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ORIGINAL ARTICLE

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Parental attitudes and personality traits, self-efficacy, stress, and coping strategies among mothers of children with cerebral palsy

BACKGROUND
Development of children with cerebral palsy (CP) depends on the quality of parental care. The aim of the research was to compare parenting attitudes in mothers of children with CP to mothers of typically developing children, and to study the relationship between parenting attitudes and personality traits, stress, coping strategies and self-efficacy in mothers of children with CP.

PARTICIPANTS AND PROCEDURE
Twenty-seven mothers of children with cerebral palsy (MCCP) (mean age 35.50 years, *SD* = 4.83) and twenty-eight mothers (mean age 35.60 years, *SD* = 4.27) of typically developing children (MTDC) participated in this study. Each parent had a child between the ages of two and seven years. A battery of tests was administered to both groups, which included the Parenting Attitudes Scale (SPR), the NEO Five-Factor Inventory (NEO-FFI), the Generalized Self-Efficacy Scale (GSES), and the COPE Inventory. Also, maternal stress and the amount of social support received were assessed.

RESULTS
Although acceptance was the most common parental attitude among all participants, mothers of children with CP presented with a stronger tendency towards overprotective and demanding attitudes. MCCP obtained higher scores in neuroticism and lower in openness compared to MTDC. Furthermore, MCCP declared a higher level of distress than MTDC. There were no statistically significant differences between the two groups of mothers regarding self-efficacy, the level of social support or the most often used coping strategies. Neuroticism was found to be the best predictor of overprotective and demanding parental attitudes.

CONCLUSIONS
The study emphasises the importance of parenting programmes for mothers with children with CP to promote the development of autonomy among children with developmental difficulties.

KEY WORDS
parental attitudes; cerebral palsy; motherhood; personality traits; children with disabilities

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BACKGROUND

Children with cerebral palsy (CP) present with multifactorial and complex developmental problems. Impairments include deficiencies in balance control, muscle tone, gross and fine motor skills, and coordination. In addition to posture and movement difficulties, many other developmental disorders coexist with CP, including sensory and cognitive impairments, which cause delay in reaching developmental milestones, including limitations in the development of self-care skills. As the symptoms of CP are persistent, this population requires intensive and regular therapy over the course of their lifespan. In addition to the difficulties associated with common CP symptoms, affected children are also at risk for experiencing psychosocial problems, including feeling of helplessness, anxiety, and dependency (McDermott et al., 1996). The growing body of research has indicated that developmental progress of children with CP is not solely determined by physical health issues, but also depends on children's psychosocial and family-related factors, including parenting strategies (Majnemer & Mazer, 2004; Schuengel et al., 2006). Therefore, the matter of parental attitudes, parenting styles, stress management, and coping skills among parents caring for children with CP is of prime interest in the developmental outcomes of children with CP.

Child rearing strategies and parental attitudes are important predictors of child developmental outcomes and adaptation (Haapasalo & Tremblay, 1994; Jankowska, Takagi, Bogdanowicz, & Jonak, 2014; Petit, Laird, Dodge, & Bates, 1997; Sanders, 2006). Children with disabilities, including CP, are especially sensitive to the quality of parental care (Aran, Shalev, Biran, & Gross-Tsur, 2007). Adverse parenting practices are associated with mental health issues and other negative consequences for child psychological development (Holmbeck et al., 2002). Increased risk for anxiety and depression is common among children raised by controlling, emotionally distant, and rejecting parents (McLeod, Weisz, & Wood, 2007a; McLeod, Wood, & Weisz, 2007b). Among children with Tourette's syndrome, parental control and indifference are factors related to the children's mood disorders, neurotic disorders, and learned helplessness due to an external locus of control (Cohen, Sade, Benarroch, Pollak, & Gross-Tsur, 2008a). According to Cohen, Biran, Aran, and Gross-Tsur (2008b) perceived parenting style is an essential predictor of locus of control among children with CP, but not among their healthy siblings; parental acceptance was associated with an internal locus of control, which is a crucial resilience factor for this child population.

