

PARENT TRAINING BASED ON PARENTAL REFLECTIVE FUNCTION ON THE WELL-BEING OF THE FAMILY IN ASD

Antonella Cavallaro, Luca Simione, & Alessandro Frolli
Università degli Studi Internazionali di Roma (Italy)

Abstract

Parents play a crucial role in the development of their children. Literature emphasizes the significance of parent training in the treatment of all neurodevelopmental disorders, but it is particularly crucial in the treatment of Autism Spectrum Disorder. In the last years took place a lot of treatment for Autism that involve directly the parents to work with their children. These studies have shown a high level of integrity in delivering strategies for managing problem behaviors by parents and supporting the development of their child's abilities. Working with parents has shown better levels of generalization, improvement in adaptive skills, and greater satisfaction with the results obtained by the child. Several studies also suggest that parent training reduces stress within the family. Different approaches used have been found to be effective. We want to investigate the effects of different types of parent training on the well-being of families and on the adaptive skills of the children. We divided a sample of 200 couple of parents into three groups. One group follows a parent training program based on applied behavior analysis, another group follows a parent training program based on behavioral strategies and the support of parental reflex functioning. The third group does not participate in parent training. We used the Child Behavior Checklist (CBCL) to assess the level of problem behavior in children, the Parenting Stress Index (PSI) to measure the stress index of parents, and the Vineland Adaptive Behavior Scale to assess children's daily life skills. Our results confirm that parent training, regardless of the approach used, can decrease problem behaviour and improve the adaptive behavior of children and the well-being of parents by reducing stress levels. However, parent training programs that focus on supporting the educational role of parents and their emotional well-being result in a greater reduction in family stress levels and, simultaneously, an decrease in problem behavior.

Keywords: *Parent training, Autism Spectrum Disorder, Parental Stress Index.*

1. Introduction

Parents play a crucial role in all aspects of their children's development. They contribute to the acquisition of language skills, foster cognitive development, and ensure emotional regulation, which forms the foundation for emotional development (Barone, 2007). In recent years, most of the intervention on children showed the inclusion of a programme of parent training to their parents (Wyatt Kaminski et al., 2008). It showed an increase in terms of the objectives aimed - in parent-child communication, acquisition of new skills for children and the decrease of problem behaviour (Ho & Lin, 2020; Gross et al., 1995; Kazdin & Wassell, 2000). Indeed, the results of parent training appear to maintain positive effects over time (Long et al., 1994; Lundahl et al., 2006). In the treatment of Autistic Spectrum Disorder, one of the best evidenced parent trainings is behavioural (McMahon, 1999; Shaffer et al., 2001; Schaefer & Andzik, 2021). As synthesized by Shaffer et al. (2001) the core elements of a behavioral parent training include: (a) focusing more on parents than the child; (b) moving from a preoccupation with antisocial behavior to an emphasis on prosocial behavior; (c) teaching parents to identify, define, and record child behavior; (d) instructing parents in social learning principles (e.g., reinforcement of prosocial behavior, withdrawal of attention for misbehavior through the use of ignoring or time-out); (e) teaching new parenting skills via didactic instruction, modeling, role playing, practicing with the child in the clinic and home; (f) discussing ways to maximize generalization of skills from the clinic to the home; and when necessary, (g) addressing parental (e.g., depressive symptoms), family (e.g., marital conflict), and community (e.g., neighborhood violence) risks which may interfere with acquisition or maintenance of new parenting skills and adaptive child behavior. Furthermore, the effectiveness of parent training is also influenced by factors that are not dependent on the child's functioning, particularly socio-economic status

and maternal mental health (Reyno & McGrath, 2006). Some studies, such as Frolli et al. (2023), emphasise the importance of supporting not only the behavioural competencies but also the reflective function of parents. Parental reflective functioning (PRF), also known as parental mentalizing, refers to a parent's ability to understand their child's internal mental states, such as feelings, wishes, and desires, and to reflect on their own internal mental experiences and how they are shaped and changed by interactions with their child. The assessment of parental fitness also includes the criterion of reflexivity, as defined by Fonagy et al. (1998). This refers to the psychological processes that underlie the ability to mentalize, which is also known as the capacity for abstraction and reflective awareness. This plays a central role in cognitive and developmental psychology. The study aimed to investigate the effects of different types of parent training on family well-being and children's adaptive skills. Specifically, we compared a behavioral parent training program based on applied behavior analysis with a program based on behavioral strategies and support for parental reflex functioning.

