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Maternal Parenting Stress and Preschoolers' Social-Emotional Competence and Behavioural Difficulties: A Variable- and Person-Centred Approach

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ABSTRACT

Background: The present study examined the relations between maternal parenting stress and preschoolers' psychosocial adjustment, using both a variable-centred and a person-centred approach.

Methods: The study had three main purposes: (a) evaluating the associations of maternal parenting stress with children's social-emotional competence and behavioural difficulties, as perceived by their mothers; (b) inquiring the existence of different children's clusters based on their level of social-emotional competence and behavioural difficulties; (c) exploring differences in maternal parenting stress linked to cluster membership. Participants were 91 Italian mothers, aged from 22 to 47 years old ($M = 35.14$, $SD = 5.80$), having a preschool child from 3 to 6 years old ($M = 4.6$, $SD = 0.80$).

Results: Overall, results showed that maternal parenting stress was negatively associated with children's social-emotional competence, and positively associated with their behavioural difficulties. A cluster analysis allowed identifying four children's profiles characterized by different levels of social-emotional competence and behavioural difficulties: Maladjusted, Troubled, Adjusted and Controversial.

Conclusions: Results also evidenced differences among clusters in maternal parenting stress. Ultimately, this study suggests that interventions may consider reducing maternal parenting stress to promote children's psychosocial adjustment.

Keywords: *Parenting Stress; Preschool; Social Competence; Emotional Competence; Behavioural Problems; Cluster Analysis.*

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Introduction

Social-emotional competence includes skills that fall into both the emotional domain, such as the ability to understand their own and others' emotions, to regulate them and to express them appropriately (Denham et al., 2011). The social domain, such as the ability to achieve personal goals in interaction with others while simultaneously maintaining positive relationships over time and across situations (Fabes et al., 2006; Rubin & Rose-Krasnor, 1992). Social-emotional competence takes on vital importance in preschool age, an extremely rich and sensitive stage of development, which lays the foundations for the acquisition of crucial skills for positive peer interactions, personal well-being, and the adequate achievement of subsequent developmental goals (Elia & Cassibba, 2009). Therefore, social-emotional competence is an important indicator of children's psychosocial adjustment. Several studies highlight that children who possess greater social-emotional skills are more empathic and prosocial (Rose-Krasnor & Denham, 2009), are viewed positively by peers and teachers (Corsano & Cigala, 2004), have a higher chance of academic success (Denham, 2006), and fewer externalizing and internalizing disorders (Huber et al., 2019). On the contrary, children with poor social-emotional competence are more at risk for the development of hyperactivity, aggression, social withdrawal, anxious or depressive problems (Baumgartner, 2010).

The healthy social and emotional development of children is promoted and encouraged by parents who are supportive, stimulating and sensitive to their individual needs (Sanders & Turner, 2018). However, parenting is sometimes an excessively stressful task, and when parenting stress reaches a clinically significant level, it could induce dysfunctional parenting attitudes and behaviours, which, in turn, could lead to various outcomes of maladjustment in children (Abidin, 1990a, 1992). Parenting stress can be defined as a specific form of stress that arises from a perceived discrepancy between situational demands related to parenting and personal resources (Abidin, 1990a, 1995; Deater-Deckard, 2004; Deater-Deckard & Panneton, 2017). According to Abidin (1990b), it is possible to detect three different dimensions in parenting stress: (1) the perception of a psychological discomfort connected to the exercise of the parental role due to depressive experiences, anxiety, dissatisfaction and a general feeling of parental incompetence and of being coerced and limited in other areas of life by parental responsibilities (defined as *Parental Distress – PD*); (2) the perception of a dysfunctional interaction with their child due to the feeling that the child does not meet their

expectations, disappoints or does not recognize their parental role (defined as *Parent-Child Dysfunctional Interaction – P-CDI*); (3) the perception of their child as demanding, provocative, uncooperative, and with temperamental qualities that make it difficult to care for and manage them (defined as *Difficult Child – DC*).

