

**Can a Parenting Intervention Strengthen Parental Self-Efficacy in Refugee Parents of
Adolescents? A Single-Case Experimental Design**

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Abstract

The present study investigated whether a tailored parenting intervention is able to strengthen parental self-efficacy (PSE) in a sample of refugee parents of adolescents. PSE is linked to many positive child-parent outcomes and since it is malleable, it can be strengthened through interventions. While PSE is generally lower in refugee parents and parents of adolescents, research about parenting interventions for refugee parents of adolescents is scarce. The sample consisted of three refugee mothers who fled war in Syria. Using an experience sampling method, they reported on their PSE up to 10 times a day over a course of 15 days. The participants had individual baseline periods, after which the intervention took place. Data was analyzed using interrupted time series analysis. Results show that the participants reported a significant increase in PSE from the baseline to intervention period. These findings suggest that a tailored parenting intervention is able to strengthen PSE in refugee parents of adolescents. Future studies should analyze whether this strengthened PSE translates into actual parenting behavior.

Keywords: single-case experiment, parental self-efficacy, refugee parents, adolescents, Experience Sampling Methods

Can a Parenting Intervention Strengthen Parental Self-Efficacy in Refugee Parents? A Single-Case Experimental Design

It is demanding for most parents to rear children in an unknown environment, but refugee parents have added stressors related to acculturation and a history of war exposure that could further complicate their situation (Merry et al., 2017; Patras et al., 2021). Especially the various experiences of war exposure can have a great impact on parenting, and consequently, child-adjustment (Eltanamly et al., 2021a). Parents might feel inadequate and incompetent due to challenges in both their country of origin and host country (Este & Tachble, 2009; Osman et al., 2016). Not feeling able to provide the required safety for their children in a warzone (Eltanamly et al., 2021a) and then encountering difficulties in a new environment can make them feel as if they are not able to live up to their previous parenting standards (Merry et al., 2017). Examples for these difficulties are discrimination, fearing for their children's safety as they tend to live in poorer neighborhoods, and feeling like they cannot parent as they would like to due to struggling with providing the families basic needs (Hilton & Disrochers, 2000; Merry et al., 2017).

Feeling confident in one's parenting despite challenging situations has been called 'parental self-efficacy' (Jones & Prinz, 2005). Parental self-efficacy is reportedly lower in refugee parents compared to other populations (Boruszak-Kiziukiewicz & Kmita, 2020), which is partly due to the added insecurities that come from raising a child in an unfamiliar environment (Ali, 2008). Adolescence is the period where parents generally report the lowest levels of parental self-efficacy compared to other developmental periods (Glatz & Buchanan, 2015). Therefore, refugee parents of adolescents have an even higher risk of low parental self-efficacy than refugee parents of other age groups or parents of adolescents who are not refugees.

Parental self-efficacy

Self-efficacy is a concept derived from the Social Cognitive Theory (SCT) and describes people's beliefs about their abilities to perform the necessary behaviors to reach a desired outcome (Bandura, 1994; Bandura, 1997). This concept has been adapted to the field of parenting and termed parental self-efficacy. The impact of low parental self-efficacy is far-reaching, as it is linked to low parental and child psychological functioning, child academic success and negative child behavior and adjustment (Boruszak-Kiziukiewicz & Kmita, 2020; Jones & Prinz, 2005; Roskam et al., 2015). Low parental self-efficacy is linked to giving up easily during challenging situations and struggling to use promotive parenting techniques, such as encouraging a child's talents and offering stimulating activities (Ardelt & Eccles, 2001; Jones & Prinz, 2005). Through the usage of different parenting techniques, parental self-efficacy is both directly and indirectly linked to child behavior. It is directly linked, as parents who are more confident in their parenting display higher confidence to their children, which makes them feel reaffirmed in the relationship and makes them appreciate the interactions with their parents more (Roskam et al., 2015). It is indirectly linked, as parents with high parental self-efficacy tend to use different parenting techniques from those with low parental self-efficacy (Mouton & Roskam, 2015). For example, high parental self-efficacy is linked to low negative control and high parental support, which strengthens the child's autonomy and adjustment (Meunier et al., 2011). Moreover, parents who feel more efficacious tend to make more use of communication-based strategies, which makes their children feel more empowered (Márk-Ribiczey et al., 2016). Lastly, increasing parental self-efficacy can decrease adolescent externalizing behavior by an increase in positive discipline (Deković et al., 2012). Consequently, it has been proposed that parenting interventions that target parental self-efficacy are a suitable treatment for disruptive child behavior (Roskam et al., 2015).

