

ORIGINAL ARTICLE

SER-PD – Polish adaptation of the My Emotions Scale for the assessment of parents' emotional reactions to child's crying

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BACKGROUND

The Polish adaptation of the My Emotions Scale measuring parental self-reported emotional reactions to a child's crying is presented. The scale measures parent-oriented (amusement, anxiety, frustration) and infant-oriented (sympathy and empathy) emotional reactions to a child's crying, which has been defined as the most obvious early attachment behaviour.

PARTICIPANTS AND PROCEDURE

A total of 495 parents of small children (including 376 mothers, no couples) took part in the study. Females were $M = 27.79$ ($SD = 5.01$) years old on average, whereas mean age of men was $M = 31.71$ ($SD = 5.37$) years. The majority of participants (74.90%) had one child. The average age of the assessed child was $M = 9.17$ months ($SD = 4.43$). Reliability and validity properties of the scale are presented.

RESULTS

The results confirmed the five-factor model, which showed adequate fit indices. The SER-PD has adequate internal consistency. The criterion-related validity of the scale was established by correlating five dimensions of parental emotional reactions to the child's crying with measures of dispositional empathy and contextually neutral emotional reactions.

CONCLUSIONS

The SER-PD gives the opportunity for broader analyses of the parental responsiveness construct. It is a useful tool to examine parent-child interactions easily and noninvasively, in large samples, and in situations where qualitative data might be difficult to obtain.

KEY WORDS

parental responsiveness; child's crying; empathy; mothers; fathers

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BACKGROUND

Responsiveness or sensitivity towards a child's needs is an essential component of parenthood, focused on close, emotional bonds in parent-children dyads (Ainsworth, 1968; Davidov & Grusec, 2006; Moreno, Klute, & Robinson, 2008; Spinrad & Stifter, 2006). It is a relational construct, which includes certain flexibility of reactions (Mesman et al., 2017), especially the ones of parents. It is therefore impossible to define a complete set of behaviours indicating high responsiveness without describing situational context and particular signals coming from a child. Nevertheless, a positive link between high parental responsiveness towards an infant's cues and security of the child's attachment has been postulated (Bell & Ainsworth, 1972; Van Ijzendoorn & Hubbard, 2000). Parental responsiveness has been measured in a variety of ways and contexts. However, due to the contextual nature of responsiveness, there is a need for measures of specific reactions to particular kinds of cues (Leerkes, Weaver, & O'Brien, 2012). Another visible limitation in this field is the predominance of studies conducted on mothers.

Taking the attachment perspective, the type of caregiver's reactions might have less important meaning for the concept of responsiveness because different reactions might lead to the same goal (Van Ijzendoorn & Hubbard, 2000). Nevertheless, it has been proven that in mother-child dyads sensitivity towards the infant's distress is a better predictor of emotion regulation and development of attachment than sensitivity to non-distress (Leerkes, 2010). Additionally, promptness of a parental response has been identified as the most important characteristic of an effective action towards a child's cues (Leerkes & Qu, 2017; Van Ijzendoorn & Hubbard, 2000).

What is more, Dix (1991) states that the quality of the relationship between parents and children might be described through the lens of parental emotions. Child-oriented reactions facilitate empathic recognition of an infant's cues and needs, therefore enabling proper parental interventions, associated with adopting the child's perspective (Leerkes & Crockenberg, 2006; Leerkes, 2010). Thus, such reactions promote support, whereas mother-oriented (or parent-oriented) reactions prioritise parental needs and comfort over those of the child, and they might lead to parental annoyance, harsh responses, or withdrawal from interactions with the child (Leerkes & Crockenberg, 2006; Leerkes, 2010). Overarousal might produce self-oriented responses, thus parental abilities to regulate strong emotions are required in order to be able to deal with children's concerns (Dix, 1991; Hoffman, 1984, 2003). Therefore, the prevalence of negative emotions in parent-child dyads might be the evidence of existing family dysfunctions or might lead to disruptions in parenting (Dix, 1991).

Adequate parental emotional reactions to the child's cues are hence crucial for the quality of the parent-child relationship. Such reactions enable acquiring and advancing the child's ability to regulate emotions, leading to a better control of behaviours. Thus parental responsiveness facilitates proper development of the child (Leerkes et al., 2012). Such reciprocity in interactions between parents and children enables the creation of mental representations of oneself and others in future social relations – internal working models. In other words, children differ in their abilities to create an image of themselves as being of value and deserving care. They also differ in their perception of others' trustworthiness, and these differences stem from the levels of responsiveness of their caregivers (Ainsworth & Bowlby, 1991; Bowlby, 1980, 1988).

