

Parent perceived control and stress in families of children with Attention-Deficit/Hyperactive Disorder

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Abstract

This study will deal with the construct of perceived control in difficult child-rearing interactions with parents of ADHD children. It has been hypothesized that a) these parents develop low self-control schemata as result of a transactional history of failure interactions with their children more often than parents of non-problem children, and b) low perceived control beliefs are associated with increased parental stress and punitive/inconsistent discipline practices. Results show significant differences between families as a function of children's clinical condition, with higher stress levels and lower perceived control in parents of ADHD children, but they do not support the influence of low-power attribution style on increased stress both in ADHD and non-clinical families. Finally, the influence of perceived control on parenting practices changes as a function of children's clinical condition with an increment of inconsistent and punitive parenting in association with low perceived control only for ADHD parents. An unexpected result is the higher level of positive parenting in ADHD parents if compared to non-clinical ones who, as initially assumed, report more affection in association with high perceived control attributions. Implications for assessing perceived control beliefs in families of children with behavioral disorders, particularly for the treatment of the ADHD, are discussed.

Keywords: ADHD children, Parenting stress, Perceived control beliefs

Received: September 12, 2012, *Revised:* May 02, 2013, *Accepted:* May 10, 2013.

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1. Introduction

In the last decades of the 20th Century, several developmental and clinical studies emphasized the problems that occur by caregiving a child or adolescent with ADHD (Johnston & Mash, 2001), and the negative consequences on family functioning as frequent parent-child conflicts, disharmony, and poor marital adjustment (Befera & Barkley, 1985). An increase of demands that influence caregiver's adjustment is also well-documented: parents of children with ADHD commonly experience higher stress levels in comparison with non-clinical families (DuPaul, McGoey, Eckert, & Van Brakle, 2001) and they often view themselves as less skilled and efficacious in their role (Mash & Johnston, 1990). Correlational studies suggest that higher levels of stress that parents perceive in day-to-day experiences are associated with children's characteristics such as the severity and pervasiveness of ADHD symptoms (Theule, Wiener, Tannock, & Jenkins, 2013), but not their inattention (Graziano, McNamara, Geffken, & Reid, 2011), and particularly in the presence of aggressive and oppositional-defiant behaviors (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992).

Healey, Flory, Miller and Halperin (2011) have recently found that, after controlling for symptom severity, high levels of temperamental impulsivity in the child (i.e., negative emotionality, attention problems, and lack of task persistence) are linked to increased maternal distress, which in turn affects parenting style that results in more authoritarian and inconsistent behavior. This association between parenting stress and ineffective parenting practices is confirmed by other empirical findings: children with ADHD are less compliant in response to their parents' instructions, and they frequently change activity and display other problematic behaviors that increase parental reactivity in form of disapproval, inefficient commands, physical punishment, and lack of affection (Cunningham & Boyle, 2002). These poor parenting practices, in turn, appear related to the maintenance or the exacerbation of existing behavioral difficulties, and they are one of the more robust predictors of negative outcomes with ADHD children (Frick, Christian, & Wootton, 1999).

More recently, in research done on parent-child relationship other scholars have incorporated beliefs or cognitions about ADHD as important variables that can mediate parental reactions to a child's problematic behaviors (Johnston & Ohan, 2005; Johnston, Mah, & Regambal, 2010). Parents generally develop explanations, or attributions, regarding the causes for a child's behavior and those who have a child diagnosed with ADHD - more often than parents of children without developmental disorder who interpret problematic behaviors as caused by uncontrollable, enduring and pervasive factors internal to their child (Johnston & Freeman, 1997).

When children display ADHD in comorbidity with conduct problems, parents generally consider themselves as less responsible for child behavior; nevertheless oppositional-defiant behaviors were seen as more controllable by the child than the ADHD symptoms, and within these ADHD symptoms, hyperactive-impulsive symptoms were seen as more intentional and controllable than that of one's inattention (Freeman, Johnston, & Barth, 1997).

Bugental and Shennum (1984) introduced the construct of perceived control (PCF) to describe the balanced weight of adult's versus child's causes that parents suppose are influencing the outcomes in childrearing situations. The authors consider parents' perception of the power or responsibility they attribute to themselves in controlling a child's behavior in comparison with the control they attribute to the child. The attribution pattern is obtained comparing adult control (ACF) or child control over failure (CCF) in difficult childrearing situations: adults with low perceived control (PCF) attribute the reason of failure of interactions to poor self-control and high child-control. This low control style of attribution (low PCF) is common in mothers with aggressive children as consequence of a transactional experience of failure in caregiving (Katsurada & Sugawara, 2000). Similar findings came from Benedetto and Ingrassia (2010), who found low control schemata in parents of children at risk for externalizing problems. Other studies show that lower-power beliefs are more often associated with hostile discipline and negative emotions toward children: parents react with a harsher style of interaction (criticism, punishment, etc.), anger, and negative feelings (Bugental & Happaney, 2002).

