A Revised Short Form of the Extended Class Play among Italian Early Adolescents

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Abstract

Among the measures assessing peer reputation, the Extended Class Play (ECP) is now used extensively in North American settings. Little information is available in other cultural contexts. Further, practical considerations suggest developing a shorter form of the ECP to be used in socio-educational environments. This study examined the ECP dimensions of peer assessment in Italy, as well as developed a shorter form of the measure. We revised the ECP using factor analyses according to an explorative-confirmatory approach. The original 37-item ECP was shortened to a 22-item version and subsequently, the properties of the revised measure were evaluated. We performed two studies comprising, respectively, 643 (55% male; 97% Italian; M_{age} = 12.20, *SD* = 0.60) and 652 (58% male; 94% Italian; M_{age} = 12.26, *SD* = 0.66) seventh-grade young adolescents living in southern and central Italy. Results revealed a clear and consistent seven-factor structure and acceptable levels of reliability and validity. Factors included such constructs as Shyness-Withdrawal, Prosociality-Leadership, Aggression, Popularity-Sociability, Victimization, Rejection-Exclusion, and Boastfulness. Correlations between the dimensions of the 22-item ECP and teacher ratings of young adolescents' behaviors further confirmed the validity of the solution. Findings suggest the importance of culturally revised measures of social reputation and indicate that the short form of the ECP has considerable promise to be considered a valuable measure to assess the multidimensional aspects of peer relationships.

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Keywords: Extended Class Play, peer assessment, social reputation, cultural context, reliability, and validity.

A Revised Short Form of the Extended Class Play among Italian Early Adolescents

Several scholars consider children's peer reputation as one of the central aspects influencing positive psychological and behavioral development (e.g., Rubin, Bukowski, & Bowker, 2015). Peer reputation refers to how a child is viewed and judged by groupmates (Casiglia, Lo Coco, & Zappulla, 1998) as a consequence of his/her behaviors, social- and self-cognitions, dispositional traits, and non-behavioral features, like ethnicity or aesthetic aspect (Rubin et al., 2015). Moreover, although peer reputation seems to predict adjustment and maladjustment during childhood and adolescence (Prinstein, Rancourt, Guerry, & Browne, 2009), a number of studies suggested that cultural factors, such as social rules, expectations, beliefs, and values, may affect the description and the evaluation of behaviors and their correlates across contexts, implying that children's social reputations and their links with behavioral outcomes may be culturally driven (e.g., Chen, Zappulla et al., 2004). This extensive interest in the relevance of peer reputation has resulted in a search for effective tools to assess it (e.g., Cillessen & Marks, 2017).

Most researchers engaged in this area of investigation agree on the effectiveness of peer assessment to study children's and early adolescents' reputational characteristics (e.g., Realmuto, August, Sieler & Pessoa-Brandao, 1997) and focus on "descriptive matching methods" (Masten, Morrison, & Pellegrini, 1985, p. 523), asking to nominate peers on a number of attributes or behaviors. This is the case of the "class play" technique of peer assessment. The theoretical background behind this approach is that, among individuals who constitute a familiar and well-acquainted group, social reputation is an expression of their social behavior and how this behavior is perceived within the peer group (Winder & Wiggins, 1964). Moreover, Bukowski, Cillessen and Velasquez (2012, p. 7) argued that peer assessment measures of social reputation, including class play, adequately capture and represent some fundamental dimensions of social behavior and reputation in the peer group: a

"moving toward peer attitude", resulting in positive aspects of reputation, such as popularity; a "moving away from others", including aspects such as shyness and social withdrawal (see also Kalutskaya & Buhs, 2015); and a "moving against others", including aggressiveness, and boastfulness (see also Mercer & DeRosier, 2008; Rubin, Cheah, & Menzer, 2010).

Among the class play-type measures, one of the most frequently used has been the Revised Class Play (RCP; Masten et al., 1985). It is composed by 30 items; researchers ask children to imagine being the chiefs of a fictional drama and to indicate the names of their classmates for 15 favorable and 15 unfavorable roles). In its original version, the RCP evaluated three different orthogonal dimensions of peer reputation: Sociability-Leadership, reflecting peers' perceptions of easily making friends and being a good leader; Aggression-Disruption, indicating the extent to which given children are involved in conflict and disruptive behavior; and Sensitivity-Isolation, representing the tendency of being shy and engaging in solitary activity in the company of peers.

However, some studies evaluating the adequacy and the cross-cultural validity of the RCP structure have revealed the need to refer to a larger number of factors (e.g., Casiglia et al., 1998; Rubin & Mills, 1988). For example, in a Canadian youth group, Rubin and Mills (1988) suggested that the RCP Sensitive-Isolated dimension actually represented two different, but related, constructs – Passive-Anxious Withdrawal, reflecting the child's refraining from interaction with others because of anxiety or shyness, and Active Isolation, reflecting social exclusion by the peer group. Also, in a non-North American study, Casiglia et al. (1998) indicated the cultural need to consider the single RCP Sociability-Leadership factor as comprising two separate constructs: Sociability and Leadership.

More recently, Rubin and colleagues (e.g., Wojslawowicz Bowker, Rubin, Burgess, Booth-LaForce, & Rose-Krasnor, 2006) included new items to the original RCP to develop an Extended version of Class Play (ECP), in the aim of improving the chance of distinguishing

shyness/withdrawal from exclusion/victimization, on the one hand, and popularity/sociability from prosocial behavior dimensions, on the other. Starting from a set of 37 items, the authors discovered a five-factor orthogonal structure, compared to the three-factor solution of the RCP, including dimensions of Aggression, Shyness-Withdrawal, Exclusion-Victimization, Popularity-Sociability, and Prosocial Behavior. This dimensionality was obtained using both principal component and confirmatory factor analyses with orthogonal rotation (varimax), with no correlated residual terms among the factors, on a large normative sample of children (about 1,800) followed longitudinally (Wojslawowicz Bowker et al., 2006). Validity issues were tackled by evaluating the relations between these five factors and theoretically linked evaluations of social behavior (e.g., ECP shyness-withdrawal factor was mostly related to the shy-anxious dimension of the Teacher-Child Rating Scale) and internal consistency reliabilities of its scores for each factor have been found above .80 (e.g., Wojslawowicz Bowker et al., 2006).

