School relations and solitude in early adolescence: A mediation model involving rejection sensitivity

School Relations and Solitude in Early Adolescence:

A Mediation Model Involving Rejection Sensitivity

Luisa Molinari, Valentina Grazia, Paola Corsano

University of Parma, Italy

For correspondence

Luisa Molinari, Department of Humanities, Social Sciences and Cultural Industries, Borgo Carissimi 10, 40125 Parma, Italy. Tel. +39 0521 034821, e-mail: luisa.molinari@unipr.it

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Abstract

Rejection Sensitivity (RS) is a cognitive and affective disposition to defensively expect, perceive and overreact to signs of rejection by others. The current study examined the role of RS as a mediating mechanism underlying the relation between school relations with peers and teachers and solitude in early adolescence. Italian middle school students (N=656; Females=50.9%; M_{age}=12.24) reported their RS, quality of relationships with their friends and teachers, peer-related loneliness and attitudes towards aloneness. The results showed direct associations between school relations and RS components, as well as between RS and the three dimensions of solitude. Moreover, Structural equation models showed that anxious RS and RS expectations, but not angry RS, mediated the association between school relations and solitude. The present study contributes to our understanding of the key mechanisms underlying the association between school relations and solitude.

Keywords: Rejection sensitivity, Early adolescence, School relations, Friendship, Loneliness

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1. Introduction

Research into social and affective development has stressed the importance exerted by close relationships on the individuals' psychological security and wellbeing (Leary, 2001; Rubin, Bukowski, & Laursen, 2009). During childhood, parental relations play the most significant role (Maccoby, 1980), while social experiences with peers progressively acquire more importance from early adolescence, when individuals start to spend more time outside the family, become more focused on their peer group and struggle for belonging (Bukowski, Motzoi, & Meyer, 2009; Laursen, 1996).

Although the desire to be socially accepted and included is so generalized as be considered a fundamental human motivation regulating interpersonal relationships at all ages (Baumeister & Leary, 1995), it is during adolescence that experiences of rejection can be particularly stressful. In this regard, research has extensively shown that adolescents' psychological and social adjustments depend on the extent to which relationships with peers and friends are perceived as inclusive and accepting, rather than rejecting (e.g., Laursen & Collins, 2009; Leary, 2001; Rubin, Bukowski, & Parker, 2006). This tension toward social acceptance can make adolescents hypervigilant for rejection cues, to which they may overreact in various ways, showing anger, dependency, jealousy (Downey & Feldman, 1996; London, Downey, Bonica, & Paltin, 2007).

In the literature, the tendency to overreact to even minimal or ambiguous signs of rejection has been defined as *Rejection Sensitivity* (RS), a construct that refers to the cognitive affective disposition to defensively expect and perceive rejection by others (Downey & Feldman, 1996). In this article, we examined the role of RS as a mediating mechanism underlying the relation between school relations with peers and teachers and perceptions of solitude in early adolescence.

1.1 RS emotional and behavioural responses

According to Downey and Feldman (1996), RS is rooted in early experiences of rejection from caregivers, which in turn can favour the development of a sort of 'basic mistrust' in others affecting future relationships (Erikson, 1950). The negative effects of such mistrust are further amplified by a sort of self-fulfilling prophecy that individuals develop after having experienced rejection. A vicious cycle of rejection is in fact at work when experiences of rejection lead to misinterpretation of social cues as indicators of dislike, so that individuals eventually elicit rejection themselves (Romero-Canyas, Downey, Berenson, Ayduk, & Kang, 2010; Rubin, Bukowski & Laursen, 2009).

Due to this dynamic, once experiences and expectations of rejection are internalized, which seems to occur as early in life as late childhood (Nesdale, Zimmer-Gembeck, & Roxburgh, 2014; Zimmer-Gembeck, Nesdale, Fersterer, & Wilson, 2014), children and adolescents tend to react to ambiguous signs of possible rejection with maladaptive behavioural responses, which in turn lead to social and emotional problems (Downey, Lebolt, Rincón, & Freitas, 1998; Watson & Nesdale, 2012; Zimmer-Gembeck, Nesdale, Webb, Khatibi, & Downey, 2016).

Such maladaptive responses to rejection mostly depend on the emotions that individuals feel in the situation. By drawing on a series of interviews carried out with children and young adolescents, Downey and colleagues (1998) distinguished between anxious and angry feelings connected to the expectation of being rejected. Both emotions are considered as defensively-oriented responses to the rejection threat, because they prepare the individual to defend the self against subsequent rejection. In the literature on RS, several studies have assessed anxious expectations of rejection, while the interpersonal correlates of angry RS have been less explored. By and large research has shown that although both anxiety and anger lead to social dissatisfaction, their behavioural correlates and consequences differ in the two situations. In the case of anxious RS, individuals tend to perceive high levels of interpersonal distress and consequently to avoid rejection by distancing themselves from others (Brookings, Zembar, & Hochstetler, 2003). Thus, when people feel anxious for fear of rejection, they may be more prone to react with internalizing

difficulties, like withdrawal or depression (Thomas & Bowker, 2015). Instead, when anger is the prevalent feeling people manifest externalizing problems, such as physical or verbal aggression (Cain, De Panfilis, Meehan, & Clarkin, 2017).