Only a minimal amount of existing research has examined the association between causal perceived control and parental stress with children presenting behavioral disorders. In a study involving mothers of ADHD children, Harrison and Sofronoff (2002) found that causal attribution internal to the child, along with lower perceived parental control, is associated with more severe parental distress. Results from this study suggest that children's behavior problems, and mothers' beliefs about being able to control their child's behavior, contribute to parenting stress and depression: for children displaying comparable behavior difficulties, mothers who felt less able to control their child's behavior experienced more distress.

The aim of this study is to extend previous empirical findings on the role of parental perceived control in parent-child interactions (Bugental & Shennum, 1984; Benedetto & Ingrassia, 2010) by examining the relationships between effectiveness of self-attribution, discipline practices, and stress in parents with ADHD children. The objective is to evaluate if parental beliefs in exerting less control on the child's behavior are more often common in ADHD families

and if this attribution schema would influence both parental emotional and behavioral responses; namely, perceived stress levels and discipline practices they commonly display with their children. The hypotheses to test, in particular, are:

1. The attributional style of low perceived control (PCF) in parents of ADHD children. On the basis of the transactional influence of difficult children behaviors and previous experiences of failure in parental sense of power, we expected that parents of ADHD children to have low PCF in a greater amount than parents of children without ADHD.
2. The influence of the attribution style (low/high PCF) on parental practices. The hypothesis is that adults with low PCF report a more frequent use of punitive/inconsistent parenting practices if compared to high PCF parents, together with decreasing positive involvement and relative affect.
3. The stress levels perceived by parents as a function of the clinical condition of their children (ADHD *vs.* non-clinical) and perceived control (low/high PCF) over their child's behaviors. On the basis of existing literature, we can assume higher levels of parental stress in ADHD families and in those parents who felt low control within the relationships.

2. Method

2.1 Participants

The study was conducted with the parents of 25 children with a previous ADHD diagnosis (*ADHD group*) and the parents of 29 children without behavioral or developmental disorders (*non-clinical group*). The ADHD children (23 boys and two girls) received the ADHD diagnosis, combined type (DSM-IV criteria; APA, 2000), by a public service of Child Neurology and Psychiatry. Ages ranged from 6 to 15 (mean 9.15 years, $SD = 2.28$). Each child met also a *T* score of 63 or above (mean 67.25, $SD = 4.60$) on externalizing scale of the parent-completed *Child Behavior Checklist* (CBCL/4-18; Achenbach, 1991). Parents were 25 mothers and 11 fathers. The main ages were 39.71 years for the mothers ($SD = 5.67$) and 42.87 for the fathers ($SD = 6.16$).

Parents of non-problem children (*non-clinical group*) were 51 volunteers selected by a matching procedure (main age and gender of the child as criteria) with the ADHD families. They were recruited on a voluntary basis in primary or middle schools frequented by the children, to ensure the absence of clinical problems, the SDQ was rated for each child (see below). All children obtained ratings below the *cut-off* both in the Total Difficulties score (group mean =

7.27, $SD = 3.65$; normal range 0-13) and in Inattention-Hyperactivity sub-scale (mean 2.75, $SD = 1.70$; normal range 0-5). The final sample results composed of 27 mothers and 26 fathers. The main ages were 38.87 years for the mothers ($SD = 5.32$) and 44.13 for the fathers ($SD = 5.88$); for the children, 9.42 years (range from 6 to 15). There were not differences for children's ages between ADHD vs. non clinical group [$F(1, 52) = .16, p = .69$], even if there resulted more single or separated parents in the ADHD group compared to non - clinical families [$\chi^2 (2) = 13.72, p < .001$].

2.2 Measures and procedures

Parents of the *ADHD group* completed the set of questionnaire in a pretest phase of a group parent training. The set included:

Parent Attribution Test (PAT; Bugental & Shennum, 1984) in the Italian version by Benedetto and Camera (2011). For assessing parenting style attribution, the test presents a hypothetical episode in which an adult has to take care of a neighbor's child. The respondent judges the importance of causes of failure (i.e., child's temperament, adult's ability to deal with children, luck, etc.) using a 7-point Likert scale (from "not at all important" to "very important").

Ratings are combined to obtain adult control over failure (ACF) and child control over failure (CCF). The latter value is subtracted from the former (ACF-CCF) to calculate PCF score (the index of the balance of adult's vs.. child's control in difficult interactions). According to Bugental (1998), adults are then categorized using a median split score on PCF: parents of low PCF are below median split, and parents with high PCF above median split.

