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**Solitude and loneliness profiles in early adolescents: A person-centred approach**

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Abstract

**Objectives.** In early adolescence, developmental tasks lead boys and girls to oscillate between the search for and the fear of solitude, between feelings of loneliness and the need for peer contact. Adopting a multidimensional and person-centred approach, the aim of the present study was to distinguish different clusters related to profiles of solitude attitudes and loneliness and to evaluate the role of relational and socio-demographic variables as predictors of cluster belonging.

**Methods.** Measures of loneliness, attitudes towards aloneness, friendship quality, self-esteem and rejection sensitivity were collected in a population of 656 Italian native and immigrant early adolescents.

**Results.** Three clusters emerged, differently predicted by relational and socio-demographic variables. An adaptive and normative profile was found for the Aversion to aloneness and the Constructive solitude clusters, while a more maladaptive profile emerged for the Non-Constructive solitude cluster.

**Conclusions.** The results are discussed in the light of the developmental challenges that early adolescents face.

**Keywords:** Solitude, Loneliness, Friendship quality, Rejection sensitivity, Self-esteem, Early adolescence.

### **Solitude and loneliness profiles in early adolescents: A person-centred approach**

#### **Introduction**

Although the experience of solitude is already present in childhood (Galanaki, Mylonas, & Vogiatzoglou, 2015), it is especially during the transition to adolescence that it becomes particularly salient. Starting from the pioneering study by Csikszentmihalyi and Larson (1984), who identified in the solitude of adolescents the ‘price to pay’ for growing up, many studies have shown that feelings of loneliness accompany boys and girls especially from early adolescence (Goossens, 2006; Majorano, Musetti, Brondino, & Corsano, 2015). The constellation of relational processes typical of the early adolescence period, in particular the second separation and individuation process and the redefinition of interpersonal relationships (Blos, 1967; Bukowski, Motzoi, & Meyer, 2009), leads individuals to live solitary experiences in an ambivalent way. On the one hand, they experience autonomy by seeking moments when they can be on their own and take a distance from their parents (Buchholz, 1997; Chua & Koestner, 2008). On the other hand, they avoid being alone because they fear exclusion from their peers and isolation (Laursen & Hartl, 2013). The oscillation between the search for and the fear of solitude, between feelings of loneliness and need for peer contact, can result in different, more or less adaptive trajectories (see van Dulmen & Goossens, 2013, for a review).

In order to understand maladaptive outcomes, it is important to study the solitary experience of adolescents via a multidimensional approach, allowing us to distinguish various dimensions of this experience and to understand the effects that relational as well as socio-demographic variables can have on different aspects of solitude. The model developed by Louvain University is based on an assessment scale (the Loneliness and Aloneness Scale for Children and Adolescents – LACA – Marcoen, Goossens, & Caes, 1987) that allowed for the identification of four different dimensions of loneliness and related phenomena: loneliness towards parents, loneliness towards peers, affinity for aloneness and aversion to aloneness. By relying on such a scale, several studies (Corsano, Majorano, & Champretavy, 2006; Goossens, Lasgaard, Luyckx, Vanhalst, Mathias, & Masy, 2009; Vanhalst, Goossens, Luyckx, Scholte, & Engels, 2013) have provided evidence of a trend characterising the transition from early to late adolescence, which is in line with the main developmental tasks typical of that age range. Specifically, in parallel with the distancing processes in progress (Blos, 1967), loneliness towards parents increases,

while, thanks to the consolidation of significant peer relationships (Rubin, Bukowski, & Laursen, 2009), loneliness towards peers decreases. Furthermore, in parallel with the progressive search for solitude (Buchholz, 1997) and the new reflective capacities due to the development of abstract thought (Inhelder & Piaget, 1955), affinity for being alone increases and aversion to aloneness decreases. Research (Corsano et al., 2006; Maes, Vanhalst, Spithoven, Van den Noortgate, & Goossens, 2016) also showed higher scores for girls than for boys in terms of peer-related loneliness and affinity for solitude, in particular in early adolescence, as confirmed by a recent longitudinal study (Danneel, Maes, Vanhalst, Bijttebier, & Goossens, 2018).

