



Trait emotional intelligence and behavioral problems among adolescents: A cross-informant design



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ABSTRACT

This study examined how self and parental ratings of trait emotional intelligence (trait EI), relate to self and parental ratings of internalizing and externalizing problems. A total of 263 adolescents between 13 and 17 years and their parents participated in the study, completing two forms of the Trait Emotional Intelligence Questionnaire (TEIQue-AF and TEIQue-360°) and the Child Behavior Checklist (CBCL-YSR and CBCL-parents' report). Results revealed a strong correspondence between father and mother ratings, especially for externalizing problems. A doubly MANOVA, with gender as the between-subjects variable, rating source (father, mother, and adolescent) as the within-subjects variable, and the four trait EI factors as dependent variables revealed a significant effect of ratings. Both fathers and mothers attributed higher Well-being and Self-control to their children than the children attributed to themselves. The findings showed that while multisource ratings of trait EI generally converge, they are differentially predictive of external criteria.

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1. Introduction

Trait emotional intelligence (trait EI) refers to a constellation of emotional self-perceptions located at the lower levels of personality hierarchies (Petrides, Pita, & Kokkinaki, 2007). The construct concerns people's perceptions of their emotional abilities, which is why it has also been labelled as "trait emotional self-efficacy". Trait EI has been negatively associated with depression, anxiety, anger and disruptive behavior (Martins, Ramalho, & Morin, 2010), and positively with adaptive coping styles, peer relations, and socio-emotional competence (Frederickson, Petrides, & Simmonds, 2012). Multiple studies have demonstrated that the

construct is implicated in many important life domains, including health (Costa, Petrides, & Tillman, 2014), parenting (Gugliandolo, Costa, Cuzzocrea, & Larcana, 2014), mental well-being (Andrei & Petrides, 2013), university performance (Sanchez-Ruiz, Mavroveli, & Poullis, 2013), leadership and career decision-making (Di Fabio & Saklofske, 2014; Siegling, Nieslen, & Petrides, 2014).

1.1. Use of cross-informant ratings in adolescent personality and behavior

Even though personality characteristics are frequently measured by self-report Likert-type rating scales (Vazire & Mehl, 2008), single-informant data are inherently biased by the possibility of response distortion (Connelly & Hulsheger, 2012). For this reason, a robust method to verify the validity of the personality trait model is via an examination of self-other convergence patterns. This method has been widely used as evidence of the validity of the five-factor model, showing consistent correlations between self- and other-reported personality traits (Connelly & Hulsheger, 2012).

Gathering information from a variety of sources in the assessment of behavior (triangulation) increases the reliability and validity of assessments, especially in children and adolescent samples (Achenbach, McConaughy, & Howell, 1987). Vazire and Mehl (2008) have shown that self- and other-judgments have differential relationships and predictive validity in relation to daily behavior.

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Other meta-analyses that have examined emotional and behavioral problems have shown that the convergence between self-reports provided by children and adolescents and the reports provided by their parents is relatively weak (Achenbach et al., 1987; Renk & Phares, 2004).

Duhig, Renk, Epstein, and Phares (2000), in a meta-analysis of 60 studies, showed that maternal and paternal ratings exhibit weak correspondence in ratings of internalizing behavior problems, but strong correspondence in ratings of externalizing behavior problems. In general, convergence in cross-informant ratings tends to be more consistent for behaviors that are more easily observable and bothersome (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005).

Another variable that can play a role in rating differences is adolescent (target) gender. Penney and Skilling (2012) found that gender moderated the discrepancy between informant reports of young people's internalizing and externalizing problems, such that only female youths reported more somatic symptoms compared to their caregivers. The investigation of gender differences is hindered by the fact that many studies have examined boys and girls together. One exception is the study by Wang et al. (2014), who studied parental (father–mother) correspondence indices separately for boys and girls and reported larger discrepancies for the former probably because they tend to be less communicative of their feelings and problems at home.

1.2. Cross-informant ratings in the field of trait EI

Despite the extensive use of self- and other-ratings in personality and adolescent behavior, only few studies have included other-ratings in the EI field. Petrides, Furnham, and Martin (2004) presented direct estimates of own and parental EI scores, noting significant gender differences, while Petrides, Niven, and Mouskounti (2006) showed that teacher ratings of ballet students' trait EI converged with students' trait EI scores ($r = .58$). In a behavioral genetic study, Vernon, Petrides, Bratko, and Schermer (2008) reported that the median father–offspring and mother–offspring correlations at the facet level of trait EI were .09 and .16, respectively, and that the correlations at the factor ($r = .15$ and $r = .20$) and global trait EI ($r = .14$ and $r = .22$) levels were somewhat stronger. However, measures of parent–offspring resemblance were calculated jointly for sons and daughters in that research. These studies, therefore, do not provide a complete view of the role of cross-informant ratings in trait EI, since they were conducted either with short forms which do not offer comprehensive coverage of the sampling domain of the construct, or without reference to the gender of the targets.