Parenting Stress Index - Short Form (PSI-SF; Abidin, 1995), a self-report rating scale measuring stress related to parenting. The questionnaire is composed of 36 items to which parents responded by rating on a 5-point scale (strongly agree, agree, not sure, disagree, strongly disagree) to what extent each item describes themselves, their child, or parent-child interactions. The indices obtained are Parental Distress, Difficult Child, and Parent-Child Dysfunctional Interaction, which are summed up to obtain a Total Stress measure. Higher scores indicate more stress experienced by the parents with the target child. The internal consistency for the Italian version (Guarino, Di Blasio, D'Alessio, Camisasca, & Serantoni, 2008) ranges from $\alpha = .87$ for the sub-scales to $\alpha = .93$ for the Total stress.

Alabama Parenting Questionnaire (APQ; Frick, 1991), a self-report measure of parenting practices (42 items). Each item was rated on a 5-point scale, ranging from 1 (never) to 5 (always) to indicate how frequently the parent uses every specific behavior for managing child's behaviors in ordinary interactions.

For this study, we used the following scales: involvement (10 items; e.g., “You have a friendly talk with your child”), positive parenting (6 items; e.g., “You compliment your child when he/she does something well”), inconsistent discipline (6 items; e.g., “The punishment you give your child depends on your mood”), and corporal punishment (3 items; e.g., “You slap your child when he/she has done something wrong”). The first two scales have a positive direction (higher scores indicate positive practices), the other two a negative direction (higher scores correspond to ineffective parenting). For the Italian version of APQ (Benedetto & Ingrassia, 2012) internal consistency ranges from $\alpha = .80$ (involvement scale) to $\alpha = .50$ (corporal punishment).

Parents of the *non-clinical group* completed the previous set of questionnaires (PAT, PSI, and APQ) and the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, 1997) in the Italian version³. This brief behavioral screening questionnaire (25 items) is designed to assess psychological well-being in children (4-16 years). Each item describes positive (i.e., prosocial behavior) or negative attributes (i.e., non compliance) and the parent rates whether he/she thinks these behaviors are “not true” (0), “somewhat true” (1) or “certainly true” (2) for the child. The SDQ has five scales: emotional symptoms (e.g., “Often complains of headaches, stomach-aches or sickness”), conduct problems (e.g., “Often lies or cheats”), inattention-hyperactivity (e.g., “Restless, overactive, cannot stay still for long”), peer problems (e.g., “Rather solitary, prefers to play alone”), and prosocial behavior (e.g., “Considerate of other people's feelings”). The internal consistency of subscales for the Italian version (Tobia, Gabriele, & Marzocchi, 2011) ranges from $\alpha = .70$ to $.88$. For this study we used the Total Difficulties score (cut-off < 16) and the Inattention-Hyperactivity score (cut-off < 5) in order to identify children not at risk for emotional or behavioral problems and to compose the non-clinical sample.

3. Results

3.1 Parent perceived control

Parents for both the ADHD and non-clinical group were classified as low or high in perceived control (PCF) according to the scoring procedure (table 1) of Bugental and Shennum (1984)⁴. In the non-clinical group, the distribution of parents with high PCF (31.0% of total) vs. low PCF (27.6%) resulted balanced,

³SDQ-ita available at the official site www.sdqinfo.org

⁴The proportions of fathers and mothers with high/low PCF in both groups resulted statistically similar. So for this reason and because of the small number of fathers in the ADHD group, we decided to consider fathers' and mothers' data as whole samples to test the primary hypothesis of different beliefs as a function of the group characteristics.

whereas in the ADHD group more parents obtained low PCF (34.5%) if compared to high PCF (6.9%), $\chi^2(1) = 8.63, p < .01$.

Table 1 – *Frequency of parental low vs. high Perceived Control of Failure (PCF) in non clinical and ADHD group.*

		<i>Perceived control (PAT)</i>		
		<i>Low PCF</i>	<i>High PCF</i>	<i>Total</i>
Non clinical group	N	27	24	51
	% of total	31.0%	27.6%	58.6%
ADHD group	N	30	6	36
	% of total	34.5%	6.9%	41.4%
Total	N	57	30	87
	% of total	65.5%	34.5%	100.0%

3.2 Perceived control and parenting practices

Table 2 displays the means (M) and standard deviations (SD) in parenting practices according to the APQ scales. A 2 (ADHD vs. non-clinical group) x 2 (low vs. high perceived control) MANOVA was calculated considering APQ scores as dependent variables.