Parenting stress plays a relevant role on children's psychosocial adjustment (Holly et al., 2019; Östberg & Hagekull 2013). In general, high levels of parenting stress have been associated with problematic child development. Specifically, most of the studies (for review, Barroso et al., 2018) have focused on children's behavioural difficulties, both externalizing (hyperactivity, impulsivity, and aggression) and internalizing (emotional suffering, social withdrawal, and anxiety). However, conflicting results emerged in the literature regarding the specific associations between each dimension of parenting stress and children's behavioural problems. For example, some authors (Costa et al., 2006) have found that P-CDI and DC positively related with children's internalizing and externalizing behaviours, while PD was not related with children's adjustment. In addition, Camisasca and Di Blasio (2014, 2019) found that mothers' perception of P-CDI was specifically associated with children's symptoms of anxiety and depression, while mothers' perception of DC was specifically associated with children's symptoms of anger and aggression. On the contrary, Gatta et al. (2016) found that also PD was related to children's behavioural difficulties. Overall, these studies show the existence of an association between parenting stress and children's behavioural problems.

To the best of our knowledge, fewer studies examined the relation of parenting stress with children's social-emotional competence (Anthony et al., 2005; Barboza-Salerno, 2020; Östberg & Hagekull, 2013; Santelices et al., 2021). For instance, Anthony et al. (2005) found a significant correlation between parenting stress of both parents and preschool children's social-emotional functioning in the kindergarten setting. Barboza-Salerno (2020) examined the longitudinal relationships between postpartum parenting stress and children's social-emotional competence three years after birth. Analyses revealed that relatively high initial levels of maternal parenting stress and its increase over the years predicted lower social-emotional competence in children. Specifically, mothers who reported high levels of stress early after childbirth, and who reported increasing stress, later had children with lower levels of prosocial functioning. In a more recent study, Santelices et al. (2021) examined the influence of mothers' mental health on their preschool children's social-emotional

development. Results indicated that higher levels of maternal parenting stress were related to greater difficulties in children's social-emotional development.

In summary, the existing literature abundantly underlines the strict relation between children's psychosocial adjustment and parenting stress, especially maternal stress. Even today, in fact, mothers represent the relational fulcrum of the family, while fathers seem to maintain a more peripheral position (Greene & Grimsley, 1990; Noller & Callan, 1990). This is particularly true in Italy, where the centrality of the mother is more emphasized than in many other cultures (Carrà & Marta, 1995; Malagoli Togliatti & Ardone, 1993). In Italian families, besides the task of child-rearing, mothers have also the role of providing guidance, socialization, and the transmission of norms and values (Rosnati, 1996; Scabini, 2000). This is the reason why in the present study, as in most of the works on this topic, it was decided to focus attention on maternal parenting stress.

Despite the strength of the relations between maternal parenting stress and children's social-emotional competence and behavioural difficulties, findings previously cited come only from a variable-centred approach. Although variable-centred analysis is useful in mapping observed associations among variables, they are difficult to translate into properties characterizing individuals (Bergman et al., 2009). Furthermore, as Rademacher et al. (2021) argue, if we consider that children can draw upon a range of skills in any given situation and that their behaviours are driven by social, emotional and cognitive factors, examining variables in isolation cannot provide a clear holistic understanding. Concentration on variable-centred models thus creates a gap in our understanding of preschool children and our abilities to promote their successful development. In contrast, person-centred approach allows identification of subgroups, whose constellations vary in meaningful ways (Bergman & Magnusson, 1997). Such approach provides a more holistic – and at the same time more individualized – comprehension to child development.

There is burgeoning evidence that distinct psychosocial adjustment patterns emerge in early childhood (Denham et al., 2012; Rademacher et al., 2021; Thomson et al., 2017, 2019). One of the goals of Denham et al. (2012) was to distinguish groups of children based on their emotional knowledge, self-regulation, social problem solving, and social and emotional behaviour. The authors identified three groups of children, which differed significantly from each other in all social and emotional competence variables: Social-Emotional Learning (SEL) Risk, SEL Competent-Social/Expressive, and SEL Competent-Restrained. Rademacher et al. (2021) also identified three profiles, based on self-regulation skills, social-

emotional competences, and level of externalizing behaviour problems: one of the three groups included well-adapted children, another group included children with a poor adjustment, and the third group included children with even worse adjustment. Finally, Thomson et al. (2017, 2019) – based on eight indicators of children’s social-emotional health (e.g., responsibility and respect, prosocial and helping behaviour, anxious and fearful behaviour, hyperactive and inattentive behaviour) – identified six profiles, ranging from overall low social-emotional functioning to overall high social-emotional functioning. However, none of these studies examined parenting stress. Thus, the benefit of this research is to have used not only a variable-centred approach but also a person-centred approach, which allowed us to identify configurations of preschool children based on their psychosocial adjustment, and to have related these clusters with maternal parenting stress.

