current study highlights the need for additional studies in order to better understand the criteria adults and young children use to evaluate the quality of their relationships.

Limitations and Suggestions for Future Research

This study of course is not free of limitations. An important limitation refers to the cross-sectional nature of the study, hence making the authors very self-aware of the caution needed, when interpreting findings or drawing conclusions. Another limitation has to do with the need to confirm the current findings in future studies with a larger sample as well, before being able to draw firm conclusions.

There is still a long road ahead of researcher in order to fully understand and examine the way a cultural context influences teachers' and children's attitudes and perceptions regarding their relationships and especially regarding the construct of dependency. For example, there is no available study, to the authors' knowledge, testing the measurement equivalence of the dependency measure across two

478 countries with an individualistic and a collectivistic context. Cadima, Doumen,
479 Verschueren and Leal (2015) were the only ones to have examined teacher-child
480 relationships in Belgian and Portuguese teachers, but only for the dimensions of
481 closeness and conflict. Hence, future studies should focus in addressing this gap.

482 Further, as Vervoort et al. (2015) mention, the CARTS dependency items
483 mainly refer to instrumental dependency. Some early attempts described two types
484 of dependency, namely instrumental and emotional dependency (Heathers, 1955).
485 Instrumental dependency exists when a child is seeking help to achieve a goal,
486 instructions or assistance that is task-oriented. Emotional dependency exists when a
487 child is seeking to receive attention and approval from the teacher (Marcus, 1976).
488 For a more holistic examination of the construct of dependency from children's
489 perspectives, future studies should examine both instrumental and emotional
490 dependency.

491 Moreover, the current study aspires to encourage a more in depth and
492 systematic examination of the profile and the types of children with high levels of
493 dependency. For example, these children may display vastly different behaviors,
494 some by intense contact and attention-seeking accompanied with distractive
495 behaviors, and other by low-level chronic attention seeking and restricted social
496 initiatives (Sroufe, 1983). Vervoort et al. (2015) have already assumed the possible
497 existence of different subdimensions underlying the construct and measure of
498 dependency. Future research should attempt to understand more in depth children
499 with dependent behaviors and attempt to map their differences in both degrees and
500 styles of dependency, as once Maccoby (1980) suggested.

Conclusion

The aim of this study was to examine teachers' and children's perceptions of dependency in an interdependent cultural context. It also examined the factorial validity and reliability of the Greek version of the Child Appraisal of Relationship with Teacher Scale (CARTS) and the convergence between teachers' and children's perceptions of relationship quality. Results verified the factorial validity and the internal consistency of the Greek CARTS. Moreover, results replicated previous findings suggesting a positive association between Closeness and Dependency in teachers' perceptions and extended this finding to children's perceptions as well. The replication of this finding in children's perceptions suggests that there is a strong cultural influence in the way teacher-child relationships are interpreted in various contexts, and it also suggests that this cultural influence may be developed at a very early stage of life.

In conclusion, this study highlights the need for a more in-depth examination of the construct of dependency. Additional research should examine the cultural and developmental influences in the formation and interpretation of dependent teacher-child relationships.

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Table 1

Confirmatory factor analysis solution for the CARTS

	Closeness	Conflict	Dependency
Item 1. I have fun with my teacher	.64		
Item3. My teacher likes me	.79		
Item 13. I like to be with my teacher	.42		
Item 15. I have a good match with my teacher	.40		
Item 5. I often quarrel with my teacher		.64	
Item 6. I easily get angry with my teacher		.69	
Item 8. My teacher easily gets angry with me.		.68	
Item 9. My teacher often tells me that I do not cooperate in class.		.66	
Item 12. My teacher often punishes me		.74	
Item 10. My teacher often tells me that I do things wrong in class		.61	
Item 14. My teacher often tells me that I do not listen		.79	
Item 4. I often ask my teacher whether I do things right			.54
Item 2. I often ask my teacher for help			.70
Item 7. I easily ask help from my teacher			.75
Item 16. I often ask my teacher questions			.61
Closeness	(.65)		
Conflict	-.42**	(.91)	
Dependency	.52**	.18*	(.75)

Note: omega coefficients in parentheses, * $p < .05$, ** $p < .01$

Table 2

Intercorrelations among the CARTS and STRS subscales

	STRS-CLOSENESS	STRS-CONFLICT	STRS-DEPENDENCY
CARTS-CLOSENESS	.10	-.04	.08
CARTS-CONFLICT	-.08	.22*	-.010
CARTS-DEPENDENCY	.10	-.02	.16*

Table 3

Canonical loadings of the CARTS and STRS subscales

	Function 1	Function 2
CARTS-Closeness	.30	.45
CARTS-Conflict	-.85	.48
CARTS-Dependency	.41	.86
STRS-Closeness	.52	.38
STRS-Conflict	-.85	.49
STRS-Dependency	.38	.85