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**LONGITUDINAL STUDY ON PARENTAL
PSYCHOPATHOLOGICAL RISK AND OFFSPRING'S GROWTH
DELAY**

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Abstract

Theory and research suggest that maternal psychological characteristics are a significant variable in the infant weight gain during childhood, while fewer studies have examined the role of fathers' psychological profiles. Being the family relationship a core aspect of interpersonal processes during the developmental age, the evaluation of directly and indirectly involved variables in infants and in their parents is a key aim. Both maternal and paternal characteristics can impact on children's weight faltering and psychological functioning, so that it would be useful to considerate the fathers' role as risk or protective factor. The present study aimed to evaluate the impact of maternal psychological functioning on the child's adaptation during childhood, considering the paternal involvement in caregiving. Participants were N=60 parents with their children, recruited through nurseries and primary schools in Central Italy, longitudinally assessed in 6 years, when children were 2 (Time 1), 5 (Time 2) and 8 years old (Time 3). Children with severe feeding difficulties tend to have mothers with similar problems, whereas paternal psychopathology reveals a relevant role in the quality of caregiving modulating the interactional mother-infant patterns. Assessment of maternal and paternal psychopathological risk appears to be crucial to deal with the failure to thrive in their children and for promotion of early intervention in this field. We can say that the involvement of fathers can reduce the impact of important maternal difficulties on infant's wellbeing, promoting an overall positive balance of the family.

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Keywords: Parental psychopathological risk, failure to thrive.



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1. Introduction

Understanding the emotional-behavioural child's development is one of the typical issues of current psychopathology on early childhood. Clinical and researchers agree that the affective and behavioural expressions of children are particularly vulnerable to parental influence during the developmental age. Indeed, great attention has recently been paid to explore the association between child development and parental psychiatric diagnosis (Cerniglia, Cimino, Ballarotto, & Tambelli, 2016; Herba, Glover, Ramchandani, & Rondon, 2016). More specifically, many empirical findings supported the role of individual and psychopathological factors related to maladaptive consequences for psychological and physical offspring's well-being (Cimino et al., 2016b; Cimino, Cerniglia, & Paciello, 2015).

Being the family relationship a core aspect of interpersonal processes during the developmental age, the evaluation of directly and indirectly involved variables in infants and in their parents is a key aim. In this regard, for example, infant feeding in the mother child dyad represents a form of interaction activity in which some vulnerabilities and psychological distress can be detected from an empirical standpoint.

As pointed out by recent studies, maternal psychological characteristics should be considered as a crucial risk factor for the development and maintaining of several emotional behavioural problems in children (Cimino, Cerniglia, Paciello, Sinesi, 2012; Cox e Barton, 2010). For example, Tambelli, Cimino, Cerniglia & Ballarotto (2015), argued that early maternal relational traumatic experiences and psychopathological risk negatively influence the mother infant interactions.

Other authors highlighted the link between maternal severe psychological difficulties and impairment of offspring's wellbeing (Alvarez-Segura et al., 2014)

Moreover, recent literature suggests that maternal psychopathology is a significant variable in the infant weight gain during childhood (Cimino et al., 2016a). In particular, maternal depression has been founded to be associated with infant weight faltering, such as Organic and Non Organic Failure to Thrive (NOFTT) (Boursiquot et al., 2014). Similarly, emotional difficulties in mothers, such as emotional distress, anxiety or somatization, can negatively influence the offspring's capacity in regulating their internal states (Bryant-Waugh, Markham, Kreipe & Walsh, 2010; Cerniglia, Cimino, Ballarotto, & Monniello, 2014).

For these reasons the quality of mother– infant interaction during feeding deserve particular attention, since mothers' several difficulties can strongly affect their infant's psychological welfare (Ramchandani et al., 2013).

2. Problem Statement

While, as we have seen, several researches have documented the association between maternal psychopathological risk and offspring's outcomes on NOFTT, suggesting its generalizability across different nationalities and social status, fewer studies have examined the role of fathers' psychological profiles. Indeed, scientific literature have paid little attention on the possible interconnection between maternal and paternal characteristics and weight faltering in their children.

