The Family Journal: Counseling and Therapy for Couples and Families
2015, Vol. 23(4) 392-406

DOI: 10.1177/1066480715574473
tfj.sagepub.com
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Efficacy of Lithuanian Systematic Training for Effective Parenting (STEP) on Parenting Style and Perception of Child Behavior

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Abstract

The short- and long-term efficacy of the Adlerian parent education program *Systematic Training for Effective Parenting* (STEP), which is the group-based parenting class model, was the focus of the current study in Lithuania. In the quasi-experimental research study, the outcome measures included parenting style, child behavior as perceived by parents, and knowledge related to parenting. In 2011–2012, 44 parenting groups were organized, which resulted in 348 program and 299 comparison group participants at posttest. In 3- to 4-month period, the follow-up assessment was completed by 38.8% of parents. Specifically, the findings indicated that the STEP program was efficacious for increasing maternal and paternal knowledge on parenting, decreasing maternal authoritarian and permissive parenting styles and parental negative perceptions of the target child's behavior. The changes listed were found to be stable as reflected in the follow-up. The researchers believe that the current study with the sufficient empirical rigor expands the generalizability of the STEP program outcomes on mothers and fathers in North America, Lithuania as well as Europe. Furthermore, the results have finally provided the Lithuanian therapists, parent educators, and parents with an evidence-based parenting program as recommended by the Council of Europe.

Keywords

STEP program, evidence-based parenting program, Lithuania, parenting styles

More and more of today's parents admit that parenting is one of the most meaningful, yet challenging responsibilities during the adult life span. At each developmental stage, parents are required to discipline and guide the child, and to nurture the child's psychological, physical, social, and economic well-being which leads to a happy, healthy, confident, cooperative, and responsible adult (Bornstein, Cote, Haynes, Hahn, & Park, 2010; Bunting, 2004; Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Dinkmeyer, McKay, & Dinkmeyer, 1997a, 1997b; Dreikurs & Soltz, 1964; Scott, 2010; Smith, 2010).

Present day parents realize that competencies to be an effective parent and maintain sincere, close, and respectful relationships with children are not innate and need to be learned (Bornstein et al., 2010; Heath & Palm, 2006; Liobikiene, 2009, 2010; Rodrigo, Almeida, Spiel, & Koops, 2012). Parents want to learn about how children grow and behave, what are the positive ways to deal with misbehavior, talk together openly, and encourage cooperation (Dinkmeyer et al., 1997a, 1997b). As parents recognize the need for additional ideas related to being an effective parent, they are bombarded by a number of nonprofessional and professional sources which at times provide conflicting views on parenting. Nonprofessional sources often include family members, friends, acquaintances, or other parents as well as a variety of media outlets (books, magazines, television and radio advertisements or shows, and Internet sites targeted to parents). Professional sources include consultations with psychologists, social workers, teachers, and participation in parenting classes and workshops (Goddard, Myers-Walls, & Lee, 2004; Radey & Randolph, 2009).

A wide range of American, European, and Asian researchers show that professional sources and parenting classes in particular are one of the most effective techniques for teaching parenting skills and creating better communication between parents and children (Rodrigo, Correa, Maiquez, Martin, & Rodriguez, 2006; Scott et al., 2010). Parent education programs, which are mainly group-based parenting classes, have consistently shown to positively impact changes in parents'

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behavior, perceptions, communication, understanding, and desirable changes in children's behavior (e.g., Adams, 2001; Bunting, 2004; Cheung, 2001; Fashimpar, 2000; Fetsch & Gebeke, 1995; Frey & Snow, 2005; Lundahl, Risser, & Lovejoy, 2006; McVittie & Best, 2009; Oncu & Unluer, 2012). The decrease in challenging or problematic behavior of children as a result of parenting programs has also been well documented in a variety of studies (e.g., Adams, 2001; Berge, Law, Johnson, & Wells, 2010; Bunting, 2004; Webster-Stratton & Herman, 2010).

Limitations of the Research Studies Related to Parent Education

Although there are numerous studies that have been conducted related to parent education (e.g., Frey & Snow, 2005; Lundahl et al., 2006; Rodrigo et al., 2006; Scott et al., 2010), the Council of Europe in the Recommendation on Policy to Support Positive Parenting (2006) has encouraged researchers and practitioners to continue research efforts to identify the most efficacious parenting programs in an effort to identify the best practices. The Council of Europe (2006) also has emphasized that only parent education programs that are evidence-based should be implemented.

The Recommendation on Policy to Support Positive Parenting (2006) supports the initiative for continued research. In particular, past and current research on parent education efficacy has limitations. First, the majority of the studies lack the core elements related to empirical rigor, randomization of the sample, comparison group, and long-term outcomes of the specific program that are required for experimental or quasi-experimental research design (Aussems, Boomsma, & Snijders, 2011; Shadish, Cook, & Campbell, 2001). Second, the majority of the studies have been conducted on North American samples and explored the effect of the well-known English-written programs (e.g., *Active Parenting*, *Systematic Training for Effective Parenting*, *Parent Effectiveness Training*, *Triple P-Positive Parenting Program*, *Incredible years*). This raises the question of the generalizability of the research findings to other populations. Indeed, researchers suggest that cultural setting must be viewed as a key moderator of any parenting program efficacy (Bornstein et al., 2010; Goddard et al., 2004; Guerra & Knox, 2008; Smith, 2010). With differing general social norms and beliefs, parenting practices, and child development, parents might have distinct needs and encounter a variety of childrearing challenges; they might prefer diverse training methods and benefit from differing group activities. And finally, Bornstein, Cote, Haynes, Hahn, and Park (2010) and Smith (2010) emphasized that the majority of the research studies have concentrated on mothers. According to Bornstein et al. (2010), historically, mothers have assumed primary responsibility for early child care, and therefore, appear to be more motivated to acquire additional skills in parenting. Smith (2010) claims that only the most recent research studies have focused on the role and responsibilities of fathers as parents. Consequently, most of the present research findings may only be applied to the efficacy of parent education with mothers in North America and with minimal generalizability to other countries.

Parent Education in Lithuania

With a number of Lithuanian research studies that have illustrated long-lasting parenting challenges in the country (e.g., Leliugiene & Simanaviciute, 2010; Liobikiene, 2009, 2010), several parent education initiatives have been developed to improve parents' knowledge and skills over the past several years. Some of the well-known programs with a variety of Lithuanian sponsoring institutions include *Families' university*, *Parent Training Effectiveness*, *School for parents and teachers*, *How to talk so kids will listen and listen so kids will talk*, *Let's grow together*. However, the majority of these programs in the country are not evidence-based practices or lack rigorous evaluation from a scientific or research perspective. Consequently, Lithuanian parents have no evidence that parenting classes are more successful than nonprofessional parent support and training sources, for example, talking with a friend or reading a popular book on parenting. Moreover, it is still challenging to define which of the parent education programs produce significant changes in parents' behavior, perceptions, communication, or understanding related to rearing children.

Rationale of the Present Research Study

With the limitations related to the research studies on parent education efficacy in the American and European settings and shortage of the evidence-based parenting programs in Lithuania, the present research study was initiated. In the current study, researchers conducted a quasi-experimental study which included a well-known systematic parent education intervention coupled with a prepost and follow-up assessments of the impact of the intervention. In addition to assessing parental change of knowledge, attitudes, and perceived behaviors of children after the intervention, the researchers addressed the culture and parent gender related issues that have been insufficiently explored in previous research studies. The final goal of the research was to provide the country of Lithuania with a parenting program that is based on empirical finding and adheres to the criteria of evidence-based parent education programs as recommended by the Council of Europe in the Recommendation on Policy to Support Positive Parenting (2006).