Parental practices and attitudes are shaped by many different factors, including child characteristics, parents' psychological traits (Belsky, 1984), parents' emotions (Lovejoy, Graczyk, O'Hare, & Neuman, 2000), parental perceptions and interpretations (Gavita, David, & Joyce, 2011; Hoza et al., 2000), parents' childhood experiences (Hunter & Kilstrom, 1979), life event stress (Burke, Loeber, & Birmaher, 2004), and sources of support (Belsky, 1984), among various other factors. Caring for children with CP can be a demanding and life-long process that impacts parents' feelings and attitudes. The initial challenge occurs when parents first learn about the child's diagnosis (Huang, Kellett, & St John, 2010). How parents overcome intense and difficult emotions and adapt to the novel situation affects parenting practices, approaches towards the child, and parents' general well-being (Burke et al., 2004). Emotional, social and physical health problems are frequently reported among parents of children with CP, including difficulties in maintaining social relationships, marital conflicts, disadvantage in employment, and insufficient support from services, among others (Brehaut et al., 2004; Davis et al., 2009). Thus, parents of children with CP are at risk of experiencing serious distress (Martins-Ribeiro, Lima-Sousa, Vandenberghe, & Porto, 2014). The level of parental stress has been found to have multiple determinants, including the severity of the child's health issues, parents' perception of the child's abilities, and circumstantial factors, such as poor socio-economic conditions or insufficient social support (Ketelaar, Volman, Gorter, & Vermeer, 2008). Glenn, Cunningham, Poole, Reeves, and Weindling (2009) found that mothers of children with CP who exhibited the highest levels of stress were those who perceived their child as needy and unable to adapt; they also felt strong social isolation and received little support from a partner. These findings are in line with reserach results of Martins-Ribeiro et al. (2014), who also argue that the mothers of children with CP may identify them as very vulnerable, unresourceful, and highly dependent on parental assistance. Moreover, in the research of Elad et al. (2013), mothers of children with CP evaluated their children's motor skills and self-care abilities as more impaired than similar evaluations by their children's health care providers.

Neither the severity of the child's health issues nor the type of provided interventions have a major impact on the level of maternal distress; rather perceived lack of partner support and external locus of control are the main factors moderating the level of parental stress (Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Jones & Passey, 2005; McKinney & Peterson, 1987). An externalized locus of control among mothers of children with intellectual disability is often accompanied by intensified anxiety and depression symptoms (Lloyd & Hastings, 2009). The maternal locus of control relates to her perception of her own abilities, self-efficacy, and beliefs about the importance of her parenting practices (Belsky, 1984). Thus, parental attitudes, self-efficacy and locus of control are significant predictors of mother's active

engagement in child treatment programmes (Helm, Comfort, Bailey Jr, & Simeonsson, 1990; Hoza et al., 2000; Mah & Johnston, 2008) and possibly the child's developmental outcome. Thus, developing a feeling of competence among parents became a successful strategy and the focus of many parenting intervention programmes (Altmaier & Maloney, 2007).

The stress of caring for a child with disability, lack of social support, and a low level of parental satisfaction are associated with a high risk of depression in mothers of children with CP (Wanamaker & Glenwick, 1998). Higher levels of depression and anxiety reported among these women are not only related to the child's functional disability but also speech impairments and limited asymmetric communication (Yilmaz, Erkin, & Nalbant, 2013). However, the risk of depression among mothers of children with CP is more closely associated with the level of perceived social support than the severity of the child's disorder (Manuel, Naughton, Balkrishnan, Smith, & Koman, 2003).

Distressed parents of children with CP are characterized by limited or even ineffective coping strategies (Knussen & Sloper, 1992). Moreover, passive coping strategies can further increase the stress level among caregivers of children with disabilities (Sloper & Turner, 1993). For instance, parents who use avoidance and wishful thinking to cope with difficulties experience stronger distress (Sloper, Knussen, Turner, & Cunningham, 1991). Research is not consistent, and various approaches to coping with stress among parents caring for children with disabilities have been found. For example, mothers of children with CP were reported to frequently use passive appraisal (Twoy, Conolly, & Novak, 2007). Passive appraisal is an emotion-focused coping strategy that helps to minimize the reaction to a difficult situation through engaging in activities that provide cognitive distraction. However, several research-based publications have demonstrated that reframing is one of the strategies most often used by parents with children with CP (Krstić & Oros, 2012; Lin, 2000). Ambiguous results are reported concerning the importance and frequency of the use of coping strategies such as spiritual support (Lin, 2000; Twoy et al., 2007) and social support (Manuel et al., 2003; Raina et al., 2005). Our study on parental attitudes among mothers of children with CP also encompasses the analysis of their coping strategies, as the ability to manage stressful situations moderates life quality of caregivers of children with severe disabilities (Davis et al., 2009) and their ability to adjust to the difficult family situation (Rentinck, Ketelaar, Jongmans, & Gorter, 2007).

HYPOTHESES

Children with CP present particular vulnerability for quality of parent-child and other family relationships (Aran et al., 2007; Cohen et al., 2008b). In our study we focused on mothers of children with CP. A growing body of research suggests that psychological traits of mothers predict the quality of care provided for a child with a disability (e.g., Jones & Passey, 2005; Petrosky & Birkimer, 1991). Furthermore, personality traits were proved to be associated with mothers' child rearing strategies rather than fathers' (Belsky et al., 1995). Although several studies have investigated parental attitudes and psychological properties of mothers of children with developmental disabilities, still little is known about mothers caring for children with CP. As parenting is a psychological construct with bidirectional dynamics (Patterson & Fisher, 2002), where parental attitudes and child characteristics mutually influence each other, we assume that caring for a child with disability and adapting to an unknown and demanding situation will impact mothers' attitudes, stress level, personality traits, self-efficacy and coping strategies.