Some researches, for example, focusing on the psychopathologic symptoms in partners of women with eating disorders, highlighted how they could prejudice the mother-infant interactions during feeding (Dietz, Jennings, Kelley, Marshal, 2009). Moreover, other studies revealed a positive and protective influence of paternal psychological functioning on their children's emotional and behavioural outcomes (Cooper, Whelan, Woolgar, Morrell, Murray, 2004).

Despite these contributions, only few researches deeply explored the relationship between child's psychological functioning and maternal psychopathologies, considering the role of the father as potential risk or protective factor (Cerniglia, Cimino, & Ballarotto, 2014; Erriu, Cerniglia, & Cimino, 2017).

3. Research Questions

Assuming a systemic theoretical point of view in the family dynamics evaluation (Minuchin, 1974), mother–infant and father–infant dyads are interconnected. Consequently, also in the case of infant growth delay, both maternal and paternal characteristics can influence their children's weight faltering and psychological functioning. Thus, considering the gap in current literature, it would be useful better understand the possible fathers' role as risk or protective factor in predicting psychopathological problems in offspring (Cicchetti & Rogosh, 1996).

4. Purpose of the Study

The present study aimed to evaluate the impact of maternal psychological functioning on the child's adaptation during childhood, considering the paternal involvement in caregiving.

More specifically, this longitudinally research examined a sample of children between the first and second childhood and their parents, in order to achieve the following specific objectives. First, the study aimed to analyse the trend of psychological profiles of the mothers and fathers in three different time points. Moreover, the study had the aim to evaluate the offspring's malnutrition and emotional profiles, such as reported by parents in three different assessment sessions.

5. Research Methods

We conducted a longitudinal study on psychopathological outcomes in offspring, assessing parents and their children during 6 years, at three time-points, when children were 2 years old (T1), 5 years old (T2) and 8 years old (T3).

5.1. Subjects and procedure

Participants were N=60 parents (aged between 25-45 years) with their children, recruited from an Italian program for prevention of maladaptive outcomes in offspring, through nurseries and primary schools in Central Italy (N total = 90).

Ninety-nine percent of participants were Caucasian. Almost all of the couples of parents were married. Furthermore, all parents came from families with middle socioeconomic status. The majority of

them obtained a secondary school diploma (85%). The gestational age and psychomotor features of all the children were in the normal range at the first assessment time points.

All parents voluntarily took part in the study and did not receive reward. They signed an informed consent for all the procedures. None of those who accepted dropped the task. All parents completed data on all study variables without any attrition.

Data collection was carried out by research assistants. Before the start of the study, permission was obtained from the Ethical Committee of the Medicine and Psychology Faculty at Sapienza, University of Rome, in accordance with the Declaration of Helsinki.

The sample was divided into two groups, based on nutritional evaluation done by paediatrician. Group 1 (N = 15), composed by couples of parents whose their children were affected by Non Organic Failure to Thrive. Group 2 (N= 15), composed by couples of parents with children who presented a growth consistent with their age. The children's gender was balanced between males and females in each group. Moreover, the two groups have been paired by age of the children, age of the mothers and families' socio-economic status.

The children's mean age in the G1 was 2.6 (years, months) at Time 1 (S.D. 0.7), 5.3 (S.D. 0.5) at Time 2 and 7.6 (S.D. 0.4) at Time 3, whereas the children's mean age in the G2 was 2.2 (years, months) at Time 1 (S.D. 0.2), 5.1 (S.D. 0.6) at Time 2 and 7.7 (S.D. 0.5) at Time 3. At Time 1, mothers in the Group 1 had a mean age of 31.4 (S.D.: 3.6); average age of mothers in the Group 2 was 32 (S.S.: 4.6).

During T1, T2 and T3 the parents were independently administered a set of self-report and report-form tools, along with children nutritional evaluation made by the paediatrician.

5.2. Measures

To perform our study, we administered the following instruments at three evaluation times (T1, T2, T3) in the two groups G1 and G2.