In light of previous considerations, the general purpose of the present study was to investigate the relations between maternal parenting stress and pre-schoolers’ social-emotional competence (expressed in terms of emotional regulation, communication skills, understanding and respect of the rules, and prosocial behaviour) and behavioural difficulties (expressed in terms of hyperactivity, emotional symptoms, conduct problems and peer problems). In particular, three aims were set.

According to a variable-centred approach, the first aim was to evaluate the associations of maternal parenting stress with children’s social-emotional competence and behavioural difficulties. Based on previous studies, it was hypothesized that maternal parenting stress would be associated negatively with children’s social-emotional competence and positively with their behavioural difficulties.

According to a person-centred approach, the second aim was to explore the potential existence of typical configurations of pre-schoolers based on their social-emotional competence and behavioural difficulties. The existence of at least two child psychosocial adjustment profiles were hypothesized: one characterized by adequate social-emotional competence and few behavioural difficulties, and one characterized by high behavioural difficulties and poor social-emotional competence.

Finally, the third aim was to analyse potential differences in maternal parenting stress linked to these configurations’ membership. Since previous studies using a variable-centred approach have demonstrated that higher levels of maternal parenting stress are associated negatively with preschool children’s social-emotional competence (Barboza-Salerno, 2020), and positively with behavioural problems (Barroso et al., 2018), we expected to find a similar

trend within the identified profiles. More specifically, it was hypothesized that mothers who perceive their child as less socially and emotionally competent and with higher behavioural difficulties will be those who report greater parenting stress and vice versa.

Method

Participants

The total sample comprised 91 mothers, aged from 22 to 47 years ($M = 35.14$ years, $SD = 5.80$) and living in the South of Italy; 90% were of Italian nationality, and 10% of other nationalities. Children for whom they responded ranged in age between 3 and 6 years ($M = 4.6$ years, $SD = 0.80$) and 56% of them were females; 32% were an only child, 38% had a brother or sister, and 30% had more than two siblings. Children's fathers aged between 19 and 51 years ($M = 38.10$ years, $SD = 6.60$). Table 1 shows parents' socio-demographic characteristics.

	Mothers %	Fathers %
Marital status		
Married or cohabiting	92	92
Separated or divorced	8	8
Educational level		
Primary school diploma	10	9
Middle school diploma	43	42
High school graduated	19	34
University degree	27	15
No qualification	1	0
Working conditions		
Unskilled work	10	21
Skilled work	3	16
Desk job	6	27
Professional	20	16
Unemployed	61	20

Table 1 - Parents' socio-demographic characteristics ($n = 91$)

Procedure

Mothers were recruited in the kindergarten attended by their children in Palermo city (South of Italy). Those who were interested in participation were informed about the purpose of the research, the voluntary nature of participation and the anonymity of responses. All mothers received and signed informed consent. They were individually administered the questionnaires, which were delivered in a sealed and anonymous envelope, through their children's teachers, with the request that they be completed at their home.

Privacy and anonymity of their answers were guaranteed and the research obtained the authorization of the local ethics committee. The present study followed the ethical standards of the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Measures

Maternal Parenting Stress. A scale derived by the Parenting Stress Index - Short Form (PSI-SF; Abidin, 1995; Italian adaptation: Guarino et al., 2008) was used. This scale consists of 15 items, articulated in three subscales, each consisting of five items: (a) Parental Distress (PD), which measures the sense of incompetence about raising of child, the conflict with the partner, the lack of social support and the stress associated with restrictions resulting from the parental role (e.g., “To meet the needs of my child I realize that I sacrifice my life more than I expected”); (b) Parent-Child Dysfunctional Interaction (P-CDI), which reflects the negative feelings related to the expectations towards the child and the confirmation or not of the role as a parent in the relationship with the child (e.g., “I feel that my child does not like me and that he/she does not want to be near me”); (c) Difficult Child (DC), which indicates parent’s perception of child characteristics in terms of temperament, demanding or provocative behaviours, not collaborative and picky (e.g., “My child cries and agitates much more than most children”). Items were rated on a five-point Likert scale, ranging from 1 (Disagree) to 5 (Strongly agree). In the present study, all subscales had good internal consistency: Cronbach’s coefficient α ranged from .72 to .84.