The aim of the study then was to compare parental attitudes among mothers of children with CP and mothers of typically developing children. Moreover, our study encompassed an analysis of the relationship between parental attitudes, personality traits, stress level, social support, self-efficacy, and coping strategies in mothers of children with CP. Finally, we assessed which variables best predict parental attitudes among mothers of children with CP.

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

Twenty-seven mothers of children with cerebral palsy (MCCP) and twenty-eight mothers of typically developing children (MTDC) participated in this study. The age of children parented by mothers in both groups ranged from two to seven. Researchers contacted mothers of children with CP through a public early rehabilitation clinic for children with developmental disabilities, in which they were enrolled. Only mothers whose children had been diagnosed with CP for at least one year participated in the study. Mothers of typically developing children were randomly recruited from local kindergartens and day care centres. All participants were visited for the assessment in their homes and asked to complete a series of questionnaires.

The mean age of mothers of children with CP was 35.50 years (SD = 4.83), similar to the mean age of mothers of TD children, 35.60 years (SD = 4.27) (the difference was not statistically significant, p = .965). Furthermore, no significant differences between MCCP and MTDC were observed in the number of children they parented $F(1, 53) = 0.10$, $p = .759$), marital status ($\chi^2(2, 51) = 3.31$, $p = .191$) (81% of mothers of children with CP and 93% of mothers with typically developing (TD)

children were married) or declared income (48% of mothers of children with CP and 53% of mothers of children with TD reported that their income was below the national average income). Mothers from the two groups differed significantly in the level of education (χ^2 (3, 55) = 13.77, p = .003). The number of mothers of children with CP with a university degree was significantly smaller in comparison to mothers from the control group (χ^2 (1, 33) = 5.12, p = .024); 37% of mothers of children with CP had higher education compared to 82% in mothers of TD children (Table 1).

PROCEDURES

The battery of measures was administered among participants in both groups in order to address the research questions. All tests used in the study have been identified as having strong validity and reliability. Parental attitudes were assessed via the *Parenting Attitude Scale* (Plopa, 2008). In the 50-item scale mothers indicated how strongly they agree or disagree with diagnostic statements, which correspond to five dimensions of parental attitudes: *Acceptance-Rejection*, *Autonomy*, *Overprotective*, *Demanding*, and *Inconsequent*. Both *Acceptance* and *Autonomy* are considered as positive attitudes. The *Acceptance-Rejection* dimension describes the level of parental acceptance of the child. Low scores on this dimension indicate tendencies to reject a child and describe parents who are distant, insensitive and demonstrate an indifferent attitude towards their child. Such parents tend to ignore the child's emotional needs and avoid any form of engagement and physical contact. High scores on *Acceptance-Rejection* describe parents who accept the child unconditionally – are warm, responsive and genuinely interested in the child. These parents are also more likely to provide support for their children, meet their emotional needs, and guarantee a sense of security. Parents who score high in *Autonomy* tend to respect their child's will, are tolerant, and adjust their behaviour to the child's developmental needs. Parents who score high in *Overprotective* tend to consider their child as vulnerable, helpless and dependent. These parents present a great desire to protect and care for the child, are distrustful and overly preoccupied with the child's future. *Demanding* parents are rigid, intolerant, and critical of their child. They set high expectations, require a child to be submissive and tend to show perfectionist qualities. *Inconsequent* parents typically alter their attitude depending on their mood and current situation (Plopa, 2004). The scale is characterised by high validity and reliability (Plopa, 2008).

In addition to their attitudes towards parenting, mothers' personality traits were assessed by the *NEO Five-Factor Inventory* (NEO-FFI) (Costa & McCrae, 1992), which includes *Neuroticism*, *Extraversion*, *Openness*, *Agreeableness*, and *Conscientiousness*. The inventory consists of 60 items, 12 statements per each of 5 factors, where participants rate themselves on 5-point Likert scale (from "strongly disagree" to "strongly agree"). *Neuroticism* measures mental instability, anxiety, hostile reactions, and depression. *Extraversion* consists of positive emotions, enthusiasms, and sociability. *Openness* includes the traits curiosity, creativity, and valuing of intellectual ideas. *Agreeableness* consists of altruism, trustfulness, and a tendency to cooperate and compromise. *Conscientiousness* encompasses self-discipline, devotion, and preference to act in an organised and planned manner.