The well-known and accepted parent education program *Systematic Training for Effective Parenting* (STEP; Dinkmeyer et al., 1997a, 1997b) was the intervention selected for the study. The STEP program is based on the principles of Adler's Individual Psychology and aims to develop parental understanding of the misguided goals of child's behavior as well as the factors influencing the development of child's lifestyle (e.g., family atmosphere and values, family constellation, and parenting style). In addition, the STEP program aims to teach parents more effective communication skills that include knowledge and skills on recognizing the misguided goals of

child's behavior, encouragements, listening and resolving conflicts, and deciding who owns the problem (Dinkmeyer et al., 1997a, 1997b; Fashimpar, 2000; Gfroerer, Kern, & Curlette, 2004; Gfroerer, Kern, Curlette, White, & Jonyniene, 2011). In the STEP program, parental democratic attitudes toward children and self-confidence in thoughts, ideas, and skills related to parenting are also targeted (Dinkmeyer et al., 1997a, 1997b; Jonyniene, 2011a, 2011b). The discussion of program content is accomplished via presentation based on the parents' manual *Parent's Handbook* (Dinkmeyer et al., 1997b), group discussions, hypothetical parenting situations, parent-volunteered examples from personal experiences, role plays, reading, and homework assignments.

The justification and rationale for the selection of the STEP program for the study was that the particular intervention had sufficient research to support its value with parents and clear structure and presentation of materials complimented by parent and leader manuals (e.g., Adams, 2001; Damrad, 2006; Fennell & Fishel, 1998; Fetsch & Collins, 2012; Gibson, 1999; Huebner, 2002; Newlon, Borboa, & Arciniega, 1986; Snow, Kern, & Penick, 1997). The highly organized content and the group based model was also advantageous for the researchers related to the generation of adequate sample, systematic intervention materials, and the translation of materials for the parent sample.

Past Research on Efficacy of the STEP

In that the STEP program was one of the first highly structured parenting programs, the program has a complex history of the research studies during the last four decades (e.g., Fennell & Fishel, 1998; Gillette, 1989; Hammett, Omizo, & Loffredo, 1981; Huebner, 2002). Though the majority of empirical investigations have employed samples of North American parents and lacked experimental rigor, a number of consistent positive effects of the STEP program have been found. The research findings indicate an increase in parents' childrearing knowledge and attitudes (Alvy et al., 2003; Dembo, Sweitzer, & Lauritzen, 1985; Dinkmeyer, McKay, & Dinkmeyer, 1990; Gibson, 1999; Hammett et al., 1981). Researchers claim that participation in STEP parent education classes encourages parents to employ authoritative/democratic parenting methods, increase feelings of trust, understanding, and acceptance toward children and positive changes in parental expectations related to child's behavior (Allen, Thompson, & Drapeaux, 1997; Fennell & Fishel, 1998; Gibson, 1999; Gillette, 1989; Hammett et al., 1981; Huebner, 2002). In addition, several researchers have suggested significant positive changes in the child's domain related to child's understanding of personal self and social self and behavior as perceived by parents (Gibson, 1999; Hammett et al., 1981; Newlon et al., 1986). Furthermore, improvements in general family functioning are proposed as a benefit for parents who participated in the STEP program (Adams, 2001).

Several recent pilot studies (Jonyniene, 2011a; Jonyniene & Kern, 2011) related to the outcomes of the STEP program on a relatively small sample of Lithuanian parents have suggested that parents might employ authoritative/democratic parenting style more often and authoritarian/autocratic parenting style more rarely as a result of STEP parenting classes. In addition, at the conclusion of the program, Lithuanian parents might also perceive their child behavior as more responsible and less stressful.

Though there is a positive history of significant changes in families (parents and children) who participated in STEP parenting classes, minimal or no change in parental skills, attitudes and child behavior have been reported by several studies (e.g., Fashimpar, 2000; McPethers & Robinson, 2002; Robinson, Robinson, & Dunn, 2003).

Research Questions

With the rationale presented, the two research questions for the current study were addressed:

1. **Research Question 1**: What is the *short-term* efficacy of the STEP program on knowledge related to parenting, parenting style, and perception of child behavior in Lithuanian mothers and relatively small sample of fathers?
2. **Research Question 2**: What is the *long-term* efficacy of the STEP program on knowledge related to parenting, parenting style, and perception of child behavior in Lithuanian mothers and relatively small sample of fathers?

Method

Procedure

Research design. A quasi-experimental research design with the intervention and comparison groups was used in the study. Support for the use of this design has been suggested by a number of researchers as a sophisticated alternative for experimental randomized studies (Aussems et al., 2011; Kenny & Cohen, 1979; Shadish et al., 2001). The quasi-experimental design consisted of pretest, posttest, and 3- to 4-month follow-up assessments. The intervention group participated in a 9-week highly structured STEP parenting program facilitated by a group leader who organized activities, made the materials available, presented the program for each session, and led the discussions and exercises as defined in the *Leader's Resource Guide* (Dinkmeyer et al., 1997a). Group leaders (27 in total) were recruited for STEP leader training and parenting groups via the presentation of the program in scientific conferences and the meetings of metropolitan school psychologists, the official website of the STEP program, and Lithuanian Individual Psychology Institute.

At the beginning of the introductory session and end of the final session of the parenting program, the participants were given a packet of self-administered pretest and posttest materials. A follow-up assessment was gathered via e-mails by

sending electronic invitations to parents with pretest and posttest completed to participate in the third measurement.

The comparison group consisted of parents who attended no parenting program sessions and were recruited for this research from the same institutions where STEP parenting classes were organized. For the reason of including more parents into the comparison group, individuals were either wait-list participants or any other parents who had 6- to 12-year-olds and agreed to complete the research questionnaire. The pretest, posttest, and a 3- to 4-month follow-up for the comparison group were organized at similar time frames with the intervention groups completing the prepost assessments. The follow-up assessment was gathered via e-mail.

The pretests and posttests for intervention and comparison groups were carried out by the STEP group leaders who concurrently participated in the comprehensive training organized by researcher. STEP leaders were instructed on the most effective procedures for delivering the pretest and posttest, and were provided with the packets of questionnaire materials as well as the time lines related to completion of the questionnaires. The follow-up measurement was initiated and organized by researchers who sent electronic invitations for intervention and comparison group participants. After the follow-up, researchers provided the intervention and comparison group participants with an individual feedback information related to their parenting style and perception of child's behavior. To motivate the intervention and control group parents to fill in the questionnaire for the third time, an additional 2- to 3-hour seminar was also organized.

STEP parenting classes. The research study was carried out in 2011–2012 in 23 schools and seven other public institutions in Lithuania. The locations of the schools where the groups were conducted included metropolitan and rural settings. Forty-four parenting groups were organized for the study (15 parenting groups in 2011 spring, 18 in 2011 autumn, and 11 in 2012 spring). In the pretest, 873 parents completed the questionnaire. In the posttest, the research questionnaire was completed by 647 (74.2% of the pretest sample). Three-to four-month follow-up was completed by 251 participants (28.6% of the pretest sample). For the pretest, posttest, and follow-up samples, the percentage of the intervention group participants ranged from 52% to 58% of each.

Participants

The posttest sample consisted of 348 and 299 parents with pre- and posttests for the intervention and comparison groups, respectively. Although both mothers and fathers were welcomed to the research study, mostly mothers (88% at an average) participated. These percentages appear to be consistent with other researches (e.g., Berge et al., 2010; Fennell & Fishel, 1998; Frey & Snow, 2005; Smith, 2010). The age range for the sample was 25–65 in years. The majority were from metropolitan areas (71.8–77.6%), Lithuanians (94% at an average), married (76.4–79.9%), employed with full- or part-time jobs (81.7–88.3%), and graduated from a university (67.6–74.7%). The number of children in families ranged from one to five. Of those who reported on the target child, approximately 59% focused on boys and approximately 41% on girls. The age range for target children was 5–13 years (see Table 1 for more specific data).

The Follow-up sample consisted of 145 and 106 parents with pre- and posttests and follow-up for the intervention and comparison groups, respectively. The major tendencies for distribution according to sociodemographic characteristics remained the same as presented in Table 1.

When socio demographic data were compared, the intervention and comparison groups at posttest and follow-up were found to be equivalent on a number of socio demographics, with the exception to city/town where parents originated and parental employment status. Comparison group participants originated from the one of the northern Lithuanian towns, $\chi^2(6) = 23.64$, $p < .05$ and $\chi^2(6) = 19.42$, $p < .01$ for the posttest and follow-up samples, respectively) and worked full-time, $\chi^2(2) = 11.32$, $p < .05$, and $\chi^2(2) = 7.74$, $p < .05$ for the posttest and follow-up samples, respectively) more often than parenting program parents.