Children’s Social-Emotional Competence. A scale derived by the Social Competence Scale (SCS; Gouley et al., 2008) was used. This scale consists of 8 items, divided into three subscales: (a) Emotion Regulation, which evaluates the ability to control actively and effectively emotions and inhibit inappropriate behaviours (five items, e.g., “He/she can control his/her mood when he/she disagrees with someone”); (b) Communication Skills, which evaluates the ability to communicate effectively with others (two items, e.g., “He/she is able to give suggestions and express his/her opinions without being overbearing”); (c) Understanding and Respect of the Rules, which evaluates the ability to recognize, understand and respect the defined rules (one item: “He/she understands and respects the rules”). Additionally, the last subscale from the Strengths and Difficulties Questionnaire was used: Prosocial Scale, which evaluates the ability to engage in prosocial behaviours, aimed at promoting a positive relationship with others (four items, e.g., “He/she is of help if someone gets hurt, is angry or sick”). Items were rated on a five-point Likert scale, ranging from 1 (Never) to 5 (Always). In the present study, all subscales had good internal consistency: Cronbach’s coefficient α ranged from .76 to .83.

Children’s Behavioural Difficulties. The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997; Italian validation: Marzocchi et al., 2002) was used. It consists of 22 items,

divided into five subscales. More precisely, the first four subscales were used: (a) Hyperactivity Scale, which evaluates the presence of difficulties related to attention (three items, e.g., “He/she is easily distracted, unable to concentrate”); (b) Emotional Symptoms Scale, which evaluates the presence of difficulties in managing situations that can be emotionally stressful (five items, e.g., “He/she is nervous or uncomfortable in new situations, he/she feels unsure of himself/herself”); (c) Conduct Problems Scale, which evaluates the presence of conduct problems of an externalizing type (five items, e.g., “He/she argues with other children or intentionally annoys them”); and (d) Peer Problems Scale, which evaluates the presence of problems in the relationship with peers (five items, e.g., “He/she is lonely, tends to play alone”). Items were rated on a five-point Likert scale, ranging from 1 (Not true) to 5 (Always true). In the present study, all subscales had good internal consistency: Cronbach’s coefficient α ranged from .78 to .85.

Plan of Data Analysis

Firstly, in order to evaluate the associations of maternal parenting stress with children’s social-emotional competence and behavioural difficulties, Pearson correlation coefficients were computed. Secondly, in order to explore the potential existence of typical configurations of pre-schoolers based on their social-emotional competence and behavioural difficulties, a cluster analysis was performed. Finally, in order to analyse potential differences in maternal parenting stress associated to these configurations’ membership, Kruskal-Wallis test was computed.

Results

Relations among Maternal Parenting Stress, Children’s Social-Emotional Competence and Behavioural Difficulties. Means, standard deviations and Pearson correlation coefficients are shown in Table 2. Results indicated that all dimensions of maternal parenting stress are negatively correlated with children’s emotional regulation, communication skills, ability to understand and respect the rules, and prosocial behaviours, but not all the correlations are significant. Results also indicated that all dimensions of maternal parenting stress are positively correlated with children’s hyperactivity, emotional symptoms, conduct problems and peer problems. More specifically, regarding children’s social-emotional competence, there are higher correlations between mothers’ perception of DC and children’s ability to communicate with others. The PD dimension has significant relations only with emotional regulation and communication skills. For P-CDI dimension, instead, only the correlation with children’s ability to understand and respect the rules is not significant.