Taken together, this body of research suggests that people react to the rejection threat with two feelings, anxiety and anger, which should be distinguished as they lead to distinct behavioural correlates, based on withdrawal and aggression, respectively. However, there is a third component of RS that has rarely been considered in the literature. It refers to the degree to which individuals perceive that rejection is likely to occur, irrespective of the emotion it elicits. Most studies have used the subjects' answers to the related question, referred to as RS expectation, in order to calculate the scores of anxious RS and angry RS, as will be explained in detail in the section on measures. To our knowledge, there is only one study (Zimmer-Gembeck et al., 2016) that has taken into consideration RS expectation as a third component of the construct in a population of young adolescents. The findings of this study show that RS expectation is only weakly associated with anxious RS and angry RS. The authors conclude by encouraging future research on young adolescents to keep the three components of RS separately, in order to better understand the correlates of each.

While previous research has taken into consideration correlates and outcomes of RS, its importance as mediator has never been addressed before. In the current study, we have examined the role of RS, in its three components, as a mediating mechanism between relational quality and solitude in early adolescence.

1.3 RS and school relationships

In early adolescence, peer relationships and acceptance into peer groups become increasingly important (Rubin et al., 2009). Research has evidenced that at this age good peer relationships positively influence adjustment in psychological development, foster greater school engagement, and promote higher self-esteem and self-efficacy (Bukowski et al., 2009). This

influence grows progressively starting from late childhood, when individuals begin to seek companionship, intimacy and emotional support and are eager to be accepted by their peers.

Only a limited number of studies have focused on the associations between peer relations and RS in early adolescence. In one of these studies, McLachlan, Zimmer-Gembeck and McGregor (2010) found that during late childhood and early adolescence it is the positive quality of friendship, more than parental relations, that serves as a protective function against RS. On the contrary, when adolescents perceive their friendship quality as low they tend to overestimate rejection from peers (Hodges, Boivim, Vitaro, & Bukowski, 1999). In addition, Croft and Zimmer-Gembeck (2014) found that adolescents who scored higher in angry RS reported more conflicts in peer relations, while heightened anxious RS was associated with greater friendship instability.

In the school context, also the quality of teacher-student relationships is considered a factor influencing student security and wellbeing (den Brock, Brekelmans, & Wubbels, 2006). For instance, research provided evidence that students who report positive relations with teachers, mainly based on affect and proximity, are more motivated and engaged in school and are able to reach higher academic achievements (Koul & Fisher, 2005). However, and notwithstanding the importance of this relationship, no previous research has examined the effect of this relational sphere on RS. This is a gap to be filled, as the perception of a good and supportive relation with teachers might provide children and adolescents with a feeling of security and protection able to prevent from or reduce RS.

1.4 RS and solitude

When adolescents do not perceive a feeling of security and protection in their relational environment, the fear to be rejected might lead to loneliness. The studies that have examined the association between RS and the individual's feelings of loneliness (McDonald et al., 2010; Sandstrom, Cillessen, & Eisenhower, 2003) have confirmed the positive relation between these variables (Jackson & Cochran, 1991; Qualter, Rotenberg, Barrett, Henzi, Barlow, Stylianou, & Harris, 2013; Thomas & Bowker, 2015), as well as between heightened expectations of rejection

and loneliness (Jackson, Fritch, Nagasaka, & Gunderson, 2002). Specifically, Nesdale and Zimmer-Gembeck (2014) reported that in middle and late childhood anxious RS was more strongly linked to social withdrawal, which in turn was associated with loneliness and isolation (Coplan, Closson, & Arbeau, 2007). Moreover, studies have highlighted the bi-directional nature of the relationship between RS and loneliness. On the one hand, RS was found to be a significant antecedent of loneliness in young adults (Watson & Nesdale, 2012); on the other, the severity of loneliness led school-aged children to perceive, expect and overreact to possible rejection (Qualter et al., 2013). London and colleagues (2007) have provided an explanation for such associations by arguing that the "RS dynamic combines a strong desire for more social provisions that one feels one has in any particular social situation with a bias toward underestimating the social provisions provided in that situation" (p. 486).

Despite the consistent association between RS and loneliness, the topic warrants further exploration for at least two reasons. First, the results of the studies in the field are hardly comparable because they were carried out on participants of different ages – i.e. children, adolescents and young adults – and because in the various developmental phases people attribute very different meanings to loneliness (Goossens, 2014). In addition, most research assessed loneliness as a unidimensional construct, while the distinction between loneliness, corresponding to feelings and perceptions, and aloneness, referring to the experience of being alone, was never considered in relation to RS. This is in contrast with suggestions coming from the literature, which underline that a multidimensional approach to the study of loneliness and aloneness (Goossens, Lasgaard, Luyckx, Vanhalst, Mathias, & Masy, 2009; Majorano, Musetti, Brondino, & Corsano, 2015) could be useful to better identify the role of the different dimensions with respect to RS. In particular, Goossens and collaborators (2009) argued that two kinds of loneliness (parent- and peer-related) and two attitudes toward aloneness, a positive one based on affinity and a negative one based on aversion, should be considered. By relying on a multidimensional approach to loneliness and aloneness, research can investigate the relation between these constructs and RS not only in a

clinical (loneliness as a maladjustment outcome), but also in a normative perspective aimed at understanding the challenges that early adolescents meet in the school relational environment.