With regard to the attitudes towards the solitary experience, various constructs have been proposed (see Goossens, 2014, for a review), including a preference for solitude (Burger, 1995), voluntary aloneness (Galanaki et al., 2015), affinity for and aversion to solitude (Marcoen, Goossens & Caes, 1987). In particular, variable-centred research showed that aversion to being alone was related to satisfactory relationships with peers, different measures of sociability, both in early and late adolescence (Corsano et al., 2006; Goossens, 2014), and personality traits of extraversion (Corsano, Musetti, & Gioia, 2016; Teppers et al., 2013). Affinity and preference for solitude were instead associated with feelings of loneliness, unsatisfactory interpersonal relationships, depression likelihood, low social competence, shyness, unsociability and social exclusion (Burger, 1995; Corsano et al., 2006; Corsano et al., 2016; Goossens, 2014; Wang, Rubin, Laursen, Booth-LaForce, & Rose-Krasnor, 2013), more in early than in late adolescence. However, despite these data, Goossens (2014) reported that affinity for aloneness was also predicted by self-reflection, concentration, freedom from criticism, and activities.

In order to better understand the meanings attributed to the attitudes towards aloneness, some researchers have taken a person-centred approach allowing for the identification of groups of adolescents with specific patterns of scores on attitudes towards aloneness, loneliness and other adjustment variables. Based on this approach, Teppers, Luyckx, Vanhalst, Klimstra and Goossens (2014) identified three clusters, namely Indifferent, Affinity and Aversion, of mid- and late-adolescents by crossing their affinity for and aversion to aloneness scores. The Indifferent cluster (low scores both in affinity and aversion) showed a more adjusted profile as compared to the Affinity and the Aversion clusters, as it was characterized by greater self-esteem, lower loneliness and less passive coping strategies. In a later study conducted with early, mid- and late-adolescents, Maes et al. (2016) identified six clusters by crossing

both attitudes towards aloneness and loneliness (peer- and parent-related) scores. Among these, three groups emerged as maladaptive. In particular, participants in Peer-Related Loneliness and Positive Attitude towards Aloneness groups showed low self-esteem, low quantity and quality of friendship, and they were less liked by their peers. Moreover, the findings highlighted that particularly in early adolescents a positive attitude towards aloneness leads to maladjustment and peer-related loneliness. Adolescents in the Parent-Related Loneliness cluster showed low self-esteem and reported high parental control and low responsiveness from both father and mother. Confirming the data of Teppers et al. (2014), the Indifference and Moderate groups (characterized by low and moderate scores on the four dimensions) as well as the Negative Attitude towards Aloneness cluster emerged as the most adaptive clusters.

In sum, the above-described findings encourage the adoption of a person-centred approach for evaluating in depth the co-occurrence of different dimensions of being alone and loneliness, which can be concomitantly present during adolescence. However, they do not provide further insights into the different meanings, both positive and negative, of the affinity for aloneness attitude. As suggested by Goossens (2014), when focusing on the motives for being alone, the picture concerning the affinity for aloneness attitude is more complex.

In this direction, insightful suggestions have come from a recent study by Thomas and Azmitia (2019). Based on the Self-Determination Theory (SDT; Deci and Ryan, 2008), the authors proposed a measure of adolescents' positive attitude to being alone (the Motivation for Solitude Scale-Short Form; MSS-SF), in which an important distinction was made between "self-determined solitude" and "non-self-determined solitude". The first is a "loneliness-free" form of positive attitude to being alone, in which the search for solitude is determined, for example, by the desire to enjoy the quiet, or to stay in touch with one's own feelings or spirituality. The second is a "loneliness-related" form of positive attitude to being alone, in which the search for solitude is motivated by the discomfort and the anxiety felt when one is with others, and is associated with loneliness, social anxiety and depressive symptoms. In sum, this study suggested that at the origin of the search for solitude there are two different attitudes, one more active, adaptive and constructive, the other reactive, maladaptive and non-constructive.

Relational dimensions could play a role in leading adolescents towards different attitudes to being alone and loneliness. The relational sphere is particularly sensitive during early adolescence for

several reasons. First, boys and girls start to spend their time without parents or other adults, paying particular attention to their peers, in order to build new friendships and to be accepted (Bukowski, Motzoi, & Meyer, 2009). This is especially salient because usually the transition from late childhood to early adolescence takes place parallel with the entry into a new school order, requiring the construction of new relationships with classmates. Moreover, today most classrooms are multicultural. Even though research on solitude and loneliness has not taken this variable into account so far, being an immigrant in early adolescence may play a role in the regulation of interpersonal relationships, as navigating between cultures is undoubtedly a serious developmental challenge that can affect the construction of peer relationships (Schachner, Van de Vijver, & Noack, 2018).

