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**EMPIRICAL STUDY ON PARENTAL EATING DISORDERS AND
CHILD DEVELOPMENT**

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Abstract

International literature has studied the role of parental eating disorder (ED) on children development, highlighting that it constitutes a relevant risk factor for the onset of offspring's emotional-behavioural problems. Limited attention has been given to parental Binge Eating Disorder (BED) and its impact on offspring's psychopathology. Thus, further investigations of this clinical manifestation as possible predictor of offspring's psychopathology are needed. The present study aimed to assess the maladaptive outcomes in children of parents with psychopathological risk and psychiatric diagnoses. Specifically, we intended to verify whether offspring of parents who were both diagnosed with BED showed higher affective and behavioural problems, compared with their peers with only one parent diagnosed with BED. We conducted a longitudinal study (T1 18 months old children; T2 36 months old children) on a sample of 100 Italian couple of parents and children ($N_{total} = 300$), divided into three groups based on the presence of BED diagnosis. Group A, diagnosis in both parents; Group B, diagnosis only in the mothers; Group C, diagnosis only in the fathers. The presence of BED in one or both parents was associated with the emotional and behavioural development in offspring. Particularly, the diagnosis of BED in both parents had a direct effect on infants' affective problems. The offspring of parents diagnosed with BED were more likely to manifest emotional and behavioural difficulties and psychiatric symptoms within the first three years of life.

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1. Introduction

In early childhood, the affective and behavioural manifestations of children are particularly sensitive to parental influence. Several studies have investigated the association between child development and parental psychiatric diagnosis, focusing on the role of individual and psychopathological variables related to deleterious consequences for psychological and physical offspring's well-being (Cimino, Cerniglia, & Paciello, 2015; Dietz, Jennings, Kelley, & Marshal, 2009; Herba, Glover, Ramchandani, & Rondon, 2016).

Regarding to eating disorder (ED), theory and research suggest that this kind of diagnosis in parents may acts as a significant risk factor in influencing children's mental health. Indeed, as highlighted by some authors (Cimino, Cerniglia, Paciello, & Sinesi, 2013; Micali, Stahl, Treasure, & Simonof, 2014a), ED is a complex phenomenon in which it is possible to track down a variety of individual and especially relational components that can prejudice offspring's development from childhood to adolescence. Consequently, the impact of mother's and father's eating psychopathology on their infants could be not only related to the transmission of specific eating symptoms, but involves various issues that should be considered (Cimino et al, 2013; Micali et al., 2014a; Stein et al., 2006).

In the conceptualization of the course of the psychological development during childhood, we agree with Developmental Psychopathology theoretical framework (Cicchetti & Rogosh, 1996; Rutter, 2013) that, in term of multifinality criterion, emphasizes how a single risk factor, including parental ED, could forecast an entire spectrum of psychopathological problems in offspring. Moreover, in order to explain the complexity of child development, we are also in agreement with the Transactional approach, stressing the role of parent-infant relationship to onset and maintenance of problems in offspring (Minuchin, Baker, & Rosman, 1978; Sameroff & Mackenzie, 2003).

2. Problem Statement

Nowadays eating disorders (EDs) are one of the most important public health problems in the world (Smink, van Hoeken, Oldehinkel, & Hoek, 2014; Swason, Crow, Le Grange, Swendsen, & Merikangas, 2011). The empirical literature in this area has especially examined the link between parental EDs and children's mental health (Taborelli et al., 2015; Watkins, Cooper, & Lask, 2012). A great deal of research has found that parental EDs during childhood have an impact on infant's psychopathology (Ammaniti, Lucarelli, Cimino, D'Olimpio, & Chatoor, 2012; Cerniglia, Cimino, & Ballarotto, 2014). Specifically, this type of psychiatric diagnosis in mothers and fathers results to be associated with characteristic psychopathological profiles in their children, in terms of internalizing problems (e.g., withdrawal, depression) and externalizing problems (e.g., aggressive behaviour) (de Bars et al., 2015; Micali et al., 2014a; Micali, De Stavola, Plobidis, Simonoff, & Treasure, 2014b). Investigations have also identified with increasing accuracy various patterns linked to negative child outcomes. Micali et al. (2014b), for instance, in a longitudinal study on parents and children, highlighted that maternal EDs predict offspring's psychiatric problems, in particular emotional disorders. Moreover, Easter et al. (2014), examining longitudinal patterns of growth trajectories in children of women with eating disorders (EDs),

showed that the growth of children of mothers with ED may be an important risk factor for the development of an ED and other psychopathological problems in offspring.