Instruments

Parenting knowledge was assessed with the 16-item Lithuanian *STEP Parent Survey Form*[1] which reflects basic STEP program content (Dinkmeyer et al., 1997a). Respondents were asked to circle the number that was closest to their reaction to each item based on a 4-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. The compatibility with the STEP program statements (e.g., ''Discipline needs to make sense to children'') are scored from 1 to 4, and incompatible with the STEP program (e.g., ''Parents can do little to change children's misbehavior'') from 4 to 1. The highest possible total score for the instrument is 64 (the higher the total score, the more knowledge related to the STEP program the parent possessed). Based on the current research data, internal consistency reliability was adequate with Cronbach's α equal to .72.

Parenting style was measured with the *Parenting Styles and Dimensions questionnaire–Short Form* (PSDQ-Short Form; Robinson, Mandleco, Olsen, & Hart, 2001) which was developed by authors for use with parents of children from 4 to 12 years old in various cultures (Robinson et al., 1996). PSDQ-Short form is a 32-item instrument designed to assess parenting styles of Baumrind's well-known typologies of authoritative, authoritarian, and permissive parenting. In the instrument, the 15-item Authoritative scale reflects the three dimensions of warmth and support (e.g., ''Encourages child to talk about child's problems''), regulation (e.g., ''Emphasizes the reasons for rules''), and autonomy granting (e.g., ''Allows child to give input into family rules''). The 12-item Authoritarian scale yields the three dimensions of physical coercion (e.g., ''Slaps child when the child misbehaves''), verbal hostility (e.g., ''Explodes in anger towards

Table 1. Demographic Data of Samples.

	Posttest		Follow-up	
Characteristic	Intervention ($n = 348$)	Comparison ($n = 299$)	Intervention ($n = 145$)	Comparison ($n = 106$)
Gender				
Male (%)	39 (11.2%)	37 (12.4%)	11 (7.6%)	8 (7.5%)
Female (%)	309 (88.8%)	262 (87.6%)	134 (92.4%)	98 (92.5%)
Age in years				
Mean age, *M* (SD)	36.63 (5.41)	36.82 (4.72)	36.54 (5.41)	37.13 (4.76)
City/town				
Metropolitan (%)	270 (77.6%)	192 (71.8%)	104 (71.8%)	64 (60.3%)
Rural (%)	78 (22.4%)	107 (28.2%)	41 (28.2%)	42 (29.7%)
Ethnicity				
Lithuanian (%)	327 (94.0%)	282 (94.3%)	138 (95.2%)	105 (99.1%)
Other	21 (6.0%)	17 (5.7%)	4 (4.9%)	1 (0.9%)
Birth order position				
First (%)	137 (39.4%)	120 (40.3%)	53 (36.6%)	43 (41.0%)
Middle (%)	38 (10.9%)	33 (11.1%)	18 (12.4%)	11 (10.5%)
Youngest (%)	125 (35.9%)	106 (35.6%)	47 (32.4%)	34 (32.4%)
Only (%)	48 (13.8%)	39 (13.1%)	27 (18.6%)	17 (16.2%)
Marital status				
Married (%)	266 (76.4%)	239 (79.9%)	112 (77.2%)	90 (84.9%)
Unmarried (%)	82 (23.6%)	60 (20.1%)	33 (22.8%)	16 (15.1%)
Education				
University (%)	260 (74.7%)	202 (67.6%)	112 (77.2%)	75 (70.8%)
Other (%)	83 (23.9%)	92 (30.7%)	31 (21.4%)	31 (29.2%)
Employment				
Part-time (%)	25 (7.4%)	10 (3.4%)	12 (8.6%)	3 (2.9%)
Full-time (%)	251 (74.3%)	348 (84.9%)	96 (68.6%)	87 (83.7%)
None (%)	62 (18.3%)	34 (11.6%)	32 (22.9%)	14 (13.5%)
Family composition				
Both biological parents (%)	252 (72.8%)	239 (80.7%)	102 (70.8%)	86 (82.7%)
Biological parent and stepparent (%)	29 (8.4%)	17 (5.7%)	11 (7.6%)	2 (1.9%%)
Single parent (%)	52 (15.0%)	32 (10.8%)	24 (16.7%)	11 (10.6%)
Foster parent (%)	1 (0.3%)	0 (0.0%)	7 (4.9%)	5 (4.8%)
Number of children in household				
Mean number, *M* (SD)	1.88 (0.77)	1.94 (0.67)	1.86 (0.78)	1.94 (0.73)
Target child's gender				
Male (%)	203 (60.2%)	103 (57.1%)	90 (64.3%)	47 (52.2%)
Female (%)	134 (39.8%)	100 (42.9%)	50 (35.7%)	43 (47.8%)
Target child's age in years				
Mean age (*M* (SD))	8.70 (1.85)	8.82 (1.91)	8.65 (1.95)	8.93 (2.07)
Target child's birth order position				
First (%)	138 (40.9%)	88 (37.8%)	60 (42.9%)	34 (37.8%)
Middle (%)	20 (5.9%)	4 (1.7%)	9 (6.4%)	2 (2.2%)
Youngest (%)	79 (23.4%)	73 (31.3%)	29 (20.7%)	27 (30.0%)
Only (%)	100 (29.7%)	68 (29.2%)	42 (30.0%)	27 (30.0%)

child''), and nonreasoning/punitive strategies (e.g., ''Uses threats as punishment with little or no justification''). The 5-item Permissive scale is designed to assess the subfactor of indulgence (e.g., ''Spoils child''). Users of the inventory were requested to respond to each item based on a 5-point Likert-type scale ranging from *never* (1) to *always* (5). The scoring procedures provided a separate score (obtained by counting the mean of specific items) for each parenting style with larger numbers indicating increased use of parenting practices associated with a particular style (Kern & Jonyniene, 2012a). For the current research study, Authoritative parenting, Authoritarian parenting, and Permissive parenting scales of the PSDQ-Short Form have adequate to high reliability with Cronbach's αs ranging from .65 to .88. With the comparison to other research studies, current research suggests similar or slightly higher internal consistency for the scales (Jonyniene & Kern, 2012; Onder & Gulay, 2009; Pedro, Carapito, & Ribeiro, 2008; Robinson et al., 2001).

Perception of child behavior was assessed with the *Adlerian Parental Assessment of Child's Behavior Scale* (APACBS; McKay, 1976) which is one of the most widely used inventories for evaluating the efficacy of Adlerian parent education in North America. The APACBS instrument was originally developed to assess parents' perceptions of typical 6- to- 12-year-olds'

behavior. The Lithuanian version of APACBS inventory was created based on a research study which proposed a four-factor structure for the instrument: Responsible behavior scale (15 items), Emotionally charged behavior scale (8 items), School task subscale (3 items), and Peer relationship subscale (3 items). Kern and Jonyniene (2012b) decided the Responsible behavior scale to be positive target of child's behavior in that it included items that measured such constructs as child's independence, responsibility, and readiness to cooperate. Emotionally charged behavior was referred to child' s misbehavior which caused parents' feelings of frustration, angriness, and annoyance. School task subscale included any school-related settings, for example, leaving, and/ or getting dressed for school. Peer relationship subscale included situations where the child involved parents into solving verbal arguments and/or physical fights (Kern & Jonyniene, 2012b). Kern and Jonyniene (2012b) proposed the scoring procedures that provided a separate score for each of the scale obtained by counting the mean of specific items.

In the present research study, parents were asked to identify the child in the family who might be most challenging and rate the child's behavior on a 7-point Likert-type scale. The randomly assigned positive items were scored from 7 to 1 and the negative ones from 1 to 7. In the Responsible behavior scale and School task subscale, larger numbers indicated increased positive child's behavior in general and school-related settings. In the Emotionally charged behavior and Peer relationship subscale, larger numbers were referred to decreased negative child's behavior in general and peer-related settings. The higher the score on the APACBS subscales, the more positive parental perception of the target child's behavior. In the present research study, the Cronbach's α coefficients related to internal consistency of the four scales ranged from .70 to .84, which is similar to the findings revealed by Kern and Jonyniene (2012b).