In particular, three aspects of the ‘relational sphere’ in early adolescence appear especially significant for understanding solitude and loneliness experiences: friendship quality, self-esteem and rejection sensitivity.

First, the literature strongly supports that the quality of relationships with friends and classmates is an important correlate of different loneliness and aloneness experiences (Maes et al., 2016) and that peer-related loneliness is a strong predictor of various negative psychological outcomes, such as stress and depressive symptoms, low self-esteem and social withdrawal (Heinrich & Gullone, 2006).

In addition, early adolescents experience a drop in self-esteem (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002). A possible interpretation is that self-esteem is sensitive to environmental influences (Maes et al., 2016), which in this period become salient particularly with regard to social acceptance and peer relationships (Corsano, Musetti, Caricati, & Magnani, 2017). Boys and girls experience feelings of social inadequacy, perceive concerns of being rejected by their peers and are focused on the self-image that they want to give to the others (Seiffge-Krenke, 1998). Several studies have highlighted the negative relationship between self-esteem, in the friendship domain, and loneliness (Corsano et al., 2017; Vanhalst, Luyckx, Scholte, Engels, & Goossens, 2013), and between self-esteem and a positive attitude towards aloneness (Maes et al., 2016; Teppers et al., 2014).

Finally, the importance of relationships with peers and the tension toward social acceptance can make adolescents hypervigilant for rejection cues (London, Downey, Bonica, & Paltin, 2007) and sensitive to rejection. In the literature, rejection sensitivity is defined as a cognitive and affective disposition to expect and perceive rejection by others (Downey & Feldman, 1996; Nesdale, Zimmer-

Gembeck, & Roxburgh, 2014). Such expectations are linked to anxious or angry feelings (Downey, Lebolt, Rincón, & Freitas, 1998). Both these emotional responses lead to social dissatisfaction, but their behavioural correlates are different, with anxiety linked to rejection avoidance by distancing oneself from others (Brookings, Zembar, & Hochstetler, 2003; Thomas & Bowker, 2015) and anger linked to externalizing behaviour (Cain, De Panfilis, Meehan, & Clarkin, 2017). Although many studies have underscored the positive relationship between rejection sensitivity and loneliness (McDonald, Bowker, Rubin, Laursen, & Duchene, 2010; Thomas & Bowker, 2015), only a few have focused on early adolescence and fewer still have relied on a multidimensional model of loneliness and related phenomena, with a particular focus on the positive and negative attitudes to aloneness (Authors, in press).

In the present study, we have focused on the solitude attitudes in a sample of early adolescents. We have followed a multidimensional and person-centred approach for distinguishing different clusters by crossing four dimensions of solitude and loneliness: parent- and peer-related loneliness, affinity for and aversion to aloneness. Moreover, we have searched for correlates of solitude and loneliness by referring to some already used variables, i.e. friendship quality and self-esteem, and also to rejection sensitivity, a variable never investigated before as predictor of cluster belonging.

The research aim was twofold. First of all, we investigated whether and how early adolescents were clustered into different groups depending on their attitudes towards solitary experiences and feelings of loneliness. In line with previous studies, we expected to find a group characterized by a negative attitude towards aloneness and low peer and parent-related loneliness, and a group characterized by the search for aloneness and high peer and parent-related loneliness. Moreover, in view of the peculiar social challenges that early adolescents face and of Thomas and Azmitia's (2019) suggestions about the constructive and non-constructive meanings of affinity for aloneness, we also expected to find a cluster characterized by the co-presence of affinity for aloneness and low parent- and peer-related loneliness.

In addition, we explored the differences in group belonging due to socio-demographic variables, namely gender, school grade and nationality. Based on the literature (Maes et al., 2016; Majorano et al., 2015), we expected to find more girls and older adolescents in the groups with a higher affinity for aloneness, and more boys and younger adolescents in the group with a higher aversion to aloneness. Although there are no data on immigrant adolescents' attitude for being alone, we expected that, given



their difficulties in approaching a new culture, they could fail in the regulation of interpersonal relationships and therefore show a less constructive attitude to aloneness.