However, studies thus far have been conducted largely in North American settings, whereas very little information is available in other cultural contexts (for an exception, see Correia, Santos, Freitas, Rosado, & Rubin, 2014). This calls for additional evaluations of the ECP among non-North American children. Moreover, practical considerations related to the socio-educational contexts where both RCP and ECP are usually administered (e.g., taking less time for students) suggest the need to develop shorter forms of these measures. Based on these considerations, this study aimed to examine the ECP dimensional structure in a non-North American context (Italy), and to develop a short form of the ECP that could widen the applicability of the measure among practitioners and researchers.

Cultural Diversity and Implications on Peer Reputation and its Assessment

It is now known that peer reputation may be impacted by cultural matters. For example, the incidence, meanings, correlates, and consequences of given social and asocial

behaviors vary across cultural contexts (see Chen & Rubin, 2011, for relevant reviews). Behaviors and relationship characteristics believed to represent social competence and positivity in some cultures may be construed as having negative meanings in other cultures (Chen, 2012). For example, children perceived to be shy-inhibited are viewed, by peers and parents, to be socially competent and mature in traditional Chinese culture; in North America, however, the same behaviors are considered to represent inadequacy and discomfort (e.g., Chen, 2012).

Researchers have broadly discussed such findings in terms of cultural norms as individualism and collectivism (Chen, 2012). Even though most contemporary researchers do not characterize culture as either individualistic or collectivistic, this framework is still relevant as a way of delineating cultural differences based on general pattern of characteristics. Societies that are primarily individualistic in their cultural ideals (e.g., Western societies) are thought to value individuality, decisiveness, self-expression, and inclination to compete; societies that are primarily collectivistic (e.g., Eastern and Southern societies) are thought to value interdependence, group harmony and cooperation. These cultural norms help explain the distinct social attitudes about the multifaceted aspects of peer reputation. Thus, with reference to the previous example, shy-sensitive behavior in traditional Chinese culture is perceived as representing good virtues like, for example, humility, carefulness, and self-discipline devoted to restrain personal reactions toward others (Chen & French, 2008), whereas in North American societies it is usually associated with adjustment problems of an internalizing nature. Thus, the extant literature highlights how children's social interpretations and evaluations may reflect the cultural values that originate from different cultural and societal settings.

Within this framework, Italy is commonly considered a slightly individualistic or somewhat a more collectivistic than individualistic country (e.g., Bobbio & Sarrica, 2009;

Oishi, Diener, Lucas, & Suh, 1999). However, Italian culture may best be characterized by such Mediterranean constructs as *familialism*, which implies closeness to parents and family across all life stages (Assirelli & Tosi, 2013), as well as by *personalism*, which implies attention to the needs of close others, but not necessarily interest for the society or larger groups (Chen, He et al., 2004). This characterization of Italian culture suggests that the causes and correlates of peer reputation may be similar in many respects to those present in North America, but that differences may exist as well.

Existing literature seems to support this view. In a study assessing the factor structure of the ECP among 11-15-year adolescents in Portugal (Correia et al., 2014), a society sharing many cultural and societal parallels with Italy (Oishi et al., 1999), the authors reported a similar pattern of factors compared to North American context, even if they found two separate factors of Exclusion and Victimization rather than a unique factor including both dimensions. As already mentioned, the work of Casiglia et al. (1998), exploring the cultural aspects of social reputation using the RCP in Italian rather than in North American children, revealed that leadership items might be split from the sociability items. This could be also the case for the ECP; namely, the Leadership dimension might emerge as separate from the dimension of Popularity-Sociability. Moreover, some studies (e.g., Bowker, Rubin, Buskirk-Cohen, Rose-Krasnor, & Booth-LaForce, 2010) found an "arrogance/conceit" construct from two relevant highly correlated ECP items but not incorporated it in the final structure of ECP since the unreliable factor loadings of the two items with ECP dimensions. However, Casiglia et al. (1998) noted that, in their use of RCP, one of these items (i.e., "show off a lot") loaded almost equally on the Aggressive-Disruptive and the Sociability factors, suggesting a different functioning of these items in the Italian rather than the American context, which would indicate a new potential factor to be included in the ECP factor structure.

The Need for a Short Form of the Class Play Procedure

In addition to these cultural issues, practical concerns regarding class play-type assessments in school settings should be considered. School personnel generally ask researchers to consume as little time as possible in the classroom. A brief, valid and reliable measure of peer reputation would serve peer researchers well for use in socio-educational contexts. The ECP comprises 37 items and its administration takes approximately 40-to-60 minutes. Thus, a short form of ECP may benefit not only teachers and educators but also researchers who wish to incorporate a fine-grained peer reputation measure in a multivariate investigation.

The current study

Given the above-noted considerations, in the present study, we had two concurrent goals. First, we developed a revised version of the ECP for use with a non-North American population. Second, we created a briefer measure that could be easily used in socio-educational contexts. In designing the new culturally adapted and short form of the ECP, we followed recommendations for constructing and revising scales and developing the related short forms (e.g., Smith, McCarthy, & Anderson, 2000). Generally, (a) the factorial dimensionality of original and short form instruments must be examined by factor analyses, both exploratory (EFAs) and confirmatory (CFAs); (b) each factor must demonstrate standards of reliability; (c) the newly developed instrument must be administered to a sample different from the one used when the revised scale was originally constructed; (d) the factor structure of the short form and the reliability of its factors must be confirmed, and (e) the newly developed short form must be validated. We followed these guiding principles in two studies.