The use of cross-informant ratings has become an important aspect of research and clinical practice for those working with children and adolescents (Renk & Phares, 2004). Such ratings allow for a comparison of a target individual's functioning across situations, potentially resulting in a less biased approach in the evaluation process (e.g., Renk & Phares, 2004). Given the relevance that trait EI has for problematic behaviors and the importance of cross-informant ratings especially in children and adolescent measurements, it seems vital to examine the relationship between self and parental trait EI ratings in an adolescent sample. This study will also examine how these ratings relate to self and parental ratings of internalizing and externalizing problems in adolescence.

2. Method

2.1. Participants

A total of 263 families took part in the study. Data were collected from both biological parents, but only one adolescent per

family (133 males and 130 females). Age of offspring varied between 13 and 17 years (Male: $M = 14.99$, $SD = 1.43$; Female: $M = 15.02$, $SD = 1.41$). Age of fathers ranged from 35 to 65 years ($M = 48.63$, $SD = 5.08$), and age of mothers ranged from 32 to 57 years ($M = 45.00$, $SD = 4.98$). All participants in this study, lived in Italy, were of Italian nationality and Italian-speaking. All parents were married and families varied in numbers of children: 61% of the families had two children, 20% had three children, 10% had only one child, 9% had more than three children.

2.2. Measures

2.2.1. Trait Emotional Intelligence

The Italian version of the Trait Emotional Intelligence Questionnaire-Adolescent Form (TEIQue-AF; Petrides, 2009) and the Italian version of Trait Emotional Intelligence Questionnaire-360° (TEIQue-360°; Petrides, 2009) were used to measure respectively adolescent trait EI and parental ratings of adolescent trait EI. Both these versions are modeled on the full form of the TEIQue and are intended to yield scores on the same fifteen facets and four factors (Well-being, Self-control, Emotionality, and Sociability). The TEIQue comprises 153 items (e.g. 'I often find it hard to understand other people'), rated on a 7-point Likert scale from 1 (*completely disagree*) to 7 (*completely agree*). The reliability and validity of the Trait Emotional Intelligence Questionnaires are extensively documented (Petrides, 2009). The internal consistencies for the four factors and global trait EI in the present study are reported in Table 1.

2.2.2. Internalizing and externalizing problems

The Italian versions of the Child Behavior Checklist-Youth Self-Report (CBCL-YSR; Achenbach & Rescorla, 2001) and the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001) were used to measure, respectively, adolescent self-evaluations and parental ratings of adolescent internalizing and externalizing problems. The CBCL-YSR is a 102-item questionnaire, focusing on internalizing and externalizing problems during the previous 6 months (e.g., disobedience at home). The Italian version has consistently shown strong psychometric properties (Achenbach & Rescorla, 2001). A trichotomous response format is used (0 not true; 1 somewhat or sometimes true; 2 very true or often true). The internal consistencies for the scores in this study are reported in Table 1.

2.3. Procedure

Participants took part in the research voluntarily. Our convenience sample was recruited by soliciting volunteers through friends and by making appeals to community groups, such as churches, clubs, associations and local organisations in Messina (Italy). Families were selected if they had children between 13 and 17 years. If there were more than one adolescent in the family, the youngest was selected. Parents signed the informed consent forms on behalf of their children. Parents and adolescents completed questionnaires separately in different rooms under the supervision of an experimenter. Ethical approval for the study was granted by the relevant university ethics committee.

3. Results

3.1. Mean differences in cross-informant ratings of adolescent trait EI

Table 1 summarizes the means and standard deviations for the key variables in the study, in the total sample as well as in the male and female subsamples separately.

To examine the effects of gender and rating source on trait EI, a doubly MANOVA with gender as the between-subjects variable

Table 1
Descriptive statistics for the key variables.

