




Factor Structure and Psychometric Properties of the German Version of the Family Expressiveness Questionnaire (FEQ-GR)

Raphaela I. Zehntner^{1,2} , Cosima L. Baeurle^{1,2}, Bertram Walter^{1,2,3}, Rudolf Stark^{1,2,3}, and Andrea Hermann^{1,2,3}

¹Department of Psychotherapy and Systems Neuroscience, Justus Liebig University, Giessen, Germany

²Bender Institute of Neuroimaging, Justus Liebig University, Giessen, Germany

³Center for Mind, Brain and Behavior, Phillips University Marburg and Justus Liebig University, Giessen, Germany

Abstract. *Background:* This study aimed to develop a German version of the Family Expressiveness Questionnaire (FEQ; Halberstadt, 1983, 1986), which investigates emotional expressiveness within the family context while growing up. While a theoretically derived four-factor structure was postulated, 2- and 3-scale versions have been applied in research. *Methods:* In Study 1 ($N = 650$), these existing models were tested against each other. A confirmatory factor analysis was conducted for the solution that best fitted the data with half of the sample, and results were cross-validated in the other half. Construct validation was investigated in Study 2 ($N = 225$). *Results:* An acceptable model fit for a three-factor solution was attained in Study 1. In Study 2, correlation patterns indicated a good convergent and discriminant validity. Reliability estimates in both studies were in an acceptable to excellent range. *Conclusion:* Findings suggest that the FEQ German version is a psychometrically sound instrument for assessing expressiveness within the family.

Keywords: family expressiveness, assessment, factor structure, validation

The family provides an important source in which children learn about emotions such as understanding, expressing, experiencing, and regulating them (Halberstadt et al., 1995; Petermann & Wiedebusch, 2016). This process is often referred to as emotional socialization (Eisenberg et al., 1998). An important factor of it is family expressiveness. According to Halberstadt et al. (1995), family expressiveness refers to a persistent pattern in “exhibiting nonverbal and verbal expressions” (p. 93) within the family context. These expressions are mostly emotionally charged and assessed in terms of frequency of occurrence (Halberstadt et al., 1995). It is noteworthy that family expressiveness contributes to children’s development in many ways as it is linked to the individuals’ emotional experiences (Dunn & Brown, 1994; Nelson et al., 2012), self-expressiveness (Eisenberg et al., 2003; Halberstadt & Eaton, 2014; Halberstadt et al., 1999), emotion regulation (Are & Shaffer, 2016; Gao & Han, 2016; Liew et al., 2011; Morris et al., 2007; Ramsden & Hubbard, 2002), social functioning and competence (Cumberland-Li et al., 2003), and peer relations (Cassidy et al., 1992), as well as to self-

esteem (Halberstadt et al., 1999). Even though children become more and more influenced by their peer social environment while growing up (Morris et al., 2007), effects of family expressiveness seem to persist from childhood throughout adulthood (Halberstadt et al., 1995, 1999). The extent to which emotions are expressed is highly cultural dependent (Are & Shaffer, 2016; Consedine & Magai, 2002) and so is family expressiveness. While individuals from collectivistic cultures tend to suppress their expressions, to avoid showing strong positive or negative emotions (Morelen et al., 2013; Wu & Chao, 2016), individuals from individualistic cultures emphasize the importance of individual emotional experiences as well as their expression (Gao & Han, 2016; Halberstadt & Lozada, 2011; Ramzan & Amjad, 2017; Rychlowska et al., 2015). When collectivism (C) and individualism (I) are considered as the ends of a continuum, as for example expressed by Hofstede’s I-C (range 0–100; Hofstede, 2009), Germany (Hofstede’s I-C: 67) would lie on the upper half, the United States (Hofstede’s I-C: 91) close to the end of the continuum toward individualism, whereas countries on the

opposite side would be, for example, Indonesia (Hofstede's I-C: 12) or China (Hofstede's I-C: 20; Hofstede, 2009; Rychlowska et al., 2015). Furthermore, cultural norms are dynamic and change over time, which is also reflected in the family environment (Keller & Lamm, 2005; Rogoff, 2003). With respect to the German historical background, a strong increase in individualization began around the mid-1980s (Beck, 1986), the influence of which is addressed in the study of Keller and Lamm (2005). They compared two German cohorts in their parenting styles (Cohort 1: 1977/1978 vs. Cohort 2: 2000); compared to the first cohort, the second showed more independence-promoting strategies (e.g., object play fostering individual space). Moreover, the second but not the first demonstrated stronger emotional positivity (e.g., smiling at the child) and emphasized praise as educational goals which are core elements of positive expressiveness within the family. This highlights not only cultural differences in expressiveness but also changes over time, which could result in a drift of the intended meaning of items measuring such constructs.

The Family Expressiveness Questionnaire (FEQ; Halberstadt, 1983, 1986) is the most frequently used questionnaire to measure expressiveness within the family of origin (e.g., Are & Shaffer, 2016; Burrowes & Halberstadt, 1987; Gao & Han, 2016; Morelen et al., 2013; Ramsden & Hubbard, 2002), and so far, there exists no German version of the questionnaire.