	1	2	3	4	5	6	7	8	9	10	11
1 Parental Distress	—										
2 Parent-Child Dysfunctional Interaction	.49**	—									
3 Difficult Child	.42**	.38**	—								
4 Emotion Regulation	-.24*	-.23*	-.35**	—							
5 Communication Skills	-.34**	-.32**	-.40**	.49**	—						
6 Understanding and Respect of the Rules	-.14	-.02	-.29**	.40**	.50**	—					
7 Prosocial Scale	-.15	-.25*	-.15	.44**	.52**	.33**	—				
8 Hyperactivity Scale	.26*	.49**	.50**	-.37**	-.32**	-.37**	-.22*	—			
9 Emotional Symptoms Scale	.30**	.26*	.32**	-.22*	-.05	-.11	.09	.30**	—		
10 Conduct Problems Scale	.34**	.31**	.57**	-.39**	-.51**	-.25*	-.25*	.43**	.36**	—	
11 Peer Problems Scale	.35**	.36**	.30**	-.37**	-.25*	-.14	-.33**	.34**	.19	.25*	—
<i>M</i>	1.68	1.29	1.85	3.36	3.63	3.99	3.73	2.48	1.62	1.81	1.73
<i>DS</i>	.71	.37	.78	.66	.92	.81	.91	.89	.58	.60	.59

** $p < .01$; * $p < .05$

Table 2 - Means, standard deviations and Pearson correlation coefficients of study variables ($n = 91$)

Regarding children's behavioural difficulties, stronger positive and significant correlations with all three dimensions of parenting stress emerge from the data. In particular, higher correlations are found in the associations between DC factor and conduct problems and hyperactivity. Overall, all aspects related to children's behavioural difficulties have stronger relations with DC factor than the other two dimensions of parenting stress, except for peer problems, which are more positively correlated with P-CDI and with PD.

Derivation of Configurations from Children's Social-Emotional Competence and Behavioural Difficulties. Table 3 gives the number and the percentage of children in each configuration, along with standardized mean scores of the variables and standard deviations.

We performed a cluster analysis to verify whether it was possible to distinguish several profiles of preschoolers based on their social-emotional competence and behavioural difficulties. We determined configurations through Ward's (1963) clustering algorithm, based on squared Euclidean differences. The number of configurations to retain was decided by examining a scree plot of distance coefficients as a function of the number of configurations at each agglomerative step (Aldenderfer & Blashfield, 1984). Four configurations were retained because the scree plot indicated that the presence of additional configurations (more than four) did not reduce distance coefficients more than a minimal amount.

	Maladjusted		Troubled		Adjusted		Controversial	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Emotion Regulation	-0.30	0.89	-1.39	1.46	0.46	0.69	0.27	0.82
Communication Skills	-0.64	0.73	-1.39	1.21	0.43	0.60	1.07	0.44
Understanding/Respect of the Rules	-0.44	0.86	-0.87	1.17	0.25	0.91	0.81	0.61
Prosocial Scale	-0.55	0.72	-0.52	1.53	0.62	0.71	0.12	0.76
Hyperactivity Scale	0.37	0.83	1.76	0.82	-0.55	0.69	-0.33	0.81
Emotional Symptoms Scale	-0.22	0.69	1.49	1.50	-0.11	0.87	0.08	1.15
Conduct Problems Scale	0.32	0.89	1.64	1.49	-0.47	0.57	-0.38	0.77
Peer Problems Scale	0.08	0.76	1.43	1.00	-0.75	0.50	0.95	0.70
<i>N</i>	33		7		37		14	
<i>%</i>	36		8		41		15	

Table 3 - Means and standard deviations of children's social-emotional competence and behavioural difficulties standardized scores by clusters ($n = 91$)

For descriptive purposes, $\geq |0.30|$ was used as a cut-off to distinguish above and below average mean scores. The configurations were labelled as follows:

- *Maladjusted* (36%): mean scores below average on emotional regulation, communication skills, understanding/respect of the rules and prosocial behaviours, and mean scores above average on hyperactivity and conduct problems;
- *Troubled* (8%): mean scores below average on emotional regulation, communication skills, understanding/respect of the rules and prosocial behaviours, and mean scores above average on hyperactivity, emotional symptoms, conduct problems and peer problems;
- *Adjusted* (41%): mean scores above average on emotional regulation, communication skills and prosocial behaviours, and mean scores below average on hyperactivity, conduct problems and peer problems;

- *Controversial* (15%): mean scores above average on communication skills, understanding/respect of the rules and peer problems, and mean scores below average on hyperactivity and conduct problems.

In order to determine whether configurations were related to children's gender, a 4 (configuration) \times 2 (gender) chi-square analysis was performed. Results did not indicate an association between configuration membership and gender [χ^2 (3, $n = 91$) = 2.08; $p = .56$], showing that configurations were equally represented by boys and girls.