	α	Male adolescents		Female adolescents		Total	
		M	SD	M	SD	M	SD
Father							
Well-being	.85	5.49	.79	5.48	.79	5.48	.79
Self-control	.77	4.46	.76	4.53	.76	4.49	.76
Emotionality	.84	4.76	.74	4.78	.72	4.77	.73
Sociability	.70	4.60	.62	4.69	.65	4.64	.63
Global trait EI	.92	4.78	.60	4.83	.59	4.80	.59
Internalizing problems	.78	.29	.21	.30	.23	.29	.22
Externalizing problems	.84	.24	.17	.24	.18	.24	.18
Mother							
Well-being	.85	5.60	.77	5.53	.82	5.57	.80
Self-control	.73	4.52	.70	4.43	.75	4.48	.73
Emotionality	.79	4.85	.74	4.93	.68	4.89	.71
Sociability	.73	4.60	.69	4.77	.68	4.68	.69
Global trait EI	.90	4.84	.57	4.87	.57	4.85	.57
Internalizing problems	.78	.32	.23	.31	.20	.32	.21
Externalizing problems	.83	.26	.19	.23	.16	.24	.18
Self							
Well-being	.80	5.29	.74	5.24	.86	5.27	.80
Self-control	.71	4.36	.67	4.18	.73	4.27	.70
Emotionality	.73	4.76	.66	4.90	.72	4.83	.69
Sociability	.68	4.69	.64	4.59	.66	4.64	.65
Global trait EI	.88	4.73	.52	4.70	.55	4.71	.53
Internalizing problems	.78	.56	.28	.59	.27	.58	.27
Externalizing problems	.80	.45	.22	.43	.20	.44	.21

Father: Father-rating; Mother: Mother-rating; Self: Self-rating.

and the three rating sources (father-, mother-, and self-rating) as the repeated-measures variable was performed on the four trait EI factors (Well-being, Self-control, Emotionality, and Sociability) as the dependent variables.

At the multivariate level, a significant main effect of rating source [Wilks' Lambda = .81, $F(8,254) = 7.67$, $p < .01$, $\eta_p^2 = .20$], and a significant gender*rating source interaction [Wilks' Lambda = .89, $F(8,254) = 4.03$, $p < .01$, $\eta_p^2 = .11$] were found. There was no multivariate main effect of gender, [Wilks' Lambda = .97, $F(4,258) = 1.77$, $p > .05$, $\eta_p^2 = .03$]. Follow-up univariate tests revealed a significant main effect of rating source on all dependent variables [Well-being: $F(2,522) = 16.92$, $p < .01$, $\eta_p^2 = .06$; Self-control: $F(2,522) = 13.98$, $p < .01$, $\eta_p^2 = .05$; Emotionality: $F(2,522) = 3.84$, $p < .05$, $\eta_p^2 = .02$], except Sociability ($p > .05$; $\eta_p^2 = .003$). Significant gender*rating source interactions were observed on Self-control [$F(2,522) = 3.58$, $p < .05$, $\eta_p^2 = .01$] and Sociability [$F(2,522) = 5.39$, $p < .01$, $\eta_p^2 = .02$].

Post-hoc tests on rating source, performed with Bonferroni adjustments, revealed that both fathers and mothers attributed higher Well-being and Self-control to their children than the children attributed to themselves ($p < .01$ for all comparisons). In addition, mothers rated adolescent Emotionality higher than fathers did ($p < .01$).

Follow-up analysis of the gender*rating source interaction showed a multivariate simple effect of gender [Wilks' Lambda = .93, $F(4,258) = 5.21$, $p < .01$, $\eta_p^2 = .08$] in adolescent ratings only, with males scoring higher than females in Self-control ($p < .05$).

3.2. Correlations between paternal, maternal and self-ratings of adolescent trait EI

Correlational analyses (Table 2) were conducted to examine the extent of parental agreement on trait EI ratings of male and female adolescents. Global trait EI ratings, as well as ratings on the four trait EI factors agreed at statistically significant levels in both males and females ($p < .01$). This was also the case for father and

adolescent ratings as well as for mother and adolescent ratings of trait EI ($p < .01$ for all comparisons).