Finally, we considered friendship quality, self-esteem, rejection sensitivity, age, gender and nationality as predictors of cluster belonging. Based on the literature, showing that groups of adolescents with a negative attitude toward aloneness are better adjusted (Maes et al., 2016; Teppers et al., 2014), we expected that self-esteem and positive friendships would predict belonging to the group with higher aversion to aloneness. Regarding rejection sensitivity, based on a recent study (Authors, in press) we hypothesized that anxious rejection sensitivity predicted belonging to the groups with higher affinity for aloneness. Also, in line with the above-described studies, we expected girls and older students to be more likely to belong to the groups higher in affinity for aloneness. Finally, for the above-reported considerations, we expected immigrant early adolescents to be more likely to belong to the group showing less adaptive forms of solitude.

## **Method**

### **Participants**

Participants were 656 Italian middle school students, from a convenience sample. A total of 50.9% (n=334) were females and 79.9% (n=519) were of Italian origin. The immigrant adolescents came from Africa (approximately 40% from North Africa and 9% from Central Africa), Eastern Europe (approximately 34%), and several Asian countries (in particular 5% from Sri Lanka). All the participants attended a middle school located in Northern Italy, and were almost equally distributed in Grades 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup>. The students' average age was 12.24 (*SD*=.99), with a range from 11 to 15 years.

### **Procedure**

Prior to data collection, the minors' parents were asked to complete an informed consent form, with no family refusing. All the students participated voluntarily in the study and they were assured as to the confidentiality and anonymity of data handling. The researcher administered the self-report instrument to students in their classrooms during school hours. For each class, the filling in of the questionnaire was preceded by a short illustration of the research and its general goals. The research was conducted in line with the ethical norms laid down by the Italian National Psychological Association and the European Code of Conduct for Research Integrity (ECCRI).

### **Measures**

### *Loneliness and Attitudes towards aloneness*

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 48 items, divided into four sub-scales (12 items each). L-Peer evaluated peer-related loneliness (e.g., "I feel sad because I have no friends"), L-Part assessed parent-related loneliness (e.g., "I feel left out by my parents"), A-Pos investigated the positive attitude toward solitary experiences, namely affinity for aloneness (e.g., "I want to be alone"), and A-Neg measured the negative attitude toward solitary experiences, namely aversion to aloneness (e.g., "When I am alone, I feel bad"). Factor analysis in previous studies supported this structure for the questionnaire (Marcoen et al., 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), .85 (L-Part), .79 (A-Neg), .83 (A-Pos).

### *Self-Esteem*

We used the Italian version of the *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965; Italian validation by Prezza, Trombaccia, & Armento, 1997), consisting of 10 items measuring an individual's general self-esteem (e.g., "I feel that I am a person of worth, at least on an equal plane with others"). Responses were rated on a 4-point Likert scale ranging from 0 (I strongly disagree) to 3 (I strongly agree). RSES has been widely used and it is recognised as a reliable self-esteem measure. In our study, Cronbach's alpha for this scale was .82.

### *Rejection Sensitivity*

The *Children's Rejection Sensitivity Questionnaire* (CRSQ; Downey et al., 1998) was used to measure rejection sensitivity (RS). It comprised 12 vignettes where there was the possibility for rejection. 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 the Italian version of the questionnaire (Authors, 2018).

In order to facilitate comprehension of the vignettes, each of them was read 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 him/her 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 answer three questions. (a) How NERVOUS would you feel, RIGHT THEN, about whether or not s/he will want to talk to you? (b) How ANGRY 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/angry at all) to 6 (extremely nervous/angry). The response options for question (c) ranged from 1 (Yes!!) to 6 (No!!).

In accordance with 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. Cronbach’s alphas were .82 for anxious RS and .82 for angry RS.