Infant crying is a basic behaviour that serves survival and fulfilment of needs for support and comfort. It is the reaction that signals the need for change in a particular situation (Bell & Ainsworth, 1972). Because this is an attention-demanding reaction, crying gives the infant the ability to control the behaviour of the caregiver (Bleichfeld & Moely, 1984; Campos, Campos, & Barrett, 1989). Parental reactions to infant crying organize the reciprocal communication with the child, who receives information about parents' intentions or evaluations, and behaves accordingly (Dix, 1991). Therefore, responsiveness to an infant's crying is considered to be a crucial component of parental sensitivity and attachment (Bell & Ainsworth, 1972), enabling the proximity and continuity of care (Van Ijzendoorn & Hubbard, 2000). However, this is a distress cue elicited in an emotionally arousing context that might lead to child-oriented and parent-oriented responses based on various emotions that are experienced (Leerkes et al., 2012). Additionally, the infant's crying is a 'graded signal' (Zeifman & St James-Roberts, 2017, p. 149), with increased intensity meaning increased distress.

Referring to Lang's (1995) theory, an infant's crying might simultaneously activate two motivational systems: the appetitive and the aversive. Infant crying as an unpleasant stimulus invokes negative emotions linked with perceived threat or danger, but at the same time, this is a strong indicator of need of support, and thus possesses an essential social function (Spangler, Maier, Geserick, & von Wahlert, 2010). Therefore, studies show individual differences in perceived aversiveness or in differentiability of parental (maternal) reactions to infant crying, ranging from empathy, through anxiety, to aversive responses (Del Vecchio, Walter, & O'Leary, 2009). Research also indicates multiple predictors of responding to infant crying, ranging from biological markers and family of origin experiences to personality factors, relational aspects, and clinical disturbances such as depression (e.g. Chrzan-Dętkoś

& Walczak, 2017; Field, Diego & Hernandez-Reif, 2009; Leerkes, 2010; Leerkes & Crockenberg, 2006; Riem, Pieper, Out, Bakermans-Kranenburg, & van Ijzendoorn, 2010).

One of the important factors associated with the quality of parenthood, including responsiveness, is empathy (Kaźmierczak, 2015). Studies indicate that more empathic parents express more compassion, but also experience more distress when hearing an infant crying (Zeifman, 2003). Higher empathy facilitates concentration on the child's needs (Leerkes, 2010), while lower empathy increases the risk of self-focusing (Leerkes, Parade, & Burney, 2010), and general disturbances in family relationships including child abuse (Feshbach, 1990). Numerous studies have confirmed the link between children's emotional expression and neurobiological mechanisms measured in parents and related to empathy (anatomical – e.g. the insula, or hormonal – e.g. oxytocin; Swain et al., 2012). Additionally, in earlier studies women were more inclined to express empathy, whereas for men it is negative emotions, when hearing an infant cry (Zeifman, 2003).

It should be emphasised that in this paper dispositional empathy is examined. It is defined as a multidimensional construct with emotional (other-oriented – empathic concern; self-oriented – personal distress), and cognitive components (perspective taking), following Davis' (2004, 2006) theses. Empathic concern reflects the tendency to show compassion and care towards others in need, whereas personal distress indicates the inclination to take on others' negative emotions. Perspective-taking describes the tendency to adopt others' point of view in social situations.

RESEARCH AIM

The presented research was conducted to adapt the My Emotions Scale (Leerkes, 2018) – a measure of parental self-reported reactions to infant crying – to Polish conditions as part of the larger study on parental responsiveness. The scale measures parent-oriented and child-oriented emotional reactions. A brief and time-efficient questionnaire to measure emotional reactions to a child's crying might help to overcome the limitations of observational studies that are typically used to analyse this topic. Due to the contextual variability of the intensity and frequency of a child's crying it is difficult to assess the average parental responsiveness to it, especially in large samples (Leerkes & Qu, 2017). Additionally, it is often impossible to observe both parents interacting with their baby.