Table 2 – *Means and standard deviations (in parentheses) of parenting practices as a function of parents' group and perceived control.*

	<i>ADHD group</i>		<i>t test</i> <i>a vs. b</i>	<i>Non clinical group</i>		<i>t test</i> <i>c vs. d</i>
	<i>Low PCF^a</i>	<i>High PCF^b</i>		<i>Low PCF^c</i>	<i>High PCF^d</i>	
Parenting practices (APQ)	(N= 30)	(N= 6)		(N= 27)	(N= 24)	
Involvement	38.53 (5.78)	37.50 (2.59)	0.42	36.56 (6.54)	38.46 (4.74)	- 1.18
Positive parenting	25.77 (2.60)	23.83 (2.32)	1.7 *	23.19 (3.64)	25.04 (2.93)	- 1.99 *
Inconsistent discipline	17.07 (3.25)	14.17 (3.31)	2 **	15.74 (3.83)	17.63 (3.61)	- 1.81 *
Corporal punishment	6.50 (1.38)	5.33 (0.52)	2.02 **	5.22 (1.76)	5.96 (2.56)	- 1.21

Note: * $p < .05, p < .01$ based on *t* Student post-hoc analysis

MANOVA revealed no significant main effects for group and perceived control variables, but significant group x perceived control interactions for positive parenting [$F(1, 83) = 5.60, p < .05$] and inconsistent discipline [$F(1, 83) = 6.54, p < .01$], whereas for corporal punishment the interaction does not reach statistical significance [$F(1, 83) = 3.74, p = .06$]. The figures 1 – 4 present the 2 (group) x 2 (perceived control) results for these APQ domains. In the ADHD group, parents with low PCF resulted more positive (fig. 2) than those who report high PCF [$t(34) = 1.70, p < .05$], whereas the tendency is opposite for the non-clinical group where positive parenting was higher associated with high PCF [$t(49) = -1.99, p < .05$]. ADHD parents with low PCF result more inconsistent in discipline (fig. 3) than parents with high PCF [$t(34) = 2.00, p < .01$], whereas in the non-clinical group the disciplinary incoherence, expressed by higher scores in the APQ scale, is more common in parents with high PCF [$t(49) = -1.79, p < .05$]. Finally, for ADHD group the corporal punishment frequency (fig. 4) is higher with low PCF, with decreased levels with high PCF [$t(49) = -1.99, p < .05$], but this tendency is opposite for non-clinical parents where lowest levels link with high PCF [$t(49) = -1.95, p < .05$].

Figure 1 – Results in APQ scales as function of group characteristics (ADHD vs. non clinical) and PCF: involvement scores.

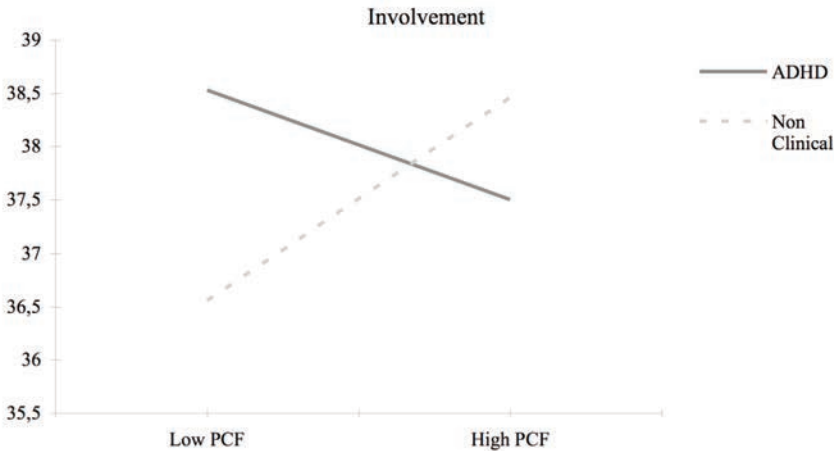


Figure 2 – Results in APQ scales as function of group characteristics (ADHD vs. non clinical) and PCF: positive parenting scores.

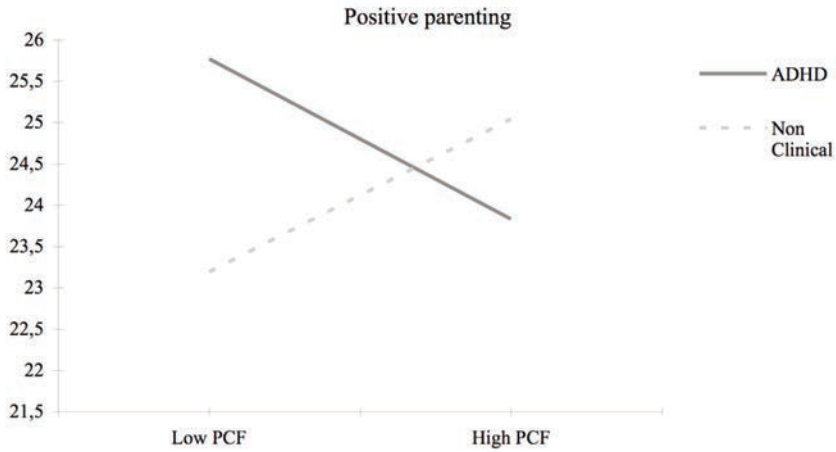


Figure 3 – Results in APQ scales as function of group characteristics (ADHD vs. non clinical) and PCF: inconsistent discipline scores.