Coping strategies used by parents were assessed by the *COPE Inventory* (Carver, Scheier, & Weintraub, 1989). The 60-item inventory was used to assess strategies that mothers use to respond to stress (i.e., active versus avoidant). On a 4-point Likert scale mothers rated the extent to which they agree with each item, from "I (usually) don't do this at all" to "I (usually) do this a lot". The Inventory has strong psychometric properties, high reliability and validity (Carver et al., 1989). The 15 coping strategies measured by COPE are: Active Coping, Seeking Instrumental Social Support, Seeking Emotional Social Support, Suppression

Table 1
Demographic data

	MCCP	MTDC
Age	35.50 (26-45)	35.60 (28-45)
	N (%)	*N* (%)
Parented children		
1 Child	7 (25.90)	10 (35.70)
2 Children	15 (55.60)	14 (50.00)
3 Children	5 (18.50)	3 (10.70)
5 Children	0	1 (3.60)
Marital status		
Married	22 (81.50)	26 (93.00)
Divorced	1 (3.70)	1 (3.50)
Single	2 (7.40)	1 (3.50)
Education		
University	10 (37.00)	23 (82.10)
Vocational	6 (22.20)	0
High school	10 (37.00)	5 (17.90)
Primary school	1 (3.70)	0
Income		
Above national average	13 (48.10)	15 (53.60)
Below national average	6 (22.20)	9 (32.10)

of Competing Activities, Religion, Positive Reinterpretation and Growth, Restraint Coping, Resignation/Acceptance, Focus on and Venting of Emotions, Denial, Mental Disengagement, Behavioral Disengagement, Alcohol/Drug Use, and Humor.

The General Self-Efficacy Scale (GSES) (Schwarzer & Jerusalem, 1995) was applied to assess mothers' self-beliefs about their abilities to cope successfully with everyday life difficulties. The scale consists of 10 items. Mothers responded to them on a 4-point scale. The scale has good validity and reliability, with Cronbach's α ranging from .76 to .90 and negative coefficients with depression, anxiety, stress, and health issues (Schwarzer & Jerusalem, 1995).

Additionally, the level of maternal distress and amount of received social support were also measured. Mothers rated their level of currently experienced distress and social support received on the scale from 1 ("none") to 5 ("extremely high").

RESULTS

BETWEEN-GROUP COMPARISONS

A series of *t*-tests for independent samples was conducted to examine differences between MCCP and MTDC in parental attitudes, personality traits, self-efficacy and coping strategies. Differences in amount of experienced distress and the level of received emotional support were verified by the Mann-Whitney test. As predicted, statistically significant differences were found between mothers of children with CP and mothers of children who are TD in parental attitudes, personality traits, stress level and coping strategies. Nonetheless, there were no differences observed between the two groups in self-efficacy and the level of social support.

Although *Acceptance* was the most common parental attitude among all participants, mothers of children with CP presented a stronger tendency towards less positive attitudes. In comparison to MTDC, MCCP scored significantly higher in *Overprotective* and *Demanding* attitudes, a statistically significant difference of 9.21 (95% CI, 4.42 to 14.00), $t(53) = 3.89$, $p < .001$ and 6.22 (95% CI, 1.92 to 10.52), $t(53) = 2.90$, $p = .005$. The mean difference between *Overprotective* and *Demanding* attitude in mothers of children with CP presented borderline statistical significance ($t(26) = 2.06$, $p = .050$).

Furthermore, in NEO-FFI MCCP obtained higher scores in *Neuroticism* and lower in *Openness* compared to MTDC; the difference was statistically significant and was 5.23 (95% CI, 0.28 to 10.22), $t(41) = 2.13$, $p = .039$ and 2.59 (95% CI, −4.96 to −0.21), $t(53) = 2.18$, $p = .034$.

No statistically significant differences were found between mothers regarding most coping strategies measured by COPE. The most common coping strategies used by MCCP were *Planning*, *Active Coping*, *Positive Reinterpretation* and *Instrumental Social Support*. No statistically significant difference was found between these coping strategies in MCCP and MTDC. However, mothers of children with CP scored significantly lower in *Behavioral disengagement*, with a difference of 1.00 (95% CI, −1.99 to −0.02), $t(53) = 2.05$, $p = .046$, and *Humor*, with a difference of 1.43 (95% CI, −2.81 to −0.05), $t(53) = 2.08$, $p = .043$. Mothers of children with CP used these two coping strategies least often.

There were no statistically significant differences between the two groups of mothers regarding self-efficacy, the difference being 0.50 (95% CI, −1.38 to 2.39), $t(53) = 0.53$, $p = .595$, or the level of social support they reported to receive from family and friends ($U = 345$, $z = -0.60$, $p = .552$). Nonetheless, compared to the control group, mothers of children with CP declared a higher level of distress ($U = 179$, $z = -3.48$, $p < .001$) (Table 2, 3).