#### *Quality of peer relationship*

The Italian version of the *Friendship Quality Scale* (FQS; Bukowski, Hoza, & Boivin, 1994; Italian validation by Fonzi, Tani, & Schneider, 1996) was used to evaluate the quality of participants’ relationships with their closest friends in class. The scale is multidimensional. It originally consisted of five sub-scales (companionship, help, security, closeness and conflict). As seen in other studies (Baiocco et al., 2011; Corsano et al., 2017), in the current research the five sub-scales were grouped into two global dimensions: Positive friendship quality, including the sub-scales of companionship, help, security and closeness (e.g., “If other kids were bothering me, my friend would help me”), and Negative friendship quality, corresponding to the sub-scale of conflict (e.g., “My friend and I can argue a lot”). FQS consisted of 22 items with a five-point Likert scale response ranging from 1 (Absolutely false) to 5 (Absolutely true). In order to obtain a measure of relationships with peers inside the class, we explicitly asked participants to think about their closest friends in class while completing this part of the questionnaire. Cronbach’s alphas in our study were .86 for Positive friendship quality and .60 for Negative friendship quality. We are aware 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 just five items we kept the dimension and treated the results with caution.

## **Results**

### **Data exploration and descriptive statistics**

Descriptive statistics and intercorrelations among variables are presented in Table 1.

Insert Table 1

As far as the mean values are concerned, in general adolescents gave high scores to negative and positive attitudes toward solitary experiences, and they gave scores below the midpoint of the scale to perceived loneliness with parents and peers. As regards self-esteem, participants rated it over the midpoint of the scale. Moreover, they rated Anxious RS higher than Angry RS. Finally, the mean scores of positive friendship quality were over the midpoint of the scale and higher than the mean scores of negative friendship quality.

All the correlations were in line with the literature. In particular, we found a negative association between self-esteem and peer and parent-related loneliness and both measures of rejection sensitivity. Moreover, peer-related loneliness was positively associated with anxious and angry rejection sensitivity and negatively with positive friendship quality. Aversion to aloneness was positively related to high quality of friendship, while affinity for aloneness was negatively related to self-esteem and positive friendship quality, and positively to both measures of rejection sensitivity and negative quality of friendship. In line with the literature, peer-related loneliness showed a moderate correlation with affinity for aloneness. Finally, anxious and angry feelings of rejection sensitivity were highly correlated with each other.

### **Loneliness and aloneness: Clustering adolescents**

Our first objective was to investigate whether it was possible to distinguish clusters of solitude attitudes, based on participants' perceptions of loneliness and their attitudes towards solitary experiences. To achieve this, we ran a series of cluster analyses on the four sub-scales of the LACA scale. For validation, we randomly split our sample into two halves. Using SPSS software, we conducted a hierarchical cluster analysis on a first half of our population (330 participants). We then used linkage within groups as a method of clustering and squared Euclidean distances on standardized scores (z scores) of the four LACA dimensions. In order to decide the number of clusters, we considered the demarcation point in agglomeration coefficients: we compared three, four or five cluster solutions, using a scree diagram. The three-cluster solution appeared to be the one that best suited our data. We then conducted a K-mean cluster analysis on the other half of our sample (326 participants), inputting a three-cluster detection.

Finally, we repeated the cluster analysis with three-cluster detection on the whole sample.

Regarding peer- and parent-related loneliness, participants in Cluster 1 reported low perceptions of loneliness both toward parents and toward peers, participants in Cluster 2 showed low perceptions of parent-related loneliness and an average perception of peer-related loneliness, and participants in cluster 3 perceived parent and especially peer-related loneliness to a higher degree. As far as attitudes towards aloneness are concerned, the adolescents in Cluster 1 reported higher negative attitudes and lower positive attitudes as compared to the other two groups. In line with previous literature, we named the Cluster 1 as Aversion to aloneness (Teppers et al, 2014) and the Clusters 2 and 3 as Constructive and Non-Constructive solitude, respectively (Thomas & Azmitia, 2019).

In Table 2 we present the results of a Cluster analysis conducted on the total population and of a univariate F test conducted in order to detect the differences among the three groups on the four LACA dimensions.