Study 1

The first study was aimed at developing a new culturally adapted and brief form of the ECP. As noted in the introduction, we expected that in Italy, as a Mediterranean society,

differences in the factor structure of the ECP would emerge compared to the North American societies (e.g., Correia et al., 2014). Thus, we initially explored this hypothesis using the original 37-item version of the ECP: Based on the obtained results, we successively attempted to create a briefer peer assessment inventory that would be more practical for administration in socio-educational settings.

Method

Participants

The sample comprised 643 seventh-grade students (55% male) from thirty-one classrooms (the average classroom participation rate was 96%) with good gender balance of thirteen public middle schools randomly-selected in several urban areas of the cities of Palermo (southern Italy; n = 449) and Florence (central Italy; n = 194). The rationale for choosing seventh graders was that extant literature has highlighted how early adolescent period may be crucial for deepening peer relationships due to biological, cognitive, and socio-emotional changes (e.g., Roeser, Eccles, & Sameroff, 2000), as well as in this phase peer group become more differentiated also in terms of reputation-based information (Rubin et al., 2015). Moreover, peers are more able to identify this reputational information after having experienced prolonged mutual relations and therefore starting from the seventh grade (representing in Italy the second year of the middle school). The sample was homogeneous in terms of racial and ethnic composition. Ninety-eight percent of participants were European Caucasian and, among them, 99% Italian. The mean age was 12.20 years (SD = .60; 96% were 11-13-year olds; 4% were grade repeating 14-15-year olds). Students' parents were socioeconomically diverse (31% skilled and technical workers, 30% tradespeople and service workers, 23% workmen and craftsmen, 12% unskilled workers, 4% other types of workers) and 58% of them had completed their secondary schooling, reflecting well the general Italian

population of parents of seventh grade scholars in terms of occupation and education (see Italian National Institute of Statistics, 2017, 2018).

Procedure

In performing this study, ethical principles suggested by the Italian Association of Psychology (2015), also ratified by the local university review board, were followed. We initially received permission from school principals, then we met teachers, participants and their parents during apposite group meeting to explain the general goal of the research project, the procedure to guarantee anonymity and the voluntary dimension of participation. In the same meeting, parents could provide the consent form related to their minor son or daughter or could ask for some days to decide (at most one week was permitted). About 3% of students (n = 20) was not allowed for participation by their parents. However, minor students with parental consent were also asked to express their personal agreement to participate in the research. Recommendations of the International Test Commission (2005) were followed in translating the measures into Italian. The administration was carried out during a single class session by research assistants and doctoral students and took one hour on average.

Measures

Students completed the 37-item ECP (Rubin, Wojslawowicz, et al., 2006). They were solicited to suppose of being the directors of a drama and to designate within their classroom two peers (one of the same and another of the opposite gender) who could fit with the description of each of the 37 fictional parts. However, following the recommendation of Zeller, Vannatta, Schafer, & Noll (2003), in order to avoid gender prejudice, only same-gender nominations were considered in this study.[1] Self-selection was not permitted. Each classmate could be designated for different roles and merely selections for participants with consent were taken into account. The total number of nominations each child received by

peers on each item was counted. This produced count data that were conveniently log-transformed as specified in the Data Transformation and Preliminary Analyses section. To adjust for unequal class size and gender composition, the log-transformed data were standardized within classroom and gender.

There are several reasons why we used the classroom as the reference group and deemed useful limited nominations. First, although in North America the reference group for seventh graders is all schoolmates within the same grade, in the first level of European secondary school, including Italy, it remains the classroom, due to different structure of secondary education (Cillessen & Marks, 2017); that is, early adolescents usually stay in their classes with their classmates during almost all daytime and for multiple days a week (see, for example, van den Berg et al., 2015). To support this choice, we also conducted an initial pilot study, where seventh-graders from all the three classrooms of a small middle school located in Palermo could nominate the players for the imaginary roles across their entire grade. For each ECP item, less than 6% of students nominated same-grade peers rather than classmates, meaning that the classroom represented an ecologically valid reference group. Second, recent peer nomination literature revealed that results derived from limited and unlimited nominations are comparable (Gommans & Cillessen, 2015). However, usually participants are asked to select more names for every item. Nevertheless, we chose to ask participants to nominate one peer for each gender to be in line with both the original RCP procedure (Masten et al., 1985; Casiglia et al., 1998) and most of the ECP-based papers considering the classroom as the reference group (e.g., Oh et al, 2008).

Results

Data Transformation and Preliminary Analyses

The total of times each student was nominated for the 37 roles produced count variables, for which the Poisson distribution is the underlying statistical model (e.g., see

Coxe, West & Aiken, 2009). However, recently Ives (2015) supported the practical approach of using standard models based on normal distributions after log-transforming count variables. In this line, data were log(y+1)-transformed and then, as mentioned, standardized within classroom and gender.[2] The resulting distributions showed values of skewness (< |1.45|) and kurtosis (< |1.56|) falling in the range of −2 to +2, considered acceptable to indicate univariate normality (see George & Mallery, 2010). Also, data reasonably approximate multivariate normality when using Mardia's multivariate kurtosis test. The Mardia's coefficient was 1497.69, which was just 3.7% more than the recommended value $p(p + 2) = 37(39) = 1443$, where p is the total number of variables. After performing all analyses without or with non-Italian participants (3%), we found no effect on the pattern of results. Thus, we retained these cases in the sample.