Fisher's tests for the statistical comparison of correlations showed that agreement in father–mother pairs was significantly stronger than in cross-informant pairs in which self-reports of male adolescents were involved, both for Well-being [father–mother vs father–adolescent: ($z = 2.51$, $p < .01$); father–mother vs mother–adolescent: ($z = 1.94$, $p < .05$)] and for Self-Control [father–mother vs father–adolescent: ($z = 2.17$, $p < .05$)]. Similar results were obtained in female adolescent ratings for Well-being [father–mother vs father–adolescent: ($z = 4.53$, $p < .001$); father–mother vs mother–adolescent: ($z = 3.90$, $p < .01$)], Self-Control [father–mother vs mother–adolescent: ($z = 1.94$, $p < .05$)], Sociability [father–mother vs mother–adolescent: ($z = 3.33$, $p < .01$)], and global trait EI [father–mother vs father–adolescent: ($z = 2.53$, $p < .01$); father–mother vs mother–adolescent: ($z = 2.85$, $p < .01$)]. Although not significantly different, the rest of the correlations in both male and female samples showed a stronger convergence in

Table 2
Correlations between self, paternal and maternal ratings.

	Father–mother	Father–self	Mother–self
Male adolescents			
Well-being	.49*	.31*	.36*
Self-control	.54*	.39*	.42*
Emotionality	.52*	.46*	.50*
Sociability	.43*	.45*	.41*
Global trait EI	.53*	.45*	.52*
Internalizing problems	.56*	.12	.18*
Externalizing problems	.52*	.42*	.30*
Female adolescents			
Well-being	.64*	.35*	.39*
Self-control	.51*	.38*	.37*
Emotionality	.46*	.40*	.38*
Sociability	.59*	.55*	.37*
Global trait EI	.61*	.46*	.43*
Internalizing problems	.53*	.10	.28*
Externalizing problems	.50*	.34*	.43*

* $p < .01$.

father–mother pairs than in other pairs, except father–mother and father–adolescent in male Sociability ratings ($z = -0.28, p = .77$).

3.3. Mean differences in cross-informant ratings of adolescent problems

A doubly MANOVA with gender as the between-subjects variable and the three rating sources of adolescent problems (father-, mother-, and self-rating) as the repeated-measures variable was performed to examine the effects of adolescent gender and rating source on the two dependent variables of internalizing and externalizing problems. At the multivariate level, there was a significant main effect of rating source [Wilks' Lambda = .44, $F(4, 258) = 83.11, p < .01, \eta_p^2 = .56$]. Neither gender [Wilks' Lambda = .99, $F(2, 260) = .86, p > .05, \eta_p^2 = .007$] nor the gender*rating source interaction [Wilks' Lambda = .99, $F(4, 258) = 1.01, p > .05, \eta_p^2 = .02$] reached significance. Post-hoc tests on rating source showed that for both internalizing and externalizing problems, parental ratings were significantly higher than adolescent self-ratings ($p < .01$ for all pairwise comparisons).

3.4. Correlations between paternal, maternal and self-ratings of adolescent problems

There were significant correlations between father and mother ratings of males and females for internalizing as well as for externalizing problems ($p < .01$; Table 2).

In both male and female adolescents, the correlation between adolescent and father ratings was significant for externalizing, but not for internalizing problems. Adolescent and mother ratings significantly agreed for internalizing and externalizing problems in males as well as in females.

Fisher's tests showed that adolescent and parental ratings were more strongly correlated for externalizing than for internalizing problems in all pairs, except the mother–male adolescent pair [father–male: ($z = -3.77, p < .01$); mother–male: ($z = -1.56, p = .12$); father–female: ($z = -2.88, p < .01$); mother–female: ($z = -2.07, p < .05$)].

Fisher's tests showed that correlations between father and mother ratings were stronger than correlations between parent and adolescent ratings for internalizing [father–mother vs mother–male: ($z = 5.16, p < .01$); father–mother vs mother–female: ($z = 3.47, p < .01$)] as well as for externalizing problems [father–mother vs mother–male: ($z = 2.99, p = .01$); father–mother vs father–female: ($z = 2.23, p < .05$)]. Although not significantly different, the rest of the cross-informant correlation pairs followed the same pattern.

3.5. Relationships between trait EI and adolescent problems: self-ratings

Global trait EI was negatively correlated with internalizing and externalizing problems (Table 3) in male as well as female adolescents. At the factor level, in both males and females, internalizing problems correlated significantly with Well-being, while the correlation with Self-control also approached significance. Externalizing problems correlated significantly with Well-being and Self-control.

3.6. Relationships between trait EI and adolescent problems: father ratings

Significant negative correlations were obtained between father ratings of global trait EI and internalizing and externalizing problems (Table 3) in both male and female adolescents. In males at the factor level, internalizing and externalizing problems correlated

Table 3
Correlations between the four trait EI factors and problematic behaviors.