Data Analysis

To address the research question of the efficacy of Lithuanian STEP program on parenting knowledge, parenting style, and perception of child behavior, several statistical procedures were employed for data analysis. For exploring the equivalence between the intervention and comparison groups on outcome measures at posttest and follow-up, Student *t*-test (*t*) and univariate and multivariate analysis of variance (ANOVA and MANOVA) were used. For analysis of the short-term and long-term efficacy of the Lithuanian STEP program, paired-sample *t*-test (*t*) and repeated measures ANOVA were employed. With the purpose of controlling the initial differences between the intervention and comparison groups revealed at pretest, the analysis of the efficacy of the STEP program was expanded with the additional multiple regression analysis which aimed to find out if the research group (intervention vs. comparison) significantly contributed to changes on each outcome measure.

Results

Equivalence of the Intervention and Comparison Groups of the Posttest and Follow-Up Samples at Pretest Assessment

Before the analysis of the efficacy of the STEP program, it was important to explore if the intervention and comparison groups were equivalent on the outcome measures including the parenting knowledge, parenting style, and perception of child behavior at pretest assessment. Furthermore, as only 31.9% and 25.3% of participants in the intervention and comparison groups respectively volunteered for the follow-up assessment, there was a possibility that the posttest and follow-up samples might differ on the outcome measures investigated. Therefore, the posttest and follow-up samples were compared on the pretest results. In addition, because of the limited sample of fathers in the current research study, the intervention and comparison groups were also compared on parental gender to identify differences between mothers and fathers at the very beginning of data analysis. However, mothers' and fathers' pretest results were compared for the posttest sample only.

When *parenting knowledge* was compared between the intervention and comparison groups, Student *t*-test yielded that the parenting program and comparison group participants were equivalent on parenting knowledge at pretest, $t(567) = -0.76$, $p > .05$ for the posttest sample and $t(221) = 0.31$, $p > .05$ for the follow-up sample (see Table 2). It was also found that parenting knowledge at pretest of the follow-up sample did not statistically significantly differ from the posttest sample, $t(131) = 0.23$, $p > .05$ for the intervention group and $t(90) = -0.75$, $p > .05$ for the comparison group. Furthermore, when for the posttest sample parenting knowledge was compared by research group and parental gender as fixed factors in the ANOVA, no significant differences between groups were revealed. The *F* test values for the effects of research group and parental gender on parenting knowledge ranged from 0.19 to 1.15 with $p > .05$ (see Table 3).

For the comparison of *parenting style* between the intervention and comparison groups, ANOVA yielded the significant research group differences in all three parenting styles as reflected in the PSDQ-Short Form inventory (see Table 2). For the posttest sample, the STEP program group scored higher than comparison group on authoritarian parenting style, $F(1, 627) = 20.75$, $p < .001$ and permissive parenting style, $F(1, 627) = 10.69$, $p < .01$. The comparison group scored higher on authoritative parenting style than the intervention group, $F(1, 625) = 22.97$, $p < .001$. Similar tendencies with significant *F* test values ranging from 9.83 to 11.63 ($p < .01$) were revealed with the follow-up sample. Moreover, one sample Student *t*-test showed that the follow-up sample was equivalent on pretest results with the posttest sample on authoritativeness, authoritarianism, and permissiveness for both research groups with the absolute values of *t*-tests ranging from 0.07 to 1.06 ($p > .05$). And finally, when research group and parental gender was analyzed, for the posttest sample MANOVA revealed a significant additional effect of parental gender with Wilks's

Table 2. Outcome measures in Intervention and Comparison Groups for the Posttest and Follow-Up Samples at Pretest.

		Sample	Intervention group *M* (SD)	Comparison group *M* (SD)	t_{GR} or *F*
Knowledge on parenting		Posttest	51.38 (4.49)	51.66 (4.52)	$t(567)_{GR} = -0.76$
		Follow-up	51.46 (4.19)	51.27 (4.89)	$t(221)_{GR} = 0.31$
			$t(131)_S = 0.23$	$t(90)_S = -0.75$	
Parenting style	Authoritative	Posttest	3.78 (0.57)	3.99 (0.48)	$F(1, 625) = 22.97^{***}$
		Follow-up	3.77 (0.54)	4.01 (0.53)	$F(1, 243) = 11.63^{**}$
			$t(140)_S = -0.19$	$t(103)_S = 0.36$	
	Authoritarian	Posttest	2.28 (0.51)	2.10 (0.47)	$F(1, 627) = 20.75^{***}$
		Follow-up	2.31 (0.50)	2.10 (0.48)	$F(1, 244) = 11.62^{**}$
			$t(140)_S = 0.80$	$t(104)_S = -0.07$	
	Permissive	Posttest	2.73 (0.64)	2.56 (0.66)	$F(1, 627) = 10.69^{**}$
		Follow-up	2.76 (0.66)	2.50 (0.63)	$F(1, 242) = 9.83^{**}$
			$t(138)_S = 0.48$	$t(104)_S = -1.06$	
Parental perception of child's behavior	Responsible behavior	Posttest	5.04 (1.33)	5.02 (1.30)	$F(1, 627) = 0.04$
		Follow-up	5.13 (1.41)	5.05 (1.16)	$F(1, 239) = 0.25$
			$t(141)_S = 0.77$	$t(98)_S = 0.22$	
	Emotionally charged behavior	Posttest	4.74 (0.87)	5.30 (0.91)	$F(1, 624) = 61.34^{***}$
		Follow-up	4.75 (0.85)	5.20 (1.01)	$F(1, 238) = 11.68^{***}$
			$t(140)_S = 0.15$	$t(98)_S = -0.99$	
	School task	Posttest	4.08 (0.78)	4.03 (0.77)	$F(1, 627) = 0.72$
		Follow-up	4.15 (0.88)	3.99 (0.74)	$F(1, 239) = 2.25$
			$t(141)_S = 1.01$	$t(98)_S = -0.50$	
	Peer relationship	Posttest	4.27 (1.31)	4.61 (1.22)	$F(1, 627) = 11.36^{**}$
		Follow-up	4.35 (1.33)	4.79 (1.27)	$F(1, 239) = 6.61^{*}$
			$t(141)_S = 0.68$	$t(98)_S = 1.38$	

Note. *M* (SD) = mean (standard deviation); $t(df)_{GR}$ = independent samples Student *t*-test with degrees of freedom for comparison of the pretest results between the intervention and comparison groups; $F(df_{variable}, df_{error})$ = univariate *F* test for differences between the intervention and comparison groups; $t(df)_S$ one sample Student *t*-test with degrees of freedom for comparison of the pretest results of the follow-up sample with the corresponding value of the posttest sample.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

$\lambda = 0.93$ and $F(3, 558) = 15.28$, $p < .001$ (see Table 3). However, parental gender accounted only for 7.6% of the variance ($\eta_p^2 = .08$). The values of univariate *F* tests proposed that mothers scored higher than fathers on authoritative parenting style, $F(3, 558) = 42.10$, $p < .01$, but lower on authoritarian parenting style, $F(3, 558) = 5.40$, $p < .05$.

Table 2 also presents the findings on the differences of *parental perception related to child's behavior* between the intervention and comparison groups for the posttest and follow-up samples. In the posttest sample, the comparison group scored higher than intervention group on perception of emotionally charged behavior, $F(1, 624) = 61.34$, $p < .001$, and negative child's behavior related to peer relationship, $F(1, 627) = 11.36$, $p < .01$. Indeed, the parenting program participants perceived the target child's behavior as more negative and emotionally charging than participants of the comparison group. The intervention and comparison groups were equivalent on perception of child's responsible behavior scale and school task subscale as reflected in the APACBS instrument (McKay, 1976). When the scores of the APACBS subscales were compared between the research groups for the follow-up sample, similar tendencies were revealed suggesting that the comparison group scored higher on perception of emotionally charged behavior, $F(1, 238) = 11.68$, $p < .001$, and peer relationship, $F(1, 239) = 6.61$, $p < .05$. For both research groups, the posttest and follow-up samples were equivalent on any of the parental perception of child's behavior explored with the absolute values of one sample *t*-test ranging from 0.15 to 1.38 ($p > .05$, see Table 1 for results more specifically). And finally, MANOVA revealed that mothers perceived the target child's behavior as less emotionally charging when compared to fathers, $F(4, 555) = 3.96$, $p < .05$. As can be seen in Table 3, parental gender was statistically insignificant for other perception of child's behavior scales and subscales.