1.5 Aims and hypotheses

As reported above, prior research has provided many insights on the emotional correlates of RS as well as on the associations of RS with peer relations and loneliness. However, there are some gaps of the literature that deserve to be filled in. First of all, most studies have focused on anxious responses to RS, while angry responses and especially rejection expectations have remained underexplored. Moreover, the literature has not examined whether the relationship with teacher is associated with RS. Finally, when measuring the associations between RS and loneliness, the authors adopted a unidimensional approach which cannot grasp the multiple nuances of the construct.

Building on previous research, the present study has the aim to investigate: a) the role of both peer and teacher relations on RS; b) whether RS impacts feelings of loneliness with peers as well as positive and negative attitudes toward aloneness; c) the role of RS' three components as mediating the association between school relations with peers and teachers and solitude in early adolescence.

2. Methods

2.1 Participants

Our sample included 656 Italian middle school students, which formed the total population of the only middle school (6^{th} to 8^{th} grade) located in a small city in a suburban area in Emilia Romagna (Northern Italy). Students were from heterogeneous socio-economic backgrounds. Females accounted for 50.9% of the sample. Their ages ranged from 11 to 15 years, with a mean age of 12.24. Students were equally distributed in grades 6, 7 and 8. A minority of participants (20.1%) had non-Italian origins. These students were mostly of African origin (approximately 40% from North Africa and 9% from Central Africa) and Eastern Europe (approximately 34%), while the remaining were native to various Asian countries (with a notable 5% from Sri Lanka). All

participating students had active parental consent and gave their own assent to participate in the study (4% of the parents did not reply to the request for participation or explicitly declined to participate).

Following approval from the University Ethic Committee and the School Principal, and after having received the parental consent forms, a researcher entered the school classes during class hours and asked students to complete a self-report questionnaire. The participants were told that the study was about their relationships with others at school. Anonymity was guaranteed by the fact that students were instructed not to provide their names on the research questionnaire (a single package for all the tests) and there were no other signs of recognition. Moreover, they were assured about confidentiality of data handling. Researchers monitored students during the task, which lasted from 30 to 40 minutes, and helped wherever participants had difficulty understanding.

2.2 Measures

The self-report anonymous questionnaire comprised a part on demographic information and the following four measures.

Quality of peer relationship. The *Friendship Quality Scale* (Bukowski, Hoza, & Boivin, 1994; Italian validation by Fonzi, Tani, & Schneider, 1996) was used to assess adolescents' perceptions of friendship quality. Following literally the authors' indications (Fonzi et al., 1996), in the instructions students were asked to refer to their current best friend or best friends in class, and to answer each item by making reference in general to the relationship quality with "my friend". No prompts were given concerning what a friendship was, or the number or gender of their best friends. The scale was multidimensional. It originally consisted of five dimensions (companionship, help, security, closeness and conflict). As seen in other studies (Baiocco et al., 2011; Corsano, Musetti, Caricati, & Magnani, 2017), in the current research the five dimensions were grouped in two global dimensions: Positive friendship quality (FQS-Pos), including four dimensions, namely companionship, help, security and closeness (e.g., "If other kids were bothering me, my friend would help me"), and Negative friendship quality (FQS-Neg), corresponding to the dimension of

conflict (e.g., “My friend and I can argue a lot”). The scale consisted of 22 items with a five-point Likert scale response (1=absolutely false; 5=absolutely true). Cronbach’s alphas in our study were .86 for Positive friendship quality and .60 for Negative friendship quality. We are conscious that the latter value is slightly lower than the one reported in previous research (in the Italian study by Corsano et al., 2017, alpha for Negative friendship quality was .66), but given that the subscale consisted of only five items we kept the dimension and treated the results with caution.

Quality of teacher relationship. To measure the quality of relationships with teachers we used one subscale (Teacher) of the *Assessment of Interpersonal Relations Test* (AIR; Bracken, 1993) in the Italian validation (Test delle Relazioni Interpersonali, TRI; Janes, 1996). The test consisted of 35 items, to which participants agreed or disagreed on a four-point Likert scale (1=absolutely true; 4=absolutely untrue). As suggested by the test authors, participants were invited to answer by referring to their overall relational experience with all of their teachers in the current year. Item sample: “I am really understood by my teachers”. Cronbach’s alpha in our study was .88.

Rejection Sensitivity. The *Children’s Rejection Sensitivity Questionnaire* (CRSQ; Downey et al., 1998) was used to measure RS. It comprised 12 vignettes where there was the possibility for rejection. The questionnaire was developed by Downey and Feldman (1996) in the framework of the RS model and was validated on a population of American students from fifth to seventh grade. In the original study, vignettes were developed after interviewing students about which situations involving the possibility of rejection they found more troubling in their everyday lives. In the current study, we used an Italian adaptation of the questionnaire (Grazia & Molinari, 2018). The procedure for adaptation consisted in the following: three independent researchers evaluated the appropriateness of each vignette to the everyday experiences of Italian middle school students. In the end, few vignettes were slightly changed. The questionnaire was first translated into Italian and then back-translated.