5.2.1. Evaluation of parents' psychopathological profiles

Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), developed by First, Spitzer, Gibbon, & Williams, 1997 (Italian adaptation by Mazzi et al., 2000). The SCID 1 is a semi-structured interview that grants to address the DSM-IV Axis I diagnoses. It includes six sections that can be given in sequence: mood episodes; psychotic symptoms; psychotic disorders; mood disorders; substance use disorders; anxiety, adjustment, and other disorders.

We administered this tool only at Time 1.

The Symptom Checklist-90-Revised (SCL-90-R) (Derogatis, 1994; Italian version by Prunas, Sarno, Preti, Madeddu, & Perugini, 2012). It is a self-report questionnaire addressing several psychological symptoms and psychological distress. It contains 90 items, related to symptom dimensions such as Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation and Psychoticism.

The Eating Attitudes Test (EAT-40), by Garner & Garfinkel (1979; Italian version by Cuzzolaro, & Petrilli, 1988). It is a self-administered 40 items test, which measures specifically symptoms of

Anorexia Nervosa. It is considered a test with excellent both diagnostic and prognostic quality, showing a high correlation coefficient with other tools.

5.2.2. Evaluation of children's emotional and behavioural functioning

Child Behavior Checklist (CBCL 1 ½–5; CBCL/6-18; Achenbach & Rescorla, 2001; Italian version by Frigerio & Montirosso, 2002). The CBCL 1 ½–5 is a 99 items questionnaire assessing the child's behavioural-emotional functioning in different areas of daily functioning (age range: 18–36 months). It measures three symptomatic scales: Internalizing, Externalizing, and Neither Internalizing Nor Externalizing. The Internalizing scale consists of Emotionally Reactive, Anxious/Depressed, Withdrawn, Somatic Complaints subscales. The Externalizing scale includes Attention Problems and Aggressive Behaviour subscales. Finally, the Neither Internalizing Nor Externalizing scale identifies the syndromes of Sleep Problems and Other Problems. The instrument shows a good internal consistency (Cronbach's α , 0.65 to 0.96).

The CBCL/6-18 is a report form questionnaire composed of 113 items. The Internalizing Problem scale consists of Anxious/Depressed, Withdrawn/Depressed and Somatic Complaints, while the Externalizing Problem scale includes Rule-Breaking Behaviour and Aggressive Behaviour.

5.3. Statistical analysis

To evaluate the children's psychopathological problems multivariate analyses of variance (MANOVA) on the data in the CBCL DSM-oriented scales in all two groups at T1, T2 and T3 were carried out (considering the effects of age and gender).

To assess parental psychopathological risk in both groups multivariate analyses of variance (MANOVA) on the data of SCL-90-R subscales and of EAT-40 subscales in all two groups at T1, T2 and T3 were carried out.

To examine the associations between parental diagnosis and child psychopathology at three point of assessment, the Pearson's product-moment correlation coefficient was used.

All data were performed with IBM SPSS software (version 23.0).

6. Findings

6.1. Evaluating parental psychological profiles

With regards to mothers within G1, N=16 subjects were diagnosed with anorexia nervosa, whereas N=9 mothers received a diagnosis for bulimia nervosa. On the contrary, in Group 2, none of the mothers has been diagnosed according to SCID-I. Fathers belonging to Group 1 showed a symptomatology related to a non-specific psychological anxiety diagnosis, while only one father in Group 2 had a diagnosis for a dysthymia.

Furthermore, no significant differences among maternal and paternal psychological profiles were found on the SCL-90-R's scores at the three point times of assessment. Moreover, statistical analysis revealed a significant effect of SCL-90-R scores X Group interaction ($F(4,224)=4.576$; $p=0.001$).

In addition, significant differences have been found between mothers and fathers' scores in both Group 1 and Group 2, concerning the following SCL-90-R's subscales: Somatization ($F(1,56) = 16.459$; $p < 0.001$), Depression ($F(1,56) = 36.964$; $p < 0.001$), Obsessive-compulsive ($F(1,56) = 27.042$; $p < 0.001$) and Anxiety ($F(1,56) = 14.866$; $p < 0.001$).