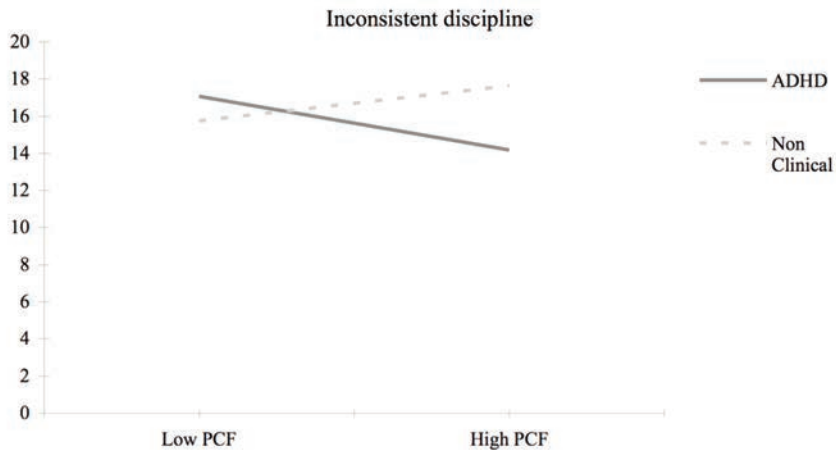
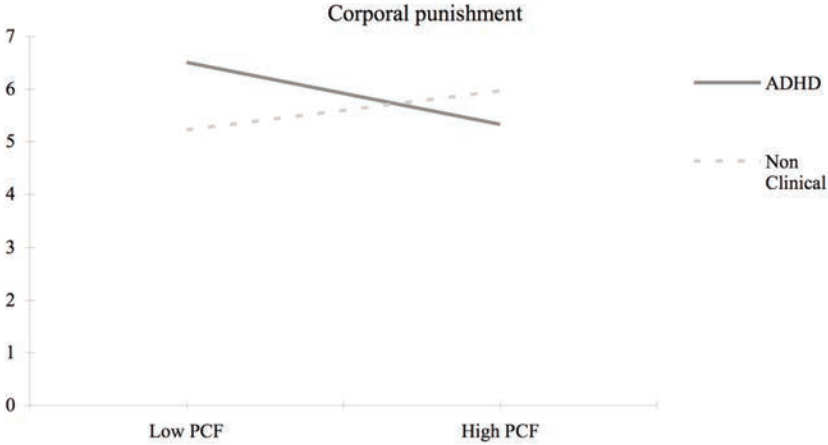


Figure 4 – Results in APQ scales as function of group characteristics (ADHD vs. non clinical) and PCF: corporal punishment scores.



Other comparisons were carried out between ADHD vs. non-clinical families (table 3): positive parenting was higher for ADHD families associated with low PCF [$t(55) = 3.07, p < .01$], for non-clinical families with high PCF [$t(28) = -1.81, p < .05$]. Finally, inconsistent discipline associated with high PCF is higher for non-clinical vs. ADHD group [$t(28) = -2.18, p < .05$], whereas associated with low PCF the incoherence in discipline does not show any difference between parents of ADHD vs. non-problem children.

Table 3 – *t* Student post-hoc analysis between ADHD vs. non clinical group

	Low PCF		High PCF	
	ADHD	vs. Non clinical	ADHD	vs. Non clinical
Parenting practices (APQ)	(N= 30)	(N=27)	(N= 6)	(N= 24)
Involvement		1.2		- 0.47
Positive parenting		3.07 **		- 1.81 *
Inconsistent discipline		1.43		- 2.18 *
Corporal punishment		0.03		- 0.59

Note: * $p < .05, p < .01$

3.3 Perceived control and parenting stress

The means (with relative standard deviations) of the responses related to the levels of stress are shown in table 4. A 2 (ADHD vs. non-clinical group) x 2 (low vs. high PCF) MANOVA was conducted on these measures considering both PSI total stress and scales as dependent variables. In the ADHD group, parenting stress levels are higher in comparison with the non-clinical group. Significant differences were found for the following measures: the PSI Total, $F(1, 83) = 11.98, p = .001$; the PSI Parent-child difficult interaction domain, $F(1, 83) = 10.25, p < .05$; the PSI Difficult child domain, $F(1, 83) = 31.28, p < .001$. With respect to parental perceived control, no main significant effects were found; group x perceived control interactions were also not significant, with the only exception of a marginal effect for the PSI Parent-child difficult interaction domain, $F(1, 83) = 3.75$ that is close to statistical significance ($p = .056$). Parents of ADHD children tended to report higher parent stress associated with low PCF, whereas stress levels as a function of low vs. high PCF appear similar for the non-clinical group.