In order to facilitate comprehension of the vignettes, each of them was read out aloud to the students. An example of vignette is: “Imagine you have just moved and you are walking home from

school. You wish you had someone to walk home with. You look up and see another kid from your class in front of you, and you decide to walk up to this kid and start talking. As you rush to catch up, you wonder if s/he will want to talk to you". Participants were then asked to respond to three questions. (a) How NERVOUS would you feel, RIGHT THEN, about whether or not s/he will want to talk to you? (b) How MAD would you feel, RIGHT THEN, about whether or not s/he will want to talk to you? (c) Do you think s/he will want to talk to you? The response options for questions (a) and (b) ranged from 1 (not nervous/mad at all) to 6 (extremely nervous/mad). The response options for question (c) ranged from 1 (Yes!!) to 6 (No!!).

According to the standard practice (Downey et al., 1998), Anxious RS and Angry RS were computed by multiplying for each vignette the response to question (c) by the response to question (a) for anxious RS, and to question (b) for angry RS, and then dividing the total score by the number of vignettes (possible range of scores from 1 to 36). Higher scores indicated greater anxious or angry RS.

In the only study that considered the three components of RS (anxiety, anger and expectations) separately, Zimmer-Gembeck and collaborators (2016) reported that they used a different practice of computing, as they averaged the relevant items for each response option. This practice allowed them to avoid using the answer to questions (c) three times, one for calculating anxious RS and angry RS and one for calculating RS expectations. However, from our point of view this procedure is not without some limitations, because the emotional responses – i.e. answers to questions (a) and (b) – do not account in themselves for expectations, and as such they do not represent the main characteristics of the construct and definition of RS. In the light of these considerations, we decided to follow the standard practice for computing anxious RS and angry RS, and to compute RS expectation by averaging the responses (c) as suggested by Zimmer-Gembeck and colleagues (2016). In our sample, Cronbach's alphas were .82 for anxious RS, .82 for angry RS and .78 for RS expectation. These values are slightly higher than those reported in most studies.

Solitude. The Italian version of the *Loneliness Aloneness scale for Children and Adolescents* (LACA; Marcoen, Goossens, & Caes, 1987; Italian validation by Melotti, Corsano, Majorano & Scarpuzzi, 2006) was used to assess participants' perceptions of their own experience of loneliness and attitudes toward aloneness. Participants were asked to answer 36 items, divided into three sub-scales (12 items each)[1]. L-Peer evaluated peer-related loneliness (e.g., "I feel sad because I have no friends"), whereas the other two sub-scales investigated positive and negative attitudes toward solitary experiences, namely affinity for aloneness (A-Pos; e.g., "I want to be alone") and aversion to aloneness (A-Neg; e.g., "When I am alone, I feel bad"). Factor analysis in previous studies supported this structure for the questionnaire (Marcoen, Goossens, & Caes, 1987) and construct validity was established by Goossens et al. (2009). To each item, participants responded on a four-point Likert scale (1=Never; 4=Often). In our study, Cronbach's alphas for the considered sub-scales were: .86 (L- Peer), .79 (A-Neg), .83 (A-Pos).

3. Results

In Table 1, intercorrelations among all study dimensions as a function of gender are reported. Means and standard deviations for students' gender, grade and origins on scales used in the study are provided in Table 2.

Insert Tables 1 and 2 about here

As far as the mean values are concerned, in general students gave high scores to positive friendship quality and to the quality of teacher relationships, and scored the negative friendship quality scale below the midpoint. As regards CRSQ, students gave low scores to anxious RS and above all to angry RS, while RS expectations were only slightly below the midpoint of the scale. Consistently with a previous study on RS conducted on an Italian population of early adolescents (Grazia & Molinari, 2018), the scores on anxious and angry RS were different from those reported in studies carried out in the United States. While our population displayed a higher degree of

[1] A fourth sub-scale, concerning the parent-related loneliness (L-Part), was not used in the current study.

anxious RS (Total *Mean*=10.98) as compared to angry RS (Total *Mean*=8.59), Downey and colleagues (1998) reported means of 7.45 and 9.40, respectively, and London and collaborators (2007) means of 8.66 and 9.17. The mean value of RS expectation in our sample (Total *Mean*=3.01) was comparable to that obtained by Zimmer Gembeck and colleagues (2016) in a study conducted in Australia (*M*=2.82). Finally, the scores of both aloneness affinity (A-Pos) and aversion (A-Neg) scales were above the midpoint of the scale, while students gave lower scores to peer-related experiences of loneliness. The mean values of loneliness and aloneness were comparable to those reported in a previous Italian study conducted on populations of the same age (Corsano, Majorano, & Champretavy, 2006).