Thus, research should strongly continue to explore the negative form of psychological functioning that erode childhood development and family relational balance, focusing both internalizing and externalizing behavioural difficulties (Cimino et al., 2016a).

However, to date research has mainly focused on parental eating disorders as anorexia nervosa and bulimia nervosa, whereas much less studies have investigated the specific diagnosis of binge eating disorder (BED) in mothers and fathers (Ammaniti et al., 2012; Blissett & Haycraft, 2011; Cimino et al., 2016b; Fassino, Amianto, & Abbate-Daga, 2009). Indeed, the majority of works have paid much attention to the negative influence of parental eating disorders on child outcomes, while, to our knowledge, relatively little attention has been given to an analysis of the binge eating disorders (BEDs) in mothers, fathers or both, and on its impact on infant's psychopathology.

3. Research Questions

Binge Eating Disorder (BED), actually included in DSM-5 (American Psychiatric Association 2013) constitutes an empirically validated typology of eating disorder (Mitchell et al. 2010). As it is known, it consists of binge behaviours in absence of compensatory-elimination conducts, with a particular and relevant sense of loss control. Being a psychiatric disease in which the component of impulsivity is very high, the emotional and behavioural functioning of parents affected by can be seriously compromised, with important negative consequences for the relationship with offspring overtime.

The few studies that analysed the relationship between parental BED and psychopathological problems in offspring have highlighted that children of parents diagnosed with BED reported high level of psychopathological symptoms, compared to children of parents without BED (Roth, Munsch, Meyer, Isler, & Schneider, 2008). These negative consequences have been documented in some other research: Reba-Harrelson et al. (2010), for instance, have showed an association between maternal BED and depressive and anxious symptoms in their children.

Moreover, the specific influence of paternal BED diagnosis on their children is still unclear.

In addition, there is actually growing interest in understanding the effective weight of the fathers' psychopathological profiles on offspring's psychological well-being. Cimino et al. (2016b) have recently found that children of one or both parents with BED psychopathology are more likely to exhibit emotional and behavioural problems, compared to healthy controls. Overall, according to the authors, having both parents with BED involves greater risk of developing internalizing and externalizing problems for offspring (Cimino et al., 2016b).

Therefore, for all the above reasons, and to address the literature limitation, we strongly believe that a systematic investigation of the specific impact of the parental BED on offspring's mental health is necessary to offer an integrative view of child development in a risky environment.

Furthermore, in order to have a more complete understanding of relational dynamics, it would be relevant to better highlight the contribution of each parental figure, especially the paternal one, on maladaptive outcomes in their children.

4. Purpose of the Study

The general purpose of the present study was to fill the gap in the literature, by investigating the link between parental BED and offspring psychological functioning. More specifically, the present research aimed to analyse the possible effects of clinical manifestation of parental BED on children psychopathology.

In line with the current international literature, we hypothesized that diagnosis of BED in parents would have a direct negative influence on emotional and behavioural functioning in offspring. In other words, we expected that the psychiatric disease in parents (BED) would be a predictor of children psychopathology.

Our main objective was to estimate the risk for psychopathology in children of parents with BED overtime (T1 and T2), verifying whether offspring of parents who were both diagnosed with BED exhibit more psychological problems than children with only one parent with BED or none.

5. Research Methods

5.1. Subjects and procedure

We conducted a longitudinal study on psychopathological outcomes in offspring of parents diagnosed with BED, assessing parents and their children at two time-points (T1 children 18 months; T2 children 36 months old).

The research subjects were 100 Italian couple of parents (aged between 25-45 years) and their children ($N_{\text{total}} = 300$), recruited from an Italian program for prevention of maladaptive outcomes in offspring of parents with psychiatric diagnoses. Ninety-eight percent of participants were Caucasian. Furthermore, all subjects came from families with middle or high socioeconomic status. All the participants, voluntary and anonymous, had complete data on all study variables. None of those who accepted dropped the task.