Table 2

Differences in parental attitudes between MCCP and MTDC on parenting attitude scale

	Group	*N*	*M*	*SD*	SEM	*t*	*df*	*p*
Acceptance	MCCP	27	44.85	4.95	0.95	0.32	53	.747
	MTDC	28	44.29	7.67	1.45			
Autonomy	MCCP	27	35.67	6.31	1.21	−0.58	53	.561
	MTDC	28	36.71	6.95	1.31			
Overprotective	MCCP	27	34.89	9.26	1.78	3.86	53	< .001
	MTDC	28	25.68	8.44	1.59			
Demanding	MCCP	27	32.22	8.58	1.65	2.90	53	.005
	MTDC	28	26.00	7.28	1.38			
Inconsequent	MCCP	27	26.48	9.57	1.84	1.32	53	.192
	MTDC	28	23.36	7.89	1.49			

Table 3

Differences in self-efficacy, personality traits, and coping strategies between MCCP and MTDC in GSES, NEO-FFI, and COPE Inventory

	Group	*N*	*M*	*SD*	SEM	*t*	*df*	*p*
Self-efficacy	MCCP	27	30.07	3.68	0.71	0.53	53	.595
	MTDC	28	29.57	3.28	0.62			
Neuroticism	MCCP	27	25.00	11.18	2.15	2.13	41	.039
	MTDC	28	19.75	6.29	1.19			
Extraversion	MCCP	27	26.63	6.77	1.30	−1.15	53	.254
	MTDC	28	28.57	5.67	1.07			
Openness	MCCP	27	24.56	4.71	0.91	−2.18	53	.034
	MTDC	28	27.14	4.06	0.77			
Agreeableness	MCCP	27	31.52	6.63	1.28	−1.13	53	.261
	MTDC	28	33.25	4.51	0.85			
Conscientiousness	MCCP	27	34.33	7.84	1.51	1.32	53	.193
	MTDC	28	31.93	5.54	1.05			
Active Coping	MCCP	27	12.00	1.73	0.33	1.09	53	.278
	MTDC	28	11.54	1.40	0.26			
Planning	MCCP	27	12.48	1.85	0.35	1.25	53	.215
	MTDC	28	11.86	1.84	0.35			
Seeking Instrumental Social Support	MCCP	27	11.52	2.56	0.49	−0.98	53	.330
	MTDC	28	12.07	1.49	0.28			
Seeking Emotional Social Support	MCCP	27	11.37	2.37	0.46	−1.39	53	.168
	MTDC	28	12.21	2.10	0.39			
Suppression of Competing Activities	MCCP	27	10.93	1.52	0.29	1.35	53	.183
	MTDC	28	10.25	2.14	0.40			
Turning to Religion	MCCP	27	9.11	4.30	0.83	0.57	53	.571
	MTDC	28	8.50	3.63	0.68			
Positive Reinterpretation	MCCP	27	11.52	1.60	0.31	−0.51	53	.614
	MTDC	28	11.75	1.78	0.33			
Restraint Coping	MCCP	27	9.33	2.29	0.44	−1.19	53	.237
	MTDC	28	9.96	1.57	0.29			
Resignation/ Acceptance	MCCP	27	11.22	2.61	0.50	1.55	53	.127
	MTDC	28	10.07	2.88	0.54			
Focus on and Venting of Emotions	MCCP	27	11.15	2.26	0.43	−0.92	53	.364
	MTDC	28	11.75	2.59	0.49			
Denial	MCCP	27	6.52	2.28	0.44	0.37	45	.710
	MTDC	28	6.32	1.54	0.29			

(Table 3 continues)

Table 3

(Table 3 continued)

	Group	*N*	*M*	*SD*	SEM	*t*	*df*	*p*
Mental Disengagement	MCCP	27	7.74	2.36	0.45	−1.55	53	.128
	MTDC	28	8.68	2.13	0.40			
Behavioral Disengagement	MCCP	27	5.89	1.82	0.35	−2.05	53	.046
	MTDC	28	6.89	1.81	0.34			
Alcohol/Drug Use	MCCP	27	5.07	2.09	0.40	−1.12	53	.269
	MTDC	28	5.82	2.80	0.53			
Humour	MCCP	27	5.96	2.49	0.48	−2.08	53	.043
	MTDC	28	7.39	2.61	0.49			

ASSOCIATIONS BETWEEN VARIABLES

A Pearson product-moment correlation and Spearman rank-order correlation were applied to test the association between psychological variables among mothers of children with CP. Moderate positive correlations were observed between *Neuroticism* and *Overprotective* ($r(27) = .60$, $p = .001$) and *Demanding* ($r(27) = .60$, $p = .001$) parental attitudes, showing that mothers' predispositions for controlling and shielding a child as well as being rigid and intolerant were associated with higher level of anxiety, instability and deteriorated mood. These correlations were not found in MTDC. Moreover, a moderate positive correlation was found between *Overprotective* parental attitude and *Denial* coping strategy ($r(27) = .40$, $p = .036$), and *Demanding* parental attitude and *Turning to religion* coping strategy ($r(27) = .40$, $p = .039$). No such correlation was found in MTDC, where *Overprotective* parental attitude and *Denial* coping strategy ($r(28) = .30$, $p = .117$) and *Demanding* parental attitude and *Turning to religion* ($r(28) = -.15$, $p = .450$) were not associated. Nonetheless, no other statistically significant correlations were observed between parental attitudes and stress level, social support and self-efficacy. A negative moderate correlation was found between *Self-efficacy* and *Behavioural disengagement* coping strategy in MCCP (also MTDC). Stronger predisposition for *Behavioral disengagement* while coping with distress was associated with higher levels of *Self-efficacy* among mothers of children with CP ($r(27) = -.47$, $p = .012$). Furthermore, both coping strategies *Behavioral Disengagement* ($r(27) = .40$, $p = .041$) and *Mental Disengagement* ($r(27) = .40$, $p = .038$) were associated with *Neuroticism*. This moderate, positive correlation was found only in MCCP. Even though mothers of children with CP declared a significantly higher level of stress than mothers of children who are TD, no correlation was observed between the level of stress and parental attitudes, personality traits, the level of social support ($r(27) = .03$, $p = .899$), self-efficacy ($r(27) = .06$, $p = .765$), and most coping strategies, except *Seeking of emotional social support* ($r(27) = -.39$, $p = .043$).