To conclude, at pretest assessment, the intervention and comparison groups were equivalent on parenting knowledge but differed on parenting style and perception related to child's behavior. It was also found that the posttest and follow-up samples were equivalent on the outcomes measures at pretest including parenting knowledge, parenting style, and parental perception of child's behavior. Furthermore, significant effects were identified for the posttest sample related to parental gender on the pretest. Consequently, the efficacy of the STEP program was analyzed with each gender separately.

Short-Term Efficacy of the STEP Program

The short-term efficacy of the parenting program was assessed with four separate subject groups. First, paired samples *t*-test was employed for evaluating changes in parenting knowledge,

Table 3. Outcome measures in Intervention and Comparison Groups Between Genders at Pretest.

		Gender	Intervention group *M* (*SD*)	Comparison group *M* (*SD*)	*F*
Knowledge on parenting		Male	50.74 (4.08)	51.83 (4.23)	$F(3, 558)_{GE} = 0.19$
		Female	51.45 (4.54)	51.64 (4.57)	$F(3, 558)_{GR} = 1.15$
					$F(3, 558)_{GE*GR} = 0.58$
Parenting style	Authoritative	Male	3.46 (0.45)	3.68 (0.39)	$F(3, 558)_{GE} = 42.10^{**}$
		Female	3.88 (0.48)	4.05 (0.43)	$F(3, 558)_{GR} = \mathbf{10.57}^{**}$
					$F(3, 558)_{GE*GR} = 0.20$
	Authoritarian	Male	2.34 (0.43)	2.21 (0.41)	$F(3, 558)_{GE} = \mathbf{5.40}^{*}$
		Female	2.23 (0.44)	2.05 (0.42)	$F(3, 558)_{GR} = \mathbf{7.23}^{**}$
					$F(3, 558)_{GE*GR} = 0.24$
	Permissive	Male	2.66 (0.52)	2.53 (0.46)	$F(3, 558)_{GE} = 0.12$
		Female	2.72 (0.59)	2.53 (0.60)	$F(3, 558)_{GR} = \mathbf{3.97}^{*}$
					$F(3, 558)_{GE*GR} = 0.14$
Parental perception of child's behavior	Responsible behavior	Male	4.92 (1.39)	5.19 (1.32)	$F(4, 555)_{GE} = 0.04$
		Female	5.05 (1.33)	4.99 (1.30)	$F(4, 555)_{GR} = 0.40$
					$F(4, 555)_{GE*GR} = 0.98$
	Emotionally charged behavior	Male	4.54 (0.82)	5.11 (0.79)	$F(4, 555)_{GE} = 3.96^{*}$
		Female	4.77 (0.87)	5.33 (0.93)	$F(4, 555)_{GR} = 26.42^{***}$
					$F(4, 555)_{GE*GR} < 0.001$
	School task	Male	4.12 (0.77)	4.11 (0.74)	$F(4, 555)_{GE} = 0.51$
		Female	4.08 (0.79)	4.02 (0.78)	$F(4, 555)_{GR} = 0.35$
					$F(4, 555)_{GE*GR} = 0.70$
	Peer relationship	Male	4.27 (1.14)	4.84 (1.13)	$F(4, 555)_{GE} = 0.71$
		Female	4.27 (1.32)	4.58 (1.23)	$F(4, 555)_{GR} = 7.90^{**}$
					$F(4, 555)_{GE*GR} = 0.70$

Note. *M* (SD) = mean (standard deviation); F_{GE} ($df_{variable}$, df_{error}) = univariate *F* test for parent's gender effect; F_{GR} ($df_{variable}$, df_{error}) = univariate *F* test for research group effect; F_{GE*GR} ($df_{variable}$, df_{error}) = univariate *F* test for group effect of gender and research group.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

parenting style, and parental perception of child's behavior for mothers in the intervention and comparison groups. In that the number of fathers in the study was low and several significant differences from the mothers' sample were revealed, the analysis with paired samples *t*-test was replicated with fathers in the intervention and comparison groups. The findings are presented in Table 4.

Paired samples *t*-test revealed that *mothers* who participated in the STEP program at posttest reported significantly higher knowledge related to parenting, $t(263) = -7.72$, $p < .001$). Mothers in the intervention group at posttest improved on authoritative parenting style, $t(297) = -5.04$, $p < .001$, and significantly reduced their authoritarian, $t(298) = 16.13$, $p < .001$, and permissive, $t(298) = 10.95$, $p < .001$, parenting styles. In the intervention group, mothers at posttest scored significantly higher on all perception of child's behavior scales including child's responsible behavior, $t(301) = -14.12$, $p < .001$, emotionally charged behavior, $t(299) = -8.19$, $p < .001$, school task, $t(301) = -6.99$, $p < .001$, and peer relationship, $t(301) = -6.61$, $p < .001$ when compared to the pretest results. These findings suggest that mothers who participated in parenting classes perceived the behavior of the target child as more responsible and less emotionally charged, and improved school- and peer-related factors on the APACBS instrument (see Table 4). The significant *t* values at .05 level listed had moderate to high effect sizes with Cohen's *d* ranging from .38 to .95 with the exception to the authoritative parenting style with Cohen's *d* equal to .13 (Cohen, 1988 as cited in Kotrlik & Williams, 2003). Paired samples *t*-tests showed the highest effects of the STEP program on the decreased authoritarian parenting style ($d = .95$) and improved perception of child's responsible behavior ($d = .81$).

When the sample of *fathers* was analyzed with paired samples *t*-tests, similar effects were found. Fathers who participated in the STEP program at posttest reported significantly higher knowledge related to parenting, $t(28) = -3.95$, $p < .001$. When compared to the pretest results, fathers scored significantly higher on authoritative parenting style, $t(37) = -3.05$, $p < .001$, and reduced authoritarian, $t(37) = 4.36$, $p < .001$, and permissive, $t(37) = 3.16$, $p < .001$, parenting styles. Fathers' posttest scores revealed that they viewed the target child as exhibiting more responsible behavior in general, $t(38) = -3.71$, $p < .01$ and school-related situations, $t(38) = -2.65$, $p < .05$. The significant *t* values presented had moderate to high effect sizes with Cohen's *d* ranging from .43 to .73 mainly (Cohen, 1988, as cited in Kotrlik & Williams, 2003). The highest effect of the STEP program for fathers was revealed on knowledge related to parenting ($d = .73$).

For the *comparison group* which experienced no treatment, none of the significant differences were revealed between pre and posttest assessments for knowledge related to parenting,

Table 4. Pre and Posttest Results Related to the STEP Program Short-Term Outcomes.