2. Methods

2.1. Participants

In this study we initially considered a sample of 236 couples of parents of ASD children who were following a behavioral treatment based on applied behavior analysis in clinics and rehabilitation centers in Campania region. Participants were selected according to the main inclusion criteria: 1) have a child who was diagnosed with ASD, according to the criteria of the DSM-IV-TR; 2) the age of the child (from 30 months to 8 years old); 3) child followed a program treatment based on Applied Behavior Analysis. Exclusion criteria were: 1) non accordance with the weekly meeting of parent training or the non compliance with aba program scheduling weekly. From this sample we excluded 36 couples of parents for their poor adherence with parent training protocol scheduling.

The total sample therefore includes 200 couples of parent. A total of three group were created according to the type of parent training disposed by clinics. Group 1 is composed by 75 couples of parents that followed weekly a parent training based on Applied Behavior Analysis Procedures. Group 2 is composed by 70 couples of parents that followed a parent training program that included behavioral strategies and parental functions support work. Group 3 is composed by parents who didn't followed any kind of parent training support.

2.2. Instruments

The protocol used is composed of the following tests: PSI/SF (Parenting Stress Index-Short Form authored by Abidin (Abidin et al., 2006), CBCL (Child Behaviour CheckList authored by Achenbach & Rescorla, 2000) and Vineland Adaptive Behavior Scale II (Sparrow et al., 2005).

PSI-SF (Parenting Stress Index-Short Form). It is a self-assessment questionnaire that measures the level of stress in the parent-child system, consisting of two domains: child domain and parent domain. The child's domain measures the sources of parental stress caused by child characteristics, while the Parent's Domain assesses the sources of stress related to the parental role.

Child Behavior CheckList (CBCL / 1½-5 e 6-18). It is a self-administered questionnaire by parents for pre-school children that provides a profile of the child's psychopathological behavior. It is composed of three syndromic scales: internalizing, externalizing, and total problem scales. The internalizing scales include Emotionally reactive, Anxious / Depressed, Somatic Complaints, and Withdrawn. Outsourcing problems evaluate Attention Problems and Aggressive Behavior. Besides, this scale also allows us to monitor problems related to the sleep-wake rhythm (Sleep Problems) Child Behaviour CheckList authored by Achenbach & Rescorla, 2000).

The Vineland Adaptive Behaviour Scales (VABS II) is an interview used to measure the level of adaptation of an individual's behaviour. It consists of three main scales: Communication Scale, Daily Living Skills Scale and Socialisation Scales. For children under the age of 8 and for the elderly over the age of 56, the Motor Skills Scale is also included (Sparrow et al., 2005).

2.3. Procedures

The level of parental stress was investigated by the administration of the PSI-SF. The presence of problem behavior and the level of adaptive skills of the child were administered respectively with the somministrazione of CBCL and VABS II to the parents. We conduct first administration of the protocol before started the parent training, to measure the levels of stress and of problem behavior of the children, to ensure no significative differences between groups. PT began after the pre-tests for all participants and lasted six months. It took place four times a month, totaling 24 meetings. The total sample of 200 families, divided into three natural groups as described below, were subjected to a specific type of PT. In particular, Group 1 followed a PT of behavioral approach that was inspired by the Applied Behavior

Analysis (ABA). Group 2 underwent a PT intervention aimed at restructuring parental reflective functions, which were inspired by pre-mentalization and emotional mirroring (Fonagy et al., 1998) and they acquired also behavioral strategies to intervene on problem behavior of their children and to support adaptive behavior. Group 3 didn't participate to any kind of parent training program. At the end of the treatment, questionnaires were re-administered to the parents in order to identify the differences on the children's behavior (CBCL), parental stress and adaptive behavior (PSI / SF and VABS II).