Two groups that generally report reduced parental self-efficacy are refugee parents and parents of adolescents (Boruszak-Kiziukiewicz & Kmita, 2020; Glatz & Buchanan, 2015). Refugee parents seem to experience reduced confidence in their parenting, because they feel unable to control the influence their new environment has on their children (Ali, 2008). In addition, many reported feeling like they are not free in how they raise their children, as they feel threatened that child protection services might take their children away (Este & Tachble, 2009; Merry et al., 2017). Regardless of whether the fears of their children being taken away are substantiated or not, they underline the perceived loss of control which many refugee parents experience in their host country. In their host country, refugee parents have to manage differences in systems like healthcare and education, which forces them to make decisions about topics that they did not have to deal with before (Merry et al., 2017). Many of these refugee parents reported that they felt like their efforts to support their children in these new systems ‘were not recognized or valued’ by the host society (Merry et al., 2017, p. 9). This feeling of lost control over their children makes it difficult for refugee parents to feel confident about their parenting.

Furthermore, refugee parents also have to come to terms with their children adapting to the cultural values of the host country (Este & Tachble, 2009). As adolescents commonly strive for more autonomy and are usually more involved in the host society than their parents, they might have a faster rate of acculturation (Kwak, 2003; Merry et al., 2017). This acculturation gap can intensify fears, as a child might engage in activities that the parents do not understand because they did not encounter them in their country of origin (Eltanamy, 2021a; Este & Tachble, 2009). This fast acculturation is not always welcomed by the parents, and many seem to see it as a threat to their own authority, since they must re-define how to be a role model and form of guidance for their children (Osman et al., 2016). Transmitting culture and language is a form of building a family identity for refugee parents, which may

also be threatened by the child's acculturation (Merry et al., 2017). Interestingly, expectations that a parent has about their child's risk-taking behavior in adolescence are a stronger predictor of low parental self-efficacy than the actual risk-taking a child undertake at a certain point (Glatz & Buchanan, 2015). This might indicate that low parental self-efficacy in parents of adolescents has more to do with feared scenarios than with what is actually happening. Therefore, refugee parents might fear the effects of an acculturation gap as the fear of potential threats in the unknown host society can make them feel unconfident, disregarding of whether these fears are substantiated or not. If a parent has to deal with a new environment in which they feel like they cannot mitigate the effects it will have on their children, it is imaginable that the parent might fear being unable to parent their children up to their expectations.

The time of adolescence is a time that is usually marked by more challenging adolescent behavior and questioning of the parent's authority (Glatz & Buchanan, 2015). Generally, parents report a decline in their parental self-efficacy during the period of their child's adolescence (Glatz & Buchanan, 2015). Refugee parents of adolescents also report feeling less confident when dealing with their children, as they do not know how to deal with their child's rebelliousness and perceive the parent-child communication to be poor (Ayon, 2014). This deterioration in communication quality does not seem to stem from a sudden inability of parents and adolescents to communicate but seems to be a product of a shift in the parent-child relationship, which becomes more egalitarian (Karataş et al., 2021; Laursen et al., 1998;; Van Doorn et al., 2011). As adolescents strive for more autonomy, privacy perceptions and self-disclosure change as well (Laursen, 2004). This change in communication is a challenge for both parents and adolescents and new relationship dynamics have to be established (Laursen, 2004). Furthermore, the striving for independence can be scary for refugee parents, as the host country is not as well-known as their home

society (Osman et al., 2016). Refugee parents are usually alone with these fears, as the previous extended family support of their home country is missing (Ayon, 2014; Este & Tachble, 2009). This loss of support combined with worries about their adolescent children might be a factor that makes many refugee parents feel that demands on them as parents have multiplied, while their resources to deal with parental obligations have declined (Ali, 2008). As refugee parents of adolescents have profound additional stressors to the generally experienced stress of one's child transitioning into adolescence, it is necessary to offer them resources to strengthen their parental self-efficacy.