	Pretest *M* (SD)	Posttest *M* (SD)	Difference between pre and posttests *M* (SD)	*t*	*df*	*d*
Knowledge on parenting						
Mothers, intervention group	51.52 (4.58)	53.68 (4.62)	–2.17 (4.56)	–7.72***	263	.47
Fathers, intervention group	50.69 (4.00)	53.34 (3.45)	–2.66 (3.62)	–3.95***	28	.73
Mothers, comparison group	51.78 (4.63)	52.11 (4.91)	–0.34 (3.98)	–1.15	184	
Fathers, comparison group	52.31 (4.32)	51.54 (3.91)	0.77 (3.80)	1.03	25	
Authoritative parenting style						
Mothers, intervention group	3.85 (0.53)	3.98 (0.51)	–0.13 (0.43)	–5.04***	297	.13
Fathers, intervention group	3.29 (0.56)	3.48 (0.43)	–0.18 (0.37)	–3.05**	37	.51
Mothers, comparison group	4.04 (0.48)	4.05 (0.47)	–0.02 (0.37)	–0.84	246	
Fathers, comparison group	3.67 (0.39)	3.66 (0.59)	0.01 (0.48)	0.10	33	
Authoritarian parenting style						
Mothers, intervention group	2.27 (0.51)	1.85 (0.45)	0.41 (0.44)	16.13***	298	.95
Fathers, intervention group	2.37 (0.51)	2.03 (0.42)	0.34 (0.48)	4.36***	37	.58
Mothers, comparison group	2.08 (0.46)	1.99 (0.44)	0.10 (0.38)	4.00***	247	.24
Fathers, comparison group	2.22 (0.48)	2.12 (0.41)	0.10 (0.39)	1.56	34	
Permissive parenting style						
Mothers, intervention group	2.73 (0.65)	2.32 (0.65)	0.41 (0.65)	10.95***	298	.63
Fathers, intervention group	2.69 (0.56)	2.39 (0.59)	0.30 (0.59)	3.16***	37	.51
Mothers, comparison group	2.56 (0.67)	2.48 (0.64)	0.08 (0.54)	2.48*	248	.15
Fathers, comparison group	2.53 (0.56)	2.50 (0.50)	0.03 (0.52)	0.32	34	
Parental perception of child's responsible behavior						
Mothers, intervention group	3.86 (0.75)	4.33 (0.75)	–0.48 (0.59)	–14.12***	301	.81
Fathers, intervention group	3.66 (0.67)	3.96 (0.67)	0.30 (0.50)	–3.71**	38	.60
Mothers, comparison group	4.33 (0.78)	4.36 (0.74)	–0.03 (0.46)	–0.99	242	
Fathers, comparison group	4.12 (0.62)	4.26 (0.65)	–0.14 (0.45)	–1.86	34	
Parental perception of child's emotionally charged behavior						
Mothers, intervention group	4.77 (0.87)	5.10 (0.81)	–0.33 (0.69)	–8.19***	299	.48
Fathers, intervention group	4.54 (0.82)	4.64 (0.91)	–0.10 (0.63)	–0.99	37	
Mothers, comparison group	5.32 (0.93)	5.33 (0.93)	–0.01 (0.66)	–0.18	242	
Fathers, comparison group	5.11 (0.79)	5.07 (0.90)	0.04 (0.69)	0.34	35	
Parental perception of child's school task						
Mothers, intervention group	4.87 (1.32)	5.33 (1.19)	–0.46 (1.15)	–6.99***	301	.40
Fathers, intervention group	4.30 (1.22)	4.81 (1.21)	0.50 (1.19)	–2.65*	38	.43
Mothers, comparison group	5.38 (1.24)	5.44 (1.12)	0.06 (1.07)	–0.85	242	
Fathers, comparison group	5.25 (1.05)	5.06 (0.97)	0.19 (1.18)	0.96	35	
Parental perception of child's peer relationship						
Mothers, intervention group	4.27 (1.33)	4.68 (1.26)	–0.41 (1.08)	–6.61***	301	.38
Fathers, intervention group	4.27 (1.12)	4.38 (1.13)	–0.10 (1.12)	–0.57	38	
Mothers, comparison group	4.59 (1.24)	4.68 (1.20)	–0.09 (1.07)	–1.37	242	
Fathers, comparison group	4.84 (1.13)	5.07 (1.13)	–0.23 (1.06)	–1.30	35	

Note. N = number of subjects; M (SD) = mean (standard deviation); t = paired samples Student t-test; df = degrees of freedom; d = Cohen's effect size. Cohen's d was calculated with the formula $d = (M_{posttest} - M_{pretest})/SD_{difference}$ (Kotrlik & Williams, 2003).
*$p < .05$. **$p < .01$. ***$p < .001$.

authoritative parenting style, and any of the parental perceptions of child's behavior (see Table 4). However, at posttest, mothers reported decreased authoritarian, $t(247) = 4.00$, $p < .001$, and permissive parenting style, $t(248) = 2.48$, $p < .05$. Cohen's d for maternal authoritarian and permissive parenting styles were equal to .24 and .14, respectively, which suggested particularly low effect sizes (Cohen, 1988, as cited in Kotrlik & Williams, 2003).

Additional regression analysis which controlled the statistically significant differences between the intervention and comparison groups related to pretest results, city/town, and employment, confirmed that the research group (intervention vs. comparison) had a statistically significant effect on changes related to the outcome measures at posttest (see Table 5). For mothers, the research group significantly contributed to the posttest results related to parenting knowledge, $R^2_{adj} = .21$, $F(4, 435) = 30.67$, $p < .001$; authoritarian, $R^2_{adj} = .34$, $F(4, 435) = 70.24$, $p < .001$, and permissive parenting styles, $R^2_{adj} = .28$, $F(4, 435) = 52.14$, $p < .001$, and perception of the targeted child's emotionally charged behavior, $R^2_{adj} =$

Table 5. Regression Coefficients of Research Group (Intervention vs. Comparison) Variable for Predicting the Outcome measures at Posttest.

Outcome measure at posttest		Research group variable				Regression model
		B	*SE B*	β	*t*	
Mothers						
Parenting knowledge		1.63	.38	.18	4.33***	$R^2 = .22$, $R^2_{adj} = .21$, $F(4, 435) = 30.67$***
Parenting style	Authoritative	.04	.03	.05	1.23	$R^2 = .22$, $R^2_{adj} = .21$, $F(4, 529) = 36.98$***
	Authoritarian	–.23	.03	–.26	–7.30***	$R^2 = .35$, $R^2_{adj} = .34$, $F(4, 531) = 70.24$***
	Permissive	–.25	.05	–.20	–5.33***	$R^2 = .28$, $R^2_{adj} = .28$, $F(5, 530) = 52.14$***
Parental perception of child's behavior	Responsible behavior	–.08	.08	–.03	–1.13	$R^2 = .49$, $R^2_{adj} = .49$, $F(4, 530) = 129.37$***
	Emotionally charged behavior	.13	.06	.09	2.35*	$R^2 = .23$, $R^2_{adj} = .22$, $F(4, 528) = 39.28$***
	School task	.02	.04	.01	.36	$R^2 = .36$, $R^2_{adj} = .36$, $F(4, 530) = 75.10$***
	Peer relationship	.18	.08	.08	2.17*	$R^2 = .23$, $R^2_{adj} = .22$, $F(4, 530) = 39.36$***
Fathers						
Parenting knowledge		2.50	.87	.30	2.87**	$R^2 = .53$, $R^2_{adj} = .49$, $F(4, 45) = 12.59$***
Parenting style	Authoritative	.08	.11	.10	.78	$R^2 = .23$. $R^2_{adj} = .18$. $F(4, 61) = 4.62$**
	Authoritarian	–.15	.09	–.17	–1.75	$R^2 = .42$, $R^2_{adj} = .38$, $F(4, 62) = 11.32$***
	Permissive	–.20	.12	–.17	–1.64	$R^2 = .34$, $R^2_{adj} = .29$, $F(4, 62) = 7.86$***
Parental perception of child's behavior	Responsible behavior	–.42	.22	–.17	–1.87	$R^2 = .51$, $R^2_{adj} = .48$, $F(4, 64) = 16.57$***
	Emotionally charged behavior	.02	.17	.02	.14	$R^2 = .11$, $R^2_{adj} = .05$, $F(4, 63) = 1.90$
	School task	–.16	.12	–.12	–1.32	$R^2 = .46$, $R^2_{adj} = .42$, $F(4, 64) = 13.45$***
	Peer relationship	–.40	.24	–.18	–1.64	$R^2 = .25$, $R^2_{adj} = .21$, $F(4, 64) = 5.44$**

Note. To control the initial differences between the intervention and comparison groups, for predicting the outcome measures at posttest, the research group variable was complemented with the corresponding outcome measure at pretest, city/town, and employment variables in each regression model.
B = unstandardized coefficient; *SE B* = standard error associated with the coefficient; β = beta, standardized coefficient; *t* = *t*-test for individual regression coefficients; R^2 = *R* squared for the regression model; R^2_{adj} = adjusted *R* squared for the regression model; *F* = *F* test for the regression model.
*$p < .05$. **$p < .01$. ***$p < .001$.