3. Results

Data analysis was performed using SPSS 26.0 statistical survey software. An analysis of variance (ANOVA) was used to evaluate significant differences between the means of the three groups. Significance was accepted at the 5% level ($\alpha < 0.05$). No differences were found between the groups on the variables Stress Index (PSI) and Problem Behavior (CBCL_I; CBCL_E) before the training started. Significant differences were found in the variable of adaptive behavior in daily skills between group 1 and group 2, as well as between group 1 and group 3. The analysis of the VABS score after training was not conducted due to these differences. Significant differences were also found in the Parental Stress Index (PSI) and in Externalizing Problems (CBCL_E). No significant differences were found in the Interanilizing score or the total score of CBCL. Tukey Post Hoc was used to analyse the differences between groups. For group 1, we compared the scores that resulted from the administration of the PSI/SF test after the PT surgery with the scores of group 3, and significant results emerged in the Total Score (PSI_tot) [$t = -5.162$; $p < 0.05$] after treatment. The study compared the PSI_tot scores of group 2 with those of group 1 and group 3, revealing significant differences [$t = -3.475$; $p < 0.05$ and $t = -8.648$; $p < 0.05$, respectively]. These results provide evidence of the effectiveness of parent training in reducing stress levels among parents, particularly in group 2 (refer to Table 1).

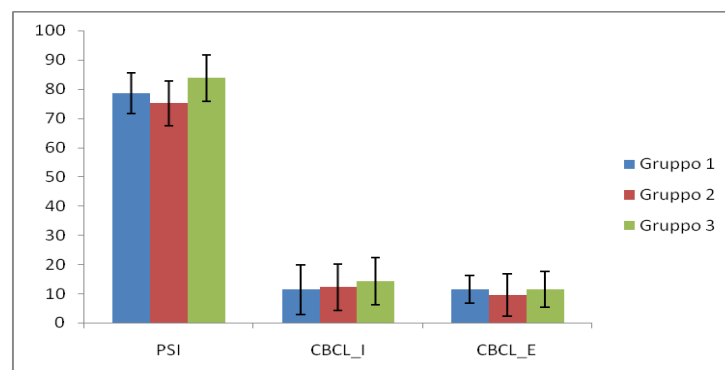
Table 1. Post Hoc Results.

		PSI_SF	CBCL_I	CBCL_E
Group 1	Group 2	3,475 ,011*	1,619 ,890	2,009 0,107
	Group 3	-5,162 ,000*	-4,921 ,391	-2,915 ,017*
Group 2	Group 1	-3,475 ,011*	-1,619 ,890	-2,009 ,107
	Group 3	-8,638 ,000*	-6,540 ,201	-4,923 ,000*
Group 3	Group 1	5,162 ,000*	4,921 ,391	2,915 ,017*
	Group 2	8,638 ,000*	6,540 ,201	4,923 ,000*

* Significance was accepted at the 5% level ($\alpha < 0.05$).

Finally, we compared the CBCL scores between the groups and found significant differences in the CBCL_E score on the Externalizing Index between groups 1 and 2 with group 3, but no differences between groups 1 and 2 (see Table 1). No significant differences emerged on the CBCL_I index, which measures internalizing problem behavior in children.

Figure 1.