To reach our study aims, we then estimated a mediation model through structural equation modeling (SEM), using Mplus Version 8.0. We considered the three components of solitude (L-Peer, A-Pos, A-Neg) as outcomes and RS dimensions (Anxious RS, Angry RS, RS Expectations) as mediators, always controlling for the covariance among them; lastly, we considered school relations (FQS-Pos, FQS-Neg, TRI) as antecedents. The covariate variables of gender, grade and origins were controlled. We adopted the maximum likelihood estimator (ML). We assessed that the model fit the data well through multiple fit indexes: ratio chi square over degrees of freedom ($x^2/df = .03$), comparative fit index (CFI = 1.00), Tuker-Lewis index (TLI = 1.03), root mean square error of approximation (RMSEA = .00), standardized root mean square residual (SRMR =.00). Overall, the model accounted for 8.2% of the variance in Anxious RS, 7.7% in Angry RS, 14% in RS Expectations; as for solitude dimensions, the model explained 34.6% of the variance in L-Peer, 10.2% in A-Pos and 8.7% in A-Neg.

The results of the mediation model are reported in Figure 1.

Insert Figure 1 about here

3.1 Direct effects of school relations on RS

We found significant direct effects of school relational variables on RS dimensions. In particular, FQS-Pos was negatively associated with anxious RS (b=-1.34; SE=.43; t=-3.14; $p<.005$)

and with RS expectations (b=-.33; SE=.07; t=-4.88; p<.001). FQS-Neg was positively associated with all three components of RS (Anxious: b=.60; SE=.30; t=2.03; p<.05; Angry: b=.94; SE=.26; t=3.60; p<.001; Expectations: b=.10; SE=.05; t=2.11; p<.05). Finally, TRI was negatively associated with angry RS (b=-.03; SE=.01; t=-2.23; p<.05) and RS expectations (b=-.01; SE=.00; t=-4.98; p<.05).

As for the covariates, we found that gender (b=2.06; p<.001) and grade (b=-.83; p<.005) were significantly associated with scores of anxious RS, with female students reporting higher levels than male students and younger students reporting higher levels than older students. Moreover, grade was significantly associated with angry RS (b =-.85; p<.001), with younger students reporting higher scores than older students. Finally, students of non-Italian origins reported higher scores of RS expectations (b=.18; p<.05) than their Italian mates.

3.2 Direct effects of school relations and RS on solitude

Concerning the effects of school relations on solitude, we found that FQS-Pos was negatively associated with L-Peer (b=-.41; SE=.05; t=-8.21; p< .001), while TRI was positively associated with L-Peer (b=.01; SE=.00; t= 3.22; p< .005). Gender (b=.21; p<.001), grade (b=.06; p<.05) and origins (b=.22; p<.005) were all significantly associated with L-Peer, with females, older and non-Italian students reporting higher scores. FQS-Neg was positively associated with A-Pos (b=.10; SE=.04; t=2.88; p< .005); grade played a significant role on A-Pos, with older students showing higher scores (b=.12; p< .001). Finally, FQS-Pos (b=.14; SE=.05; t=2.72; p< .05) and TRI (b=.01; SE=.00; t=2.03; p<.05) were positively associated with A Neg.

We also found significant associations between RS and the three components of solitude. In particular, anxious RS (b=.04; SE=.01; t=3.65; p<.001) and RS expectations (b=.12; SE=.06; t=2.09; p<.05) were positively associated with L Peer. Anxious RS was also positively associated with A-Neg (b=.03; SE=.01; t=2.77; p<.05), while RS expectations showed a negative association with A-Neg (b=-.20; SE=.06; t=-3.55; p<.001). Finally, we did not find any significant association of angry RS with the dimensions of solitude.

3.3 The mediating role of RS in the association between school relations and solitude

We found some significant indirect effects when considering the mediating role of RS in the association between school relational variables and the dimensions of solitude. In particular, the negative association between FQS-Pos and L-Peer was indirectly significant through the mediation of anxious RS (b=-.05; SE=.02; t=-2.38; p<.05) and RS expectations (b=-.04; SE=.02; t=-1.93; p=.05), while the positive association between TRI and L-Peer was indirectly significant through RS expectations (b=-.01; SE=.00; t=-1.93; p=.05). The positive association between FQS-Pos and A-Neg was indirectly significant through the mediation of anxious RS (b=-.04; SE=.02; t=-2.08; p<.05) and RS expectations (b=.07; SE=.02; t=2.87; p<.005), while the positive association between TRI and A-Neg was indirectly significant through RS expectations (b=.01; SE=.00; t=2.89; p<.005). We did not find any significant indirect effect on A-Pos, and Angry RS did not mediate any association.

4. Discussion

The primary purposes and predictions of the current study were derived from RS theory (Downey & Feldman, 1996; Downey et al., 1998; London et al., 2007; Watson & Nesdale, 2012) and supported by previous empirical research conducted in the field on populations of early adolescents (Ayduk, Downey, & Kim, 2001; Croft & Zimmer-Gembeck, 2014; McLachlan et al., 2010; Nesdale & Zimmer-Gembeck, 2014; Zimmer-Gembeck et al., 2016). Yet, this was among the first studies that considered three distinct components of RS, the role of relations with peers but also with teachers, and the multidimensional measure of loneliness and aloneness. Key findings are discussed in the following sections.