Insert Table 2

The Cluster analysis revealed that the majority of adolescents were grouped in Cluster 1. Cluster 3 was the least numerous comprising 15.5% of our total population. Moreover, we found that the mean scores of the three clusters differed significantly on all four dimensions. In particular, participants in Cluster 3 (Non-Constructive solitude) reported higher scores on parent- and peer-related loneliness and on positive attitudes toward aloneness, while those in Cluster 1 (Aversion to aloneness) reported higher means on negative attitudes toward aloneness and lower means on positive attitudes. Post-hoc comparisons with the Bonferroni test indicated that the mean score of L-Part in Cluster 3 was significantly higher than scores of both other clusters ( $p < .001$ ), while Cluster 1 and 2 did not differ significantly on this dimension. Mean scores of L-Peer, A-Pos and A-Neg were significantly different among all three clusters ( $p < .001$ ), except for the difference of A-Neg mean scores between Clusters 2 and 3, which was significant only at  $p < .05$  and between cluster 1 and 3 which was significant at  $p < .005$ .

Table 3 presents the results of chi-square analyses showing the differences in cluster belonging due to gender, school grade and nationality.

Insert Table 3

The results showed that the three groups differ insofar as school, grade and nationality were concerned. In particular, Cluster 1 grouped almost two-thirds of students who were attending 6<sup>th</sup> and 7<sup>th</sup>

Grades, while students in 8<sup>th</sup> Grade were more numerous, as compared with their younger schoolmates, in Clusters 2 and 3. As far as nationality was concerned, more than 60% of Italian students were grouped in Cluster 1, while immigrant adolescents were far more numerous than Italian adolescents in Cluster 3.

### **Predictors of cluster belonging**

Our second aim was to understand which variables could be considered as predictors of cluster belonging. We ran a multinomial logistic regression, which best suited our categorical dependent variable (cluster belonging), and we included socio-demographic variables (gender, school grade and nationality), self-esteem, RS and quality of friendship in school as independent variables. Our results (Table 4) showed that the model was fitting in its entirety, and that only negative quality of friendship with classmates was not a significant predictor of cluster belonging.

#### **Insert Table 4**

Comparing Cluster 3 (Non-Constructive solitude) with Cluster 1 (Aversion to aloneness), for the individual variables we found that males were more likely than females to belong to Cluster 1, as did younger students (6<sup>th</sup> and 7<sup>th</sup> Grade compared to 8<sup>th</sup> Grade) and Italian students as compared to immigrant students. We also found that students with higher self-esteem were more likely to belong to Cluster 1. As far as CRSQ dimensions were concerned, results showed that anxious RS was not significant, while students who reported higher levels of angry RS were more likely to belong to Cluster 3. Finally, students with higher scores of positive relationships with classmates were more likely to belong to Cluster 1.

Comparing Cluster 3 with Cluster 2 (Constructive solitude), we found that gender and school grade were not significant predictors, while Italian students were more likely to belong to Cluster 2 than immigrant students. Moreover, a higher score of self-esteem was a strong predictor of belonging to Cluster 2. We also found that both dimensions of RS were significant predictors of cluster belonging, but in different directions: students with higher scores in anxious RS were more likely to belong to Cluster 2, while students with higher scores of angry RS were more likely to belong to Cluster 3. Students with higher scores of positive relationships with classmates were more likely to belong to Cluster 2.

Finally, comparing Cluster 1 with Cluster 2, we found that younger students (both in 6<sup>th</sup> and 7<sup>th</sup> Grade) were more likely than those in 8<sup>th</sup> Grade to belong to Cluster 1. Gender and nationality were not significant in predicting cluster belonging. Higher scores in self-esteem predicted more likelihood to belong to Cluster 1, as well as positive friendship qualities. Instead, students with higher scores in

anxious RS were more likely to belong to Cluster 2.

### **Discussion**

The main purpose of the current study was to distinguish between different profiles of solitude attitudes and loneliness and to evaluate the role of relational and socio-demographic variables as predictors of cluster belonging in early adolescence.

Following a multidimensional and person-centred approach (Goossens et al., 2009; Maes et al., 2016), we ran a series of cluster analyses in order to identify different groups of early adolescents with similar scores on their loneliness and attitudes towards aloneness. Findings revealed three interesting and meaningful profiles. As hypothesized, one cluster was characterized by higher aversion and lower affinity for aloneness, and two clusters by higher affinity and lower aversion to aloneness. These last two, in line with the study of Thomas and Azmitia (2019), highlighted the different nuances of the affinity attitude.