* Means and Standard Deviations with significative differences to tests

4. Conclusions

The results suggest that the parent training intervention effectively helped parents modify their children's dysfunctional behaviours and promote the development of functional ones. The differences between the two groups of parent training are primarily reflected in the parental stress index. The parent training approach has been shown to significantly reduce parental stress. As parents gain confidence in their ability to manage their child's behaviour effectively, overall stress levels within the family environment decrease. This reduction in stress benefits not only parental well-being but also creates a more nurturing and supportive atmosphere for the entire family. The group that integrated reflective parenting strategies with behavioral approaches likely experienced superior stress reduction due to the comprehensive nature of the intervention. This approach targeted specific behaviours and enhanced coping mechanisms. It also improved the parent-child relationship and potentially yielded lasting benefits for parental well-being (Eyberg & Robinson, 1982; Adams, 2001; Pennefather et al., 2018).

Furthermore, both groups that participated in parent training exhibited superior outcomes in reducing their children's externalizing problem behaviors compared to the group that did not undergo any form of parent training. This improvement occurred even though children in all three groups were concurrently receiving Applied Behavior Analysis (ABA) methodology-based behavioral therapy in various settings, including home and school. These data suggest that the Parent Training (PT) intervention yields significant results, particularly in reducing externalizing behavioral symptoms (see Gershly & Gray, 2020; Frolli et al., 2023).

5. Discussions

Parental Training (PT) is a psychological intervention aimed at improving parenting skills, including both communication and behavioural management strategies. Different theoretical approaches to PT may prioritize specific aspects, reinforcing various skills and abilities (Frolli et al., 2023). The study findings suggest that two types of parent training are effective in improving parental wellness by reducing stress and decreasing externalizing problem behaviour in children. These results align with existing literature that supports parent training as an evidence-based intervention for children with disruptive behaviour, both typical and atypical (Bearss et al., 2015). Various programs have emerged as effective for ASD, particularly parent training based on applied behavior analysis. This is considered a best practice in reducing problem behavior due to its ability to be administered in various service settings (Van Camp et al., 2008). However, our results showed that a parent training programme that focuses on both the reflective function of the parent and improving their mentalization processes, in addition to behavioural strategies, is more effective in reducing frustration and stress in parents and improving their sense of efficacy. The reflective function of a parent pertains to their ability to comprehend and interpret their child's thoughts, feelings, and behaviours, and to consider how these internal mental states influence their own and their child's actions. It involves the capacity to mentally adopt the perspective of the child and understand the underlying emotional and cognitive processes. A parent with a well-developed reflective function is better equipped to respond sensitively to their child's needs, fostering a secure attachment and promoting healthy socio-emotional development. This reflective capacity is crucial for effective parenting and building a strong parent-child relationship (Fonagy et al., 1998). We suggest integrating sessions focused on parenting and their reflexive function into the behavioural programme for parent training. By becoming more proficient in managing their children's behaviour and fostering positive development, parents can improve the overall family environment. This can lead to increased awareness of themselves as individuals and as parents, making them feel more competent and confident in their parenting abilities. This, in turn, can contribute to better parent-child relationships and improved child outcomes over the long term. This intervention's success is rooted in its ability to empower parents, actively involve them in the change process, reduce parental stress, and set the stage for positive, long-term family outcomes.

Several limitations of the study have been identified. Firstly, the study used a non-random sample, as participants were recruited from a clinic where children were receiving ABA treatment and their parents were receiving different types of training. To better isolate independent variables, a controlled randomized group sampling is required. One limitation of the study is the lack of data analysis on the different scales of PSI. This analysis would have identified which variable, among Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child is most impacted by parent training.