Table 4 – Means and standard deviations (in parentheses) of parenting stress as a function of parents' group and perceived control

	ADHD group		Non clinical group	
	Low PCF	High PCF	Low PCF	High PCF
Parenting stress (PSI)				
Parental distress	28.00 (8.74)	24.33 (9.31)	26.04 (6.48)	23.37 (8.74)
Parent-child difficult Interaction	29.90 (6.69)	23.50 (7.23)	21.26 (5.66)	21.38 (6.51)
Difficult child	35.53 (8.50)	34.33 (8.38)	24.26 (6.60)	23.58 (6.71)
Total Stress	92.10 (18.6)	82.17 (21.3)	71.56 (16.7)	68.33 (20.6)

4. Discussion

Parents develop different beliefs about the degree of control they may have over their child's behavior: some of them have a high perception of control and feel positive and self-efficacious in their role, whereas others see the child-rearing interactions as more effectively controllable by the child.

The purpose of the present study was to explore the differences in perceived control over a child's behaviors in parents of ADHD children and non-clinical parents, and to determine if power control beliefs influence parent's practices and stress levels. According to Bugental and Shennum (1984), it is possible to assume that a pattern of attribution based on a low sense of perceived control (low PCF, that is, adult attributes higher control to the child than to himself) would be more frequent in parents of ADHD children, as a result of a relational history of failure interactions that these parents experience in managing difficult children. Our results, in line with this assumption, confirm that parents of ADHD children express more attribution patterns of low PCF than adults of children without attention/hyperactivity disorders, expanding the empirical findings collected with families of non-clinical, "difficult" children for moderate externalizing problems (Benedetto & Ingrassia, 2010).

The second hypothesis was the influence of the attribution style on discipline practices, with the expectation of more ineffective/negative parental behaviors in association with lower PCF. Previously Bugental, Blue and Cruzcosa (1989) demonstrated that mothers with a low sense of perceived control in childrearing situations respond to difficult or challenging child's behaviors with more coercive parenting (negative affect and harsher discipline). This assumption was partially confirmed in this study, because parental practices seem to change in function of perceived control (low/high PCF) in interaction with the clinical conditions of children (ADHD vs. non-clinical). In the ADHD condition, the parents with low PCF show more positive parenting (that is, affective expressions, reinforcement, etc.), but declare they use incoherent discipline patterns and punitive reactions more frequently than parents with high PCF. More interestingly, ADHD parents with low PCF result also more positive in parenting compared to non-clinical families. In other words, having a child with ADHD may create an attribution style of inefficient control of interaction associated with permissive, inconsistent parenting and harsh discipline, but this cognitive schema seems not to influence negatively the affection expressed towards the child. It could be, as some scholars have thought (Johnston & Ohan, 2005), that the diagnosis of ADHD works as a moderator (that is, an extenuative condition) that leads parents to excuse the child for problematic behaviors and to compensate with affection the frequent negative reactions (i.e., slapping or yelling) they direct to him/her. An opposite tendency in parenting emerges for non-clinical families, where low PCF, in comparison to high PCF, is associated with a decreased use of ineffective parenting practices – that is, incoherent discipline and corporal punishment – but also with decreased levels of positive parenting. This reduction in positive parenting in association with low-control beliefs is similar to other empirical findings

observed by Benedetto and Ingrassia (2010) with a non-clinical sample of pre-school-children parents, thus confirming the mediation influences of child characteristics or parent-child interactional histories on the links among child behavior, parental attribution, and parenting behavior (Bugental & Johnston, 2000).

Regarding parenting stress, the obtained data confirm the presence of higher levels in parents of ADHD children, who experience more child-related stress in comparison with parents of non-clinical children as well documented in empirical literature (Theule *et al.*, 2013). In addition, we assumed that low PCF would be associated with a higher stress level (the parent feels discouraged and distressed if they don't believe that they have control over a difficult child's behavior). Nevertheless, the results do not support this influence of low-power attribution style on increased stress levels both in ADHD and non-clinical groups. These outcomes are in contrast with Harrison and Sofronoff (2002), who found that maternal beliefs of control over a child's behavior predicts their level of stress, with less stress experienced by mothers having more control. A possible explanation for this discrepancy in findings can be the measure selected for parental attribution. Harrison and Sofronoff (2002) adopted situational information that is, the problematic behaviors of the children and a judgment of controllability for ADHD related symptoms. In our study we adopt the PAT, a test that reflects more the characteristics of the parent and his/her history of experiences (Bugental & Shennum, 1984) than specific child's behaviors: in fact, the PAT presents a hypothetical episode of caregiving with the aim to capture pre-existing schema of low/high control on child-adult interactions.