The Family Expressiveness Questionnaire

Halberstadt (1986) emphasizes that the FEQ is constructed to measure nonverbal and verbal expressiveness and focuses especially on emotionally expressive behaviors such as admiring or apologizing. The FEQ comprises 40 items and asks the participant to estimate how often given expressive scenarios occurred within the family while growing up. The given scenarios are classified into the dimensions valence/affect (positive and negative) and dominance/power (dominant and submissive). This classification results in 4 subscales containing 10 items each: positive-submissive (PS; e.g., "Thanking family members for something they have done"), positive-dominant (PD; e.g., "Spontaneously hugging a family member"), negative-submissive (NS; e.g., "Crying after an unpleasant disagreement"), and negative-dominant (ND; e.g., "Threatening someone"). This quadripartite structure is theoretically derived from the Profile of Nonverbal Sensitivity Test (Rosenthal et al., 1979) but has not been

tested by means of factor analysis so far (Halberstadt, 1983, 1986). In research literature, however, the FEQ is most commonly conducted in a 2-scale version, namely positive and negative family expressiveness (e.g., Baker et al., 2011; Clark & Phares, 2016; Gao & Han, 2016; Halberstadt et al., 1993, 2011; Heinhold et al., 1998; Liu et al., 2009; Morelen et al., 2013; Ramsden & Hubbard, 2002; Suveg et al., 2014). Some researchers also postulated a three-factor solution, using a combined positive scale (P) and retaining the division into ND and NS (Baker & Crnic, 2005; Eisenberg et al., 1991, 1992; Jones et al., 1998).

Reliabilities of the theoretically derived and postulated four FEQ subscales range from Cronbach's $\alpha = .75$ to $\alpha = .88$ (Halberstadt, 1986), which indicates a acceptable internal consistency (George & Mallery, 2016). Using the negative and positive subscales resulted in a similar range of values of internal consistencies (Clark & Phares, 2016; Gao & Han, 2016). Furthermore, test-retest reliability coefficients over 10 days were excellent, ranging from $r = .89$ to $r = .92$ for the four subscales (Halberstadt, 1986).

The construct validity of the overall FEQ score was supported by a small to moderate association with nonverbal emotional self-expressiveness and correlated negatively with shyness in men, but not women (Halberstadt, 1986). Halberstadt (1986) concluded that nonverbal self-expressiveness and shyness share some common variance while still being perceived as distinct constructs.

The FEQ also exists in a self-rating version, the Self-Expressiveness in Family Questionnaire (SEFQ; Halberstadt et al., 1995). In the SEFQ, not the expressiveness of the whole family as an entity while growing up is assessed but one's own individual contribution within the current family. As the original FEQ has neither been designed for measuring individual contributions nor for estimations within the current family, Halberstadt et al. (1995) claimed that psychometric properties of the FEQ do not account for the SEFQ, which is why we do not refer to these findings in more detail in the Introduction section.

Summarizing, despite being conceptualized as a four-dimensional construct, there seems to be no consistent solution in the adoption of the 2 or 3 scales and an appropriate statistical evaluation of the underlying structure is missing. Moreover, the existing literature indicates cultural differences in the adaptive expression of emotions as well as a drift of the meaning over time, highlighting once more the need for an examination of these three postulated scale solutions.

Study Aims

The aim of our study was to develop a reliable and valid German adaption of the FEQ. The FEQ has so far been

applied for research purposes, which is also the aim for the development of the German version of the FEQ (FEQ-GR) addressing a German-speaking sample. First, we translated and adapted the questionnaire. In Study 1, we tested the existing scale solutions against each other, that is, Halberstadt's (1986) postulated 4-scale version and the 2- and 3-scale solutions as applied in research, and determined the model fit by means of confirmatory factor analysis (CFA) with the first half of the sample ($n = 325$). After elimination of items with insufficient loadings, we conducted a CFA with the second half of the sample to assess the final model fit. In Study 2, the construct validity was considered in an independent sample of $N = 225$ participants. For this purpose, the FEQ-GR was correlated with questionnaires assessing nonverbal emotional expressiveness, parents' adaptive emotional expressiveness, and parental rearing behavior as constructs being somewhat related with family expressiveness. However, shyness was classified as construct being distinct to family expressiveness.

Study 1

Methods

Translation Process and Adaptions

First, the FEQ (Halberstadt, 1983, 1986) was translated into German by a bilingual person and back-translated by another bilingual person. Any discrepancies between the original and back-translated versions were discussed with a psychologist as well as with the two bilingual persons and if necessary revised. Unlike the English original, we established an absolute zero of the response scale to allow participants that a scenario did not occur in their families, resulting in the anchors *not at all* (German: *überhaupt nicht*) and *very frequently* (German: *sehr häufig*) for the 9-point Likert scale, in contrast to the anchors *not at all frequently* and *very frequently* of the original version.

Furthermore, two items were deleted previously to analyses: First, Item 19 ("Expressing sorrow when a pet dies") was dropped as this statement does not account to every individual. Second, Item 28 ("Expressing concern for the success of family members") was deleted due to difficulties in a consistent German translation of *concern* regarding a more positive or negative connotation.