	Male adolescents		Female adolescents	
	Internalizing	Externalizing	Internalizing	Externalizing
Father				
Well-being	-.22*	.02	-.19*	-.19*
Self-Control	-.26**	-.34**	-.23**	-.31**
Emotionality				
Sociability	-.31**	-.24**	-.24**	-.29**
Global trait EI	-.29**	-.06	-.10	.06
Mother				
Well-being	-.33**	-.22*	-.25**	-.26**
Self-Control	-.24**	-.02	-.24**	-.16
Emotionality	-.28**	-.35**	-.24**	-.45**
Sociability	-.32**	-.20*	-.08	-.17
Global trait EI	-.12	.07	-.03	.11
Self				
Well-being	-.32**	-.23**	-.24**	-.25**
Self-control	-.15	-.27**	-.16	-.42**
Emotionality	-.09	-.12	-.17*	-.24**
Sociability	-.06	-.02	-.02	.12
Global trait EI	-.21*	-.22*	-.20*	-.27**

* $p < .05$.

** $p < .01$.

negatively with three of the four trait EI factors, viz., Well-being, Self-control, and Emotionality, but not with Sociability.

In females, there were negative correlations between internalizing problems and two trait EI factors: Well-being and Self-control. Externalizing problems correlated with Self-control and, marginally, with Well-being and Emotionality.

3.7. Relationships between trait EI and adolescent problems: mother ratings

Significant negative correlations were obtained between mother ratings of global trait EI and internalizing and externalizing problems (Table 3) for both male and female adolescents. At the factor level, in both males and females, internalizing problems correlated negatively with Well-being and Self-control, while externalizing problems correlated negatively with Self-control only.

4. Discussion

This study examined how self and parental ratings of trait emotional intelligence (trait EI), relate to self and parental ratings of internalizing and externalizing problems

4.1. Cross-informant ratings of adolescent trait EI

4.1.1. Father–mother ratings

The analyses showed a strong convergence between father and mother ratings on global trait EI and its factors for both male (ranging from .43 to .54) and female (ranging from .46 to .64) adolescents. These results are in accord with past studies of interparental agreement on typical personality (Laidra, Allik, Harro, Merenakk, & Harro, 2006), and confirm that people who play similar roles relative to the target individual (ratee) demonstrate high levels of agreement (Achenbach et al., 1987). Ratings from informants who sample limited aspects of an adolescent's personality and behavior (e.g., teachers) tend to show lower convergence than ratings from parents, who have deeper and more extensive knowledge of their adolescent children (Achenbach et al., 1987). The dou-

bly MANOVA did not reveal any differences between father and mother ratings, except in Emotionality, where mothers gave higher ratings.

4.1.2. Adolescent–father and adolescent–mother ratings

Substantial differences were observed between parental and adolescent ratings. Fathers and mothers rated their offspring higher than the adolescents rated themselves on global trait EI and its Well-being and Self-control factors.

Although correlational analyses showed significant associations between parental and adolescent ratings for global trait EI and all its factors cross-informant pairs in which self-reports of adolescents are involved showed significantly lower levels of agreement than other cross-informant pairs (e.g., father–mother). These findings are established in the field of adolescent behavior problems and our study now extends them to the field of trait emotional intelligence.

4.1.3. Interaction

An interesting result in the doubly MANOVA involved a significant interaction between gender and rating source on Self-control. Mothers rated male adolescents higher than female adolescents, while the opposite was the case for fathers. With respect to Self-control, some studies have found that females score higher than male peers (Chapple & Johnson, 2007), some that males score higher than females (Mikolajczak, Luminet, Leroy, & Roy, 2007), and some reported no significant gender differences (Costa, Terracciano, & McCrae, 2001). Although our results in adolescent ratings replicate those of Mikolajczak et al. (2007), the literature does not yet provide a solid basis for a fully confident interpretation of the interaction between gender and rating source.

Mothers attributed higher Emotionality to female adolescents than fathers did. Mothers as well as fathers attributed higher Sociability to female than male adolescents, even though male adolescent ratings were higher than female adolescent ratings. The fact that males scored higher than females on all trait EI factors, except Emotionality, is consistent with the divergent socialization of emotion as a function of gender (“Boys don’t cry”; Mikolajczak et al., 2007) and also with views of emotionality as a “female” trait (Petrides et al., 2004).