Sources of Parental Self-Efficacy

Parental self-efficacy is important for a child's adjustment and psychosocial functioning and should be strengthened in those parents who lack it (Hohlfeld, Harty & Engel, 2018). There are four main sources of self-efficacy, which are: mastery experiences, social comparison, verbal persuasion, and emotional arousal (Bandura, 1977). Performance accomplishments draw upon experiences of personal mastery, which, when repeated, overshadow occasional failures, and increase self-efficacy. Social comparison informs self-efficacy by observing others having mastery experiences in seemingly threatening situations. Verbal persuasion means that a person is led to believe that they can master a task they were afraid of in the past. This might motivate a person to try a task again but will only increase self-efficacy if the following experiences confirm the positive suggestions (Bandura, 1977, (Cassé et al., 2015). Emotional arousal refers to the conclusions a person draws about their self-efficacy depending on the emotional arousal a situation elicits. That means, that if a person experienced physiological symptoms of stress or anxiety in a specific situation, they would perceive their self-efficacy as low, and vice versa. These can be used to strengthen parental self-efficacy as well (Hohlfeld, Harty & Engel, 2018).

The intervention used in this study utilized three of these sources. Namely, mastery experiences, verbal feedback, and an element of social comparison. It used realistic feedback about a positive parenting episode which should strengthen parental self-efficacy by reflecting upon a mastery experience. This realistic form of feedback about a mastery experience is more effective than using positive persuasion alone, as positive persuasion can make a parent feel competent but does not build the required resilience to maintain the high self-efficacy (Cassé et al., 2015). Consequently, a balanced and reflective Feedback is necessary to promote parental self-efficacy also in the long-run (Cassé et al., 2015).

Parenting interventions for refugee parents

As parental self-efficacy is malleable, situation-specific, and dependent on the specific context and task (Bandura, 1977; Glidewell & Livert, 1992; Mouton & Roskam, 2015), it is open to change. Consequently, different kind of parenting interventions have been designed and implemented to enhance parental self-efficacy, and their effectiveness has been shown (Hohlfeld, Harty & Engel, 2018). Even though refugee children and adolescents are in a vulnerable psychological situation and refugee parents oftentimes lack parental self-efficacy (Boruszak-Kiziukiewicz & Kmita, 2020; UNHCR, 1994), research on parenting interventions for war-affected populations remains limited (Eltanamly, 2021a; Sim et al., 2021).

Nevertheless, the few recently conducted studies that implemented parenting interventions for refugees reported enhanced parenting skills and fewer negative child behavior (Sim et al., 2021). Furthermore, there has hitherto been no research on the question whether a refugee parent with an adolescent child will benefit from a parenting intervention that targets parental self-efficacy. Therefore, this study looked at precisely this target group.

The present study

The aim of this study was to see whether a tailored parenting intervention can strengthen parental self-efficacy in refugee parents of adolescents. While it is generally

important to study the effectiveness of parenting interventions for refugees, it is crucial to do so in daily life (Eltanamy et al., 2021b). As parental self-efficacy is as a situation-specific cognition, studying it in a moment-to-moment assessment yields different information than in a usual experimental setting. The reason for this is, that momentary assessments can capture the fluctuations in parental self-efficacy that the parents experience in different situations during the day. This might be especially beneficial when studying a refugee sample, as they oftentimes face various stressors and live in a less predictable environment than the general population (Patras et al., 2021). This unsteady environment paired with multiple stressors might increase the within-person variability of a refugee parents' parental self-efficacy, which makes the establishment of a reliable baseline before delivering an intervention especially crucial. A major advantage of the single-case experimental design used, is that an intervention effect can be detected despite the within-person variability (Krasny-Pacini & Evans, 2018). The intensity of measurement was needed to ensure that the baseline and intervention phases show a true reflection of the state parental self-efficacy of the participants. Only then can the time periods before and after the intervention be compared and a change between these two periods can be attributed to the intervention (Kazdin, 2019).

This study uses a multiple baseline design (Kazdin, 2019). With this design, each participant becomes their own control condition, as their baseline periods can be compared to their intervention period. By having different baselines, six, seven and eight days, we could see whether a pattern change in responses can be observed that only happens after the intervention was introduced. If it can be demonstrated with all three participants that the change in parental self-efficacy scores only appears after the intervention, a causal link can be established.

The hypothesis is that a tailored parenting intervention will increase the level of parental self-efficacy in refugee parents of adolescents in the Netherlands. The rationale for

studying this, is that promoting parental self-efficacy in refugee parents is of great interest for the children, and also the parents' mental health and integration. While parental self-efficacy is malleable and can be strengthened in community samples (e.g., Mouton & Roskam, 2015), we do not know about refugee populations. While there is not enough research on parenting interventions for adolescents, refugee parents of different nationalities have reported interest in participating in parenting programs, if there were any (Ayon, 2014; Osman et al., 2016). The findings, in whatever direction they lead, could inform the development of interventions for refugee parents of adolescent children. This is important, as this group falls into two risk factors for low parental self-efficacy. This can also open the door to further studies on whether preventive interventions could be useful for refugee parents of adolescents.