Participants and Procedure

The online survey comprised sociodemographic information, such as age, gender, and highest level of education, and the German translation of the FEQ. Thereby,

participants have to estimate how often given expressive scenarios occurred within their family while growing up. The FEQ is described in detail in the Introduction section (for the final German version, see ESM 1). Following the scenarios, we added one control item, asking the participants to click the answering option on the very right when reading this statement, to ensure attendance to the questions while filling out. Participants who did not follow this instruction were excluded from further analyses. In the end, participants were asked whom they were thinking of when answering the FEQ to control for a correct understanding of the instruction as well as to account for the many family constellations that exist during growing up. Answering options were mother, father, siblings, grandmother, grandfather, aunt, uncle, cousin, and others (i.e., persons not mentioned before). Participants were excluded from further analyses if they referred the statements of the questionnaire not to their family of origin but their current family only (e.g., my children or my partner). Underage participants (<18 years) were also excluded from analyses. Participants were recruited via social networks and a mailing list from the local university. The procedure was in accordance with the 1964 Declaration of Helsinki and its later amendments. Participants were informed about the study and anonymous data collection on the first page; by confirming this page, they agreed in participation and saving of their data. They were reimbursed with course credits and could participate on a raffle of one 50 € coupon.

The online survey was opened 1,166 times, of whom $n = 687$ completed the questionnaire and remained within further analyses. Of these, $n = 37$ cases had to be excluded due to being underage ($n = 1$), because they related the FEQ to their current family only ($n = 1$; "my own children"), did not specify any person ($n = 2$; "nobody in particular and general"), or did not answer the control item correctly ($n = 33$). So, the final sample consisted of $n = 650$ participants ($n = 504$ females [77.54%], $n = 142$ males [21.84%], $n = 4$ other like nonbinary [0.62%]) who were between 18 and 62 years ($M = 26.28$ years, $SD = 7.74$ years). Most of the participants ($n = 381$) had the German Abitur, a German school leaving examination qualifying for university entrance, or a similar qualification, followed by an university degree ($n = 256$), while only $n = 12$ participants had a lower graduation or no graduation so far ($n = 1$).

Data Analyses

With respect to the required sample size for the intended calculations, recommendations of the necessary size vary, whereby a minimum size of 200 participants is advisable for structural equation modeling (Kline, 2005; Worthington & Whittaker, 2006). This also fits with the Bentler and Chou's (1987) guideline of a ratio of at least 5:1 of participants to number of parameters, that is, 200 for our purposes.

Descriptive statistics were performed with SPSS 26 (IBM Corporation, Armonk, NY, USA). All remaining analyses were computed with R version 4.0.4 (R Core Team, 2019) using the R packages psych version 2.90.12 (Revelle, 2019) and MBESS version 4.8.0 (Kelley, 2007). Model comparisons and CFAs were performed with the R packages nonnest2 (version 0.5-5), lavaan (version 0.6-6), and semTools (version 0.5-3). The sample ($N = 650$) was randomly split into two halves, whereby both samples did not significantly differ according to their age, level of education, and relationship status. Using the Vuong test (Vuong, 1989), we planned to compare the CFAs of the 2- and 3-scale versions, as well as Halberstadt's postulated 4-scale version against each other within the first subsample (Subsample 1). Thereby, the item assignment to the respective scales followed the categorization of Halberstadt (1986). Then, a CFA was conducted for the model that best fitted the data to identify candidate items for exclusion within Subsample 1: As to our knowledge only rules of thumb criteria exist for item removal, we relied on the recommendations of Worthington and Whittaker (2006) and dropped items with a standardized loading $\lambda < .32$. CFAs were conducted with maximum likelihood estimation with robust (Huber-White) standard errors and a scaled test statistic equal to Yuan-Bentler test statistic (Raykov, 2012) because Li (2016) demonstrated this estimator to be superior to other estimators when using more than eight answer categories. Furthermore, the Steiger-Lind RMSEA and the Bentler Comparative Fit Index (CFI) were calculated with CIs in their robust version (Savalei, 2018). For interpretation of the fit indices, we followed Hooper et al. (2008) who suggested the following cutoff scores: The standardized root mean square residual (SRMR) should be $< .08$, RMSEA $< .10$, and CFI $> .95$ (note that it was recommended by some authors [e.g., Hopwood & Donnellan, 2010; Kelley & Pornprasertmanit, 2016; Swami & Barron, 2019] to acknowledge that these values should not be interpreted rigidly).

To cross-validate our retained results, we repeated the CFA with the second half of the sample (Subsample 2). Finally, item analyses and reliability estimators (hierarchical omegas Ω_H ; Kelley & Pornprasertmanit, 2016) were calculated.

Results

For the 4-scale solution, the covariance matrix of the latent variables was not positive definite and the 2 positive scales showed a correlation of 1.02, which is why this version had to be rejected. Thus, only the three- and two-factor solutions were compared against each other. The variance test indicated that both models were distinguishable

($w2 = 2.668, p \leq .001$). The non-nested likelihood ratio test indicated that the three-factor model significantly outperformed the two-factor model according to its fit ($z = -3.758, p \leq .001$).