Factorial structure of the 37-item ECPSF-ECP

Initially, a parallel analysis was performed to establish the number of factors to be held. Based on both normally distributed random data and permutations of raw data (N = 1,000) with an eigenvalue criterion of the 95th percentile (O'Connor's, 2000), seven factors emerged as exceeding the random ones. Also, the Kaiser criterion (eigenvalues ≥ 1) suggested a seven-factor solution. Thus, we performed an exploratory structural equation modeling (ESEM) extracting three (as suggested by RCP) to seven factors using maximum likelihood (the use of this estimator is suggested also in case of slight deviation from normality, Kline, 2011) with oblimin rotation in *Mplus 7* (Muthén & Muthén, 2014). To evaluate the model fit, multiple fit indices with the related cut-offs were considered (Kline, 2010): CFI ≥ .90 for acceptable and ≥ 0.95 for good fit, RMSEA ≤ .06, and SRMR ≤ .08. Significant improvement of fit between models was established when the following criteria were met: a significant chi-square decrease occurred ($\Delta\chi^2$ with $p < .05$), supplemented by smaller values of at least two of AIC, BIC, and sample-size adjusted BIC indices. The seven-

factor model fitted the data better than the other ones (see Table 1). Table 2 shows the emerging factorial structure and the specific content of each item. Shyness-Withdrawal, Aggression, and Popularity-Sociability factors largely corresponded to the original ECP factors. However, item 34 and item 13 fell under the Aggression domain instead of the original Shyness-Withdrawal and Exclusion-Victimization factors respectively, item 10 mostly fell under the Popularity-Sociability domain instead of the original Prosocial Behavior factor, and item 1 and 4 fell under the Prosocial Behavior domain instead of the original Popularity-Sociability factor. These last two items slightly changed the meaning of the original Prosocial Behavior factor; thus, we re-named this factor as Prosociality-Leadership. The original Exclusion-Victimization factor was replaced by two distinct factors, Exclusion and Victimization. Finally, a new factor emerged that we named Boastfulness, given that the related items expressed a mild form of aggression corresponding to boastful attitudes and behaviors.

We subjected this seven-factor model to CFA using standard estimation method in *Mplus 7* (Muthén & Muthén, 2014). We permitted each item's factor loading on the hypothesized factor to be freely estimated while fixing to zero the cross-loadings. The variance of each factor was set at 1.0 to guarantee the measurement scale and factor covariances were allowed. The model fit was not adequate, CFI = .836, RMSEA = .066, SRMR = .090. Modification indices suggested eliminating items 13 and 20, due to their high standardized residuals, and items 2, 10, 17, 18, and 33 because of substantial cross-loadings. Fit indices of the resulting 30-item model were acceptable, CFI = .901, RMSEA = .058, SRMR = .073. The standardized solution is shown in Table 2. This seven-factor model was compared to the hypothetical five-factor model proposed by Wojslawowicz Bowker et al. (2006), considering a unique factor for Exclusion and Victimization and excluding

Boastfulness factor. The model had poor fit indices, CFI = .867, RMSEA = .069, SRMR = .082, suggesting retaining the seven-factor model.

Selection of items and ECP short form

Based on the seven-factor model found, we selected a restricted group of items for each factor following these criteria: (a) we retained items presenting factor loadings ≥ .60 (Garson, 2010) both in the initial ESEM and CFA; (b) we retained at least three items for each factor, except for the Boastfulness dimension, by choosing, when it was the case, the items more approximating the preceding criterium, but with factor loadings ≥.50. We obtained a 22-item short form of ECP (SF-ECP).

We carried out the same analyses previously reported for the long version of ECP. The parallel analysis suggested a seven-factor structure, even though the Kaiser criterion evidenced a five-factor structure. However, parallel analysis has consistently been shown to be more accurate than Kaiser criterion (e.g., Zwick & Velicer, 1986). Also, the ESEM revealed the seven-factor solution as the best fitting model (see Table 3). The fit indices resulting from the CFA were adequate, CFI = .944, RMSEA = .053, SRMR = .057, while the hypothetical five-factor model produced not acceptable fit indices, CFI = .884, RMSEA = .079, SRMR = .079. Table 4 presents ESEM factor loadings (ranging from .44 to 85) and CFA standardized factor loadings (from .58 to .85). Also, SF-ECP showed adequate score levels of internal consistency; moreover, correlations among the seven factors of the long and short versions of the ECP are largely corresponding.

Study 2

We investigated the SF-ECP psychometric characteristics in a different, non-dependent sample. We examined its factorial structure, internal consistency, and gender and context measurement invariance. We also evaluated the construct validity of the SF-ECP. To do so, we examined whether scores on its factors were associated with teacher ratings of

classroom behavior. Specifically, we expected that (a) Aggression positively correlated with teacher ratings of acting out and learning problems, and negatively with frustration tolerance and task orientation; (b) Popularity-Sociability and Prosociality-Leadership were positively associated with frustration tolerance, assertive social skills, and task orientation as rated by teachers; (c) Shyness-Withdrawal were positively linked to teacher ratings of shyness/anxiety and in the opposite way to assertive social skills (Rubin, Chen, & Hymel, 1993); lastly, (d) Victimization and Exclusion were positively related to teacher ratings of learning problems and negatively to frustration tolerance, assertive social skills, and task orientation, as suggested by previous literature (Hanish & Guerra, 2002; Ladd & Burgess, 2001). No specific hypotheses were formulated concerning Boastfulness dimension, given that, to our knowledge, no studies in literature have evaluated specifically its characteristics.

Method

Participants

The second sample consisted of 652 seventh-grade students (58% male) from forty-one classrooms (the average classroom participation rate was 95%) of sixteen public middle schools randomly selected in several urban areas of the cities of Palermo (n = 435) and Florence (n = 217). The sample was homogeneous in terms of racial and ethnic composition. Ninety-six percent of participants were European Caucasian and, among them, 98% Italian. The mean age was 12.26 years (SD = .66; 97% were 11-13-year old; 3% were grade repeating 14-15-year olds). Students' parents were socioeconomically diverse (27% skilled and technical workers, 33% tradespeople and service workers, 27% workmen and craftsmen, 10% unskilled workers, 3% other types of workers) and 61% of them had completed their secondary schooling. These characteristics were equivalent to the first sample.

We followed the same procedure as in Study 1. Approximately 2 percent (n = 15) of students was not allowed for participation by their parents. The SF-ECP was administered collectively during class sessions.

Measures

SF-ECP. Students completed the 22-item SF-ECP following the procedures described in Study 1.