THE MY EMOTIONS SCALE – EMOTIONAL REACTIONS TO A CHILD'S CRYING [PL: SKALA EMOCJONALNYCH REAKCJI NA PŁACZ DZIECKA – SER-PD]

The original scale consists of five subscales: amusement (experienced emotions are opposite to those of the child, e.g. *Feel like laughing*), parent-oriented anxiety (helplessness and impotence when observing the child's crying, e.g. *Feel worried that others will think I'm a bad parent*), parent-oriented frustration (irritation and blaming the baby for the situation, e.g. *Feel annoyed that the baby is pulling me away from other things*); child-oriented sympathy (compassion for the baby and negative emotions experienced when hearing the child crying, e.g. *Feel worried for the baby – about what the baby might want or need*), child-oriented empathy (warm emotions and care shown to a crying baby to change the situation, e.g. *Feel strong desire to make the baby feel better*). Statistical characteristics of the scale were calculated on the US sample of infants' mothers (Leerkes, 2018). Cronbach's α for the subscales were as follows: amusement – .82, parent-oriented anxiety – .65, parent-oriented frustration – .73, child-oriented sympathy – .73, and child-oriented empathy – .74. The research indicated good internal consistency, convergent validity, and predictive validity of the scale. The original Leerkes's scale was aimed at parents of infant children (six and 12 months old). Due to the language differences the presented SER-PD measure is aimed at a wider population of young children.

The habitual emotional reactions to the child's crying defined as tendencies in the parental role, to a greater extent than reactions in particular situations, might be predicted by personality and factors related to individual life history. Particular incidents of crying might be primarily contextually induced and more related to the child's factors (such as a child's mood or specific needs). Therefore, referring to the research described above, parents' dispositional empathy with its emotional and cognitive dimensions (self and other-oriented) was defined as a predictor of emotional reactions to the child's crying.

To assess convergent validity, the second measure of emotional reactions to a child's crying (NKE-PD – *Contextually Neutral Emotional Reactions to a Child's Crying*; PL: *Neutralne Kulturowo Emocje – Płacz Dziecka*) was created. The scale was designed to present a similar factorial structure as the original the My Emotions Scale. The items focused solely on emotions experienced by a parent – self-oriented or child-oriented – without a given situational context (e.g. blaming a child or oneself). As in the study by Leerkes and Siepak (2006) (where the adjective scale was implemented), such a measure might be used in

experimental designs where the context is created, and therefore the instruction might be modified, e.g. to assess the sound of the crying or the video of a crying infant.

In our study the following hypotheses were formulated:

- H1: SER-PD will have five components as defined by Leerkes (2018);
- H2: Mothers will be more emotionally reactive to the infant's crying than fathers;
- H3: Both measures of emotional reactions to the child's crying will be intercorrelated;
- H4: Empathic concern (EC) and perspective taking (PT) will be associated with more child-oriented emotional reactions (sympathy, empathy) to the child's crying;
- H5: Personal distress (PD) will be associated with more parent-oriented emotional reactions (anxiety, frustration) to the child's crying.

The question remained if the amusement subscale is associated with empathy dimensions.

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

A total of 495 parents of young children (including 376 mothers, no couples) took part in the study. The sole inclusion criterion for mothers and fathers was to have the only or a subsequent child aged between three and 18 months. Females were $M = 27.79$ ($SD = 5.01$) years old on average, whereas the mean age of men was $M = 31.71$ ($SD = 5.37$). 95.39% of parents were in a stable romantic relationship; the rest of them were single. The majority of the participants had higher education degree (57.39%), followed by high-school graduates (29.10%). The majority of participants (74.90%) had one child; 55% of the sample provided information on the child's gender – 54% were girls. The average age of the assessed child was $M = 9.17$ months ($SD = 4.43$).

PROCEDURE

All participants filled in the questionnaires as a part of the larger research project. The invitation to participate in the study was distributed to parents via social network websites. Participants who met the inclusion criterion received the link to the study. Mothers and fathers were asked to fill in the set of questionnaires online, anonymously, privately, and voluntarily. No payment was offered. A sample of 274 parents was asked to fill in the additional scale (NKE-PD) as a part of the larger study.

MEASURES

SER-PD – the Polish adaptation of the *My Emotions Scale – emotional reactions to infant crying questionnaire* (Leerkes, 2018). The original scale was translated and back-translated into Polish by six psychologists and undergraduates in psychology. The translation was consulted with a philologist specialising in English with a Ph.D. in psychology. In the original scale 17 items formed five subscales, making the subscales differ in length. Three items were neutral. Therefore, the subsequent group of six psychologists were asked to create additional items describing five differentiated dimensions in order to prolong the five subscales. Twelve items were added, and the scale of 32 items was used in the research. The participants assessed on a five-point response scale the frequency of particular emotional reactions to their child crying: 1 – *never*, 5 – *always*.