Prior 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 three groups, based on the presence of BED diagnosis. Group 1, $N=25$ couples and their children (children's average mean 18.99; s.d. 2.43), diagnosis in both parents; Group 2, $N=25$ couples and their children (children's average mean 19.63; s.d. 1.40), diagnosis only in the mothers; Group 3, $N=25$ couples and their children (children's average mean 19.96; s.d. 2.38), diagnosis only in the fathers. The children's gender was balanced between males and females in each group.

This sample was paired to a healthy control group, recruited in Italian primary schools (Group C, composed by parents without psychiatric diagnosis and their children), that had comparable socio-demographic characteristics.

5.2. Measures

During T1 and T2 the parents were independently administered a questionnaire on their children's behaviour. Children's psychopathology was measured using the following instrument.

Child Behavior Checklist (CBCL 1 ½–5)

The Child Behavior Checklist (CBCL 1 ½–5; Achenbach & Rescorla, 2001; Italian version by Frigerio & Montiroso, 2002) is a report form scale comprising 99 items that assesses the child emotional and behavioural 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 includes the syndromes: Emotionally Reactive, Anxious/Depressed, Withdrawn, Somatic Complaints; the Externalizing scale includes: Attention Problems and Aggressive Behavior; 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).

5.3. Statistical analysis

To assess the presence of psychopathological problems in offspring of parents with BED we carried out multivariate analyses of variance (MANOVA) on the data in the CBCL DSM-oriented scales in all four groups at T1 and at T2 (considering the effects of age and gender). The variable group consisted in the between-subjects factor (GC vs. G1 vs. G2 vs. G3).

Afterwards, the data were analysed to check the presence/absence of BED diagnosis in one or both parents. To examine the associations between the BED diagnosis in parents and child psychopathology at T1 and T2, the Pearson's product-moment correlation coefficient was used.

Starting from the observed correlations, Structural Equation Modeling (SEM) was employed to investigate the supposed model.

All data were performed with IBM SPSS software (version 23.0) and LISREL 8.80 (Jöreskog & Sörbom, 2006).

6. Findings

6.1. Offspring's psychopathological profiles

To verify whether children of parents who diagnosed with BED showed maladaptive emotional-behavioral functioning a MANOVA was conducted on four Groups on CBCL DSM-oriented scales. Analyses showed a Group effect ($\lambda = .229$; $F = 25.450$, $p = .000$), with significant differences in the scores of the children in T1 to T2.

At T1, a statistically significant effect on all the CBCL DSM-oriented scales administered was found: affective problems ($F_{3,200} = 60.50$, $p = .000$), anxiety problems ($F_{3,200} = 86.22$, $p = .000$), pervasive developmental problems ($F_{3,200} = 38.07$, $p = .000$), and oppositional defiant problems ($F_{3,200} = 45.88$, $p = .000$). The results of the Bonferroni post-hoc test revealed significant differences in each of the DSM-oriented scales at T1 and T2.

6.2. Direct effects of parental BED diagnosis on offspring's psychopathological problems

In order to evaluate the associations between the presence of BED diagnosis and child psychopathology, the Pearson's product-moment correlation coefficient was applied to the CBCL DSM-

oriented scales at T1 and T2 and to the presence of BED diagnosis in the parents (mother vs. father vs. both).

Both parental diagnosis of BED and the CBCL DSM-oriented scales at T1 were correlated with the CBCL DSM-oriented scales at T2 ($p < .01$; 2-tailed).

Starting from these correlations, the path analysis model was performed in order to investigate direct effects of parental diagnosis on child psychopathology at T2.

The examination of paths showed that the presence of BED in one or both parents was associated with the emotional and behavioral development in offspring. Particularly, at T1, the diagnosis of BED in both parents had a direct effect on infants' affective problems (T2) ($\beta = .56$, $p < .05$). Maternal BED showed a direct impact on children's affective problems ($\beta = .45$, $p < .05$) and pervasive development problems ($\beta = .65$, $p < .05$), whereas paternal BED had no direct effect on offspring's problems.

It can therefore be seen an effective risk for psychopathology in children of parents with BED overtime (T1 and T2).

7. Conclusion

The current study aimed to explore the maladaptive outcomes in children of parents with psychiatric diagnosis, focusing on the specific impact of parental Binge Eating Disorder (BED) on offspring's psychopathology. To our knowledge, no research was carried out on this issue yet.