Teacher-Child Rating Scale (T-CRS; Hightower et al., 1986). Participants' principal teachers completed the T-CRS. It is a widely adopted teacher-rating scale, comprising 36 items (e.g., Accepts things not going his/her way") and six different dimensions, three indicating children's problem behaviors (acting out, shyness-anxiety, and learning problems) and three indicating competence (frustration tolerance or the ability to tolerate teasing without reacting impulsively, assertive social skills, and task orientation evaluating the ability to accomplish assignments). The teachers rated each student 1 (*strongly disagree*) to 5 (*strongly agree*). A total score for each dimension was obtained by summing the related item ratings, with higher scores representing greater levels of the constructs. Reliability and validity for the T-CRS have been provided in different studies (Chen, Dong, & Zhou, 1997; see Santinello & Vieno, 2003, for the Italian adaptation). In the present study, the T-CRS internal consistency for each subscale ranged .73 to .88.

Results

Data Transformation and Preliminary Analyses

We followed the procedures described in Study 1 to transform the initial count data. The resulting distributions showed univariate normality with values of skewness < |1.47| and kurtosis < |1.34|. Also, the data reasonably approximated multivariate normality with a Mardia's coefficient of 546.63, which was just 3.5% more than the recommended value of 528. Similar results were found when splitting the sample for gender and context (Palermo

vs. Florence). After performing all analyses without or with non-Italian participants (6%), we found no effect on the pattern of results. Thus, we retained these cases in the sample.

CFA of the SF-ECP

SF-ECP seven-factor structure was tested by CFA following the specifications described in Study 1 but using, as already mentioned, a new sample. The model had a good adaptation to the data, CFI = .940, RMSEA = .054, SRMR = .062. Table 5 shows the standardized solution. Factor loadings were all significant (≥ .56) and internal consistency scores were adequate. The factors largely intercorrelated in the same way as for Study 1, except for only two relations between (a) Exclusion and Aggression and (b) Boastfulness and Victimization.

SF-ECP gender and context measurement invariance

We examined SF-ECP measurement invariance across gender and context (data collected in Palermo vs. Florence) by carrying out different multi-sample CFAs, sequentially introducing appropriate constraints to test different levels of invariance across groups: equal factor structure constraints for configural invariance, equal factor loading constraints for metric invariance, equal item intercept constraints for scalar invariance, equal item error variance constraints for residual variance, and equal factor variances/covariances for structural invariance (see Van de Schoot, Lugtig, & Hox, 2012). By acknowledging the sensitivity of the chi-square with large sample sizes, we mostly relied on Chen's (2007, p. 501) recommendations for sample sizes of > 300 to ascertain significant differences between nested models. Thus, two models were considered to provide equivalent fits when the following criteria were satisfied: $\Delta CFI \geq -.010$, $\Delta RMSEA \leq .015$, and $\Delta SRMR \leq .010$. Table 6 presents the results, showing full measurement and structural invariance across gender and scalar invariance across context.

Intercorrelations between the SF-ECP and T-CRS variables

We computed a score for each dimension of both SF-ECP and T-CRS. Then, we performed both Spearman (invariant under monotonic transformations like the log-transformation used on peer nomination data) and Pearson (affected by monotonic transformation) correlation coefficients among the obtained variables. The results were extremely similar and supported our expectations (see Table 7):

(a) Aggression correlated positively with Acting out and Learning problems, and negatively with Frustration Tolerance and Task Orientation;

(b) Popularity-Sociability and Prosociality-Leadership positively correlated with competence behaviors;

(c) Shyness-Withdrawal correlated positively with Shyness-Anxiety and negatively with Assertive Social Skills;

(d) Victimization and Exclusion correlated positively with Learning Problems and negatively with competence behaviors.

Moreover, Boastfulness correlated positively with Acting out and Assertive Social Skills, and negatively with Shyness-Anxiety and Frustration Tolerance.

General Discussion

The general aim of this investigation was to examine the factorial characteristics of the ECP among children living in a non-North American context, as well as to develop a short form of ECP. Italy provided an interesting opportunity to conduct this study. As specified in the Introduction, such a context might reveal both similarities and dissimilarities compared to North American settings in terms of peer reputation processes and factor structure of peer reputation measures, such as the ECP.

The results evidenced a seven-factor model of ECP compared to the five-factor structure that emerged from North American research (Wojslawowicz Bowker et al., 2006). First, results indicated the meaningfulness to distinguish between Exclusion and

Victimization in Italian seventh-grade students. This is in line with the study of Correia et al. (2014) among adolescents in Portugal. As a Mediterranean country with a mixed individualistic and collectivistic culture (Bobbio & Sarrica, 2009; Oishi et al., 1999), Italian society encourages close relational bonds and their emotional expressiveness (Rubin, Hemphill, et al., 2006). In this context, exclusion may be specifically contemplated as lack of close relationships associated with being 'indirectly' ignored or rejected by other members of the peer group, while victimization appears to be a 'direct' form of peer exclusion, linked with aggressive behaviors (Buhs, Ladd & Herald-Brown, 2010; Gazelle & Rudolph, 2004). Therefore, although peer exclusion and victimization probably overlap and it can be expected that they represent a unique factor in the North American context, this seems less likely in Italy suggesting considering two separate factors of Exclusion and Victimization when assessing peer reputation. Moreover, recent research revealed, and our findings supported, that exclusion is mainly linked to retirement, whereas victimization is more associated with both shyness-withdrawal and aggression (e.g., Gazelle & Ladd, 2003). In fact, literature suggests the necessity to distinguish between passive and provocative victims: the former are frequently withdrawn, anxious and insecure children, who do not fight back when attacked (Brock, Nickerson, O'Malley & Chang, 2006); the latter are children who often evoke aggressive quarrels in the peer group as well as may be likewise mistreated (e.g., Nelson, Robinson, Hart, Albano, & Marshall, 2010).