NKE-PD (*Neutralne Kulturowo Emocje – Płacz Dziecka*). To assess the convergent validity of *SER-PD* the shorter measure of emotional reactions to infant crying was created. The scale consists of 15 items with a five-point response scale assessing the extent to which parents experience particular emotions when hearing their child crying: 1 – *very weak*, 5 – *very strong*. Five subscales, identical to those used in *SER-PD*, were created, and each of them consisted of three items. Model fit indices of the five-factor *NKE-PD* model were satisfactory, the overall fit of the model was acceptable: $\chi^2 = 445.20$, $df = 80$, $p < .001$; CFI = 0.93, TLI = 0.91, RMSEA (90% CI) = 0.129 (0.118–0.141) (Maindal, Sokolowski, & Vedsted, 2010; Schreiber, Nora, Stage, Barlow, & King, 2006), although the RMSEA value indicates that further modifications of the scale are required.

Following the conclusions of Leerkes and Siepak (2006), that the same emotion might be caused by different concerns and thus modify its link with the outcomes, and due to the specificity of Polish language, emotions were described with verbs and adjectives to indicate the object of emotions – a person is preoccupied with their own or their child's emotions (self vs. child), e.g. *I am sad because of this baby, I am concerned for this baby*. In summary, items from this scale differ from the original *My Emotions Scale*. Cronbach's α for the subscales were as follows: amusement – .90, parent-oriented anxiety – .63, parent-oriented frustration – .81, child-oriented sympathy – .75, and child-oriented empathy – .63.

The Empathic Sensitiveness Scale (*Skala Wrażliwości Empatycznej – SWE*) (Kazmierczak, Plopa, & Retowski, 2007) comprises three subscales measuring empathy, according to Davis (1980, 1983, 2004, 2006), with the 28 statements and a five-point Likert response scale: empathic concern (EC; e.g. *I often have tender, concerned feelings for people less fortunate than me*; 11 items), personal distress (PD; e.g. *When I see*

someone who's badly needs help in an emergency, I go to pieces; 8 items), and perspective taking (PT; e.g. *I try to look at everybody's side of a disagreement before I make a decision*; 9 items). The α coefficients for EC, PD, and PT subscales were good: .78, .75, and .74, respectively.

RESULTS

STRUCTURAL VALIDITY AND RELIABILITY

Data analysis was performed by using SPSS 24.0 (SPSS Inc., Chicago IL) and MPLUS 6.11. A confirmatory factor analysis in MPLUS 6.11 using the WLSMV estimator (weighted least squares with adjusted means and variances) was conducted to verify the original factorial structure of the SER-PD. Confirmatory factor analysis showed the five-factor structure in accordance with the original scale. However, due to the fact that in the original scale three dimensions consisted only of three items, we decided to add one item (in italics in Table 1) to each of these subscales from the additional items pool, leading to a 20-item scale. Finally, each subscale consists four items; no neutral items remained in the scale.

The standardised factor loadings and factor correlations of the five-factor SER-PD model are pre-

sented in Table 1 and 2 (based on raw scores). The standardised factor loadings of almost all items in the five-factor model were greater than .50 (item 3 was at the boundary), which confirms the structural validity of the Polish version (SER-PD) of the My Emotions Scale. Following the recommendation of analysing several fit indices (Hu & Bentler, 1999; Simsek, Veiga, Lubatkin, & Dino, 2005), multiple model fit indices were presented, including χ^2 the statistic, comparative fit index (CFI – reference: 0.90-0.95 = acceptable, > 0.95 = good), Tucker–Lewis index (TLI – reference: 0.90–0.95 = acceptable, > 0.95 = good), and the root mean square error of approximation (RMSEA – reference: ≤ 0.05 = good, ≥ 0.10 = poor fit). Model fit indices of the presented model were satisfactory, and the overall fit of the model was acceptable – $\chi^2 = 504.27$, $df = 160$, $p < .001$; CFI = 0.93, TLI = 0.92, RMSEA (90% CI) = 0.066 (0.059–0.072) (Maindal, Sokolowski, & Vedsted, 2010; Schreiber et al., 2006). The reliability of all subscales of the SER-PD was satisfactory. Hypothesis 1 was confirmed.