Method

Recruitment

Recruitment took place by trained Arabic speaking Master and Bachelor students (Eltanamly, 2019). The utilized channels were Dutch language schools, organizations working with refugees, and Facebook groups of Arabic speaking refugees in the Netherlands. Participants who expressed initial interest in the study were contacted by phone to check their eligibility and to explain the study to them. Inclusion criteria were that the participants must be parents of children aged between 10 and 15, they must be refugees of war, they must have relocated to the Netherlands within the five years preceding data collection, and they must be native Arabic speakers. Illiterate refugees were excluded, given the text-intensive data collection nature of the study. A date and time were planned for the first visit with eligible participants who expressed interest in participation.

Participants

As shown in table 1, the participants included three refugee mothers, 41, 29, and 31 years old. They had all fled due to war. They were all from Syria, married, and Muslim. One

of them had five, two of them three children. They have been residing in the Netherlands for 22, 47, and 36 months. These participants were randomly selected from a bigger sample of 73 participants who took part in a larger study (see Eltanamly, 2021b).

Design

A single-case experimental study design was used to test the effect a tailored parenting intervention has on momentary parental self-efficacy.

Experience sampling method (ESM) was used, which is an intensive longitudinal method. It entails measuring momentary experiences, such as emotions and cognitions, repeatedly over the course of the day (Bolger & Laurenceau, 2013). This observation of microlevel changes of cognitions during the day provides high ecological validity (Maciejewski et al., 2019). Since participants report on their state parental self-efficacy at specific moments during the day instead of retrospectively at the end of the day, this design captures momentary cognitions and also reduces recall bias (Maciejewski et al., 2019). The participants were not aware that there would be an intervention and each participant's baseline period was randomly chosen using the random number generator function in MS Excel.

Procedure

First home visit: The study was explained, and eligible participants gave informed consent. Parents were asked to report on their parenting. In case a parent had more than one child in the age range between 10 and 15, one child was randomly chosen for the parent to report on, using the random number generator function in MS Excel.

During this home visit, the participants filled in some baseline questionnaires and took part in an interview.

Second home visit – Start of baseline ESM assessment: Four weeks after the first home visit, the participants were called and reminded that the ESM assessment will start. At least

four weeks after the first home visit, a second home visit took place which marked the beginning of the ESM data collection period. The rationale for the four-week wait was to make sure that the parenting interview, which took place in the first home visit, would not influence the momentary assessments. During this home visit, the Ethica app was installed on participants mobile phones which was used for the momentary assessments. The research assistant explained the smartphone application to them, and the participants filled out a sample questionnaire. The sample questionnaire was deleted during the data cleaning procedure. During the following 15 days, the participants received a message on their phone 10 times a day which asked them to fill out the questionnaire in the Ethica App. The time frame between which they received the signals were 7:30 and 22:30. The hours were evenly split into 10 time windows, and within every timeslot, a random moment was chosen by the Ethica App to signal a questionnaire to be filled in. One day after the ESM assessment started, the participants were called to make sure that the Ethica App worked on their smartphone. They were also asked to contact the research assistant in case they encountered any technical difficulties.

Third home visit – Intervention: The participants were unaware that an intervention was to take place after around half of the study period. The researcher told the participants that the Ethica App had to be updated halfway to mask the aim of the third home visit. One day before the home visit, the participants were called to confirm the appointment. During the visit, the research assistants simulated the update by synchronizing the participants data of the Ethica App, which is usually an automatic procedure but can also be manually activated.

After having run the simulated update, the research assistant delivered the intervention to the parent (see Intervention). The day after the third home visit, the participants were called and asked whether the Ethica App worked well after the update.

The participants received a monetary compensation in form of a gift card. The amount of money a participant received depended on the percentage of total questionnaires they filled in, with a maximum of €75. The study was approved by the institutional review board of the University of Amsterdam, where data collection took place.

Measures

Demographics

The participants filled in information on their age, nationality, ethnic origin, gender, marital status, number of children, marriage status, number of children, time spent in the Netherlands, number of family members located in Syria and the Netherlands, reason for fleeing, years of education, and religious affiliation.