Second, the original Prosocial Behavior factor of the ECP needed to be reconstituted as a Prosociality-Leadership factor. Because of the familistic values in Italian culture, the profile of a leader may be characterized by prosociality and altruism within the group of reference. Thus, compared to previous studies using the RCP and ECP measures wherein items referring to leadership were found to be associated with items reflecting sociability, in the cultural setting of Italy the leadership items seem to be connected to those that reflect

prosociality. In line with this, Casiglia et al. (1998) stated that, in their Italian sample, peers seemed clearly to identify leadership as linked to high prosociality and characteristics that are associated with friendliness and peer attractiveness.

Third, Boastfulness emerged as an appropriate factor in the structure of the ECP. There is evidence that the Italian society has a propensity of accepting higher levels of relational conflicts (Argyle, Henderson, Bond, Iunzika, & Contarello, 1986), making disputes as normative aspects of peer group relations and a means to promote social assertiveness (e.g., Corsaro & Maynard, 1996). These cultural characteristics seem to be related to the basic value ascribed to sociability in Italy (Rubin, Hemphill, et al., 2006). Nevertheless, they also express a mild form of aggression corresponding to boastful attitudes and behaviors. Unlike the Aggression dimension that comprises disruptive or violent conducts devoted at hurting or harming others, the Boastfulness factor may reflect the tendency to show off, to display exaggerated pride, and to be extremely vain in order to enhance one's popularity.

In addition to the revised factorial structure of the ECP, we managed to shorten its initial number of items, while reasonably preserving its psychometric characteristics. The SF-ECP has 22 items. This makes the SF-ECP easier for school administrators to accept given time constraints that students are typically faced with. Furthermore, the SF-ECP can be deemed to be a useful instrument in evaluating the complexity of peer reputation across gender and different contexts of administration. Finally, the correlations between the dimensions of the SF-ECP and the teachers' views of their students' behaviors resulted in the predicted directions, consistently supporting the validity of the 22-item SF-ECP as a measure of peer reputation.

Notwithstanding the original contribution of this research, limitations have to be acknowledged. First, our choice to allow only two nominations of opposite genders for each ECP item as well as to use only same-gender nomination for analyses in order to be in line

with most of the RCP- and ECP-based papers may be of concern. Thus, future research should redo similar studies using both a larger number of limited and unlimited nominations. Second, due to small sample size at class and school levels (< 50, see Maas & Hox, 2005) as well as generally small interclass correlations in both studies, we did not consider multilevel modeling or controlling for clustering in classes and schools. However, further research on this aspect is specifically necessary. Third, although the present study provides some intriguing suggestions concerning the assessment of the social reputations among Italian young adolescents, we were not able to make comparisons with a similar sample from North America, where ECP was extensively used. We, therefore, encourage to conduct comparative investigations to further examine similarities and dissimilarities between the two contexts. Fourth, the correlational design did not permit us to examine the developmental trajectories of the ECP- and SF-ECP-related constructs. Future longitudinal studies would be merited in the aim of evaluating the stability over time of the measure.

Despite these limitations, the obtained findings start to shed light on the intricate aspects of peer reputation in Italy and the European context as well as indicate that the SF-ECP has considerable promise to be considered a useful measure to assess the related multidimensional processes. It is an easier instrument to be administered than the original 37-item ECP and it might attract a wider range of scientists, teachers, and educators who could take advantage from employing such a measure, which shows a balance between shortness and cultural and psychometric demandingness. In conclusion, we deem that future investigations on the peer assessment of children's social reputation are necessary and the SF-ECP can be particularly helpful in this research.

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Footnote

[1] The data are part of a larger study investigating the nature of social behavior, peer reputation, and friendship among Italian early adolescents. In designing the research project, one initial idea was to understand if previous literature findings regarding sex differences, especially in the sex distribution for particular roles, were supported in the Italian context. Preliminary analyses suggested such gender stereotypes in both our samples. This is why we finally used same-gender nominations.

[2] We were aware that the count option available in some statistical programs like *Mplus 7* (Muthén & Muthén, 2014) could be the optimal standard for handling count data, but it has the major drawback that fit statistics are not available when using it. Therefore, in order to ensure the comparability with previous studies, we used the relatively popular approach of log-transforming the raw peer nomination data.

Table 1

ESEM Goodness-of-Fit Indices for the 37-item ECP in the Study 1 Sample (N = 643).

Model	χ^2 (*df*)	CFI	RMSEA [90% CI]	SRMR	$\Delta\chi^2$ (Δdf)	AIC	BIC	SSA-BIC
1. Three-factor	2236.24*** (558)	.838	.068 [.065 – .071]	.046	-	56868.51	57681.34	57103.50
2. Four-factor	1699.56*** (524)	.887	.059 [.056 – .062]	.037	536.68*** (34)	56399.83	57364.52	56678.73
3. Five-factor	1287.01*** (491)	.923	.050 [.047 – .054]	.031	412.55*** (33)	56053.28	57165.35	56374.79
4. Six-factor	992.85*** (459)	.949	.042 [.039 – .046]	.024	294.16*** (32)	55823.12	57078.10	56185.94
5. Seven-factor	797.73*** (428)	.964	.037 [.033 – .041]	.021	195.12*** (31)	55690.01	57083.45	56092.86

Note. ESEM = exploratory structural equation modeling; ECP = Extended Class Play; CFI = comparative fit index; RMSEA = root mean square error approximation; CI = confidence interval; SRMR = standardized root mean square residual; AIC = Akaike information criterion; BIC = Bayesian Information Criterion; SSA-BIC = Sample Size Adjusted Bayesian Information Criterion. ***$p < .001$.

Table 2

ESEM Oblimin Rotated Loadings and CFA Standardized Factor Loadings (in parentheses) of the Seven-Factor Structure of the 37-item ECP in the Study 1 Sample (N = 643).