References

- Abidin, R., Flens, J. R., & Austin, W. G. (2006). The parenting stress index. In R. P. Archer (Ed.), *Forensic uses of clinical assessment instruments* (pp. 297-328). Lawrence Erlbaum Associates Publishers.
- Adams, J. F. (2001). Impact of parent training on family functioning. *Child & Family Behavior Therapy*, 23(1), 29-42.
- Barone, L. (2007). *Emozioni e sviluppo. Percorsi tipici e atipici*. Roma: Carocci.
- Bearss, K., Burrell, T. L., Stewart, L., & Scahill, L. (2015). Parent training in autism spectrum disorder: What's in a name? *Clinical Child and Family Psychology Review*, 18(2), 170-182.
- Eyberg, S. M., & Robinson, E. A. (1982). Parent-child interaction training: Effects on family functioning. *Journal of Clinical Child Psychology*, 11(2), 130-137.
- Fonagy, P., Target, M., Steele, H., & Steel, M. (1998). *Reflective-Functioning Manual Version 5 for Application to Adult Attachment Interviews*. London: University College London.
- Frolli, A., Cavallaro, A., Oduro, S., Bosco, A., Lombardi, A., Di Carmine, F., & Ricci, M. C. (2023). DDAA and Maternal Reflective Functions. *Current Psychology*, 42(9), 7788-7796.
- Gross, D., Fogg, L., & Tucker, S. (1995). The efficacy of parent training for promoting positive parent—toddler relationships. *Research in nursing & health*, 18(6), 489-499.
- Ho, M. H., & Lin, L. Y. (2020). Efficacy of parent-training programs for preschool children with autism spectrum disorder: A randomized controlled trial. *Research in Autism Spectrum Disorders*, 71, 101495.
- Kazdin, A. E., & Wassell, G. (2000). Therapeutic changes in children, parents, and families resulting from treatment of children with conduct problems. *Journal of the American Academy of Child & Adolescent Psychiatry*, 39(4), 414-420.
- Long, P., Forehand, R., Wierson, M., & Morgan, A. (1994). Does parent training with young noncompliant children have long-term effects? *Behaviour research and therapy*, 32(1), 101-107.
- Lundahl, B., Risser, H. J., & Lovejoy, M. C. (2006). A meta-analysis of parent training: Moderators and follow-up effects. *Clinical psychology review*, 26(1), 86-104.
- MarketScreener (2009, July 28). *IBM to Acquire SPSS Inc. to Provide Clients Predictive Analytics Capabilities* (Source: ibm.com). Retrieved from <https://www.marketscreener.com/quote/stock/SPSS-INC-10925/news/SPSS-IBM-to-Acquire-SPSS-Inc-to-Provide-Clients-Predictive-Analytics-Capabilities-13217916/>
- McMahon, R. J. (1999). Parent training. In S. W. Russ & T. H. Ollendick (Eds.), *Handbook of psychotherapies with children and families* (pp. 153–180). Kluwer Academic Publishers.
- Pennefather, J., Hieneman, M., Raulston, T. J., & Caraway, N. (2018). Evaluation of an online training program to improve family routines, parental well-being, and the behavior of children with autism. *Research in Autism Spectrum Disorders*, 54, 21-26.
- Reyno, S. M., & McGrath, P. J. (2006). Predictors of parent training efficacy for child externalizing behavior problems—a meta-analytic review. *Journal of child psychology and psychiatry*, 47(1), 99-111.
- Schaefer, J. M., & Andzik, N. R. (2021). Evaluating behavioral skills training as an evidence-based practice when training parents to intervene with their children. *Behavior Modification*, 45(6), 887-910.
- Shaffer, A., Kotchick, B. A., Dorsey, S., & Forehand, R. (2001). The past, present, and future of behavioral parent training: Interventions for child and adolescent problem behavior. *The Behavior Analyst Today*, 2(2), 91-105.
- Sparrow, S. S., Cicchetti, D. V., Balla, D. A. (2005). *Vineland-II Adaptive Behavior Scales: Survey forms manual*. Circle Pines, MN: AGS Publishing.
- Van Camp, C. M., Vollmer, T. R., Goh, H. L., Whitehouse, C. M., Reyes, J., Montgomery, J. L., & Borrero, J. C. (2008). Behavioral parent training in child welfare: Evaluations of skills acquisition. *Research on Social Work Practice*, 18(5), 377-391.
- Wyatt Kaminski, J., Valle, L. A., Filene, J. H., & Boyle, C. L. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of abnormal child psychology*, 36, 567-589.