GENDER DIFFERENCES IN SER-PD SUBSCALES

A *t*-test for independent groups was used to verify whether there were any gender differences in all SER-PD subscales. As shown in Table 3, fathers were

Table 1
Standardised factor loadings for the SER-PD five-factor solution

| Item | Amusement | Parent-oriented anxiety | Parent-oriented frustration | Child-oriented sympathy | Child-oriented empathy |
|-----------|-----------|-------------------------|-----------------------------|-------------------------|------------------------|
| 15 | .835* | | | | |
| 16 | .915* | | | | |
| 18 | .855* | | | | |
| 11 | .740* | | | | |
| 3 | | .461* | | | |
| 7 | | .635* | | | |
| 9 | | .645* | | | |
| 13 | | .633* | | | |
| 2 | | | .622* | | |
| 6 | | | .714* | | |
| 17 | | | .689* | | |
| 19 | | | .742* | | |
| 1 | | | | .777* | |
| 8 | | | | .698* | |
| 12 | | | | .708* | |
| 4 | | | | .661* | |
| 10 | | | | | .760* |
| 14 | | | | | .843* |
| 20 | | | | | .734* |
| 5 | | | | | .727* |

Note. * $p < .001$; added items in bold italics.

Table 2
Reliabilities and intercorrelations among the SER-PD dimensions

| Dimensions | α | 1 | 2 | 3 | 4 | 5 |
|--------------------------------|----------|--------|-------|--------|-------|---|
| 1. Amusement | .81 | – | | | | |
| 2. Parent-oriented anxiety | .63 | .223* | – | | | |
| 3. Parent-oriented frustration | .73 | .504* | .580* | – | | |
| 4. Child-oriented sympathy | .73 | -.445* | .430* | -.263* | – | |
| 5. Child-oriented empathy | .74 | -.622* | .069 | -.442* | .787* | – |

Note. * $p < .001$.

Table 3
Gender differences in the SER-PD subscales

| Dimension | Female ($n = 376$) | | Male ($n = 119$) | | $t(493)$ | d |
|-----------------------------|----------------------|------|--------------------|------|----------|-----|
| | M | SD | M | SD | | |
| Amusement | 5.31 | 2.28 | 5.72 | 2.19 | -2.15* | .19 |
| Parent-oriented anxiety | 9.98 | 3.19 | 9.22 | 3.20 | 2.27* | .24 |
| Parent-oriented frustration | 7.90 | 2.63 | 8.36 | 2.93 | -1.63 | .17 |
| Child-oriented sympathy | 15.43 | 3.16 | 13.75 | 2.93 | 5.16*** | .55 |
| Child-oriented empathy | 18.96 | 1.81 | 17.92 | 2.10 | 6.36*** | .53 |

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

significantly more amused than mothers while hearing crying from their own child, whereas mothers obtained higher scores than fathers in both child-oriented subscales (stronger effects) and in self-oriented anxiety. Hypothesis 2 was thus confirmed.

Additional analyses indicated no differences in emotional reactions to the child's crying regarding the child's gender.

CONVERGENT AND EXTERNAL VALIDITY

Correlations were conducted between the SER-PD subscales and the NKE-PD to estimate the convergent validity of the SER-PD (Table 4).

All five subscales measuring amusement, self-oriented anxiety, and frustration as well as child-oriented sympathy and empathy were intercorrelated, respectively. Additionally, amusement was positively associated with parent-oriented frustration and negatively with child-oriented sympathy. Parent-oriented anxiety was positively associated with all subscales apart from amusement. That was also true for child-oriented sympathy and empathy, although they are negatively correlated with parent-oriented frustration. The latter was also positively associated with parent-oriented anxiety and child-oriented sympathy.

Further correlational analyses were conducted to assess the associations between SER-PD subscales and empathy dimensions (Table 5).

Empathic tendency to take on others' negative emotions was positively associated with parent-oriented anxiety and frustration as well as with child-oriented sympathy and empathy. Empathic concern was also positively associated with child-oriented emotional reactions to crying, but negatively with amusement and parent-oriented frustration. Cognitive empathy negatively correlated with parent-oriented anxiety and frustration, whereas positively, with child-oriented empathy. Thus hypotheses 4 and 5 were confirmed, but additional associations occurred.