Factor and related items	I	II	III	IV	V	VI	VII
I. Shyness-Withdrawal							
3. Someone who is very shy	.75 (.85***)						
8. A person who doesn't talk much or who talks quietly	.73 (.76***)						
16. A person who hardly ever starts up a conversation	.51 (.58***)						
II. Prosociality-Leadership							
25. Someone who helps other people when they need it		.67 (.70***)					
37. A person who is polite		.66 (.70***)					
4. A person with good ideas for things to do		.63 (.61***)					
1. A person who is a good leader		.60 (.65***)					
15. Someone who plays fair		.59 (.67***)					
12. Someone who will wait his or her turn		.58 (.60***)					
17 A person who everyone listens to		.41		.38			
III. Aggression							
7. A person who loses his/her temper easily			.80 (.70***)				
23. A person who is too bossy			.74 (.79***)				
11. A person who gets into fights a lot			.73 (.82***)				
34. Someone who gets nervous about participating in group discussions			.71 (.59***)				
36. Somebody who picks on other kids			.70 (.84***)				
29. Somebody who teases other children too much			.46 (.69***)				.33
2. A person who interrupts when other children are speaking			.34				
13. Someone whose feelings get easily hurt			.34				
IV. Popularity-Sociability							
22. Somebody who makes new friends easily				.74 (.78***)			
6. Somebody who has many friends				.74 (.72***)			
27. A person everyone likes to be with				.67 (.73***)			
35. Someone you like to be with the most				.51 (.50***)			
32. Someone who likes to play with others more than being alone				.43 (.45***)			
10. Someone you can trust		.32		.43			

Factor and related items	I	II	III	IV	V	VI	VII
V. Victimization							
5. Someone who has mean things said to them					.79 (.80***)		
31. Someone who is hit or kicked by other kids					.69 (.67***)		
21. Someone who gets picked on by other kids					.69 (.78***)		
19. Someone who can't get others to listen					.41 (.58***)		
33. Someone who you would rather not be with							
VI. Exclusion							
30. A person who stays by himself/herself more often than being with other people						.67 (.81***)	
24. Someone who is often left out					.34	.51 (.81***)	
14. Someone who has trouble making friends						.50 (.81***)	
26. Someone who is usually sad						.40 (.58***)	
20. A person who likes spending time alone (doing computer work, reading, or drawing*) more than being with other people**						.33	
VII. Boastfulness							
28. Someone who thinks that he or she is great							.63 (.70***)
9. Someone who shows off a lot							.50 (.78***)
18. Someone who spreads rumors about other kids so that people won't like them anymore			.34				.40
Cronbach's α from ESEM (and CFA)	.76 (.76)	.82 (.82)	.86 (.88)	.78 (.77)	.81 (.80)	.80 (.83)	.70 (.71)
Eigenvalue from ESEM	7.67	6.20	3.14	1.61	1.32	1.26	1.04
Explained variance from ESEM	20.7%	16.8%	8.5%	4.3%	3.6%	3.4%	2.8%
Correlations from CFA							
I. Shyness-Withdrawal	-						
II. Prosociality-Leadership	.02	-					
III. Aggression	-.29***	-.37***	-				
IV. Popularity-Sociability	-.40***	.39***	.11*	-			
V. Victimization	.26***	-.41***	.39***	-.34***	-		
VI. Exclusion	.61***	-.29***	.05	-.47***	.74***	-	
VII. Boastfulness	-.41***	-.07	.61***	.43***	.15**	-.17**	-

Note. Loadings < .30 were omitted. Items in bold were excluded in the CFA. ESEM = exploratory structural equation modeling; CFA = confirmatory factor analysis; ECP = Extended Class Play. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 3

ESEM Goodness-of-Fit Indices for the 22-item ECP in the Study 1 Sample (N = 643).

Model	χ^2 (*df*)	CFI	RMSEA [90% CI]	SRMR	$\Delta\chi^2$ (Δdf)	AIC	BIC	SSA-BIC
1. Three-factor	1114.93*** (168)	.845	.094 [.088 – .099]	.051	-	33837.88	34315.76	33976.04
2. Four-factor	726.55*** (149)	.905	.078 [.072 – .083]	.039	388.38*** (19)	33487.51	34050.24	33650.20
3. Five-factor	408.19*** (131)	.954	.057 [.051 – .064]	.025	318.36*** (18)	33205.14	33848.26	33391.07
4. Six-factor	263.72*** (114)	.975	.045 [.038 – .052]	.018	144.47*** (17)	33094.67	33813.72	33302.56
5. Seven-factor	104.92 (98)	.999	.010 [.000 – .024]	.010	158.80*** (16)	32967.87	33758.38	33196.41

Note. ESEM = exploratory structural equation modeling; ECP = Extended Class Play; CFI = comparative fit index; RMSEA = root mean square error approximation; CI = confidence interval; SRMR = standardized root mean square residual; AIC = Akaike information criterion; BIC = Bayesian Information Criterion; SSA-BIC = Sample Size Adjusted Bayesian Information Criterion. ***$p < .001$.

Table 4

ESEM Oblimin Rotated Loadings and CFA Standardized Factor Loadings (in parentheses) of the Seven-Factor Structure of the 22-item ECP in the Study 1 Sample (N = 643).

Factor and related items	I	II	III	IV	V	VI	VII
I. Shyness-Withdrawal							
3.	.85 (.85***)						
8.	.72 (.76***)						
16.	.44 (.58***)						
II. Prosociality-Leadership							
25.		.69 (.67***)					
1.		.63 (.73***)					
37.		.63 (.60***)					
4.		.60 (.66***)					
III. Aggression							
11.			.80 (.82***)				
23.			.78 (.79***)				
36.			.78 (.84***)				
7.			.73 (.69***)				
IV. Popularity-Sociability							
6.				.78 (.73***)			
22.				.69 (.76***)			
27.				.66 (.75***)			
V. Victimization							
5.					.76 (.80***)		
21.					.66 (.81***)		
31.					.65 (.67***)		
VI. Exclusion							
30.						.82 (.80***)	
24.						.68 (.81***)	
14.						.64 (.81***)	
VII. Boastfulness							