In summary, the cluster analysis showed the presence of one configuration of children characterized by low social-emotional competence and high behavioural difficulties (*Maladjusted*); one configuration of children characterized by very low social-emotional competence and very high behavioural difficulties (*Troubled*); one configuration of children characterized by high social-emotional competence and few behavioural difficulties (*Adjusted*). Finally one configuration of children characterized by high social-emotional competence, but also high peer problems, and few behavioural difficulties (*Controversial*).

Differences between Emerged Profiles in Maternal Parenting Stress. In order to examine differences in maternal parenting stress associated with configuration membership, the Kruskal-Wallis test was calculated.

	Maladjusted ($n = 33$)		Troubled ($n = 7$)		Adjusted ($n = 37$)		Controversial ($n = 14$)		K-W Test	r
	Me	Range	Me	Range	Me	Range	Me	Range		
Parental Distress	1.6 ^{ab}	1.1-2.3	2.4 ^a	1.8-3.0	1.2 ^b	1.0-1.8	1.5 ^{ab}	1.0-1.9	12.95 ^{**}	1.36
Parent-Child Dysfunctional Interaction	1.4 ^{ac}	1.0-1.6	1.8 ^a	1.0-2.4	1.0 ^{bc}	1.0-1.2	1.1 ^{ac}	1.0-1.4	8.60 [*]	0.90
Difficult Child	1.8 ^a	1.4-2.4	3.0 ^b	2.2-3.4	1.4 ^a	1.0-2.3	1.2 ^c	1.0-1.6	21.60 ^{***}	2.26

Note. ^{abc} The medians with the same apex do not differ from each other in the Mann-Whitney *U*-test. * $p < .05$; ** $p < .01$; *** $p < .001$

Table 4 - Medians and interquartile ranges of maternal parenting stress by configurations, and Kruskal-Wallis test

Results (reported in Table 4) highlighted that mothers of *Troubled* and *Controversial* children reported, respectively, the highest and lowest scores in the DC dimension, which means that

mothers of the *Troubled* perceived their child as more difficult, and mothers of the *Controversial* as less difficult to manage, than mothers of children of the other clusters.

Furthermore, results revealed significant differences in P-CDI and PD levels between the *Troubled* and the *Adjusted* that is mothers of the *Troubled* reported a more dysfunctional interaction with their child and greater discomfort in exercise of parental role, than mothers of the *Adjusted*.

Discussion

The general aim of the present study was to explore the associations between maternal parenting stress and pre-schoolers' psychosocial adjustment, expressed in terms of social-emotional competence and behavioural difficulties, using both a variable- and a person-centred approach. More specifically, the first aim was to evaluate the relations of maternal parenting stress with children's social-emotional competence and behavioural difficulties. Consistent with the initial hypotheses and in line with the existing literature, results showed that maternal parenting stress was negatively associated with children's social-emotional competence (Anthony et al., 2005; Barboza-Salerno, 2020) and positively with their behavioural difficulties (Camisasca & Di Blasio, 2014, 2019; Gatta et al., 2016).

As to the relation between maternal parenting stress and children's social-emotional competence, we found that mothers who perceived their children as capable of regulating their emotions and communicating appropriately with others tended to report lower levels of parenting stress in all three dimensions. Moreover, we found that mothers who perceived their children as capable of understanding and respecting the rules and behaving prosocially tended, respectively, to perceive them as less difficult and to perceive their interaction with them as less dysfunctional. These results seem to show that children's abilities to control actively their emotions and to communicate effectively with others represent the aspects of social-emotional competence (as investigated in this study) more closely related to the different dimensions of parenting stress experienced by mothers. According to Bowlby's attachment theory (1969), children develop the ability to relate to the outside and adaptive emotional regulation strategies within their secure attachment relationships, as a result of the sensitivity and the responsiveness of their caregiver. The latter are parenting behaviours that have been systematically observed in less stressed parents (Abidin et al., 1992; McBride & Mills, 1994; Ponnet et al., 2013; Ward & Lee, 2020). Our findings also seem to show that children's ability to understand and respect the rules and to establish positive relationships with others by behaving in a prosocial way have a greater impact, respectively, on DC and on P-CDI dimensions. Being able to understand and respect the rules implies the ability to obey parental norms and to inhibit inappropriate behaviour. Thus, this is a fundamental characteristic of children's behaviour that makes easy – or difficult, if absent – to take care of them. In fact, children who do not respect their parents' directives and acts in contrast with their values and standards requires not only an active management by parents, but also prolonged and elevated states of vigilance (Abidin, 1995), that consequently create stress as their children are difficult to manage behaviorally. Furthermore, it is possible that the responsive behaviours that mothers use in the interactions with their

children when they are less stressed might serve as a model for prosocial behaviour, thus encouraging children to act similarly (Ward & Lee, 2020).