4.1 RS and school relationships

The descriptive statistics concerning CRSQ, revealing that in the current research students reported higher feelings of anxious RS, and reversely slightly lower levels of angry RS, as compared to same-age populations in the United States, suggested the importance of the school contexts on RS. As this comparison was not among the purposes of the present study, we do not

have enough data and information for advancing a sharp interpretation of this finding. However, and given the consistency of such trend with the only previous study on RS conducted in Italy (Grazia & Molinari, 2018), we can advance that the high standards generally demanded in Italian schools lead students to feel pressure and anxiety in their everyday life. In a previous study conducted on Italian adolescents (Molinari & Mameli, 2017), tension turned out to be an important factor that affected adolescents' life at school, not only as far as the learning tasks were concerned but also in the relationships. As the descriptive data of the current study do not allow generalizations, further research on this issue could be useful to have a clear focus on the role of school contexts on RS.

Overall, our findings showed that school relations are significantly associated with the three dimensions of RS. First, we should note that the quality of relations with teachers was related to RS. In more detail, we found that the more students feel a good relational quality with teachers, the less they perceive angry RS and the less they expect to be rejected. The feeling of security and closeness to teachers can thus play a crucial role in fostering students' self-confidence and reducing their discomfort in the relational sphere. Yet, it cannot help to reduce the anxious feelings of RS, which are confirmed to be specifically rooted in the relational dynamics with peers rather than with adults. Although this is not surprising, it is worth noting that this result is a confirmation of the distinction between the various possible reactions to rejection as a needed focus for future research. Moreover, our findings showed that a positive friendship quality was a factor that reduced feelings of anxiety for rejection and expectations of rejection, while the perception of negative friendship quality had a positive association with all three dimensions of RS. Conflicts with the persons that one considers best friends thus come out as a factor that must be taken in serious consideration, both in research and in practice, as it plays a significant role in maladjustments and hypersensitivity to rejection cues.

The variables that we introduced as covariate in the model provide further information on RS. In line with the literature (McCarty, Vander Stoep, & McCauley, 2007; McLachan, Zimmer-

Gembeck, & McGregor, 2010), anxiety and anger for fear of rejection tend to decrease as children get older. Our data also revealed higher anxiety in females as compared to males, a result that is only partially consistent with previous research, that has not yet provided clear statements about the role of gender in RS (Zimmer-Gembeck, Trevaskis, Nesdale, & Downey, 2014; Zimmer-Gembeck et al., 2016). Finally, our results showed that non-Italian children were more prone to expect rejection as compared to their Italian mates, a finding that deserve further investigation given that today classrooms are multicultural.

By and large, these findings are promising as they suggest that a focus on relations in the school context can contribute to a better understanding of RS and provide important insights for interventions able to break the cycle of rejection at an early age.

4.2 RS and solitude

In the analysis of associations between RS and solitude, the current study contributes to a literature advance as it is the first to consider the multidimensional approach to loneliness and aloneness. Such methodological choice has allowed us to distinguish two separate associations of RS with solitude during early adolescence. In fact, RS was associated not only with peer-related loneliness, consistently with the existing literature (Zimmer-Gembeck et al., 2016), but also with an attitude of aversion to aloneness. The latter is considered in the literature both as an internal personality dimension (Corsano, Musetti, & Gioia, 2016; Teppers, Klimstra, Van Damme, Luyckx, Vanhalst, & Goossens, 2014), and as a condition that can modulate the perceived social isolation (Goossens et al., 2009). In particular, RS is related to aversion to aloneness in two different ways. First, anxious RS is positively associated with A-Neg. This finding tells us that those who experience anxiety rejection tend to see aloneness as something negative, as a kind of indicator or a sign of being rejected. Secondly, RS expectation is negatively associated with aversion to aloneness. To explain this surprising result, we tentatively advance that the adolescents that expect rejection tend to consider aloneness as a non-negative condition, perhaps because it can be a sort of refuge that offers protection and security (Goossens et al., 2009; Majorano et al., 2015). As this is

the first study that considers the link between RS and affinity toward aloneness, further research is needed to confirm this explanation.

4.3 The mediating role of RS

The current study provided a sharp advance in the literature by assuming that RS could play a mediating role between school relations and solitude. Our results are promising in this direction, as they confirmed that the fear and the expectation of rejection can indeed explain why students perceive loneliness or develop an attitude of aversion to aloneness. The most interesting finding is that anxious RS and RS expectation play a significant role in mediating the association between positive friendship qualities and loneliness toward peers. Adolescents who perceive their relationship with friends as close, intimate and supporting are less anxiously sensitive to rejection and less likely to expect rejection from others. In turn, this lets them feel less loneliness towards peers. Overall this finding points to anxious RS as an important psychological mechanism underlying the association between peer relationships and loneliness: when adolescents experience good friendships, they feel less lonely because positive relations are likely to protect them from the fear of rejection.

Anxious RS and RS expectation also mediate the association between positive friendship qualities and aversion to aloneness, even though with opposite directions. When adolescents experience good relationships, they feel less anxiety toward rejection and in turn report lower levels of aversion to being alone. This finding tells us that having good friends, by protecting from experiencing anxiety toward rejection, facilitates in adolescents the appreciation of moments to be alone. On the contrary, when positive friendship is associated with lower RS expectation, this in turn is related to higher avoidance of aloneness. In our interpretation, the underlying mechanism is that good friendships make adolescents less sensitive to cues of rejection, and in turn more prone to look for occasions to be with others rather than to be alone.