The fit indices of the 3-scale CFA from Subsample 1 did not meet our set threshold but were close to them, SRMR = .134, robust RMSEA = .088, and robust CFI = .739 (see Table 1). Due to insufficient loadings, two items had to be dropped (see Table 2), that is, Item 13 belonging to the P scale and Item 29 belonging to NS scale. For the ND scale, one item, that is, Item 37, showed a loading of $\lambda = .31$, which was very close to the threshold of $\lambda < .32$. As the content of the item was clearly negative and item deletion only based on cutoffs is not recommended (e.g., Ziegler, 2014), the item remained within the questionnaire. Then, the CFA was repeated within Subsample 2.

Fit indices retained from Subsample 2 did only marginally improve compared to Subsample 1 and were again close to the set thresholds, SRMR = .124, robust RMSEA = .083, and robust CFI = .786 (see Table 1). The Ω_H of Subsample 2 were acceptable to excellent ($\Omega_H(P) = .947$, $\Omega_H(ND) = .852$, $\Omega_H(NS) = .752$). The results of the CFA resulting from the 2-scale solution are reported in Table 2. Thereby, six items showed a considerably smaller loading than $\lambda < .32$, and one item (Item 37) was close to this threshold.

All remaining items within the 3-scale solution revealed corrected item-score correlations greater than $r_{it} = .29$ (see Table in ESM 2). The resulting 3 scales were related as follows within Subsample 2: P was negatively correlated with ND ($r = -.41$) and weakly positively with NS ($r = .29$), and the negative factors showed a positive correlation of $r = .40$ (all $p \leq .001$).

Study 2

Methods

Participants and Procedure

The procedure of data acquisition and exclusion criteria of the second online survey followed Study 1. Participants received course credits and could participate on a raffle of one out of five 10€ coupons. The online survey was opened 518 times and completed from $n = 228$ participants. Three participants had to be excluded from further analyses because they did not correctly answer all of the four control items of the survey (see Study 1). This resulted in a final sample of $n = 225$ participants ($n = 189$ females [84.0%], $n = 36$ males [16.0%]) who were between 18 and 60 years ($M = 24.28$ years, $SD = 7.74$ years). Most of the participants ($n = 191$) had the German Abitur or a similar

Table 1. Model fit indices of the CFAs, hierarchical omegas (Ω_H) and alphas (α) for the scales positive and negative (two-factor solution) as well as negative-dominant and negative-submissive family expressiveness (three-factor solution)

	Two-scale solution (P, N)		Three-scale solution ^a (P, ND, NS)					
	Subsample 1 ^b		Subsample 1 ^b			Subsample 2		
SRMR	.138		.134			.124		
Robust RMSEA	.093		.088			.083		
Robust CFI	.706		.739			.786		
	P	N	P	ND	NS	P	ND	NS
Ω_H [95% CI] ^c	.934 [.921, .948]	.696 [.659, .799]	.936 [.921, .948]	.855 [.837, .885]	.712 [.564, .728]	.947 [.938, .956]	.852 [.836, .886]	.752 [.564, .728]
α	.937	.832	.937	.858	.703	.947	.862	.728
No. of items to be deleted	1	5	1	—	1	—	—	—

Note. N = negative expressiveness; ND = negative-dominant family expressiveness; NS = negative-submissive family expressiveness; P = positive family expressiveness. ^aThree-scale solution was significantly better compared to 2-scale solution when all items were included. ^bCoefficients retrieved from Subsample 1 include items with poor loadings. ^cConfidence intervals (CI) were determined by bootstrapping via the R package MBESS version 4.8.0 (Kelley, 2007)

qualification, followed by university degree ($n = 32$); only $n = 2$ participants had a secondary education.

Measures and Hypotheses on Validity

Besides sociodemographic questions and the German translation of the FEQ, questionnaires were conducted that aimed to assess convergent and divergent aspects of family expressiveness. Questionnaires targeting more convergent aspects measured one's own nonverbal expressiveness, the adaptive expressiveness of one's parents that should be a part of family expressiveness as well as parental rearing behavior; in particular, the subscale emotional warmth should be moderately to highly associated with the positive subscale of the FEQ-GR, as both constructs show an overlap. However, shyness was assessed to target a divergent facet of family expressiveness. Cronbach's α values of all measures are reported in Table 3.

Affective Communication Test

The German version of the Affective Communication Test (ACT; Traue, 1998) comprises 13 items and is answered on a 9-point Likert scale ranging from -4 (*not at all true of me*) to $+4$ (*very true of me*). It is a valid and reliable instrument to measure one's own nonverbal emotional expressiveness, also called charisma (Friedman et al., 1980).

Subscale Emotional Expressivity of the Emotional Competence Questionnaire

The Emotional Competence Questionnaire (EKF; Rindermann, 2009) measures emotional competence by 6 subscales, of which only the scale concerning emotional expressiveness was used in the current study. This subscale of the EKF explicitly measures the adaptive expression of emotions and comprises 17

items. The word anchors were coded from 1 (not true at all) to 5 (completely true). In the version, in which external ratings were required, the person completing the questionnaire had to refer the statements to a specific person. In our study, participants related the items of this subscale to their mother and father separately.