Among mothers of children with CP there was a moderate positive correlation observed between declared amount of received *Social support* and *Extraversion* ($r(27) = .42$, $p = .030$) and *Agreeableness* ($r(27) = .54$, $p = .004$). This correlation was not found among mothers of TD children. No other correlations were found between the level of social support and other variables.

PREDICTION OF PARENTAL ATTITUDES

A step-wise regression analysis was performed to determine which variable best predicts *Overprotective* and *Demanding* parental attitudes among mothers of children with CP. The stress level, self-efficacy, and most personality traits did not predict parental attitudes. Only *Neuroticism* was found to be statistically significant in predicting *Overprotective* ($F(1, 25) = 14.18$, $p = .001$, adj. $R^2 = .34$) and *Demanding* ($F(1, 25) = 14.15$, $p = .001$, adj. $R^2 = .36$) parental attitudes.

DISCUSSION

The aim of the research was to identify parental attitudes of mothers raising children with CP and explore interrelations between maternal attitudes and personality-related factors. We compared parental attitudes and personality traits, self-efficacy, stress and coping strategies in mothers of children with CP to mothers of typically developing children. The relationship among these variables was also explored in an attempt to establish which of these factors best predict parental attitudes of mothers of children with CP.

The results show that mothers of children with CP, compared to mothers of TD children, presented stronger tendencies for overprotective and demand-

ing parental attitudes and also scored high for acceptance. Furthermore, they experienced a significantly higher level of stress and neuroticism. Mothers of children with CP did not differ from mothers of TD children in terms of amount of received social support, self-efficacy, and the most frequently used coping strategies. For mothers of children with CP overprotective and demanding parental attitudes were associated with a higher level of neuroticism and the coping strategies of denial and turning to religion. Both neuroticism and self-efficacy correlated with behavioural disengagement, which was one of the least used coping strategies. Furthermore, neuroticism best predicted overprotective and demanding parental attitudes.

Parenting strategies and attitudes are assumed to be important factors that determine psychosocial development of children with CP, including mental health, social interactions and self-esteem (Aran et al., 2007). Mothers of children with CP who participated in our study, although as accepting as mothers of TD children, tended to use more overprotective and demanding parenting attitudes in comparison to mothers of TD children. An overprotective parental attitude is associated with a tendency to perceive a child as vulnerable and helpless (Thomasgard & Metz, 1997). Excessively protective caregivers present a great need to shield a child from any harm or danger, provide developmentally inappropriate assistance, and are hyperinvolved and constantly preoccupied with their child's life (Plopa, 2004; Segrin, Woszidlo, Givertz, & Montgomery, 2013). Furthermore, especially mothers of children with disabilities, including CP, tend to identify their children as more vulnerable and dependent (Elad et al., 2013). Motor function limitations, delayed cognitive development, and difficulties in social adaptation likely cause mothers to treat their children as if they require constant protection and assistance. On the other hand, demanding parents set high expectations, require a child to be submissive and are rather controlling (Plopa, 2004). Mothers of children with CP may present a higher tendency for a demanding attitude towards a child as their child's development depends on the quantity, quality, and regularity of rehabilitation. The trajectory of physical and cognitive development depends on how early and how often the child receives professional support. In addition to intervention programmes provided by child health specialists, mothers of children with CP are expected to perform regular home treatments, as they are proved to be very beneficial for children with disabilities (Brooks-Gunn & Hearn, 1982; Brooks-Gunn & Lewis, 1984; Wendt, Ekenberg, Dagis, & Janlert, 1984). A more demanding attitude towards the child might be an adaptation strategy that helps the mother to increase efforts providing the best care for the child. Acquiring a demanding and controlling attitude towards a child and challenging him or her with regular treatments may be a coping mechanism developed by mothers of children with CP who participated in the study. This problem-focused approach, in some aspects, can be beneficial for a child's rehabilitation outcomes and increase their chances for reaching the maximum of a child's potential. Nonetheless, previous research has documented that excessive parental control tends to be associated with altered outcomes in child psychological development and an elevated risk for internalizing disorders, anxiety, depressive symptoms, learned helplessness and an external locus of control among children with disabilities, including children with CP (Cohen et al., 2008a, 2008b; McLeod et al., 2007a, 2007b).