.22, $F(4, 528) = 39.28$, $p < .001$; and peer relationship, $R^2_{adj} = .22$, $F(4, 530) = 39.36$, $p < .001$. The regression models for mothers' sample explained from 21.3% to 34.1% of the variance of the outcome measures at posttest. However, for fathers, the research group significantly predicted the posttest assessment of the parenting knowledge only, $R^2_{adj} = .49$, $F(4, 45) = 12.59$, $p < .001$. With the current fathers' sample, the research group demonstrated no statistically significant effect on changes in parenting style and perception of child's behavior (see Table 5 for the findings more specifically). It is likely that in regression analysis, with the differences between the intervention and comparison groups statistically controlled, the research group significantly contributed to the outcome measures which demonstrated the highest effect sizes revealed with paired samples *t*-test.

To conclude the findings, it is proposed in the present research study that mothers who attended the parent education program STEP significantly improved on their knowledge related to parenting, decreased their authoritarian and permissive parenting styles, and viewed the targeted child as less emotional in a negative way in the family as reflected on the emotionally charge scale on the APACBS instrument. As for male participants of the STEP program, fathers improved on their knowledge related to parenting. However, these results should be tempered by the fact of the small sample of fathers in the study. Though these results proposed only preliminary findings, one might expect that with larger sample of fathers, the STEP program would result in more similar effects for mothers and fathers both.

Long-Term Efficacy of the STEP Program

With significant improvements on outcome measures proposed by paired samples *t*-test results and some of the improvements confirmed by regression analysis for the posttest sample, repeated measures ANOVA was employed for comparing the pretest and posttest results, and posttest and follow-up results on all of the outcome measures for the follow-up sample. Table 6 presents the score dynamics. With insignificant differences between the posttest and follow-up sample on pretest results, in the follow-up sample, similar changes were revealed at posttest for most outcome measures including parenting knowledge, parenting style, and parental perception of child's behavior and, therefore, are not discussed in this section.

For the stability of the intervention outcomes, the results showed no statistically significant differences related to any of the outcome variables between posttest and follow-up ratings for mothers and fathers in the intervention as well as comparison groups. Indeed, parents reported similar levels of knowledge on parenting with mean differences between posttest and follow-up ranging from 0.34 to 2.00 ($p > .05$ for all cases). Furthermore, there were no statistically significant changes related to parenting styles and parental perception of child's behavior. The mean differences ranged from 0.00 to 0.18 for the parenting styles ($p > .05$

Table 6. Pre and Posttest and Follow-Up Results Related to the STEP Program Long-Term Outcomes.

	Pretest	Posttest	Follow-up	Difference between pre and posttests		Difference between posttest and follow-up		
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M*	*d*	*M*	*d*	*F*
Knowledge on parenting								
Mothers, intervention group	51.31 (4.45)	54.24 (4.62)	53.76 (5.43)	–2.92***	0.64	0.47		$F(2, 202) = 28.60$***
Fathers, intervention group	50.50 (2.59)	53.33 (2.58)	58.83 (1.47)	–2.83		–0.50		$F(2, 10) = 5.03$*[a]
Mothers, comparison group	51.75 (5.35)	51.79 (5.14)	51.44 (5.05)	–0.03		0.34		$F(2, 120) = 0.32$
Fathers, comparison group	50.50 (3.39)	51.50 (3.62)	49.50 (1.97)	–1.00		2.00		$F(2, 10) = 1.08$
Authoritative parenting style								
Mothers, intervention group	3.81 (0.53)	4.00 (0.54)	4.00 (0.50)	–0.20***	0.35	0.00		$F(2, 254) = 12.99$***
, intervention group	3.47 (0.61)	3.67 (0.45)	3.85 (0.55)	–0.19*	0.37	–0.18		$F(2, 20) = 7.19$**
Mothers, comparison group	4.04 (0.53)	4.07 (0.48)	4.04 (0.48)	–0.03		0.03		$F(2, 190) = 0.30$
Fathers, comparison group	3.65 (0.42)	3.74 (0.47)	3.63 (0.43)	–0.09		0.12		$F(2, 14) = 0.37$
Authoritarian parenting style								
Mothers, intervention group	2.32 (0.51)	1.82 (0.47)	1.87 (0.87)	0.50***	0.82	–0.05		$F(2, 254) = 95.17$***
Fathers, intervention group	2.26 (0.38)	1.99 (0.41)	2.11 (0.49)	0.27*	0.68	–0.11		$F(2, 20) = 3.06$*
Mothers, comparison group	2.08 (0.49)	2.00 (0.43)	2.07 (0.44)	0.09*	0.17	–0.07		$F(2, 192) = 3.38$*
Fathers, comparison group	2.27 (0.33)	2.19 (0.23)	2.04 (0.50)	0.08		0.15		$F(2, 14) = 1.49$
Permissive parenting style								
Mothers, intervention group	2.76 (0.68)	2.33 (0.72)	2.34 (0.63)	0.43***	0.61	–0.01		$F(2, 250) = 32.71$***
Fathers, intervention group	2.63 (0.49)	2.38 (0.38)	2.29 (0.29)	0.26		0.09		$F(2, 20) = 2.58$
Mothers, comparison group	2.51 (0.64)	2.41 (0.65)	2.43 (0.60)	0.10		–0.03		$F(2, 192) = 1.92$
Fathers, comparison group	2.38 (0.54)	2.18 (0.60)	2.30 (0.37)	0.20		–0.13		$F(2, 14) = 0.45$
Parental perception of child's responsible behavior								
Mothers, intervention group	3.77 (0.75)	4.33 (0.76)	4.30 (0.79)	–0.56***	0.74	0.03		$F(2, 254) = 75.53$***
Fathers, intervention group	3.87 (0.77)	4.29 (0.73)	4.25 (0.72)	–0.42*	0.56	0.04		$F(2, 20) = 8.30$*
Mothers, comparison group	4.29 (0.79)	4.34 (0.70)	4.35(0.73)	–0.05		0.01		$F(2, 172) = 0.59$
Fathers, comparison group	4.06 (0.52)	4.28 (0.58)	4.10 (0.43)	–0.22		0.18		$F(2, 14) = 1.10$
Parental perception of child's emotionally charged behavior								
Mothers, intervention group	4.74 (0.85)	5.10 (0.73)	5.10 (0.81)	–0.36***	0.45	0.01		$F(2, 254) = 19.41$***
Fathers, intervention group	4.91 (0.73)	5.00 (0.84)	5.13 (0.95)	–0.09		–0.13		$F(2, 18) = 1.23$
Mothers, comparison group	5.22 (1.04)	5.24 (1.01)	5.23 (0.98)	–0.02		0.01		$F(2, 172) = 0.03$
Fathers, comparison group	4.81 (0.75)	5.05 (0.94)	4.72 (0.74)	–0.23		0.33		$F(2, 14) = 1.07$
Parental perception of child's school task								
Mothers, intervention group	4.75 (1.37)	5.20 (1.11)	5.25 (1.23)	–0.45***	0.56	–0.05		$F(2, 254) = 24.22$***
Fathers, intervention group	4.89 (1.17)	5.55 (0.83)	5.18 (0.94)	–0.66**	0.65	0.36		$F(2, 20) = 5.27$*
Mothers, comparison group	5.27 (1.32)	5.47 (1.15)	5.26 (1.14)	–0.20		0.21		$F(2, 172) = 1.24$
Fathers, comparison group	4.83 (0.69)	4.67 (0.47)	4.92 (0.66)	0.16		–0.25		$F(2, 14) = 0.78$
Parental perception of child's peer relationship								
Mothers, intervention group	4.34 (1.35)	4.81 (1.31)	4.70 (1.35)	–0.47***	0.35	0.11		$F(2, 254) = 12.78$***
Fathers, intervention group	4.27 (1.25)	5.00 (1.10)	4.79 (1.07)	–0.73*	0.62	0.21		$F(2, 20) = 4.45$*
Mothers, comparison group	4.75 (1.31)	4.82 (1.34)	4.64 (1.28)	–0.07		0.14		$F(2, 172) = 0.78$
Fathers, comparison group	5.38 (0.65)	5.96 (0.65)	5.42 (1.09)	–0.58		0.54		$F(2, 14) = 1.60$

Note. N = number of subjects; M (SD) = mean (standard deviation); F = F test; d = Cohen's effect size. Cohen's d was calculated with the formula as follows: $d = |(M_{pretest} - M_{posttest})\sqrt{SD^2_{pretest} + SD^2_{posttest}/2}|$ (Rodrigo et al., 2006).