Questionnaire of Recalled Parental Rearing Behavior

The Questionnaire of Recalled Parental Rearing Behavior (QRPRB; Schumacher et al., 1999) assesses remembered parental rearing behavior separately for fathers and mothers. It possesses 3 scales, namely (1) rejection and punishment (2) emotional warmth, and (3) control and overprotection. Each scale contains eight items ranging from 1 (*no, never*) to 4 (*yes, always*).

Shyness Scale

The German version of the Shyness Scale (Cheek & Buss, 1981; Czeschlik & Nuerk, 1995) consists of eight items to measure shyness. Items are answered on a 5-point Likert scale covering options from 1 (*applies almost never*) to 5 (*applies almost always*).

Short Scale Social Desirability-Gamma

The short scale Social Desirability-Gamma (KSE-G; Kemper et al., 2012) captures the gamma factor of social desirability, which describes a moral bias where unwanted behavior is denied and "saint-like attributes" are claimed (Paulhus, 2002, p. 64). It is divided into the exaggeration of positive qualities (PQ+) and the minimization of negative qualities (NQ-). The KSE-G meets the GESIS recommendation (Bogner & Landrock, 2015) to control for response biases in standardized surveys. Halberstadt (1983) emphasizes the importance of examining possible

Table 2. Standardized loadings of the two- and three-factor solutions resulting from CFA in subsample 1

Item number and content	Two-factor solution	Three-factor solution
	Positive family expressiveness	Positive family expressiveness
22. Showing sympathy	.859	.860
23. Showing deep affection or love	.795	.797
33. Comforting someone	.785	.787
38. Showing gratitude	.777	.775
40. Saying "Sorry"	.763	.761
35. Expressing happiness	.745	.744
18. Admiration	.731	.730
06. Praising for work	.728	.726
21. Paying compliments about their look	.712	.713
02. Thanking family members	.709	.705
30. Offering a favor	.684	.683
26. Hugging	.680	.682
03. Expressing joy over a nice day	.683	.680
39. Surprising someone with a gift	.674	.674
31. Cuddling up to someone	.659	.662
01. Forgiving someone	.602	.602
17. Expressing excitement	.547	.550
16. Expressing exhilaration	.386	.389
13. Seeking approval	.098	.108
	Negative family expressiveness	Negative-dominant family expressiveness
09. Accusing each other	.740	.737
11. Putting someone down	.719	.729
36. Threatening somebody	.710	.722
04. Showing contempt	.688	.700
12. Showing dislike	.663	.684
05. Expressing dissatisfaction	.600	.605
27. Expressing current anger	.600	.581
24. Arguing	.586	.568
07. Showing anger about carelessness	.506	.497
37. Criticizing for lateness	.302	.310
		Negative-submissive family expressiveness
10. Crying after disagreement	.412	.748
32. Crying for being punished	.421	.594
15. Breaking apart with increasing tension	.463	.552
08. Sulking over unfair treatment	.592	.486
20. Expressing disappointment	.098	.452
25. Crying goodbye	.010	.432
14. Expressing embarrassment	.063	.404
34. Telling when being hurt	-.053	.358
29. Apologizing for lateness	-.199	.117

Note. The content of the items is represented, not their literal statement. For the original formulation of the items and item assignment to scales, see Halberstadt (1986). For the three-factor solution, the negative scale of the two-factor solution was split into negative-dominant and negative-submissive, while the positive scale remained undivided. Dropped items due to insufficient loadings are presented in bold type.

Table 3. Descriptive statistics for the conducted questionnaires

Construct (instrument)	N	M (SD)	Cronbach's α
Family expressiveness (FEQ-GR)			
Positive expressiveness	225	6.12 (1.45)	.95
Negative-dominant expressiveness	225	4.42 (1.41)	.86
Negative-submissive expressiveness	225	4.63 (1.17)	.70
Own nonverbal expressivity (ACT)	225	65.72 (15.27)	.78
Emotional expressiveness (EKF)			
Mother	220	3.33 (0.85)	.95
Father	205	2.57 (0.84)	.95
Remembered parental rearing behavior (QRPRB)			
Rejection and punishment			
Mother	223	9.92 (2.90)	.86
Father	215	10.13 (3.15)	.86
Emotional warmth			
Mother	223	25.58 (5.07)	.91
Father	215	22.58 (6.14)	.92
Control and overprotection			
Mother	223	14.15 (4.08)	.75
Father	215	12.75 (3.41)	.75
Shyness scale	225	2.45 (0.79)	.85
Social desirability (KSE-G)			
Exaggeration of positive qualities (PQ+)	225	3.49 (0.58)	.44
Minimization of negative qualities (NQ-)	225	2.15 (0.71)	.50

Note. ACT = German version of the Affective Communication Test; EKF = Emotional Competence Questionnaire; FEQ-GR = German version of the Family Expressiveness Questionnaire; KSE-G = short scale of social desirability; NQ- = subscale minimization of negative qualities of the KSE-G; PQ+ = subscale exaggeration of positive qualities of the KSE-G; QRPRB = German version of the Questionnaire of Recalled Parental Rearing Behavior.

influences of social desirability as participants “might try to portray their families in whatever manner they predicted the experimenter preferred” (Halberstadt, 1983, p. 22).