DISCUSSION

The conducted research confirmed the structure, reliability, and validity of the Leerkes' (2018) scale measuring emotional reactions to the child's crying in a new cultural context, with both genders. The SER-PD might be a useful tool to examine parent-child interactions easily and noninvasively, in situations where qualitative data might be difficult to obtain. Additionally, the scale enables analysis of specific reactions to a particular child's cue, which might facilitate the assessment of the quality of parent-child

Table 4

Correlations between scales measuring emotional reactions to a child's crying (NKE-PD and SER-PD)

| Scale | 1. Amusement SER-PD | 2. Parent-ori- ented anxiety SER-PD | 3. Parent-ori- ented frustra- tion SER-PD | 4. Child-orient- ed sympathy SER-PD | 5. Child-orient- ed empathy- SER-PD |
|---|------------------------|---|---|---|---|
| 1. Amusement NKE-PD | .290** | -.110 | -.035 | -.011 | .037 |
| 2. Parent-ori- ented anxiety NKE-PD | .019 | .455** | .269** | .376** | .158** |
| 3. Parent-orient- ed frustration NKE-PD | .343** | .359** | .691** | -.147* | -.345** |
| 4. Child-oriented sympathy NKE-PD | -.037 | .331** | .151* | .360** | .217** |
| 5. Child-oriented empathy NKE-PD | -.167** | .208** | -.099 | .641** | .588** |

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

Table 5

Correlations between the SER-PD subscales and empathy dimensions

| Dimension | Empathic concern | Personal distress | Perspective taking |
|--------------------------------|------------------|-------------------|--------------------|
| 1. Amusement | -.119** | .021 | -.081 |
| 2. Parent-oriented anxiety | -.014 | .370** | -.174** |
| 3. Parent-oriented frustration | -.175** | .175** | -.164** |
| 4. Child-oriented sympathy | .197** | .238** | .051 |
| 5. Child-oriented empathy | .253** | .127** | .112* |

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

relationship, with more and less child-sensitive parental reactions included (Leerkes et al., 2012).

The differentiation between parent- and child-oriented reactions in the scale has been justified. Self-oriented emotional reactions are linked to lower self-regulatory mechanisms and possible overarousal (Dix, 1991; Leerkes & Crockenberg, 2006; Leerkes, 2010). In our study such reactions were thus linked to higher inclination to empathically taking on others' negative emotions and to lower tendency to adopt others' perspective (e.g. Hoffman, 1984, 2003). Such a pattern of results has been linked with emotional, conduct, and personality disturbances in earlier studies (Kaźmierczak, Pastwa-Wojciechowska, & Błażek, 2013). Our results thus indicate that parents who focus on their own negative emotions while hearing their own child crying tend not to discriminate between negative emotions that they and others experience, and in consequence their reactions might not be well-fitted to the child's situation and child's needs. They might lack the empathic responsiveness that is required to

create the bond with a child based on secure attachment (Bell & Ainsworth, 1972; Curran, Hazen, Jacobvitz, & Sasaki, 2006). When a parent additionally does not display the tendency to express empathic concern, frustration in the face of the crying child might occur, as our study showed. Still, all empathy dimensions were associated with child-oriented empathy, which confirmed the validity of the SER-PD construct. EC and PD are both dimensions of emotional empathy (Davis, 2004, 2006), therefore they were also correlated with child-oriented sympathy. Such a result indicates the double-sided nature of PD, which (like empathy) includes orienting towards others, but might finally lead to self-focus in the presence of strong negative emotional stimuli, such as a child's crying. It also refers to the double-sided nature of the child's crying itself, which simultaneously might lead to two types of parental reactions: avoiding the negative stimuli and looking after a child in discomfort, thus implementing two motivational systems – the appetitive and the aversive (Lang, 1995). The only negative correlation

between amusement and empathy was confirmed for EC. Compassion for others might decrease the amused reactions to the child's crying.

Mothers scored higher in child-oriented emotional reactions to crying, which is in line with earlier research (Zeifman, 2003). However, they were also more anxious. Such results might reflect greater emotional involvement of mothers and responsibility that they could experience in the process of taking care of children (Każmierczak & Karasiewicz, 2018). Conversely, fathers scored higher on the amusement subscale, which might be associated with their frustration and negative emotions while hearing crying (strong correlations between those two subscales of SER-PD) (Zeifman, 2003). However, it must be noted that parents of both genders were generally more inclined to express child-oriented than parent-oriented emotional reactions (see Table 3).

