

**An exploratory survey on the emotional-adaptive functioning of children aged 4 to 10 years: the opinion of 1399 parents living in the Italian provinces of Piacenza, Bergamo, Lodi and Cremona.**

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**Important Caveat:** This report is intended as a preliminary work aimed at raising public debate on the topic of psychological consequences of Covid-19 lockdown in children. Results are exploratory and conclusions are speculative and must be confirmed through further rigorous studies.

## **Background**

On the basis of the exploratory survey by Pisano, Galimi & Cerniglia (2020) this report addressed the parents of children aged 4-10 years living in four provinces of northern Italy highly affected by the Covid-19 pandemic.

## **Objectives**

Based on the theoretical and empirical premises set out in the first survey, this contribution aimed to collect the opinion of parents of children between 4 and 10 years of age, regarding their emotional/behavioral functioning. The survey involved parents living in four provinces of northern Italy (in lockdown for about two months) with high contagion rate.

## **Methodology**

Parents were asked to answer the questions contained in an ad-hoc questionnaire (visible here: <https://psyarxiv.com/stwbn/>). The questionnaire was divided into three areas, four questions per area, for a total of twelve questions.

The areas composing the tool have been identified on the basis of previous literature on children's responses to stress and potentially traumatic situations (Dehon & Scheeringa, 2006 ; Cohen, Kelleher & Mannarino, 2008 ).

## **The sample**

The questionnaire was administered to parents living in the four provinces of Bergamo, Lodi, Cremona (Lombardy) and Piacenza (Emilia Romagna) and having children aged between 4 and 10 years. The participants were guaranteed anonymity and the study was conducted according to the recommendations of the Helsinki Declaration.

Parents were asked to give their opinion on the emotional/behavioral responses of children in this age group because, generally, around the age of 4 years, important developmental objectives were achieved (sphincter control, emotional self-regulation, falling asleep in one's own room, etc.) and it is therefore possible to assess any regression in acquired abilities and strategies to cope with potentially disorganizing situations (Rice & Groves, 2005 ). Moreover, after the age of 10, with the emergence of pre-adolescence, physical and emotional changes begin that reorganize the children's emotional experience, the relationship with attachment figures and behavioral responses to stress. Changes accompanied by the increased maturation of the frontal cortex that favors abstract reasoning and the ability to moderate impulsive behavior (Gieed, 2012 ).

The link to access the online questionnaire has been active from Saturday 11th April, 08.50 a.m., to Sunday 19th April 2020, 3.00 p.m.. 1499 questionnaires have been filled in. The analysis of the sample distribution in relation to age and residence allowed to admit 1399 completed questionnaires (Tab. A and A1). No information was collected about the gender of the child (M/F).

**Tab. A. Distribution of the sample per age**

<b>Age</b>	<b>N</b>	<b>F%</b>
4	242	17,30%
5	273	19,51%
6	221	15,80%
7	198	14,15%
8	163	11,65%
9	155	11,08%
10	147	10,51%
<b>TOTAL</b>	<b>1399</b>	<b>100%</b>

**Tab. A1. Distribution of the sample per geographical areas**

<b>Province</b>	<b>N</b>
Bergamo	494
Lodi	197
Cremona	129
Piacenza	579
<b>TOTALE</b>	<b>1399</b>

## **Data analysis**

### **Area A - regression.**

As for the manifestation of regressive behavior:

- 1) 33.95% of the children, who before the coronavirus emergency had acquired the competence to sleep alone in their bedroom, asked to sleep in their parents' bed (Tab. 1 and Graf.1). The most representative age of the problem is 8 years (42.94%);
- 2) 3.65% had episodes of enuresis (Tab. 2 and Graf. 2), which manifested mainly in younger children;
- 3) 12.65% had a general difficulty in language skills (Tab. 3 and Graph. 3). In this case, the problem was highlighted above all around the age of 8 (14.72%);
- 4) 27.45% began to express fears that they did not have before. In relation to age, the problem manifested mostly around the age of 4 (31.40%).

## **Area B – protest**

With regard to the manifestation of protest behavior for the sudden change in lifestyle:

5) 68.41% of children showed increased irritability, intolerance to rules, whims and excessive demands. (Tab. 5 and Graph. 5). The age group most exposed to the problem is 4-5 years old, specifically 4-year-old children were more irritable in 73.97% of cases while 5-year-old children in 72.89% of cases;

6) 36.60% showed continuous changes in mood (Tab. 6 and Graph. 6), especially in children aged 4 (39.67%) and 8 (41.10%);

7) 28.66% showed sleep problems: difficulty falling asleep, agitation, frequent awakenings (Tab. 7 and Graph. 7). In this case the problem was more evident around the age of 8 (33.74%).

8) 38.38% manifested nervousness towards the pandemic when at home or on TV, when the coronavirus is mentioned or because of restrictions (Tab. 8 and Graph. 8), especially in 7-year-old children (42.42%).