4.2. Cross-informant ratings of adolescent problems

4.2.1. Father–mother ratings

Another aim of this study was to examine cross-informant ratings of adolescent problems. A strong convergence between father and mother ratings of internalizing and externalizing problems was observed, in both males and females (ranging between $r = .50$ and $r = .56$). These results accord well with past studies of inter-parental agreement on problem behaviors (Duhig et al., 2000; Renk, Donnelly, Klein, Oliveros, & Baksh, 2008).

The tendency for cross-informants to show higher levels of agreement in ratings of externalizing than of internalizing behavior problems was also confirmed in our study (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005; Renk et al., 2008). The lower agreement found for internalizing problems is often attributed to their decreased visibility relative to externalizing problems. Researchers have documented that cross-informant ratings show greater consistency for more bothersome behaviors, like physical aggression, disobeying rules, etc. (e.g., Achenbach et al., 1987; Renk & Phares, 2004).

4.2.2. Adolescent–father and adolescent–mother ratings

Extensive differences were found between parent and adolescent ratings. Fathers, as well as mothers, rated their adolescents lower than the adolescents rated themselves on internalizing and

externalizing problems. Except for the study of Penney and Skilling (2012) based on a clinical sample, in other studies based on normative samples (e.g., Van Roy, Groholt, Heyerdah, & Clench-Aas, 2010) children generally reported more problems than their parents and teachers.

Cross-informant coefficients for internalizing (ranging from .09 to .27) and for externalizing (ranging from .30 to .43) problems in our study were similar to those reported in Achenbach et al. (1987) and slightly lower than those in Youngstrom, Loeber, and Stouthamer-Loeber (2000). These results accord well with literature reporting lower levels of agreement between parental ratings and adolescent self-ratings compared to other cross-informant pairs, like father–mother (Renk & Phares, 2004). Raters who play similar roles relative to the target (e.g. parents) tend to demonstrate high levels of agreement because they observe similar samples of the target’s behaviors (Connelly & Hulsheger, 2012). Adolescents, however, also take into account information from situations and contexts that are not directly observable by parents (e.g., behaviors at school or with friends), which may well be the main factor in the discrepancies between parental and adolescent ratings.

4.3. Relationships between trait EI and adolescent problems

In respect of the relationship between trait EI and behavior problems in adolescent and parent ratings, results showed that global trait EI scores are negatively related to both internalizing and externalizing problems across the three rating sources. At the factor level of trait EI, Self-control predicted externalizing problems, while Well-being predicted internalizing problems across all rating sources. The other two differentially predicted problem behaviors, depending on the rating source (Table 3). These findings extend previous research (e.g. Frederickson et al., 2012) emphasizing the direct impact of certain trait EI variables on behavioral and emotional problems during adolescence. They also suggest that it may be beneficial to use multiple informants in the assessment of adolescent trait EI because different rating sources may predict criteria differentially. It would also be interesting to investigate the predictive validity of combined rating sources (e.g., father and mother; see Vernon et al., 2008).

4.4. Limitations

The findings of this study should be viewed within the context of its limitations. First, the use of factor scores can mask information at the facet level and it would, therefore, be useful to conduct analyses at this level in the future. Second, although multiple informants were included in the design, problematic behaviors were not observed directly. It is uncertain whether the ratings reflect the actual behavior of the adolescents, although there is evidence that they do so relatively accurately (Achenbach & Rescorla, 2001; Ivanova et al., 2007). Furthermore we were able to consider only parents as cross-informants, neglecting significant others, such as teachers, coaches, peers, etc. Last, our sample of Italian participants may not readily generalize to samples from other cultures due to cross-cultural differences, e.g., in parenting styles (Manzi, Vignoles, Regalia, & Scabini, 2006).

5. Conclusion

Very few studies have examined in depth the relationship between self and other ratings in the field of EI. By showing significant convergence between adolescent and parental ratings, this investigation offers valuable evidence for the validity of the construct. Our findings also reveal that criterion prediction (in this

case, problem behavior) can be improved through the use of multi-source ratings, since these are often differentially correlated with outcome variables. This research line can further expand the nomological network and predictive validity of the trait emotional intelligence construct, but also extend broadly the practical applications of the underlying theory.

Authors' contribution

MG assisted with generation of the initial draft of the manuscript, data analyses, study design and concept, and manuscript editing; SC assisted with manuscript editing, data interpretation, study design and concept; FC assisted with data analysis, data interpretation, and manuscript editing; RL assisted with data interpretation, manuscript editing, and study supervision; K.P. assisted with study design, study concept, manuscript editing, and study supervision.

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