Further research should be conducted to apply the scale in various samples. High correlations between both child-oriented subscales (empathy and sympathy) should also be explored in further studies. Perhaps a two-factor structure of the scale – parent-oriented and child-oriented reactions – would be more justified and should be tested. More possible correlates of all five subscales of the SER-PD should be identified within the fields of physiology, family of origin and close relationships, personality, and contextual influences. Longitudinal research analysing the developmental outcomes of parental reactions to children's crying should be conducted on Polish samples.

Among the limitations of the study is the sample itself, which mostly consisted of mothers. The majority of the participants were well educated. There were no qualitative data (such as interviews) gathered to confirm the quantitative data. Further research should overcome these limitations. Finally, it should be emphasised that SER-PD is subject to similar limitations as other self-report measures. It is subjective and thus liable to bias due to assessment of the child and one's own parental role. However, due to its multi-dimensionality, SER-PD might be used in developmental psychology and psychopathology, e.g. in research on individual differences between parents or on sensitive and insensitive parenting.

CONCLUSIONS

The adapted scale (SER-PD) enables the analysis of emotional reactions to child crying as a multidimensional construct and confirmed the earlier conclusions drawn by Leerkes (2018).

The measure seems to be valid and reliable and might be used in research on both mothers and fathers in correlational and experimental studies. The measure might be used in applied psychology to as-

sess the quality of care in new parents as well as to discriminate those who find their parental role difficult to fulfil, for example due to depression or other reasons.

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APPENDIX

Skala Emocjonalnych Reakcji na Płacz Dziecka (SER-PD) – polska adaptacja

| Kiedy moje dziecko płacze: | nigdy | rzadko | czasami | często | zawsze |
|---|-------|--------|---------|--------|--------|
| 1. Szkoda mi mojego dziecka. | 1 | 2 | 3 | 4 | 5 |
| 2. Irytuje mnie ten dźwięk. | 1 | 2 | 3 | 4 | 5 |
| 3. Niepokoję się, nic, co zrobię, i tak nie pomoże. | 1 | 2 | 3 | 4 | 5 |
| 4. Smutno mi, kiedy moje dziecko płacze, i też chce mi się płakać. | 1 | 2 | 3 | 4 | 5 |
| 5. Przytulam moje dziecko, gdy płacze. | 1 | 2 | 3 | 4 | 5 |
| 6. Denerwuję się, że moje dziecko odciąga mnie od innych spraw. | 1 | 2 | 3 | 4 | 5 |
| 7. Jestem zdenerwowany/a, że nie będę wiedział/a, jak zareagować. | 1 | 2 | 3 | 4 | 5 |
| 8. Żal mi mojego dziecka. | 1 | 2 | 3 | 4 | 5 |
| 9. Martwię się, że inni pomyślą, że jestem złym rodzicem. | 1 | 2 | 3 | 4 | 5 |
| 10. Jestem zatroskany/a o moje dziecko. | 1 | 2 | 3 | 4 | 5 |
| 11. Płacz mojego dziecka mnie śmieszy. | 1 | 2 | 3 | 4 | 5 |
| 12. Martwię się o moje dziecko – czego może chcieć lub potrzebować. | 1 | 2 | 3 | 4 | 5 |
| 13. Czuję, że to będzie dla mnie trudne, gdy moje dziecko będzie płakać przez dłuższy czas. | 1 | 2 | 3 | 4 | 5 |
| 14. Bardzo zależy mi na tym, żeby moje dziecko poczuło się lepiej. | 1 | 2 | 3 | 4 | 5 |
| 15. Bawi mnie, że moje dziecko jest wyprowadzone z równowagi. | 1 | 2 | 3 | 4 | 5 |
| 16. Dla mnie to zabawne. | 1 | 2 | 3 | 4 | 5 |
| 17. Jestem sfrustrowany/a moim dzieckiem, że się nie uspokaja. | 1 | 2 | 3 | 4 | 5 |
| 18. Chce mi się śmiać. | 1 | 2 | 3 | 4 | 5 |
| 19. Denerwuję się, że moje dziecko przesadza. | 1 | 2 | 3 | 4 | 5 |
| 20. Chcę ochronić moje dziecko. | 1 | 2 | 3 | 4 | 5 |