In our research both overprotective and demanding parental attitudes were best predicted by neuroticism. Mothers of children with CP presented with a higher level of neuroticism compared to mothers of TD children. Our results were consistent with previous research, where higher levels of neuroticism and anxiety were associated with parental overprotection (Kendler, Sham, & MacLean, 1997) and demanding attitude (Dix, 1991; Metsäpelto & Pulkkinen, 2003). In the literature, neuroticism is associated with poor parental competencies, lack of warmth, and insufficient responsiveness to a child's needs (Clark, Kochanska, & Ready, 2000; Kendler et al., 1997; Kochanska, Murray, & Coy, 1997). Moreover, it has been reported that anxious parents tend to perceive their child as fragile and defenceless (Thomasgard, 1998). Seeing a child as vulnerable, and therefore exposed to danger, may potentially prompt tendencies towards intensive control and supervision (Nelson, 2010). Furthermore, parental anxiety might be augmented by strong feelings of regret, and both can manifest in over-protectiveness (Segrin et al., 2013). The level of experienced regret increases dramatically when the realization occurs that a certain opportunity is lost (Beike, Markman, & Karadogan, 2009). Learning of a child's CP diagnosis can come with intense and complex feelings of disbelief, sadness and self-blame (Huang et al., 2010). Chronic sorrow and grief over lost prospects for typical parenthood and an opportunity to care for a healthy baby are frequently present among parents of children with disabilities (Davis, 1987; Whittingham, Wee, Sanders, & Boyd, 2013).

Mothers of children with CP who participated in the study reported stronger distress compared to the mothers of TD children. Previous research shows that stress, frustration, and intensified efforts in rearing a child with disability are risk factors for a mother's psychological difficulties (Wallander & Varni, 1992). Depression is frequently reported in mothers of children with CP (Manuel et al., 2003). Furthermore, depression together with insufficient social support has been associated with poor parenting satisfaction (Wanamaker & Glenwick, 1998). In this

study, no differences were found in the amount of perceived social support between the two groups of mothers. Nonetheless, the coping strategy of seeking social support was associated with stress level reported by mothers of children with CP, where higher levels of psychological distress were related to a poor tendency of seeking social and emotional support, which was also previously confirmed in similar studies (Boyd, 2002; Frey, Greenberg, & Fewell, 1989; Rickwood & Braithwaite, 1994).

Differences in coping strategies between mothers of children with CP and mothers of TD children were also explored in this research. We studied coping mechanisms as parents with high levels of neuroticism and ineffective coping strategies may present with less warm and sensitive attitudes towards their child (Downey & Coyne, 1990; Gunthert, Cohen, & Armeli, 1999; O'Brien & DeLongis, 1996). Furthermore, ineffective parenting practices have been associated with parental psychological maladjustment (Downey & Coyne, 1990; Gondoli & Silverberg, 1997; Patterson & Bank, 1989). In the current study, mothers of children with CP reported that they used effective coping strategies, which may suggest their satisfactory adaptation to responsibilities of caring for a child with CP. They most frequently applied strategies such as thinking of elimination of the problem (*Planning*), addressing the problem (*Active Coping*), reframing the stressor in a positive way (*Positive Reinterpretation*) and seeking advice from others (*Instrumental Social Support*), yet among these strategies no statistically significant differences were observed between the two groups of mothers. The only statistically significant difference occurred in such strategies as *Behavioural Disengagement* (giving up trying to address the problem, withdrawing effort from the problem) and *Humour* (making jokes about the problem). The current data showed that these two coping strategies were not only the least used by mothers of children with CP, but were also applied less often than among mothers of TD children. According to the literature, problem-solving strategies and social support are associated with greater parental adjustment and well-being, whereas copings strategies such as denial, escape or avoidance predict maladjustment (Abbeduto et al., 2004; Essex, Seltzer, & Krauss, 1999; Glidden, Billings, & Jobe, 2006; Judge, 1998; Gavidia-Payne & Stoneman, 2006). Parental well-being was found to be associated with positive reappraisal (Benson, 2010; Glidden et al., 2006). Reframing allows parents of children with CP to restructure their thinking of the difficult situation and make it more acceptable (Krstić & Oros, 2012). It has been documented that positive appraisal is linked with the amount of social support received. In parents of children with autism, high positive appraisal corresponds with decreased social isolation and stronger social support (both seeking and receiving) (Dunn et al., 2001). In our study, mothers of children with CP claimed to receive as much social support as mothers of TD children.