As to the relation between maternal parenting stress and children's behavioural difficulties, we found that mothers who perceived their children as having difficulties in maintaining attention, in managing situations that can be emotionally stressful, in establishing peer relationships, and as having conduct problems tended to report higher levels of parenting stress in all three dimensions. These results are consistent with those found by Gatta et al. (2016) and contrasted with those found by Costa et al. (2006), and Camisasca and Di Blasio (2014, 2019), because children's behavioural problems were not only related with maternal perceptions of DC and P-CDI, but also with PD. When this latter parenting stress dimension reaches high levels along with the other two, it can be indicative of possible parental abuse and maltreatment behaviours (Abidin, 1995), and in the literature it is known that the propensity to maltreatment can contribute to the development and exacerbation of behavioural disorders in the child (Miragoli et al., 2011). In particular, in the present study, a strong link emerged between maternal perception of DC and children's conduct problems and hyperactivity. Abidin (1995) states that when parents experience such stressors from the child, they often face an open challenge, acts of aggression, obstinacy, distractibility, demands for attention and constant care. So, the child seems to exert direct pressure on parents which can lead to a prolonged loss of energy and consequent stress. Furthermore, PD and P-CDI dimensions have been shown to be strongly linked to peer problems. These results are consistent with studies by Abidin et al. (1992), Costa et al. (2006), and Camisasca and Di Blasio (2019), who found that mothers' beliefs that their children do not meet their expectations or that their interactions are not reinforcing (P-CDI), along with general feelings of disappointment and incompetence (PD), may prompt children's withdrawn and anxious behaviours or experiences of discouragement and loneliness which may undermine their ability/willingness to engage in peer interactions. However, considering the bidirectional relationship existing between parenting stress and children's adjustment (Neece et al., 2012; Woodman et al., 2015), these ideas should be considered as a tentative hypothesis due to the limitations of the study design which does not allow to test directional effects. The second goal of this study was to identify potential different profiles of children on the basis of their social-emotional competence and behavioural difficulties. Results revealed that children can be classified into four clusters: two groups showed a negative psychosocial adjustment (the *Maladjusted* and the *Troubled*), one of which (*Troubled*) with higher difficulties, and two groups (the *Adjusted* and the *Controversial*) showed a better psychosocial adjustment, one of which (*Adjusted*) with lesser difficulties. Globally, these results are consistent with those obtained by Denham et al. (2012), Rademacher et al. (2021), and Thomson et al. (2017, 2019), who found different profiles ranging from overall low social-emotional functioning to overall high social-emotional functioning. More specifically, children classified as *Maladjusted* were characterized by low ability in regulating actively their emotions, in communicating effectively with others, in recognizing, understanding and respecting the rules, and in initiating and maintaining positive peer interactions; also, they reported high levels of hyperactivity and conduct problems. Children classified as *Troubled* seemed to have a very limited capacity for emotional regulation and

communication, and they were less inclined to understand and respect the rules and to prosocially behave; also, they showed hyperactive behaviour, very high levels of externalizing and internalizing problems, and difficult peer relationships. Children classified as *Adjusted* showed high emotional regulation, high levels of communication skills and prosocial behaviour, few difficulties related to attention, few conduct problems, and more positive peer relationships. Finally, children classified as *Controversial* exhibited very high levels of communication skills, high propensity to respect the rules, and few hyperactive and externalizing difficulties, but they were also perceived by their mothers as unable to establish positive peer relationships. This characteristic of *Controversial* children could be due to their difficulty in managing situations that can be emotionally stressful, as suggested by a greater evidence of emotional symptoms compared to *Adjusted* children, and/or to a lower predisposition to prosociality compared to *Adjusted* children. A certain similarity was found between the latter cluster and the SEL Competent-Restrained group identified by Denham et al. (2012). This label evokes a group of preschool children who, despite their differences with the most at risk group and their strengths in emotional knowledge and self-regulation, present themselves as relatively non-emotional and non-interactive in the school environment. To somehow explain the social-emotional profile of these children, Denham et al. (2012) invoke the conception of “ego over-control”, which implies self-regulated inhibition of actions and affects and isolation from the environment (Block & Block, 1980).