A significant effect of the Group x EAT-40 scores interaction has been found ($F(4,224) = 4.576$; $p = 0.001$), with G1 showing significantly higher scores on all the EAT-40 dimensions over the three times of evaluation compared with Group 2 ($p < 0.05$).

6.2. Evaluating children's psychological profiles

The two groups of children showed statistical difference with regards to malnutrition. None of the children within Group 2 showed a malnutrition over the three evaluation moments.

Moreover, a statistical interaction has been identified between time, children's emotional-behavioural functioning and the group ($F(8,448) = 15.374$; $p < 0.001$), with all the CBCL subscales' scores reducing in the last evaluation session ($p < 0.05$). Finally, the children within the G2 show significantly higher scores than peers in Group 1 as regards to all the CBCL subscales ($p < 0.05$), over the three session of assessment.

7. Conclusion

The overall purpose of the current study was to investigate children's emotional and psychological functioning and parental psychopathologic risk across infancy, focusing on children growth delay.

The present study confirmed that children with feeding problems are more prone to have mothers with similar problems

(Cooper et al., 2004). Indeed, the association between maternal eating disorders and offspring's feeding disorders has been well documented by research (Ammaniti, Lucarelli, Cimino, D'Olimpio, & Chatoor, 2010; Micali, Simonoff, Stahl, Treasure, 2011). Particularly, our findings highlighted the link between maternal psychopathological risk and child's NOFTT, as well as it was confirmed by other studies (Watkins, Cooper, & Lask, 2011).

Moreover, children diagnosed with NOFTT showed to have parents with stable psychopathological profiles. Both mothers and fathers of these children, indeed, reported high psychopathological risk, such as somatization and depression (mothers) and obsessive-compulsive behaviours and anxiety (fathers).

In this scenario, paternal psychopathology showed to have a relevant role in the quality of caregiving, modulating the interactional mother-infant patterns. In fact, according to Elgar et al. (2007), fathers with psychopathologic symptoms may represent a risk factor for the onset of child's dysfunctional behaviour. Furthermore, the maternal psychopathology associated to a paternal psychopathological profile may lead to a "maladaptive" co-parenting characterized by unfavourable interactive cycles with the children (Teubert, Pinquart, 2010).

Our current study offers important information and suggestions for future research in the area of feeding parent-infant interaction and psychopathological risk. Given that the children of parents with

psychopathological profiles were more prone to manifest emotional and behavioural difficulties, research should paid more attention in understanding family relationship. Indeed, only a deepen investigation of the mechanisms by which the parental psychiatric diagnoses can impair psychological well-being across the development allows us to realize effective mental health prevention programs (Cimino, Cerniglia, Paciello, & Sinesi, 2013).

Assessment of both maternal and paternal psychopathological risk appears to be crucial to face up to children growth delay. Our study tried to clarify the role of fathers in promoting or modulating the onset of problems in their offspring, considering the evolution of the psychological and/or psychopathological profile of parents and children in the course of time. In conclusion, we can say that the involvement of fathers can reduce the impact of important maternal difficulties on infant's wellbeing, promoting an overall positive balance of the family.

A limitation of the present study is the use of different report form instruments to assess the psychopathological problems in offspring (described by parents) and the psychopathological profiles in parents. Second, we did not assess the family functioning in general.

Nevertheless, despite the aforementioned limitations, a longitudinal study seems to be a valid tool to explain the evolution of problems in all family members, recognizing signs of psychopathological outcomes.

Considering that child's emotional and behavioural difficulties during developmental age can be explained only through a relational assessment, we strongly think that fathers' role deserve even more attention. This is certainly a future aim of our studies.