As for the associations between relationship with teachers and solitude dimensions, we found that the association between the quality of relationship with teachers and avoidance of

aloneness was mediated by RS expectation. Adolescents who perceived good relations with their teachers reported lower expectations of rejection and in turn higher aversion to aloneness. In a similar way as for friendship qualities, we can infer that experiencing relationships with teachers that are characterized by trust and understanding is a protective factor that leads individuals to expect less rejection from others and, as a consequence, to avoid being alone but rather search for, and risk to create, opportunities to be with others. Finally, we do not have enough material to provide an interpretation of the finding showing that the association between the quality of relationship with teachers and peer-related loneliness was mediated by RS expectations. This result should thus be treated with caution and further explored in future research.

5. Limits and implications

By and large, the results of the current study open the way to further research on RS and offer multiple hints for school interventions aimed at preventing maladaptive responses and misinterpretation of social cues. However, we must acknowledge some limitations to this study, which are mainly of a methodological kind. First of all, even if the sample size was large enough for the study, all participants came from one middle school and were mostly of Italian origins. Secondly, our study relied on self-reported data, which always show critical issues in terms of accuracy and social desirability. However, we should also note that RS cannot be measured other than by using self-reported data. Given the characteristics of the study, we believe it is important to rely on subjective perceptions of relationships, and the use of vignettes for measuring RS is a way to get closer to actual practices and behaviours. A multi-informant procedure might increase the validity in future research. Another limitation is that the research was based on a cross-sectional study design. Longitudinal studies are certainly needed in the field, especially because only a few have been conducted so far on the issue of RS (Wang, McDonald, Rubin, & Laursen, 2012; Zimmer-Gembeck et al., 2016). We should also consider as a limitation the fact that the measures for relationships with peers and teachers referred to an overall relational experience (with best friend or friends; with teachers in general). To our defence, we relied on instruments validated in

Italian and used in previous research. To guarantee the correctness of procedure, we followed literally the authors indications.

Notwithstanding these limitations, this study provided insights for practice and policy frameworks. Apart from a deeper understanding of the construct in its different components, the research focused on the connections between RS and fundamental developmental tasks for early adolescents. RS as a construct is inherently rooted in a vision that attributes great importance to early interactions with caregivers and parental relationships. However, our findings highlight that, as developmental relational tasks change and shift towards a broader social sphere, the quality of relationships in the school context can also have a meaningful association with RS and solitude experiences. These findings provide a useful key for intervention designs capable of supporting students in facing such developmental challenges, by optimizing the role of positive school relations and limiting the negative correlates of conflict with friends. In the light of our findings, teachers and school managers can develop awareness that especially for younger students, when the construction of new friendships constitutes a crucial challenge, interventions aimed at creating a climate of mutual acceptance and inclusion in the classroom could help to better face relational and developmental tasks.

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Table 1.
Intercorrelations among variables as a function of gender

Measures	1	2	3	4	5	6	7	8	9
1. Positive friendship quality	-	-.35**	.23**	-.15*	-.14*	-.29**	-.38**	-.21**	.20**
2.Conflictual friendship quality	-.23**	-	-.16**	.06	.13*	.16**	.22**	.10	.00
3.Teacher-Student relationship	.18**	-.11	-	-.09	-.17**	-.31**	.00	-.13*	.25**
4.Anxious RS	-.18**	.22**	-.08	-	.82**	.78**	.28**	.13*	.05
5.Angry RS	-.13*	.25**	-.02	.83**	-	.73**	.27**	.12*	-.01
6.RS expectations	-.27**	.23**	-.18**	.85**	.81**	-	.35**	.21**	-.16**
7.L-Peer	-.42**	.18**	-.02	.50**	.43**	.49**	-	.39**	-.00
8.A-Pos	-.08	.22**	-.06	.19**	.14**	.18**	.32**	-	-.22**
9.A-Neg	.16**	-.09	.11	-.02	.01	-.06	-.05	-.26**	-