Data Analyses

Statistical analyses were implemented using SPSS 26 (IBM Corporation, Armonk, NY, USA). We calculated Pearson's r to investigate the validation of the FEQ-GR; all correlations are reported two-tailed. Participants were allowed to skip the EKF and the QRPRB if it did not apply for them (e.g., if a parent does not live anymore). Therefore, the sample sizes varied slightly for these instruments (see Table 3).

Results

Scale Statistics

Descriptive statistics for all scales are reported in Table 3. Cronbach's α for the positive expressiveness scale (P) was $\alpha = .95$, $\alpha = .86$ for ND expressiveness, and $\alpha = .70$ for the

NS scale, which fits with the results of Study 1. Except from the KSE-G scales, the internal consistencies of the other scales were acceptable to excellent.

Construct Validity

The P and ND subscales of the FEQ-GR showed a medium negative correlation of $r = -.44$ ($p < .001$), the P and the NS subscales showed a weak positive association ($r = .223$, $p < .001$), and the two negative scales showed a medium positive correlation ($r = .40$, $p < .001$). Table 4 shows the correlations among the FEQ-GR subscales and the other questionnaires. As expected, the subscale P of the FEQ-GR showed a medium-sized positive association with the ACT, which measures one's own nonverbal expressiveness. The negative subscales of the FEQ-GR showed, unlike expected, no substantial correlation. The subscale emotional expressiveness of the EKF was positively related to the P scale of the FEQ-GR for mothers and fathers, as hypothesized. Unlike expected, the ND scale of the FEQ-GR was only weakly related for mothers and fathers and the negative-submissive (NS) scale showed a weak association

Table 4. Pearson's correlations of the questionnaires with the scores of the subscales of the FEQ-GR

Construct (instrument)	Subscales		
	Positive expressiveness	Negative-dominant expressiveness	Negative-submissive expressiveness
Family expressiveness (FEQ-GR)			
Negative-dominant expressiveness	-.439**		
Negative-submissive expressiveness	.223**	.395**	
Own nonverbal expressivity (ACT)	.317**	-.051	.118
Emotional expressiveness (EKF)			
Mother	.435**	-.183**	.180**
Father	.328**	-.137*	.097
Remembered parental rearing behavior (QRPRB)			
Rejection and punishment			
Mother	-.339**	.469**	.208**
Father	-.456**	.475**	.127
Emotional warmth			
Mother	.689**	-.506**	.044
Father	.677**	-.420**	.099
Control and overprotection			
Mother	-.237**	.309**	.118
Father	-.142*	.324**	.149*
Shyness scale	-.273**	.184**	.093
Social desirability (KSE-G)			
Exaggeration of positive qualities (PQ+)	.105	-.142*	-.118
Minimization of negative qualities (NQ-)	-.135*	.139*	-.092

Note. ACT = German version of the Affective Communication Test; EKF = Emotional Competence Questionnaire; FEQ-GR = German version of the Family Expressiveness Questionnaire; KSE-G = short scale of social desirability, NQ- = subscale of the KSE-G minimization of negative qualities; PQ+ = subscale of the KSE-G exaggeration of positive qualities; QRPRB = German version of the Questionnaire of Recalled Parental Rearing Behavior.

* $p < .05$, two-tailed.

** $p < .01$, two-tailed.

with the EKF for mothers. The correlation pattern for the P scale of the FEQ-GR was as expected, that is, we found a high positive association with parental emotional warmth and a moderate negative association with rejection and punishment as well as a small correlation with control and overprotection. The ND subscale revealed, as expected, the reverse pattern, that is, ND showed a medium-sized positive association with rejection and punishment as well as with control and overprotection, while ND was negatively related with emotional warmth. The NS scale was only weakly related with the subscales rejection and punishment for mothers and control and overprotection for fathers. It was not related with emotional warmth neither for mothers nor for fathers. The Shyness scale was weakly negatively correlated with P and positively with ND, but not with NS. For the KSE-G, that assesses social desirability, the ND scale of the KSE-G was weakly related with both the PQ+ and NQ- scales. The P scale of the FEQ-GR was weakly and negatively related with NQ- with the KSE-G, while the NS scale was not related with the KSE-G.

Discussion

The purpose of this study was to develop a German version of the FEQ (Halberstadt, 1983, 1986), the FEQ-GR. While Halberstadt (1986) originally hypothesized 4 scales, which arose from the valence dimension (positive and negative) crossed by the power dimension (dominant and submissive), it is common practice to assess only 2 scales, namely the valence subscales positive and negative family expressiveness (Clark & Phares, 2016; Gao & Han, 2016; Halberstadt et al., 1993, 2011). Some researchers also administered the FEQ in a 3-scale solution, whereby the negative subscale was split into dominant and submissive expressiveness while the positive subscale remained undivided (e.g., Baker & Crnic, 2005; Eisenberg et al., 1992; Jones et al., 1998). Therefore, we decided to compare these three solutions and to examine the best solution by means of CFAs (Study 1) and addressed the question of validity in a second independent sample (Study 2).