Results regarding the final aim of this study, that is to assess the differences in maternal parenting stress levels associated with the cluster membership, can help us better understand these children’s psychosocial adjustment profiles. As hypothesized, results showed that mothers of *Troubled* children (characterized by the worst psychosocial adjustment) reported significantly higher levels of parenting stress in all three dimensions, compared to mothers in all other clusters. Mothers of *Maladjusted* children tended to report slightly higher levels of parenting stress than mothers of *Adjusted* children, however these differences were not significant. Regarding the mothers of *Adjusted* children (characterized by the best psychosocial adjustment), the hypotheses were only partially confirmed, since they reported less parenting stress than all the others only in the P-CDI and PD dimensions, but no significant differences were found with the other clusters linked to DC dimension. Such differences were found among the mothers of *Controversial* children, who reported a significantly lower parenting stress level than all other clusters only in DC dimension. It is possible that *Adjusted* children, being more inclined to social interaction than the *Controversial*, sometimes find themselves having to face and manage conflicts that inevitably arise among peers (Elia & Cassibba, 2009), and therefore to implement some more aggressive behaviours or, in general, requiring greater attention and control from the adult. *Controversial* children, conversely, do not even put themselves in the position of being sometimes perceived by their parents as difficult to manage behaviorally, because they tend to isolate themselves and be more withdrawn. Furthermore, it is worth noting that the *Controversial* are characterized by higher levels, than the *Adjusted*, in the Understanding and Respect of the Rules, and, as previously written, in this study mothers who perceived their children as capable of understanding and respecting the rules tended to perceive them as less difficult. We could therefore say that children who are part of *Controversial* group are obedient, inhibited and quietly compliant children. It may be helpful to see if

these children, during kindergarten, profitably observe the peer world and learn (but not necessarily demonstrate) prosocial behaviours, which could help them later.

Limitations of the study and future research perspectives

The results of this study should be interpreted in light of several limitations. First of all, only maternal perceptions were used to detect children's social-emotional competence and behavioural difficulties. Although mothers are often regarded as the best informants of their children's behaviour (Renk et al., 2007), it would be appropriate to incorporate data from multiple sources (such as fathers, teachers and peers) to ensure a more accurate description and understanding of the child. Furthermore, a broader focus that also takes fathers into account could highlight a different role for parenting stress.

Secondly, the cross-sectional design of this study does not allow to grasp the dynamics and processes of parenting stress. Future research should adopt a longitudinal approach in order to better monitor changes in parenting stress levels, which may vary over time. In addition, a longitudinal design might help to test directional effects or potential bidirectional effects, and the development of clusters over time.

Finally, the sample of the research was small and mostly composed of Italian mothers coming from an urban community. As a consequence, it is unclear to what extent these findings generalize to other populations. Future studies should include larger and more diverse samples, particularly those that would be suitable for more sophisticated statistical analyses and that would allow for comparisons across different ethnic groups.

Despite these shortcomings, this study seems to confirm that maternal parenting stress might play a dysfunctional role in children's psychosocial adjustment, especially in the development of adequate social-emotional competences in preschoolers. Thus, it suggests that interventions should support mothers in the exercise of their parenthood. Interestingly, secure attachment has been found to mitigate the negative effects of parenting stress on children's social-emotional and behavioural problems (Tharner et al., 2012). As a consequence, intervention programs might focus on helping mothers relate properly to their children and on promoting a secure attachment relationship. This, in turn, might alleviate maternal parenting stress, foster children's social-emotional competence, as well as buffer the onset of internalizing and externalizing problems.

Declaration of Interest statement: none

Authors' contribution

Cucinella N. assisted with the generation of the initial draft of the whole manuscript, manuscript editing and data interpretation; Canale R. assisted with study design, data collection and data analysis; Iannello M. N. assisted with data analysis and manuscript editing; Inguglia C. and Inguglia S. assisted with study concept and study global supervision. All authors contributed to and have approved the final manuscript.

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