Factor and related items	I	II	III	IV	V	VI	VII
28.							.83 (.70***)
9.							.51 (.77***)
Cronbach's α	.76	.76	.87	.79	.80	.85	.71
Eigenvalue from ESEM	5.31	4.28	2.11	1.24	1.20	0.91	0.76
Explained variance from ESEM	24.2%	19.5%	9.6%	5.6%	5.4%	4.1%	3.5%
	Correlations from CFA						
I. Shyness-Withdrawal	-						
II. Prosociality-Leadership	-.12*	-					
III. Aggression	-.28***	-.26***	-				
IV. Popularity-Sociability	-.41***	.49***	.11*	-			
V. Victimization	.20***	-.39***	.42***	-.29***	-		
VI. Exclusion	.60***	-.36***	.06	-.45***	.70***	-	
VII. Boastfulness	-.41***	.09	.59***	.46***	.17**	-.16**	-

Note. Loadings < .30 were omitted. ESEM = exploratory structural equation modeling; CFA = confirmatory factor analysis; ECP = Extended Class Play. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 5

CFA Standardized Factor Loadings of the Seven-Factor Structure of the 22-item ECP in the Study 2 Sample (n = 652)

Factor and related items	I	II	III	IV	V	VI	VII
I. Shyness-Withdrawal							
3.	.78***						
8.	.82***						
16.	.57***						
II. Prosociality-Leadership							
25.		.73***					
1.		.69***					
37.		.70***					
4.		.58***					
III. Aggression							
11.			.80***				
23.			.82***				
36.			.60***				
7.			.68***				
IV. Popularity-Sociability							
6.				.73***			
22.				.78***			
27.				.77***			
V. Victimization							
5.					.76***		
21.					.60***		
31.					.78***		
VI. Exclusion							
30.						.82***	
24.						.82***	
14.						.81***	
VII. Boastfulness							
28.							.72***
9.							.77***

Factor and related items	I	II	III	IV	V	VI	VII
Cronbach's α	.76	.77	.82	.80	.75	.86	.72
Correlations from CFA							
I. Shyness-Withdrawal	-						
II. Prosociality-Leadership	-.10*	-					
III. Aggression	-.39***	-.18***	-				
IV. Popularity-Sociability	-.42***	.36***	.24***	-			
V. Victimization	.25***	-.29***	.19***	-.32***	-		
VI. Exclusion	.68***	-.27***	-18***	-.51***	.65***	-	
VII. Boastfulness	-.42***	.10	.74***	.55***	.04	-.31**	-

Note. Loadings < .30 were omitted. CFA = confirmatory factor analysis; ECP = Extended Class Play. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 6

Multi-group CFA Goodness-of-Fit Indices for the 22-item ECP in the Study 2 Sample (n = 652).

Model	χ^2 (df)	CFI	RMSEA	SRMR	$\Delta\chi^2$ (Δdf)	ΔCFI	ΔRMSEA	ΔSRMR
				Across gender				
0. Equal factor structure	797.26*** (376)	.930	.059	.067	-			
1. Equal factor loadings	816.92*** (391)	.929	.058	.068	19.66 (15)	-.001	-.001	.001
2. Equal item intercepts	816.92*** (406)	.931	.056	.068	0.00 (15)	.002	-.002	.000
3. Equal item error variances	882.49*** (428)	.924	.057	.069	65.57*** (22)	-.007	.001	.001
4. Equal factor variances/covariances	899.73*** (449)	.925	.055	.071	17.24 (21)	.001	-.002	.002
				Across context				
0. Equal factor structure	767.44*** (376)	.935	.057	.068	-			
1. Equal factor loadings	792.67*** (391)	.933	.056	.069	25.23* (15)	-.002	-.001	.001
2. Equal item intercepts	792.67*** (406)	.936	.054	.069	0.00 (15)	.003	-.002	.000
3. Equal item error variances	887.56*** (428)	.924	.057	.070	94.89*** (22)	-.012	.003	.001
4. Equal factor variances/covariances	911.69*** (449)	.923	.056	.078	24.13 (21)	-.001	-.001	.008

Note. All the chi-square values are significant at $p < .001$. Chi-square values for models 1 and 2 are equal because of the use of standardized scores: This is why the intercepts of standardized scores are equal to zero and, consequently, these intercepts will be also equal across groups, even if they are free to be estimated as in the metric invariance model. CFA = confirmatory factor analysis; ECP = Extended Class Play. $^{*}p < .05$, $^{***}p < .001$.

Table 7

Spearman and Pearson Correlation Coefficients Between the 22-item ECP and T-CRS Variables for the Study 2 Sample (n = 652)

	T-CRS dimension					
SF-ECP dimension	Acting out	Shyness-Anxiety	Learning problems	Frustration Tolerance	Assertive Social Skills	Task Orientation
			Spearman Correlation Coefficients			
Shyness-Withdrawal	.00	.39***	.22***	-.09*	-.37***	-.25***
Prosociality-Leadership	-.38***	-.29***	-.48***	.41***	.51***	.48***
Aggression	.36***	-.21***	.16***	-.30***	.21***	-.14***
Popularity-Sociability	-.13***	-.55***	-.29***	.22***	.44***	.35***
Victimization	.32***	.14***	.34***	-.30***	-.17***	-.35***
Exclusion	.18***	.46***	.38***	-.24***	-.41***	-.41***
Boastfulness	.20***	-.31***	-.01	-.08*	.31***	.03
			Pearson Correlation Coefficients			
Shyness-Withdrawal	-.03	.42***	.30***	-.06	-.46***	-.25***
Prosociality-Leadership	-.28***	-.20***	-.44***	.36***	.47***	.51***
Aggression	.51***	-.11**	.19***	-.39***	.16***	-.24***
Popularity-Sociability	-.02	-.32***	-.22***	.18***	.39***	.26***
Victimization	.23***	.16***	.34***	-.20***	-.23***	-.30***
Exclusion	.09*	.46***	.46***	-.16***	-.52***	-.39***
Boastfulness	.30***	-.21***	.01	-.16***	.27***	-.03

Note. ECP = Extended Class Play; T-CRS = Teacher-Child Rating Scale. * $p < .05$; ** $p < .01$; *** $p < .001$.