We named the first group “Aversion to aloneness.” The characteristics of adolescents included in this group are consistent with those outlined in previous research as “Aversion Group” (Teppers et al., 2014) and “Negative Attitude Towards Aloneness Group” (Maes et al., 2016). The Aversion to aloneness group in fact comprised early adolescents with an adaptive psychological functioning, corresponding to low parent- and peer-related loneliness and an attitude of aversion towards aloneness. In our study, this cluster was the most numerous, including in particular younger students attending 6<sup>th</sup> and 7<sup>th</sup> Grade. This datum confirmed the literature reports on the developmental trend concerning solitude (Corsano et al., 2006; Danneel et al., 2018; Marcoen et al. 1987), which pictures a higher degree of aversion to being alone in early adolescents and its progressive decrease (parallel to an increased affinity for being alone) from early to late adolescence. Most of our early adolescents fear being alone and have negative views about it, in line with what is typically experienced by individuals involved in the second individuation/separation process (Blos, 1967) and in the construction of new peer relationships (Bukowski et al., 2009).

Interestingly, the new advance provided by our study is in the identification of two clusters based on affinity for aloneness. In line with what has been suggested elsewhere (Buchholz, 1997; Corsano et al., 2006; Galanaki et al., 2015; Goossens, 2014; Thomas & Azmitia, 2019), the distinction between these two clusters confirms that the search for solitude may take on different meanings. In particular, we found one cluster, labelled “Constructive solitude”, which was never described in previous studies based on the

person-centred approach while it was suggested by the distinction proposed between Self-Determined and Non-Self –Determined solitude (Thomas & Azmitia, 2019). This cluster is characterized by both a high affinity for being alone and a low or moderate perception of loneliness. It was less numerous than the Aversion cluster and included above all students attending 8<sup>th</sup> Grade, who are progressing in the individuation process, strengthening new friendships and developing abstract thinking that may lead them to recognize the positive aspects of being alone. As in this cluster the affinity for aloneness co-occurred with low and moderate scores on perception of loneliness, we suggest that the quest for being alone is not to be automatically considered an indicator of maladaptive peer relationships. This result is particularly innovative, because in other studies that did not distinguish between the two meanings of the positive attitude towards aloneness (Maes et al., 2016; Teppers et al., 2014), affinity for aloneness was mainly related to maladaptive indicators.

The third cluster, labelled “Non-Constructive solitude,” confirms this picture. It is characterized by the co-occurrence of a high affinity for being alone and high perceptions of loneliness, both towards peers and parents. Consistently with clusters identified by previous person-centred research on loneliness and related phenomena, such as the Positive Attitude Towards Aloneness Group (Maes et al., 2016) and the Affinity Cluster (Teppers et al., 2014), the adolescents grouped in this cluster exhibited maladaptive psychological functioning. They perceived a high affinity for aloneness associated with perceptions of loneliness, perhaps as a consequence of external difficulties in establishing interpersonal relationships and of the fear of peer rejection (Goossens et al., 2009; Majorano et al., 2015). Interestingly, this cluster, which was the least numerous, mostly included non-Italian students. This result confirms our prediction that immigrant adolescents would be more likely to show maladaptive forms of solitude, and raises some concerns about the integration process in adolescence. However, as other studies have not investigated immigrant adolescents’ attitudes towards aloneness, we cannot advance definite conclusions and suggest the need for future research to address the issue.

The second aim of the study was to investigate the predictive role of socio-demographic (i.e. gender, age, nationality) and relational (i.e. friendship quality, self-esteem and RS) variables on cluster belonging. Regression analyses confirmed the picture discussed above concerning the different meanings of attitudes towards aloneness. In particular, and in line with the findings of Maes et al. (2016), high self-esteem and positive friendship quality predicted belonging to the “Aversion to aloneness” group, which



was confirmed as a normative and adaptive group. Socio-demographic variables had an impact on this cluster as well. In line with the literature on the developmental trends in solitude (Corsano et al., 2006; Danneels et al., 2018), boys and younger students were more likely to belong to this group.