Two items were deleted previously to analyses: first, Item 19 (["Expressing sorrow when a pet dies."] originally

belonging to the NS scale) because the item content does not apply to everyone filling out the questionnaire, and second, Item 28 (“Expressing concern for the success of other family members.”) originally belonging to the PD scale) due to a negative connotation of the German translation, which seems not be given in the English original version.

The results of our study suggested that the 4-scale solution as theoretically postulated by Halberstadt (1986) did not show a sufficient solution and had therefore been rejected. Thereby, the covariance matrix of the latent variables was not positive definite, and the two positive scales were highly positively related. This is in line with Eisenberg et al. (1992) who found a positive correlation of .82 ($p \leq .001$) between PS and PD. The model comparison indicated the three-factor model to be superior to the two-factor model. Following CFA for the 3-scale solution within Subsample 1, two items with an insufficient loading were removed and model fit indices were again calculated within Subsample 2 to cross-validate our findings. For the P scale, Item 13 (“Seeking approval for an action”) had to be removed, resulting in a final number of 18 items for the P scale. Considering the SEFQ, in which one’s own contribution to the expressivity within the family is assessed, Item 13 loaded onto the negative factor (Halberstadt et al., 1995). So, despite representing positive affect, it seems to possess a negative connotation explaining the poor loading in our sample. For the ND scale, the loading of Item 37 (“Criticizing someone for being late”) was only slightly below the set threshold. We decided to keep the item within the questionnaire, as the content clearly belongs to the negative scale and it is not recommended to delete items purely based on the cutoff criteria (e.g., Ziegler, 2014). This close insufficient result might further be an effect only found in our sample. Moreover, by keeping the item we intended to maximize the comparability between the German and the English versions. So, the final ND scale remained unchanged and comprises 10 items. The final NS scale consists of eight items whereby only Item 29 (“Apologizing for being late”) was deleted following the CFA within Subsample 1. This item also loaded onto the positive factor in the study examining the SEFQ (Halberstadt et al., 1995) suggesting once more a different connotation. Additionally, the original assignment of items expressing ways of apologizing might not have been stringent: While Item 29 belongs to the NS scale, Item 40 (“Saying ‘I’m sorry’ when one realizes one was wrong”) to the positive-submissive scale. In both scenarios, admitting and apologizing for (small) mistakes leads more likely to positive emotions at the receiver, for example, feeling less negative emotions such as anger (e.g., Ebesu Hubbard et al., 2013). Furthermore, this behavior, when meant sincerely, might even contribute to a deeper feeling of

understanding each other (e.g., Ebesu Hubbard et al., 2013; Maio et al., 2008). This change in feelings and closeness might affect the judgment of the given scenario in a less negative way and might explain why the item does not show a strong loading on the NS scale. In all, not only the model comparison but also the number of items that had to be dropped due to insufficient loadings, that is, two for the 3-scale version versus six for the 2-scale version, supported that the three-factor solution best represented the structure of the data. The values of the fit indices retained from the CFA of Subsample 2 were close to the set thresholds. These subthreshold results should not be interpreted too rigidly and are also a common finding even in well-established (personality) questionnaires (e.g., Hopwood & Donnellan, 2010; Kelley & Pornprasertmanit, 2016; Ribbat et al., 2021; Swami & Barron, 2019).

Despite cultural differences and a drift of meaning over time, the resulting subscales of the FEQ-GR revealed a contentual coherence with the FEQ, which is why the authors assume that a sufficiently high comparability to the English version is given. Furthermore, the reliability estimates for all 3 scales were in an acceptable to excellent range (George & Mallery, 2016) in Study 1 and Study 2 and were in a similar range than those reported in the literature when conducting the FEQ in a 3-scale solution (e.g., Baker & Crnic, 2005).

Due to different item numbers of the subscales, we advise to report the scores calculated as means of the item responses rather than the sum scores. It is noteworthy that we established an absolute zero (*not at all* instead of *not at all frequently*) to allow participants to indicate that a given scenario did not occur in their family while growing up; this modification might result in slightly different levels of expressiveness when comparing mean values of the English and the German questionnaire.

The added question of whom participants were thinking of when answering the questionnaire showed that participants thought of many different persons. In Study 1, unlike expected, one participant mentioned their current family only and another two participants could not specify any person indicating that they did not follow the given instruction. To ensure quality standards, we recommend implementing this question as a standard control question.

For investigating convergent and discriminant validity of the FEQ-GR scales, the association of the FEQ-GR with several questionnaires assessing different components of expressiveness, such as one’s own nonverbal expressiveness or adaptive positive expressiveness of one’s parents as well as with shyness, remembered parental rearing behavior, and social desirability were investigated in Study 2. Convergent validity should be supported by a medium to high positive relation between P of the FEQ-GR and emotional warmth, as these constructs show a contentual