In the present study, mothers of children with CP and mothers of TD children had similar levels of self-efficacy. In mothers of children with CP, but not mothers of children who are TD, stronger beliefs about their own competences (self-efficacy) were associated with lower probability of using an ineffective coping strategy of behavioural disengagement. As it has been confirmed by previous studies on parents who cared for children with health issues, a feeling of competency is an important resilience factor for effective parental adaptation (Barnett, Clements, Kaplan-Estrin, & Fialka, 2003) and a significant predictor of maternal perceptions of child adjustment (Wanamaker & Glenwick, 1998). Mothers characterized by high levels of self-efficacy, in comparison to parents with low levels of self-efficacy, perceived their child as better adjusted (Cutrona & Troutman, 1986; Rauh, Achenbach, Nurcombe, Howell, & Teti, 1988). Thus, parental self-efficacy and mother's perception of her child are crucial factors that shape attitudes towards a child (Coleman & Karraker, 1998).

Our findings suggest that mothers of children with CP who participated in the study have the competences to cope effectively with the specific demands of caring for a child with CP. Mothers presented overall positive adaptation skills that could have an impact on their child's quality of life, although quality of life was not measured in this study. Even though mothers of children with CP experienced higher reported stress and neuroticism, they still used effective coping strategies, received social support and their self-efficacy remained high. Taking into consideration these factors, a higher tendency of mothers of children with CP to exhibit overprotective and demanding attitudes towards their children may have an adaptive implication, especially because these mothers also scored the highest on the acceptance scale. Moreover, parental acceptance is associated with a child's internal locus of control, which may be a crucial resilience factor for children with CP (Cohen et al., 2008b). Although mothers were overly focused on a child, it seems as if they were ready to act and provide as much care and rehabilitation to the child as possible. Their problem-focused approach may also be beneficial for a child with CP and the outcomes of his or her therapy, even though both overprotective and demanding attitudes have been related to internalized problems among youth with disabilities (Cohen et al., 2008a).

A mother's attitude towards her child with a disability plays a significant role in the process of her adaptation to parenthood (Jones & Passey, 2005). Mothers and children develop simultaneously and parental adaptation evolves with sequences of a child's progress and family life cycles. Consequent-

ly, an analysis of the dynamics of parenting attitudes among mothers of children with CP with reference to the concurrent course of child development could form a part of future research. Such knowledge could provide an enhanced appreciation of the unique needs presented by mothers in various stages of parenting a child with CP. In addition to the above research area, future study of the issue could involve a comparison of parental attitudes towards a child with CP and a typically developing sibling. A healthy child could be perhaps perceived by a mother as less vulnerable and dependent, and hence would experience less of her excessively protective attitude that she would typically present towards a child with CP.

There are two main implications of our results that emphasize the need to provide parent-centred interventions along with rehabilitation efforts for a child with CP. For one, parents caring for children with disabilities tend to perceive them as particularly vulnerable and dependent (Martins-Ribeiro et al., 2014), and thus naturally provide them with the greatest attention and care. However, excessively protective and highly demanding parenting styles significantly limit opportunities for a child to satisfy psychological needs central to his or her developmental stage. Within the framework of Erikson's theory of psychosocial development, children with CP whose mothers participated in the study were in developmental stages at which gaining basic autonomy and initiative is fundamental and may determine the trajectory of further development. Both parental domination and limited opportunities to experience challenge and responsibility may result in various developmental and psychological issues (e.g., external locus of control, low self-efficacy, anxiety disorders, depression) (Herz & Gullone, 1999; Holmbeck et al., 2002; Lynch, Hurford, & Cole, 2002; McLeod et al., 2007a, 2007b; Scott & Mallinckrodt, 2005; Spokas & Heimberg, 2009; Ungar, 2009). Additionally, given the nature of CP, children with this disability require intense rehabilitation and care, but they also need opportunities to discover their skills, explore and experience the feeling of agency, and as much independence (physical and psychological) as possible. Thus, it is essential to provide parents with knowledge and promote sensitivity regarding the psychosocial developmental of their children. Interventions for parents should focus on promoting the insight necessary to recognize their attitudes towards their child and explaining how these thoughts influence a child's ability to reach developmental milestones and even rehabilitation outcomes. Fostering this approach among parents will further promote development of autonomy and initiative among children with developmental difficulties and support their efforts in achieving their potential (Ungar, 2009; Raina et al., 2005). Furthermore, the intervention could provide mothers with additional social support that, as has been proven in previous studies, has the potential to reduce the amount of distress experienced when caring for a child with disabilities (Wanamaker & Glenwick, 1998).

The study has several limitations, which implies the need for caution in generalizing from the findings. The small number of participants primarily limited our research. Furthermore, the type and severity of CP, a child's cognitive and motor development, and the total number and age of siblings were not controlled. Previous research provided evidence that the risk of distress and maladaptation among mothers caring for children with disabilities was mainly associated with the level of perceived social support and not significantly associated with the severity of the child's health issues (Glenn et al., 2009; Manuel et al., 2003) or locus of control (Dunn et al., 2001; Jones & Passey, 2005). Additionally, all mothers of children with CP who participated in the study were provided with special assistance by the early intervention centre and collaborated with many specialists on their child's health and development. Thus, these mothers may present distinct attitudes and psychological issues compared to mothers with limited access to psychological and rehabilitation services.

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