Even the above-discussed distinction between the two different meanings of affinity for aloneness was strongly confirmed by regression analyses. In particular, belonging to the “Constructive solitude” cluster was predicted by both high self-esteem and high friendship quality. This finding is innovative, as it suggests that not all the adolescents who search for solitude have difficulties in peer relationships. Some of them, perhaps thanks to their satisfactory interpersonal relationships and to the perception of being accepted by peers, are able to enjoy and search for moments to be alone. Recalling Winnicott’s theory (1965), we advance the claim that these early adolescents have developed the capacity to be alone, a skill based on their positive relational background. However, we also found that an anxious RS predicted belonging to this cluster. As suggested above, it is the affinity for aloneness that can lead people to spend more time alone and to fear, in some cases, being rejected. This datum is consistent with the moderate amount of peer-related loneliness characterising this cluster. However, further research in this direction is needed to clarify this complex picture. By and large, this cluster showed its positive characteristics as compared to the other cluster characterized by affinity for aloneness.

Non-Italian nationality and angry RS predicted belonging to the “Non-Constructive solitude.” An angry reaction to rejection expectations may indicate that aloneness, in this case, is a painful and unsought condition. If aloneness is unwanted and endured, it may be experienced as a social refusal and be associated with high levels of loneliness (Laursen & Hartl, 2013) and angry reactions. This dissatisfaction with peer relationships may lead adolescents to react negatively to the possible social refusal and to consider aloneness as a refuge from further exclusion. Immigrant adolescents may face difficulties in understanding the different culture of their peers, and may find themselves in a precarious social condition that would make it difficult for them to build relationships with others. Hence, their search for solitude could be a consequence of their relationship difficulties, rather than a constructive choice.

In conclusion, the present study confirms the literature that identified, in early adolescence, a normative cluster based on the aversion to aloneness and a maladaptive cluster based on affinity for being alone. In addition, we have expanded the research by distinguishing two different adjustment profiles of

positive attitude towards aloneness, and showed that even in early adolescence the experience of being alone may be part of a normative process of personal development.

In particular, although the person-centred approach to the study of attitudes towards aloneness does not distinguish between two meanings of affinity for being alone, the comparison between the “Constructive solitude” and “Non-Constructive solitude” clusters appears to be coherent with previous literature. Many studies considered high scores in a positive attitude towards aloneness as a means to “flee” from social interactions (see Goossens, 2014, for a review), while others suggested the possibility of an adaptive and developmental meaning in the quest for solitary experiences (Buchholz, 1997; Corsano et al., 2006). With our clustering solution, we have highlighted the possible co-existence of both interpretations. Some early adolescents are prone to spending time alone while feeling peer and parent-related loneliness, thus suggesting that they are trying to seek solace from unsatisfactory relationships by being alone. Other early adolescents have a positive attitude toward solitary experiences as they do not report particular perceptions of loneliness towards peers and parents. These individuals may simply enjoy spending time alone, without using it as a means to escape from social relations.

### **Limitations**

This study has some limitations. First of all, in order to better distinguish between the two clusters with a higher affinity for aloneness, we could have considered other measures of preference for solitude as well. In this direction, future research could benefit from the use of the Children’s Solitude Scale (Galanaki et al., 2015) and the Motivation for Solitude Scale-Short Form (Thomas & Azmitia, 2019). Also, our findings were obtained with early adolescents enrolled in a single school in Northern Italy. Therefore, we cannot generalize them to adolescents from other regions in Italy or in the world. Further research should replicate the current findings on a sample of early adolescents from different schools and larger geographical areas. In addition, we have only investigated the role of predictors on attitudes towards aloneness, without paying attention to possible mediators, such as autonomy in its different meanings. Majorano et al. (2015) showed that emotional autonomy and autonomous motivation for solitary behaviours could influence the link between the attitude towards aloneness and loneliness. Given the developmental tasks of early adolescence, the investigation of the role of autonomy could be important in order to better understand the difference between profiles of affinity for aloneness. Finally, the study considered the variable “being an immigrant” as a whole, without distinguishing between different

cultures. This choice, stemming from the need to have a larger group, did not allow us to evaluate the meaning that each culture can attribute to being alone. In the light of the extensive literature comparing individualistic and collectivistic cultures (see, for example, Markus & Kitayama, 1991; van Zyl, Dankaert, & Guse, 2018), additional research on subgroups of early adolescents with a specific cultural background is needed.

### **Compliance with Ethical Standards**

#### **Research involving Human Participants and/or Animals**

The study follows the ethical principles and guidelines for the protection of the human subjects of research.

#### **Conflict of Interest**

The authors declare that they have no conflict of interests.

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