Parenting Interview

The parents reported on their parenting behavior during a semi-structured parenting interview, guided by the Alabama Parenting Questionnaire (APQ; Frick, 1991). The interview was administered during the first home visit. The APQ has five subscales: involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, and corporal punishment (Świącicka et al., 2019). The parents were asked to give an example situation for each subscale, but only the answers for the positive parenting subscale were coded. This interview was audio recorded and built the base for the individualized feedback part of the parenting intervention.

State Parental Self-Efficacy

To measure state parental self-efficacy during the ESM period, we adapted the Measure as a Parent scale (MaaP; Hamilton et al., 2015).

The MaaP has 16 items and uses a 5-point Likert scale (1= "totally disagree") to 5= "totally agree") that map on parental self-efficacy. Four items from two subscales were used, self-efficacy and personal agency. They were chosen as they best reflected state parental self-

efficacy. The item of the trait questionnaire with the highest factor loading on parental self-efficacy was chosen. If an item was too reflective, and would not measure the state trait, the item with the second highest factor loading was chosen. While the subscale self-efficacy is positively phrased, the subscale personal agency is negatively phrased. Therefore, we reverse coded the items in the personal agency subscale.

The MaaP was adapted to measure state parental self-efficacy. The content of the trait items was kept, but the questions were adapted to concern a shorter duration to measure state parental self-efficacy. By adding “right now” to the questions, they were made reflective of the current moment, (1) “Right now, I feel confident as a parent,” (2) “Right now, my parenting skills are effective.”, (3) “Right now, I feel helpless about my child’s behavior”, and (4) “Right now, my child is getting their own way, so why try?”

The other two subscales, self-sufficiency and self-management, were not included in the momentary assessment, as they measure more stable views (e.g., “when something goes wrong between me and my child there is little I can do to fix it”). Contrary to the reported internal consistency of the original MaaP scale ($\alpha = .85$), (Hamilton et al., 2015), the internal consistency of the scales was low ($\alpha = .26$). Both personal agency subscale items showed a low correlation and deleting them improved the internal consistency ($\alpha = .77$).

Intervention

The parenting intervention was a single-session intervention aimed to strengthen parental self-efficacy. By making use of the strongest source of self-efficacy, namely mastery experiences (Bandura, 1989; Mouton & Roskam, 2015), each participant was reminded about one situation where they showed a positive parenting behavior. This positive parenting behavior was brought into connection with the positive impact it had on their child.

Personalized Element

The Arabic transcripts were translated and used as base for selecting the personalized element of the parenting intervention. The personal mastery experience was based on a positive parenting example that the participants recounted during the semi-structured parenting interview which took place during the first home visit. Two researchers, among them a clinical psychologist, independently coded the audio recordings of this interview. Then, participant statements were coded on the following four criteria: (1) it must be a statement of mastery, (2) the statement had to have a positive impact on the child, (3) it had to be informational enough to provide feedback to the parent, and (4) the statement had to be so clear, that it could not be misinterpreted. In case more than one statement scored the same on these criteria, one statement was randomly chosen. The statements had high interrater agreement (89.2%; Eltanamly, 2021b).

Standardized Structure

This part of the intervention was oriented at an intervention used by Mouton and Roskam (2015). To strengthen parental self-efficacy, the parenting intervention made use of three of the four sources of self-efficacy described by Bandura (1977; 1989). Namely, mastery experiences, verbal persuasion, and social comparison. Mastery experience is the strongest source, so the main part of the intervention was based on it. To strengthen the impact of verbal persuasion, the participants were told that their data was analyzed at the laboratory of the University of Amsterdam, which was supposed to increase the scientific value and objectivity of the persuasion. Using social comparison, the participants were shown a graph that ranked them high on positive parenting, compared to the other participants.

Data Analysis Plan

Data were analyzed using SPSS 27. Linear regression assumptions were checked. The internal consistency of the ESM questionnaire was measured by computing the Cronbach's Alpha. The effect size of the intervention effect was manually calculated with Cohen's *d*.

Items of the personal agency subscale of the MaaP questionnaire were reverse coded. With around 150 data points per participant and three participants, a sufficient number of data points for adequate power for a single-case experiment was reached (Krasny-Pacini & Evans, 2018).

Using SPSS, we used an interrupted time series analysis (ITSA) to test for intervention effects, as described by Huitema and Mckean (2000). We used ITSA, as the conditions that were present during the baseline period are interrupted by an intervention which introduces a new period, the intervention phase (Huitema & Mckean, 2000). In the ITSA model, we look at the slopes of the dependent variable both in the baseline and intervention phase, and the level change of the dependent variable that occurs after the intervention took place (Linden, 2015).