overlap. In line with that, especially the ND scale, dominated by behaviors such as accusations, contempt or disputes, should be positively associated with rejection and punishment and to a smaller degree with control and overprotection. Own shyness, on the other hand, should be related to a lesser extent to family expressiveness, which would support discriminant validity. Our result revealed the assumed pattern with regard to the remembered parental rearing behavior, measured by the QRPRB. The P scale of the FEQ-GR and parental warmth showed a high positive correlation. This also fits with the literature examining actual influences of parental family expressiveness and emotional warmth (e.g., Smith et al., 2007; Speidel et al., 2020; Zhou et al., 2002). Zhou et al. (2002), for example, reported that parental positive expressivity mediated the association between parental warmth and children's empathy. Thereby, parental positive expressivity was positively related to parental warmth (Zhou et al., 2002). Similarly, we found a medium-sized correlation of parental adaptive expression and the P scale of the FEQ-GR. This underlines that in a family environment in which a higher level of positive expressiveness is shown, parents foster a healthier way in dealing with their feelings. Suveg et al. (2005), for example, showed that in an emotion interaction task, mothers of children with no actual mental disorder (compared to children suffering from an anxiety disorder) used more positive emotion words, encouraged their child more often, and fostered more emotional expressiveness in their families. In line with this, we found a negative medium-sized relation of P with rejection and punishment. As assumed, the ND scale of the FEQ-GR was positively related with punishment and rejection and to a lesser extent with control and overprotection. This fits well with the literature on child maltreatment, showing that maltreating parents (compared to nonmaltreating parents) demonstrated higher levels of negative affect, which was associated with an increase of conflict and stress, but also with lower levels of positivity (Cicchetti & Valentino, 2016; Wilson et al., 2008). Moreover, in their study, Baker and Crnic (2005) showed that the mothers' experienced level of ND expressiveness in their family of origin even influenced their today's son-child interaction; thereby, higher levels of ND were related with a poorer emotional support during son-mother interactions (Baker & Crnic, 2005). Participants who reported that maternal rejection and punishment as well as fatherly control and overprotection occurred more frequently also experienced more often the expressions of emotions such as disappointment and sadness while growing up, as measured with the NS scale, indicated by a weak positive relation between the respective scales of the QRPRB.

We also found a medium-sized association between one's own nonverbal expressivity, measured by the ACT,

and P. The items of the ACT to a high extent represent positive emotions, which is why there might only be a relation to the P scale, but not the NS and ND scales. Furthermore, this is in line with Halberstadt (1986) who reported a moderate correlation of nonverbal self-expressiveness and the FEQ. One's own reported shyness was only very weakly positively associated with ND, not with NS and negatively with P, indicating family expressiveness to be perceived as a distinct construct from shyness. This fits with the finding that parents from nonsocially anxious and socially anxious children, whereby social anxiety could be considered a heightened form of shyness (Renneberg & Ströhle, 2006), did not differ in their perception of child-rearing styles and family environment (Caster et al., 1999).

Social desirability, assessed by the KSE-G, was only very weakly associated with some of the FEQ-GR subscales. This might indicate that our participants did not try to present themselves in a more socially desirable way when responding the questions. But these results should be treated with caution as NQ- and PQ+ showed only very low consistencies within our sample and research has demonstrated an overlap between social desirability and personality test scores (Bensch et al., 2019).

Some limitations of the current studies need to be mentioned: Samples of both studies comprised a high proportion of women (78% and 84%, respectively), which might have biased the results. When the individual contribution of actual parental family expressiveness was assessed, mothers (compared to fathers) reported to show positive expressiveness more often and fathers (compared to mothers) to show negative expressiveness more often (Halberstadt et al., 1995). This effect could possibly be traced back to valence, as females compared to males report to be more expressive, showing more positive and internalizing emotions (e.g., sadness or sympathy) while males report to show more externalizing emotions (e.g., anger; Chaplin & Aldao, 2013; Simon & Nath, 2004).

Despite a high age range (18–60 years), the mean age of 26 and 24 years, respectively, was rather low, which might limit the scope of application of the observed results. A further limitation of our study was the high educational status within both samples that is related to a higher socioeconomic status, which in turn might influence parental rearing behavior and thus family expressiveness (e.g., Chen & Berdan, 2006; Hoff et al., 2002; Hosokawa & Katsura, 2017).

In addition to these issues, future studies should investigate the test-retest reliability of the FEQ-GR to further demonstrate the stability of the construct.

In conclusion, the FEQ-GR can be considered as a valid and reliable instrument for measuring family expressiveness. In accordance with some studies, three facets,

namely positive, negative-dominant, and negative-submissive expressiveness, have been identified, which showed acceptable to excellent internal consistencies and sufficient convergent and divergent validity.

Electronic Supplementary Material

The electronic supplementary material is available with the online version of the article at <https://doi.org/10.1027/2698-1866/a000015>

ESM 1. FEQ-GR final version

ESM 2. Table with item parameters of the FEQ-GR from Subsample 2

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Conflict of Interest


The authors declare that they have no conflict of interest to disclose.

Open Data

Data, codes, and outputs can be found at <https://doi.org/10.22029/jlupub-11> (Zehrtner et al., 2021).

ORCID

Raphaela I. Zehrtner

 <https://orcid.org/0000-0002-2939-5072>

Raphaela I. Zehrtner

Department of Psychotherapy and Systems
Neuroscience & Bender Institute of Neuroimaging
Justus Liebig University Giessen
Otto-Behaghel-Str. 10H
35394 Giessen
Germany
raphaela.zehrtner@psychol.uni-giessen.de