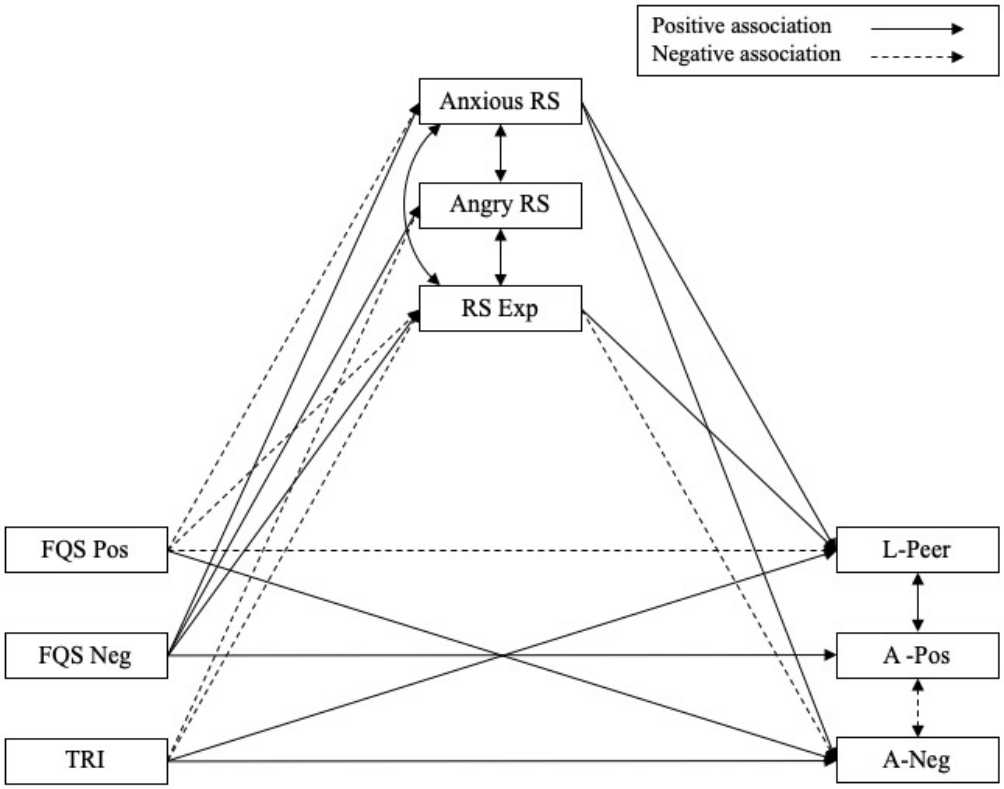
**p<.01. *p<.05
Note: intercorrelations for male participants are presented above the diagonal, and intercorrelations for female participants are presented below the diagonal.

Table 2.
Means and Standard Deviations for Students' Gender, Grade and Origins on Scales used in the Study

	Gender		Grade			Origins	
	Male Students	Female Students	6th	7th	8th	Italian	Non-Italian
Scale	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
FQS							
Positive friendship quality	3.63 (.55)	3.96 (.50)	3.81 (.56)	3.84 (.52)	3.75 (.56)	3.83 (.51)	3.66 (.66)
Negative friendship quality	2.16 (.78)	2.00 (.72)	2.05 (.75)	2.06 (.72)	2.17 (.77)	2.05 (.74)	2.15 (.76)
TRI	84.22 (14.68)	90.47 (13.43)	90.73 (13.82)	87.19 (14.95)	84.75 (13.78)	87.31 (14.36)	88.75 (13.82)
CRSQ							
Anxious RS	10.27 (4.91)	11.64 (5.27)	11.47 (5.78)	11.41 (4.96)	9.94 (4.34)	10.76 (4.88)	11.87 (6.06)
Angry RS	8.72 (4.63)	8.48 (4.70)	9.14 (5.54)	8.92 (4.43	7.60 (3.47)	8.36 (4.41)	9.60 (5.53)
RS expectations	3.03 (.86)	2.98 (.81)	3.00 (.92)	3.07 (.81)	2.95 (.75)	2.97 (.80)	3.16 (.96)
LACA							
L- Peer	1.70 (.60)	1.84 (.74)	1.77 (.69)	1.70 (.65)	1.85 (.70)	1.71 (.64)	2.02 (.78)
A-Pos	2.43 (.56)	2.49 (.62)	2.36 (.58)	2.42 (.60)	2.62 (.57)	2.44 (.58)	2.53 (.62)
A-Neg	2.57 (.57)	2.66 (.56)	2.68 (.58)	2.65 (.56)	2.51 (.55)	2.62 (.56)	2.60 (.60)

Note. FQS=Friendship Quality Scale (Bukowski, Hoza, & Boivin, 1994; Italian validation by Fonzi, Tani, & Schneider, 1996); TRI=Quality of teacher relationship (Bracken, 1993; Italian validation by Janes, 1996); CRSQ=Children's Rejection Sensitivity Questionnaire (Downey et al., 1998); LACA=Loneliness Aloneness scale for Children and Adolescents (Marcoen, Goossens, & Caes, 1987; Italian validation by Melotti, Corsano, Majorano & Scarpuzzi, 2006), with three subscale: L-Peer (Peer-related loneliness), A-Pos (Affinity for aloneness), A-Neg (Aversity for aloneness).

Figure 1.
Model for direct and indirect effects among variables



Note: non-significant paths are not displayed; not displayed are also paths between individual variables and each of the variables in the model.

Authors' bio sketches

Luisa Molinari is Full Professor of Developmental and Educational Psychology at the University of Parma and the coordinator of the PhD Program in Psychology. She is the author of several books and scientific articles, and has been invited to give lectures at international conferences and symposiums. Among her main research interests are the topics of classroom justice, responsibility and rights, observational methods, the quality of educational processes.

Valentina Grazia is a PhD student in Psychology at the University of Parma, Italy. She is interested in the issues of social relations in school and school climate. She is the author of some publications and has been a visiting student at the Boston College.

Paola Corsano is Associate Professor of Developmental and Educational Psychology at the University of Parma and Chair of the Master's Degree in Clinical and Applied Psychology at the same University. Since 2008, she is member of the Board of the PhD Program in Psychology at the University of Parma. Her major research topics include social and affective development, children's social relations and solitude in different developmental stages (from infancy to adolescence). She has published numerous papers in international scientific journals about peer relationships, loneliness and secrecy during adolescence.