Before the analysis, three variables were created. The first one, slope, denoted each time the dependent variable was measured (i.e., each assessment point). The slope variable was a serial variable (1, 2, 3,...) ranging from the first to the last time assessment took place, and thus looked the same for each participant. The second variable, intervention, was a dummy variable which consisted of the value zero for the baseline phase and the value one for the intervention phase. This variable denoted the phase and differs per participant, as they had individual baselines. The third variable, slope change, was a serial variable denoting the days after the intervention. The days prior to the intervention were numbered as 0, while the serial numbering (0,1,2,...) started with the first assessment point after the intervention took place, corresponding with the first time the dummy variable value was 1. As this variable was also dependent on the length of the baseline measurement, it differed per participant.

To analyze whether there was a gradual change in parental self-efficacy before or after the intervention, a simple linear regression was run using the slope variables to predict the parental self-efficacy values. To test whether there was a significant intervention effect, a

simple linear regression was run using the dummy variable to predict parental self-efficacy. In case there was a gradual increase in the baseline phase, we controlled for the slope variable.

The intervention was considered effective if there was a significant mean level change from baseline to intervention phase, that could not be explained by a trend which already started in the baseline phase.

Missing Data

All data points with a response time of more than 30 minutes were treated as missing data. This was automatically set up in the design by having the application deactivate the questionnaires after 30 minutes. The rationale for this is, that delayed responses can become problematic in momentary time sampling since they may not reflect momentary cognitions. As the data collection was intense, it is likely that participants missed some questionnaires during the day. That means, that the parental self-efficacy scores collected during the ESM period would probably have a substantial amount of missing data. The missing data points were marked as -999 in SPSS. As SPSS automatically sorts out variables that are coded as missing, there was no need to manually delete these items or do anything else during the data analysis. A value of 15 to 20 % of missing data is considered a common amount in psychological research (Dong & Peng, 2013), while higher numbers of missing data are found in single-case experiment designs. Data will be analyzed whether it is missing completely random or in a structured manner by Little's Missing Completely at Random (MCAR) analysis (Little, 1988). In case the data is not missing completely at random, it will be analyzed whether a cause for this missingness can be found.

Results

Is There a Gradual Change in Parental Self-Efficacy Before the Intervention or After the Intervention?

A simple linear regression analysis was run to see whether there was a gradual change in parental self-efficacy over time. Figure 1 (see Appendix) shows the participants' fluctuations in momentary measurements of parental self-efficacy over the course of the study period. As seen in Table 2, time significantly predicted parental self-efficacy, $p=0.045$. That means, that there was a gradual increase in parental self-efficacy during the baseline period. This linear increase was not visually detectable (see Figure 1). As seen in Table 3, time did not significantly predict parental self-efficacy, $p=.153$, in the intervention period. That means, that any change in parental self-efficacy in the intervention phase was neither a gradual increase nor decrease.

Does the Intervention Significantly Strengthen Parental Self-Efficacy?

To test the intervention effect, the dummy variable phase was used to predict parental self-efficacy. As there was a gradual change in the baseline phase, we controlled for time trends by including the slope variable in the model. As seen in Table 3, there was a significant increase in the mean level of parental self-efficacy from the baseline to intervention phase, $b= .53$, $t(203)= 4.290$, $p < .001$, $d= -0.99$, above and beyond the time trend. The mean level increased by 5.24. The Cohens's d indicates a large effect size and difference between the two phases (Cohen, 1988).

Missing Data

In the data set, 213 of 417 data points were missing, which makes a total of 51.01% of missing data. The data was not completely randomly missing, as indicated by the Little's MCAR test. We tested whether there was a difference between missing values in the baseline and intervention phase, as there is usually more missing data in the baseline than intervention phase (Chen et al., 2020). The missing values in the baseline and intervention period were compared by analyzing the frequencies of missing items and no pattern of missingness was found.

Sensitivity Analysis

It is recommended to discharge items that have a poor correlation with other items (Tavakol & Dennick, 2011). Therefore, we reran the models using only items of the self-efficacy subscale to compute parental self-efficacy. Thereby, we tested whether the results would be affected by the two items causing low internal consistency. The results remained the same as before, except that a gradual change of parental self-efficacy was found in the intervention phase. The intervention effect remained significant. Therefore, the results of the main model were robust to the sensitivity analysis.