### **Area C – adaptation**

As for the manifestation of adaptive behaviors with particular reference to calmness, balance, adaptation to restrictions and the manifestation of listlessness towards the activities he was carrying out before the pandemic:

- 1) 18.58% of the children seemed calmer to their parents (Tab. 9 and Graph. 9). The most representative age group is 9-10 years old (20.65%), 10 years old (29.25%);
- 2) 37.24% seemed wiser and more reflective (Tab. 10 and Graph. 10). The most representative ages are 7 (40.40%) and 10 years (42.86%).
- 3) 90.06% seemed able to adapt to the restrictions caused by the pandemic (Tab. 11 and Graph. 11). The adaptation occurred mainly at the age of 10 (93.2%);
- 4) 61.40% seemed more listless compared to the activities they performed before the pandemic, such as playing, studying, ordering games, etc. (Tab. 12 and Graph. 12). The symptom appeared significantly in the 8-9 year age group, specifically 8 years (68.1%), 9 years (69.03%).

## Discussion

The analysis of the data showed that according to parents, during the first two months (57 days) of quarantine, the pandemic seems to have activated an emotional-behavioral response in children. In particular: about one child out of three (33.95%) showed a higher demand for physical proximity to parents during the night and manifested fears (27.45%) that he had never had before. More than half of the children (68.41%) showed greater irritability, intolerance to rules, whims and excessive demands, and about one in three mood swings (36.60%), sleep problems including difficulty falling asleep, agitation and frequent waking up (28.66%) but also nervousness about the pandemic when at home or on TV about the coronavirus or because of restrictions (38.38%).

According to the parents' opinion, one in five children (18.58%) seemed calmer and one in three (37.24%) more thoughtful. Almost all of them (90.06%) seemed able to adapt to the pandemic restrictions even though one in two (61.40%) seemed more listless than he/she was with regards to activities they were doing before the pandemic including playing, studying, tidying up.

Moreover, according to many parents, the children did not show emotions or problematic behavior. However, we can hypothesize that the hyper-adaptive behavior may be connected to an attempt to "normalize" the situation (both of the child and of the parent). However, this remains a hypothesis that cannot be verified through the data collected in this contribution.

### **Further considerations and limits of the survey**

Considering that the impact of the pandemic has been different in the different provinces and regions of the Italian territory, it could be useful to question the correlation between the characteristics of the social context and the responses of the population to the potentially stressful situation. It is therefore a hypothesis to be verified that the number of infections and deaths (very high in the north and contained in the centre-south) and the restriction measures (which first affected northern Italy from 21 February and after fifteen days the entire national territory) have influenced the perception of the problem and favored different responses of distress.

The scientific literature (Perkonigg, Kessler, Storz & Wittchen, 2000; Bland, O'Leary, Farinero, Jossa & Trevisan, 1996; Alvarez & Hunt, 2005; Sherin & Nemeroff, 2011; Lanius, Vermetten, Loewenstein, Brand, Schmahl, Bremner et al., 2010) highlights that children's response to potentially stressful situations depends on the intrinsic characteristics of the event, on how it is perceived in a specific context, and on numerous other factors including the emotional response of parents to the pandemic, which consequently influences children's reactions.

Interesting and very recent studies using valid research methodologies have shown important results in this area.

Qiu et al (2020 ), in a survey of 52,730 people living in 36 provinces of China, showed that the level of peritraumatic psychological distress (CPDI), manifested during the pandemic, was higher in people living in the central region. The proximity, therefore, to the epicentre of the epidemic, Hubei, was correlated with an increase in the level of distress. A studies conducted in Italy by the CNR (2020) on a sample of 140,000 people, on the contrary, have shown that the most pronounced emotions of distress, such as sadness, fear, anxiety and anger are more widespread in southern Italy (less affected by the contagion). This is apparently in contrast with the lower diffusion of the contagion which, according to the researchers, could have its origin in the cultural traits of social interaction which in the south is more expressed in the sense of community and in the neighborhood networks interrupted by social distancing. With regard to sadness, fear and anger, the greatest values were found in the southern regions: Calabria, Basilicata, Campania, Molise, Puglia and Sicily.

Other studies, with the exception of Qiu and collaborators, have confirmed that the lockdown situation can potentially be associated with distress in children. For example, Sprang and Silman (2013), studying the psychosocial responses of children and their parents (398) to previous pandemic disasters, found that average post-traumatic stress scores (DPTS) were four times higher in children who had been quarantined than in those who had not suffered the same restriction. Also the CNR research (2020), already mentioned, found that for children under 12 years of age, the distancing produced psychological distress due to separation from friends and grandparents (64.5% and 47.5% respectively) and significant excessive use of the internet for play and communication purposes (33.5% and 19.2% respectively).

Finally, an exploratory survey, conducted on 65,000 parents by the "Diamo Voce ai Bambini" committee, highlighted how one third of Italian families perceive the lack of interpersonal relationships and socialization, as the main difficulty in managing children and young people. Nervousness, restlessness, apathy and sadness are the emotions that parents are mainly detecting in their children's behavior.

Limits of this work must be sought mainly in the method (the questionnaire used) and in the statistical representativeness of the sample (for more details see the publication of the first report, Pisano, Cerniglia, 2020). The exploratory survey was aimed to stimulate reflections and questions that could help the structuring of new research projects and encourage the discussion of best practices for the protection of children's mental health during quarantine.

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