In conclusion, we believe that this study can contribute to the existing literature on the crucial role of parental beliefs in parenting, particularly in the experience with ADHD children, even if it presents some limitations. The first is the small size of the clinical sample, that does not allow for generalized conclusions about the influence of parental power perception on their emotional and discipline reactions; the second limitation is the lack of objective data about the ADHD core symptoms and other externalizing problems like oppositional defiant (ODD) or conduct disorders (CD). These data could be very interesting considering that parental attribution schemata change across subtypes of ADHD (i.e., inattention or hyperactivity/impulsivity prevalence; Graziano *et al.*, 2011) and aggressive or oppositional-defiant disorders (Johnston & Ohan, 2005).

Assuming the limitations encountered in this study, there are other important considerations for addressing future research on the assessment of parental attributions. There are a number of clinical studies that support links between parental cognitions regarding the causes that control a child's ADHD symptoms and the treatment choices, particularly the adherence and motivation for "empirically

supported” psychosocial treatments. Johnston, Seipp, Hommersen, Hoza, and Fine (2005), for example, found that parents who saw ADHD behaviors as more controllable by the child than by themselves were more likely to have engaged in non-evidence-based treatments (as diet or vitamins). Other scholars have addressed the interest in changes in parental cognitions: Benedetto, Ingrassia, Gagliano, Germanò, Ilardo, Rando *et al.* (2012) have found that a low control schema (PCF) in parents of ADHD children shifts into high control beliefs following behavioral parent training. It is not clear how much this cognitive change would predict improvement in parenting practices, better child outcomes and maintenance in the treatment of ADHD (Hoza, Johnston, Pillow, & Ascough, 2006). In the future, other empirical investigations are necessary to clarify this important question on the role of parental attribution to maximize positive adjustment and treatment outcomes for children and their families.

References

Abidin, R. R. (1995). *Parenting Stress Index: Professional Manual* (3ed ed.). Odessa, FL: Psychological Assessment Resources, Inc. (Italian adapt., *PSI Parenting Stress Index*. Firenze: Organizzazioni Speciali, 2008).

Achenbach, T. M. (1991). *Manual for Child Behavior Checklist/4-18 and 1991 Profile*. Burlington, VT: University of Vermont Department of Psychiatry [Italian adapt., A. Frigerio *et al.*, (Eds.). Bosisio Parini, LC: Istituto Scientifico «E. Medea», 2001].

Anastopoulos, A. D., Guevremont, D. C., Shelton, T. L., & DuPaul, G. J. (1992). Parenting stress among families of children with attention deficit hyperactivity disorder. *Journal of Abnormal Child Psychology*, 20, 503-520.

APA (2000). *DSM-IV-TR Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision. Washington, DC: American Psychiatric Association.

Benedetto L., & Camera, R. (2011). Parenting, stile attributivo e percezione di controllo nelle interazioni con i figli: il Parent Attribution Test. *Disturbi di attenzione e iperattività*, 6, 177-196.

- Benedetto, L., & Ingrassia, M. (2010). Parent practices and self-perceived control: Evidence from parent gender and children's behavioural problems. In R. Zukauskiene (Ed.), *Proceedings of the XIV European Conference on Developmental Psychology* (pp. 259-263). Pianoro (Bo): Medimont.
- Benedetto, L., & Ingrassia, M. (2012). Misurare le pratiche genitoriali: l'Alabama Parenting Questionnaire (APQ). *Disturbi di attenzione e iperattività*, 7, 121-146.
- Benedetto L., Ingrassia, M., Gagliano, A., Germanò, E., Ilardo, G., Rando, A., & Siracusano, R. (2012). Il parent training modifica le credenze dei genitori? Effetti sull'autoefficacia e sulla percezione di controllo nelle interazioni con bambini ADHD. *Psicologia Clinica dello Sviluppo*, 16, 651-660.
- Befera, M. S., & Barkley, R. A. (1985). Hyperactive and normal girls and boys: Mother-child interaction, parent psychiatric status and child psychopathology. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 26, 439-452.
- Bugental, D. B. (1998). *Parent Attribution Test, Revised manual* (Unpublished Research Measure). Santa Barbara, CL: University of California.
- Bugental, D. B., Blue, J., & Cruzcosa, M. (1989). Perceived control over caregiving outcomes: Implications for child abuse. *Developmental Psychology*, 25, 532-539.
- Bugental, D. B., & Happaney, K. (2002). Parental attributions. In M. H. Bornstein (Ed.), *Handbook of parenting* (2nd ed., vol. 3, pp. 509-533). Mahwah, NJ: Erlbaum.
- Bugental, D. B., & Johnston, C. (2000). Parental and child cognitions in the context of the family. *Annual Review of Psychology*, 51, 315-344.
- Bugental, D. B., & Shennum, W. A. (1984). "Difficult" children as elicitors and targets of adult communication patterns: An attributional-behavioral transactional analysis. *Monographs of the Society for Research in Child Development*, 49, 1-18.
- Cunningham C. E., & Boyle, M. (2002). Preschoolers at risk for attention deficit hyperactivity disorder and oppositional defiant disorder: Family, parenting, and educational correlates. *Journal of Abnormal Child Psychology*, 30, 555-569.