Discussion

Parents of adolescents and refugee parents generally report comparably low parental self-efficacy. While parenting interventions were successful in strengthening parental self-efficacy in various samples, the effects of these type of interventions on refugee parents of adolescents were understudied. Therefore, the question remained whether parenting interventions would also be helpful in strengthening parental self-efficacy in refugee parents of adolescents. This study has shown that a tailored parenting intervention can significantly increase momentary parental self-efficacy in refugee parents of adolescents. Even after considering a gradual increase in parental self-efficacy during the baseline period, we found that the parenting intervention had a significant impact on momentary parental self-efficacy.

The results support previous studies that found parenting interventions beneficial for strengthening parental self-efficacy in parents of children with neurodevelopmental disabilities (Hohlfeld, Harty & Engel, 2018), mothers (Mouton & Roskam, 2015), parents of infants (Gilkerson et al., 2020), a mixed sample of parents (Waters & Sun, 2016), parents of children with Asperger syndrome (Sofronoff & Farbotko, 2002), and preschool children (Wittkowski et al., 2016). Since the study populations were different to the present study,

these results expand the previous literature about who benefits from a parenting intervention to increase parental self-efficacy.

Not only does this study generally confirm the benefit of using parenting interventions, but it also supports that using three of four of the sources of self-efficacy, including the strongest one, mastery experiences, can strengthen parental self-efficacy.

One unexpected finding was that a gradual increase in parental self-efficacy was found in the baseline period. This might be due to the parents becoming more mindful about their parenting as they had to report about their parenting multiple times per day. In a prior study, an increase in mindful parenting has been shown to increase parental self-efficacy (Mohammadi et al., 2018). It is therefore possible that being reminded about their parenting and reflecting on it while filling out the questionnaire made them more mindful about the concept, and in turn increased their parental self-efficacy. It is interesting to note that the gradual change we observed still allowed for a significant intervention effect. We can conclude by this, that the observed effect was not simply due to a test-retest effect.

Another possible explanation for the observed gradual increase in parental self-efficacy in the baseline but not intervention phase, is that there is no actual baseline trend. That could be true for two reasons. First, in the original study from which the data was taken (Eltanamly, 2021b), no gradual increase in parental self-efficacy was found. Secondly, it would support a previous study by Parker and colleagues (2011), where in their discussion of trends observed in single-case research, they stated that it might be a false premise to expect a baseline trend to continue in throughout the intervention phase. In their analysis, 38% of 160 studies that showed a significant trend in the baseline phase, did not show a significant trend in the intervention phase. They theorized that this might be because there was no real trend in the baseline phase, and that the gradual change was only apparent. Especially when the significance level is still very close to .05, it is possible that a trend was falsely detected. As

this study found a gradual increase only in the baseline phase, it might be that the small number of participants included some non-representative data which influenced the overall findings in showing a baseline trend.

Limitations

A possible limitation is the high percentage of missing data, which was 51.01%. As there was still a large number of remaining data points, namely 204 measurements, it is likely that the results still accurately reflect the true effect of the intervention. Generally, it is a widely spread phenomenon that single-case studies have a higher percentage of missing data due to their intensive measurements (Chen et al., 2020). As the participants were parents of three to five children, it is likely that they were sometimes too busy during the day to fill out all of the ten questionnaires.

Another limitation is the small number of participants. One participant can strongly influence the overall findings, as seen with the discussed gradual increase in parental self-efficacy, which might make the results not reflective of the whole population of refugee parents of adolescents. This makes single-case designs more meaningful for clinical practice than for generalizing findings to the whole population.

Furthermore, we do not know whether parental self-efficacy translated into actual parenting behavior. We also do not know whether the fluctuating parental self-efficacy had any effect on the children.

Despite these limitations, several strengths give us confidence in our findings. First, the study's design allows to draw a causal link between the intervention and the increase in parental self-efficacy. The multiple baseline design can rule out event effects that might produce a certain increase in parental self-efficacy around the time of the intervention. Moreover, the participants form their own control group, which is necessary to draw a causal link.

Future research could study whether mastery experiences alone can achieve a significant intervention effect in refugee parents of adolescents. That is because previous studies reported that mastery experiences alone could predict self-efficacy beliefs in teachers and university students (Bautista, 2011; Wilson et al., 2020).

Furthermore, future studies should explore whether the strengthened parental self-efficacy translates into actual parenting behavior and if there was any effect on the children.

Perhaps the most important finding is that a tailored parenting intervention can strengthen parental self-efficacy in refugee parents of adolescents. In the future, these successful interventions should be developed and made available in a way that as many refugee parents as possible can benefit from them.