[a] = F test value revealed a significant difference between pretest and follow-up which is not analyzed in the current study.
*$p < .05$. **$p < .01$. ***$p < .001$.

for all cases) and from 0.00 to 0.54 for parental perceptions ($p > .05$ for all cases, see Table 6).

With the results presented, one could expect that parents who completed the STEP program sustained the increased level of their parenting knowledge, decreased authoritarian and permissive parenting style. Moreover, in 3- to 4-month period, parental attitudes were stable on perception related to less emotionally charging child behavior.

Discussion

The present study was designed to explore the short-term and long-term efficacy of the Adlerian STEP program related to knowledge on parenting, parenting style, and child behavior as perceived by Lithuanian parents. With the initial pretest differences between the intervention and comparison groups as well as the posttest and follow-up samples carefully

evaluated, the researchers propose the following suggestions and conclusions.

The findings showed a number of positive effects of the STEP program on measured constructs. At the conclusion of the intervention, parents of both genders at a statistically significant level demonstrated an increase in knowledge on parenting related to such Adlerian constructs as goals of child's misbehavior, encouragement, discipline, logical consequences, and so forth. After the intervention period, mothers decreased the use of authoritarian and permissive parenting styles and perceived the targeted child's behavior as less emotionally charging with a decrease in peer-related problematic behavior. The follow-up assessment 3 to 4 months later indicated that the changes were stable. The results of the present research study support the findings of North American studies which similarly indicated an increase in parents' (mainly mothers') childrearing knowledge (e.g., Alvy et al., 2003; Dembo et al., 1985; Hammett et al., 1981), positive changes in perceived use of authoritative/democratic parenting methods (e.g., Allen et al., 1997), and perception of child's behavior as a result of the STEP program (e.g., Fennell & Fishel, 1998; Gillette, 1989). However, most of the researchers explored the short-term efficacy of STEP parenting classes with minimal efforts to define the long-term effects.

In addition, the present study showed that for the comparison group who experienced no treatment, there was no significant improvement in parenting knowledge, authoritative parenting style, and perception of child's behavior. There was, however, low but significant decrease in authoritarian and permissive parenting style. The authors believe that particular changes possibly happened because of the uncontrolled conditions for completing the research questionnaire (e.g., time, place, and possible contribution to other parents). In the comparison group, parents completed the instruments any time and place comfortable for them. These parents could have possibly talked to other parents or did more reading on the information related to parenting. Moreover, parents from the comparison group may have paid more attention to their parenting styles resulting from parenting style questions on the pretest assessment related to authoritarian and permissive parenting methods. For discussing the minimal changes in the comparison group at posttest, one should also keep in mind that parents volunteered for the intervention and comparison groups which possibly resulted in higher motivation for improvements for parenting program participants.

Consequently, one could conclude that the findings related to improvements in parenting knowledge, parenting style, and positive parental perception of the target child's behavior suggested the evidence for the short-term efficacy of the parent education program STEP with high stability of the program outcomes in 3- to 4-month period. The results of this study definitely support the findings of North American studies which indicated a number of positive effects (Adams, 2001; Allen et al., 1997; Alvy et al., 2003; Fennell & Fishel, 1998; Gillette, 1989; Huebner, 2002; Newlon et al., 1986).

And finally, the present study proposes several important suggestions related to STEP program efficacy and gender-related issues. With the majority of past research studies concentrated on mothers (Bornstein et al., 2010; Smith, 2010), findings on fathers' sample in this study adds to the understanding of parenting task and parent education. Though the fathers' sample was relatively small in the current study, one might suppose that the STEP program had comparable effects on both genders. Similar to mothers, fathers increased their childrearing knowledge after the intervention period which suggests that male participants also benefit from parenting classes. Additionally, in the current study, small sample of fathers showed more significant changes in parenting knowledge when mothers indicated more changes in perception of parenting methods and child behavior. Mothers and fathers possibly benefit from different parenting program tasks and materials. One could assume that female participants might like to talk in parenting classes, they expect to share their parenting challenges, analyze situations, train skills in practice activities. Males might derive benefit from readings and supplemental materials with the purpose of gaining more knowledge. Future studies are highly needed to specify the gender-related issues in parenting classes.

The current research study has several limitations. The first limitation of the study was that parents volunteered for the study. Particularly, this suggests that the research sample specifically consisted of parents who cared about their relationship with children, were motivated and responsible enough to participate in the parent education program and/or fill in the research questionnaires several times. Indeed, one could propose that the parents with the most challenging parental issues may not have volunteered for the study. Regarding this dilemma, it is proposed for future researchers to involve socially detached, abusive, or court-mandated parents to parent education to assess the efficacy of the STEP intervention. Additional challenges related to the conducting of efficacy studies are as follows. It is possible that parents, who were particularly low on parenting knowledge, authoritative parenting style, and high on authoritarian and permissive parenting style, and perceived the targeted child's behavior as very negative and emotionally charging at pretest, produced more significant improvements when compared to parents with the average scores. Another limitation of the present study was that the majority of the parent sample was mothers (89%) and originated from metropolitan Lithuanian areas (78%). Additional data from a broader range of Lithuanian parents with a more balanced gender and geographical representation would add to the understanding of the parenting intervention outcomes on paternal knowledge on parenting, parenting style, and perception of child's behavior and factors which contribute to the intervention efficacy.

Even with the forgoing limitations, the present study precisely follows recommendations provided by the Council of Europe (2006) to identify the most efficacious parenting programs and best practices in the area. With the sufficient empirical rigor as reflected in the quasi-experimental design of the study, the findings suggest the research-based evidence

for the STEP program efficacy within the Lithuanian sample of parents. Indeed, this expands the generalizability of the particular program outcomes from North America to Lithuania. Additional importance of this study was that the efficacy of the STEP program seemed to indicate that male participants, though small number in the sample, can benefit from this type of parent intervention. Consequently, authors suggest for Lithuanian and North American family therapists and parent educators to include and motivate fathers to attend STEP parenting classes for more significant changes in families. This should be also stressed in any parenting interventions. And finally, with a number of positive effects of the STEP program on parenting knowledge, parenting style, and child behavior, the present study emerges as extremely important for parents who wish to participate in empirically based effective programs.

Conclusion

In the present study, it was found that the STEP education program is efficacious related to knowledge on parenting, parenting style, and positive changes of parents perception of the target child's behavior in this particular Lithuanian sample. More specifically, when compared to the comparison group, Lithuanian mothers in the intervention group gained more knowledge on parenting, decreased authoritarian and permissive parenting style, and perception of the target child's emotionally charging behavior. The outcomes of the STEP program with fathers included an increase in knowledge on parenting. With both parents' genders, the changes listed were stable as reflected in the 3- to 4-month follow-up assessment. Though future research studies with a broader range of Lithuanian parents might compliment the understanding of the STEP program effects, the findings of the current study provide the present day Lithuanian researchers, family therapists, and parent educators with a program based on research finding that can be recommended for future parent education interventions. Finally, some of the Lithuanian authorities in psychoeducation area consider the STEP program as one of the first evidence-based parent education initiatives in Lithuania.

Acknowledgment

The authors wish to thank Don Dinkmeyer Jr. who donated the STEP kits and manuals to Professor Roy M. Kern. The authors also thank the Lithuanian Individual Psychology Society for the award which led to the translation of STEP program materials.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Note

1. The instruments for the research study were translated from English to Lithuanian following the procedure of back-forward translation according to recommendations prepared by International Test Commission (2010) and Vijver and Hambleton (1996)

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