DuPaul, G. J., McGoey, K. E., Eckert, T. L., & Van Brakle, J. (2001). Preschool children with attention-deficit/hyperactivity disorder: impairments in behavioral, social, and school functioning. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 1036-1045.

Freeman, W. S., Johnston, C., & Barth, F. M. (1997). Parent attributions for inattentive-overactive, oppositional-defiant, and prosocial behaviours in children with Attention Deficit Hyperactivity Disorder. *Canadian Journal of Behavioural Sciences*, *29*, 239-248.

Frick, P. J. (1991). *The Alabama Parenting Questionnaire*. Unpublished rating scale, University of Alabama.

Frick, P. J., Christian, R. E., & Wootton, J. M. (1999). Age trends in the association between parenting practices and conduct problems. *Behavior Modification*, *23*, 106-128.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A Research Note. *Journal of Child Psychology and Psychiatry*, *38*, 581-586.

Guarino, A., Di Blasio, P., D'Alessio, M., Camisasca, E., & Serantoni, G. (2008). La validazione italiana del PSI-SF. In R. R. Abidin, *PSI Parenting Stress Index* (Italian adaptation, pp. 91- 103). Firenze: Organizzazioni Speciali.

Graziano, P. A., McNamara J. P., Geffken, G. R., & Reid, A. (2011). Severity of children's ADHD symptoms and parenting stress: A multiple mediation model of self-regulation. *Journal of Abnormal Child Psychology*, *39*, 1073-1083.

Harrison, C., & Sofronoff, K. (2002). ADHD and parental psychological distress: Role of demographics, child behavioral characteristics, and parental cognition. *Journal of the American Academy of Child and Adolescent Psychiatry*, *41*, 703-711.

Healey, D. M., Flory, J. D., Miller, C. J., & Halperin, J. M. (2011). Maternal positive parenting style is associated with better functioning in hyperactive/inattentive preschool children. *Infant and Child Development*, *20*, 148-161.

Hoza, B., Johnston, C., Pillow, D. R., & Ascough, J. C. (2006). Predicting treatment response for childhood attention-deficit/hyperactivity disorder: Introduction of a heuristic model to guide research. *Applied and Preventive Psychology*, *11*, 215-229.

Johnston, C., & Freeman, W. (1997). Attributions of child behavior in parents of children without behavior disorders and children with attention-deficit-hyperactivity disorder. *Journal of Counseling and Clinical Psychology, 65*, 636-645.

Johnston, C., Mah, J. W., & Regambal, M. (2010). Parenting cognitions and treatment beliefs as predictors of experience using behavioral parenting strategies in families of children with Attention-Deficit/Hyperactivity Disorder. *Behavior Therapy, 41*, 491-504.

Johnston, C., & Mash, E. J. (2001). Families of children with attention-deficit/hyperactivity disorder: Review and recommendations. *Clinical Child and Family Psychology Review, 4*, 183-207.

Johnston, C., & Ohan, J. L. (2005). The importance of parental attribution in families of children with Attention-Deficit/Hyperactivity and disruptive behavior disorders. *Clinical Child and Family Psychology Review, 8*, 167-229.

Johnston, C., Seipp, C., Hommersen, P., Hoza, B., & Fine, S. (2005). Treatment choices and experiences in attention deficit and hyperactivity disorder: Relations to parents' beliefs and attributions. *Child: Care, Health and Development, 31*, 669-677.

Katsurada, E., & Sugawara, A. I. (2000). Moderating effects of mothers' attribution on the relationships between their affect and parenting behaviors and children's aggressive behaviors. *Journal of Child and Family Studies, 9*, 39-50.

Mash, E. J., & Johnston, C. (1990). Determinants of parenting stress: Illustrations from families of hyperactive children and families of physically abused children. *Journal of Clinical Child Psychology, 19*, 313-328.

Theule, J., Wiener J., Tannock, R., & Jenkins, J. M. (2013). Parenting stress in families of children with ADHD: A meta-analysis. *Journal of Emotional and Behavioral Disorders, 21*, 3-17.

Tobia, V., Gabriele, M. A., & Marzocchi, G. M. (2011). Norme italiane dello Strengths and Difficulties Questionnaire (SDQ): Il comportamento dei bambini italiani valutato dai loro insegnanti. *Disturbi di attenzione e iperattività, 6*, 167-174.