Overall, our findings showed that the presence of BED in one or both parents was associated with the emotional and behavioral development in offspring. Particularly, the diagnosis of BED in both parents had a direct effect on infants' affective problems. In addition, while maternal BED had a direct influence on children's affective and pervasive development problems, paternal BED had no direct impact on psychopathological problems in their children. However, it should be considered that the assessment of the possible mediating variables was not used in the present study. For this reason a firm conclusion about the specific effects of the maternal and paternal disease on offspring well-being cannot be made. Thus, there should be further focus on the specific role of mothers and fathers in promoting or hindering the healthy psychological development of children. We aim to investigate this aspect in future studies.

Our current study provided important information and suggestions for future research questions and public health prevention. Indeed, the results are of considerable importance in relation to child mental health, since, consistent with a suggestion provided by Cimino et al. (2013), the emotional and behavioural difficulties showed by children in their first years of life would tend to increase overtime (Cimino et al., 2013; Cimino et al., 2015). Thus, given that the children of parents diagnosed with BED were more prone to manifest emotional and behavioural difficulties and psychiatric symptoms, it should be paid particular attention in mental health prevention programs and effective interventions on all family member.

In final conclusion, a productive focus for future studies would be the investigation of the mechanisms by which the parental psychiatric diagnoses in strong impulsive component (such as BED) impair psychological well-being in offspring. In this aim, given the few still studies present in the literature on the role of fathers in promoting or otherwise modulating the onset of problems in children,

more attention should be addressed to the fathers' psychopathological profiles with BED. In this regard there is evidence that the involvement of fathers can reduce the impact of important issues such as, for example, a maternal depression. In addition, recent studies are increasingly showing how a father involved and present promotes the overall balance of the family (Cimino et al., 2013; Cimino et al., 2015).

Some shortcomings of this work should be indicated.

A first limitation of our study could be attributed to the use of report form instrument to assess the psychopathological problems in offspring (described by parents). Second, we did not assess the family functioning in general. Nevertheless, despite the aforementioned limitations, a longitudinal study was carried out to investigate the offspring psychopathological outcomes, focusing on direct influence of eating psychopathology in parents with BED. The present study adds to our knowledge about parental BED and our findings can be used to improve the future research.