References

- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms and Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.
- Alvarez-Segura, M., Garcia-Esteve, L., Torres, A., Plaza, A., Imaz, M. L., Hermida-Barros, L., ... & Burtchen, N. (2014). Are women with a history of abuse more vulnerable to perinatal depressive symptoms? A systematic review. *Archives of women's mental health*, 17(5), 343-357.
- Ammaniti, M., Lucarelli, L., Cimino, S., D'Olimpio, F., & Chatoor, I. (2010). Maternal psychopathology and child risk factors in infantile an- orexia. *International Journal of Eating Disorders*, 43, 233–240.
- Boursiquot, P. E., Sassi, R., Atkinson, L., Fleming, A., Wazana, A., Meaney, M., & Steiner, M. (2014). Emotional dysregulation in children: the impact of prenatal stress and maternal sensitivity. *Psychiatry*, 59(9), 497-508.
- Bryant-Waugh, R., Markham, L., Kreipe, R. E., & Walsh, B. T. (2010). Feeding and eating disorders in childhood. *International Journal of Eating Disorders*, 43(2), 98-111.
- Cerniglia L., Cimino S., & Ballarotto G., (2014a). Mother-child and Father-child interaction with their 24-month-old children during feeding: a study considering paternal involvement and the child's temperament in a community sample. *Infant Mental Health Journal*, 35(5), 473-481. doi: 10.1002/imhj.21466.
- Cerniglia, L., Cimino, S., Ballarotto, G., & Monniello, G. (2014b). Parental loss during childhood and outcomes on adolescents' psychological profiles: A longitudinal study. *Current Psychology*, 33(4), 545–556.
- Cerniglia L., Cimino S., Ballarotto G., Tambelli R. (2016). Do parental traumatic experiences have a role on psychological functioning of early male and female adolescents with Binge Eating Disorder? A research on a clinical Italian sample. *Eating and Weight Disorders*. Early view. doi: 10.1007/s40519-016-0303-7.

- Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, 8, 597-600.
- Cimino S, Cerniglia L., Paciello M., Sinesi S. (2013). A six-year prospective study on children of mothers with eating disorders: the role of paternal psychological profiles. *European Journal of Eating Disorders Review*, 21(3), 238-246. doi: 10.1002/erv.2218.
- Cimino S., Cerniglia L., Paciello M. (2015). Mothers with depression, anxiety or eating disorders and longitudinal outcomes on their children: a study on paternal psychopathological risk. *Child Psychiatry and Human Development*, 46, 228-236. doi: 10.1007/s10578-014-0462-6.
- Cimino, S., Cerniglia, L., Almenara, C. A., Jezek, S., Erriu, M., & Tambelli, R. (2016a). Developmental trajectories of body mass index and emotional-behavioural functioning of underweight children: A longitudinal study. *Scientific Reports – Nature*, 6: 20211 ISSN: 2045-2322. doi: 10.1038/srep20211.
- Cimino S., Cerniglia L., Porreca A., Simonelli A., Ronconi L., Ballarotto G. (2016b). Mothers and fathers with Binge Eating Disorder and their 18-36 months old children: a longitudinal study on parent-infant interactions and offspring's emotional-behavioral profiles. *Frontiers in Psychology*, 7, 580. DOI: 10.3389/fpsyg.2015.01210
- Cooper, P. J., Whelan, E., Woolgar, M., Morrell, J., & Murray, L. (2004). Association between childhood feeding problems and maternal eating disorder: role of the family environment. *The British Journal of Psychiatry*, 184(3), 210-215.
- Cuzzolaro, M., & Petrilli, A. (1988). Validazione della versione italiana dell'EAT-40 (eating attitude test di DM Garner EPE Garfinkel). *Psichiatria dell'infanzia e dell'adolescenza*, 55(2), 209-217.
- Derogatis L. R. (1994). *SCL-90-R Symptom Checklist-90-R Administration, scoring, and procedures Manual*. Minneapolis, MNV: National Computer Systems.
- Elgar, F. J., Mills, R. S., McGrath, P. J., Waschbusch, D. A., & Brownridge, D. A. (2007). Maternal and paternal depressive symptoms and child maladjustment: The mediating role of parental behavior. *Journal of abnormal child psychology*, 35(6), 943-955.
- Erriu, M. (2017). Mother- and father-infant feeding interactions in families with binge eating disorder. *The European Proceedings of Social & Behavioural Sciences EpSBS*, 20, 103-111. doi: <http://dx.doi.org/10.15405/epsbs.2017.01.02.12>.
- Erriu, M., Cerniglia L., & Cimino, S. (2017). Empirical study on parental eating disorders and child development. *The European Proceedings of Social & Behavioural Sciences EpSBS*, 20, 17-25. doi: <http://dx.doi.org/10.15405/epsbs.2017.01.02.3>
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1997). *Structured clinical interview for DSM-IV axis I disorders—Clinician version (SCID-CV)*. Washington, DC: American Psychiatric Press.
- Frigerio, A., & Montiroso, R. (2002). La valutazione su base empirica dei problemi emotivo comportamentali in età evolutiva. *Infanzia e Adolescenza*, 1, 38-48.
- Garner, D. M., & Garfinkel, P. E. (1979). The Eating Attitudes Test: An index of the symptoms of anorexia nervosa. *Psychological medicine*, 9(2), 273-279.
- Herba, C. M., Glover, V., Ramchandani, P. G., & Rondon, M. B. (2016). Maternal depression and mental health in early childhood: an examination of underlying mechanisms in low-income and middle-income countries. *The Lancet Psychiatry*, 3(10), 983-992. doi:10.1016/s2215-0366(16)30148-1.
- Lucarelli, L., Cimino, S., D'Olimpio, F., & Ammaniti, M. (2013). Feeding disorders of early childhood: an empirical study of diagnostic subtypes. *International Journal of Eating Disorders*, 46(2), 147-155.
- Mazzi, F., Morosini, P., De Girolamo, G., Lussetti, M., & Guaraldi, G. P. (2000). *SCID-I—Structured Clinical Interview for DSM-IV Axis I Disorders (Italian Edition)*. OS-Organizzazioni Speciali, Firenze.
- Micali, N., De Stavola, B., Plobidis, G.B., Simonoff, E., & Treasure, J. (2014). The effects of maternal eating disorders on offspring childhood and early adolescent psychiatric disorders. *International Journal of Eating Disorders*, 47, 385-393. doi:10.1002/eat.22216 2/eat.22057.
- Minuchin, S. (1974). *Families and family therapy*. Cambridge, MA: Harvard University Press.

- Noh, J. W., Kim, Y. E., Park, J., Oh, I. H. & Kwon, Y. D. Impact of parental socioeconomic status on childhood and adolescent overweight and underweight in Korea. *Journal of Epidemiology*, 24(3), 221–229 (2014).
- Pinquart, M., & Teubert, D. (2010). A meta-analytic study of couple interventions during the transition to parenthood. *Family Relations*, 59(3), 221-231.
- Prunas, A., Sarno, I., Preti, E., Madeddu, F., & Perugini, M. (2012). Psychometric properties of the Italian version of the SCL-90-R: a study on a large community sample. *European Psychiatry*, 27(8), 591-597.
- Ramchandani, P.G., Domoney, J., Sethna, V., Lamprini, P., Vlachos, H., & Murray L. (2013). Do early father–infant interactions predict the onset of externalising behaviours in young children? Findings from a longitudinal cohort study. *Journal of Child Psychology and Psychiatry*, 54(1), 56–64. doi:10.1111/j.1469-7610.2012.02583
- Rutter, M. (2013). Developmental psychopathology: A paradigm shift or just a relabeling? *Development and Psychopathology*, 25(4pt2), 1201-1213. doi:10.1017/s0954579413000564.
- Tambelli, R., Cimino, S., Cerniglia, L., & Ballarotto, G. (2015). Early maternal relational traumatic experiences and psychopathological symptoms: a longitudinal study on mother-infant and father-infant interactions. *Scientific reports*, 5, 13984.
- Watkins, B., Cooper, P. J., & Lask, B. (2012). History of eating disorder in mothers of children with early onset eating disorder or disturbance. *European Eating Disorders Review*, 20(2), 121-125.