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Appendix

Table 1

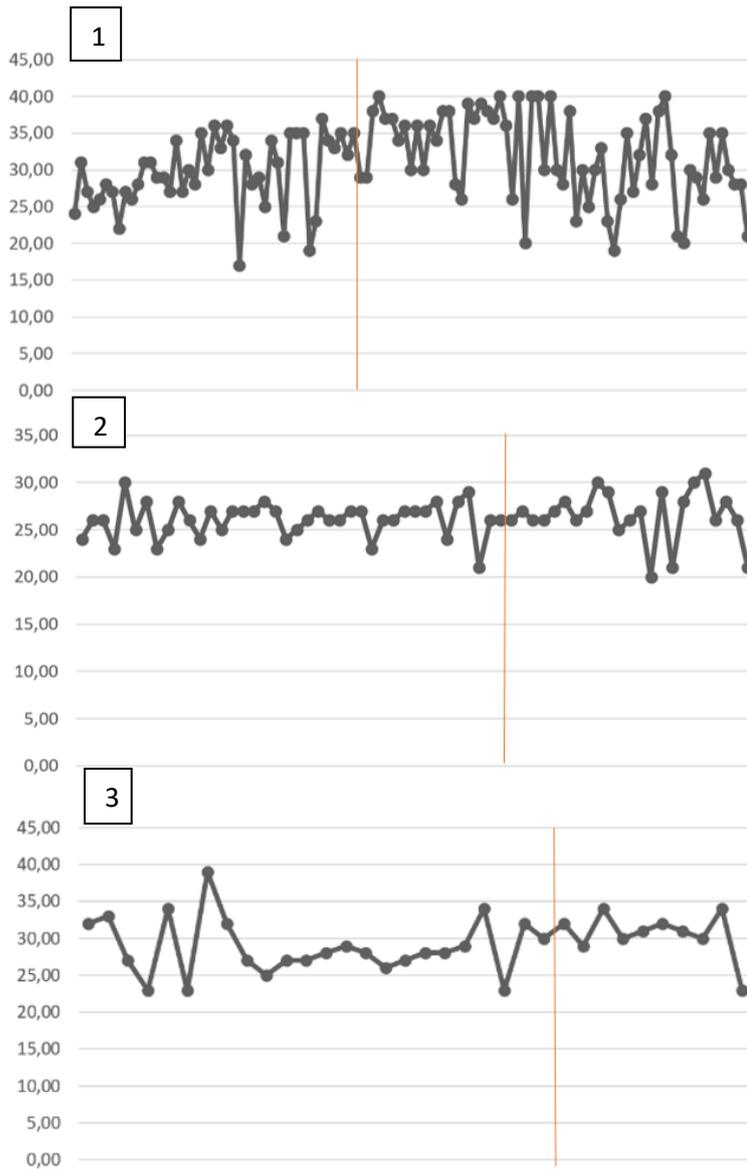
Sociodemographic Characteristics of Participants at Baseline

Baseline Characteristic	Participant		
	1	2	3
Age	41	29	31
Nationality	Syrian	Syrian	Syrian
Ethnic Origin	Syrian	Syrian	Syrian
Gender	Female	Female	Female
Marital Status	Married	Married	Married
Number of Children	5	3	3
Months in the Netherlands	22	47	36
Reason for fleeing	War	War	War
Years of education	12	12	12
Religion	Islam	Islam	Islam
Family members in Netherlands	1	5	6
Family members in Syria	3	0	1

Figure 1

Momentary Fluctuations in Parental Self-Efficacy in Three Participants

With Different Baselines



Note. The line graph shows momentary measurements of parental self-efficacy. The left side of the orange line shows the measurements of the

baseline phase, while the right side shows the intervention phase. The labeling corresponds to the participant labeling in Table 1.

Table 2

Gradual Change in Parental Self-Efficacy in the Baseline but not Intervention Phase

	p	Standardized Coefficient Beta	Mean
Baseline phase	.045*	.140	27.87
Intervention phase	.153	.100	30.6

Note. Dependent Variable: Parental self-efficacy, Baseline phase: slope

variable, Intervention phase: slope change variable

* $p < .05$, ** $p < .001$

Table 3

Mean Level Change from Baseline to Post- Intervention Period

	Unstandardized Mean Change	Std. Error	Beta	t	Sig.
Baseline Phase					
-	5.240	1.222	.526	4.290	.000**
Intervention Phase					

Note. The dependent variable is Parental self-efficacy, which ranged from 0 to

10. * $p < .05$. ** $p < .001$