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.
- American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders - DSM-5*. 5th Edition. Arlington: American Psychiatric Publishing.
- Ammaniti, M., Lucarelli, L., Cimino, S., D'Olimpio, F., & Chatoor, I. (2012). Feeding disorders of infancy: A longitudinal study to middle childhood. *International Journal of Eating Disorders*, 45(2), 272-280. doi:10.1002/eat.20925.
- Blissett, J., & Haycraft, E. (2011). Parental eating disorder symptoms and observations of mealtime interactions with children. *Journal of Psychosomatic Research*, 70, 368–371. doi: 10.1016/j.jpsychores.2010.07.006.
- Cerniglia, L., Cimino, S., & Ballarotto, G. (2014). Mother-child and father-child interaction with their 24 months old children during feeding, considering paternal involvement and child's temperament in a community sample. *Infant Mental Health Journal*, 35, 5, 473-481. doi:10.1002/imhj.
- 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 Eating Disorders Review*, 21, 238–246. doi: 10.1002/erv.2218.
- Cimino, S., Cerniglia, L., & Paciello, M. (2015). Mother with depression, anxiety or eating disorders: outcomes on their children and the role of paternal psychological profiles. *Child Psychiatry and Human Development*, 46, 228-236. doi: 10.1007/s10578-014-0462-6.
- Cimino, S., Cerniglia, L., Almenara, C., Jezek, S., Erriu, M., & Tambelli, R. (2016a), Developmental trajectories of body mass index and emotional-behavioral 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.2016.00580.
- de Barse, L. M., Tharner, A., Micali, N., Jaddoe, V. V., Hofman, A., Verhulst, F. C., ... & Jansen, P. W. (2015). Does maternal history of eating disorders predict mothers' feeding practices and preschoolers' emotional eating? *Appetite*, 85, 1-7.
- Dietz, L. J., Jennings, K. D., Kelley, S. A., & Marshal, M. (2009). Maternal depression, paternal psychopathology and toddlers’ behavior problems. *Journal of Clinical Child and Adolescent Psychology*, 38, 48–61. doi: 10.1080/15374410802575362.
- Easter, A., Howe, L. D., Tilling, K., Schmidt, U., Treasure, J., & Micali, N. (2014). Growth trajectories in the children of mothers with eating disorders: a longitudinal study. *BMJ open*, 4(3), e004453.
- Fassino, S., Amianto, F., & Abbate-Daga, G. (2009). The dynamic relationship of parental personality traits with the personality and psychopathology traits of anorectic and bulimic daughters. *Comprehensive Psychiatry*, 50(3), 232-239. doi: 10.1016/j.comppsy.2008.07.010.
- Frigerio, A. & Montirosso, R. (2002). La valutazione su base empirica dei problemi emotivo-comportamentali in età evolutiva. *Infanzia e Adolescenza*, 1, 38–48.
- 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.
- Jöreskog, K. G. & Sörbom, D. (2006). *LISREL 8.8 for Windows* [Computer software]. Lincolnwood, IL. Scientific Software International, Inc.
- Micali, N., Stahl, D., Treasure, J., & Simonof, E. (2014a). Childhood psychopathology in children of women with eating disorders: understanding risk mechanisms. *Journal of Child Psychology and Psychiatry*, 55, 124–134.
- Micali, N., De Stavola, B., Plobidis, G.B., Simonoff, E., & Treasure, J. (2014b). 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
- Minuchin S., Baker L., & Rosman, B. (1978) *Psychosomatic Families: Anorexia Nervosa in Context*. Cambridge, Mass. Harvard University Press.
- Mitchell, K.S., Neale, M.C., Bulik, C.M., Aggen, S.H., Kendler K.S., & Mazzeo, S.E. (2010). Binge eating disorder: a symptom-level investigation of genetic and environmental influences on liability. *Psychological Medicine*, 40, 1899–1906. doi: 10.1017/S0033291710000139.
- Reba-Harrelson, L., Von Holle, A., Hamer, R.M., Torgersen, L., Reichborn-Kjennerud, T. & Bulik, C.M. (2010). Patterns of maternal feeding and child eating associated with eating disorders in the Norwegian Mother and Child Cohort Study (MoBa). *Eating Behavior*, 11(1), 54-61. doi: 10.1016/j.eatbeh.2009.09.004.
- Roth, B., Munsch, S., Meyer, A., Isler, E. & Schneider, S. (2008). The association between mothers’ psychopathology, children’s competences and psychological well-being in obese children. *Eating Weight Disorder*, 13(3), 129-136.

- Rutter, M. (2013). Developmental psychopathology: A paradigm shift or just a relabeling? *Development and Psychopathology*, 25(4pt2), 1201-1213. doi:10.1017/s0954579413000564.
- Sameroff A.J. & Mackenzie, M.J. (2003), Research strategies for capturing transactional models of development: the limits of the possible. *Development and Psychopathology*, 15, 613–640. DOI: 10.1017.S0954579403000312.
- Smink FR., van Hoeken, D., Oldehinkel, A.J., & Hoek, HW. (2014), Prevalence and severity of DSM-5 eating disorders in a community cohort of adolescents. *International Journal of Eating Disorders*, 47(6):610-9. doi: 10.1002/eat.22316.
- Stein, A., Woolley, H., Cooper, S., Winterbottom, J., Fairburn, C.G., & Cortina-Borja, M. (2006). Eating habits and attitudes among 10-year-old children of mothers with eating disorders: longitudinal study. *British Journal of Psychiatry*, 189, 324–329.
- Swanson SA., Crow, SJ., Le Grange, D., Swendsen, J., & Merikangas, KR. (2011), Prevalence and correlates of eating disorders in adolescents. Results from the national comorbidity survey replication adolescent supplement. *Archives of General Psychiatry*, 68(7):714-23. doi: 10.1001/archgenpsychiatry.2011.22.
- Taborelli, E., Easter, A., Keefe, R., Schmidt, U., Treasure, J., & Micali, N. (2015). Transition to motherhood in women with eating disorders: a qualitative study. *Psychology and Psychotherapy: Theory, Research and Practice*. doi: 0.1111/papt.12076.
- 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, 121–125. doi: 10.1002/erv.1125.