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Young Children (4–8 years) in Group Care: Development and Validation of a Group Climate Instrument

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Abstract It is widely recognized that young children in group care can benefit from a positive group climate. This is usually monitored from the caregiver’s perspective. This study describes the development and validation of the Group Climate Instrument for Children aged 4 to 8 years (GCIC 4–8), which aims to measure the quality of group climate, based on the views of the young children themselves. A confirmatory factor analysis of the GCIC 4–8 was performed on data of 116 children in Dutch (semi) residential youth care, followed by an analysis of the internal consistency reliability of the scales. An adequate fit of a two-factor model (positive and negative climate) indicated construct validity of the GCIC 4–8. Reliability coefficients were sufficient. The GCIC 4–8 can be used to measure positive and negative aspects of group climate in (specialized) group care. Using this instrument on a regular basis can help group workers to better understand the dynamics in their group, enabling them to make continuous improvements as a team, thereby helping the children in their personal and social development.

Keywords Young children · Residential care · Group climate · Instrument · Validation

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1 Introduction

For young children with emotional and/or behavioural problems, in many cases treatment in the home setting is the best option, because of the right to family life, the availability of primary attachment figures, continuity of care, and being raised within a (culturally) familiar environment. Unfortunately, this is not always possible. Especially not when necessary resources are lacking within the family or social network of the child (Knoverek et al. 2013). Therefore, some children (temporarily) need specialized care from professional caregivers, which is usually offered in group settings. This care takes place either solely during daytime (specialized day care), or 24/7 when the child cannot live at home anymore, often due to lack of safety (Baker et al. 2007; De Swart et al. 2012; Preyde et al. 2011; Rock et al. 2015). In many of these cases, alternative care has been offered first, but without success. Especially in residential care, many children have already had several care transitions (Leloux-Opmeer et al. 2016).

When young children are referred to specialized group care, they often have been exposed to a lot of stress within their short lives already, sometimes coupled with child abuse and neglect, which may have resulted in emotional and behavioural disorders and/or complex trauma (Stith et al. 2009; Vachon et al. 2015). Unfortunately, this experienced stress will make them even more vulnerable to external negative influences, such as a hostile group atmosphere (Arden and Linford 2009; Belsky 2006; Bigras et al. 2010; Van der Helm et al. 2013), further adding to distorted social information processing and behavioural problems (Stams and Van der Helm *in press*).

The group care facility should provide a safe shelter and new developmental possibilities for the children (Van der Helm 2011) so that internalizing, externalizing and attachment problems will not increase (Johnson et al. 2006; Van den Bergh et al. 2011; Van den Dries et al. 2009). This should also help the child to develop secure and supportive relationships with adults and to engage in enjoyable and productive play with peers again (Bradley et al. 1986; Kangas et al. 2015).

1.1 Group Climate

In the past decades, the importance of improving residential group climate has become widely recognized (Moos 1974; Schubert et al. 2012; Tonkin 2015; Van der Helm 2011; World Health Organization 1953; Wright and Boudouris 1982). Group climate has recently been defined as “the quality of the social and physical environment in terms of the provision of sufficient and necessary conditions for physical and mental health, well-being, contact and personal growth of the residents, with respect for their human dignity and human rights as well as (if not restricted by judicial measures) their personal autonomy, aimed at recovery and successful participation in society” (Stams and Van der Helm *in press*).

Origins of creating a positive (open or caring) group climate for young children date back to Janusz Korczak, who lived from 1878 to 1942. He was a Polish educator and pediatrician who owned an orphanage home in Warsaw in the Second World War. Korczak wanted children to participate in the communities where they lived, including his Jewish orphanage, from the perspective of partnership between caregivers and children (i.e., respect and dialogue) instead of power (i.e., coercion): speaking *with* children instead of *to* them (Eisler 2000; Korczak 1929). Notably, Korczak’s orphanage had a children’s parliament, newspaper, and court, with the main sentence not punishment, but forgiveness,

applying to both children and caregivers (Berding 1995; Lifton 1988). Korczak is best known for giving his own life when, in 1942, German soldiers came to collect the orphans to transport them to the Treblinka extermination camp, and Janusz Korczak insisted on boarding on the train with them. This historical case illustrates the importance of partnership and dialogue with children in order to enhance their well-being, regardless of the complexity of a situation and the age of the child.

Later, several authors, such as Schubert et al. (2012), have underlined that group climate should be looked at from the youth's perspective. This focus is consistent with what Bronfenbrenner stated in his groundwork about the 'ecology of education': "What matters for development and behaviour is the environment *as it is perceived* rather than as it may exist in objective reality" (Bronfenbrenner 1976, p. 4).

Recent research shows that a positive group climate from the youth's perspective is associated with several positive outcomes, such as increased treatment motivation, better coping, more empathy, and less aggressive incidents (Heynen et al. 2016; Nelson and Trainor 2007; Schubert et al. 2012; Van den Tillaart et al. 2016; Van der Helm et al. 2014). Notably, most of the literature focuses on adults or adolescents (Zelechowski et al. 2013). The current study focuses on the perspectives of young children instead, because also for them group climate can be an important factor influencing treatment outcomes.

Dimensions by which group climate quality is monitored/measured vary between age groups. Therefore, we will explain more about the dimensions of group climate that are important for children. Most studies addressing group climate with regard to young children have been performed in schools and regular day care settings. Four basic goals as proposed by Riksen-Walraven (2004) give direction to what kind of 'open' educational environment should be offered to children in these settings. These goals are: 1) providing physical and emotional security, 2) personal development, 3) enhancing social skills, and 4) the development of values and norms. To reach these goals in specialized group care, caregivers must be sensitive and responsive to the attachment needs of mostly insecurely attached children (Merz and McCall 2010; Oliveira et al. 2014), thereby helping them to develop secure attachment relationships again (Baptista et al. 2013). Also, the children should be provided with clear structure and boundaries on the one hand for moral socialization (Gharabaghi 2008; Lauster et al. 2014; Omer 2004), and be stimulated to explore, make mistakes and learn on the other hand (Albers et al. 2010). Besides the dyadic relationship between caregiver and child, there should also be attention for the interactions between the children. For example, several studies have shown that socially excluded children had elevated cortisol levels due to stress, which poses a threat to their development (Buhs et al. 2006; Chen et al. 2015; Peters et al. 2011).

Negative group climate aspects, such as bullying or group workers being too controlling instead of supportive and responsive, often surface when damage has already been done (Laine et al. 2010; Repo and Sajaniemi 2015). Also, positive group climate aspects may be taken for granted after a while, whereas it would be good to value these more. This underlines the importance of regularly monitoring group climate quality from the children's point of view, and discussing the results among the staff as well as with the children. For this purpose, group climate questionnaires are increasingly being applied (for an overview, see Tonkin 2015), although not yet with young children, often because of their restricted cognitive abilities. However, in 2014 a group climate instrument for children aged 8 to 15 (GCIC 8–15) was developed and validated by Strijbosch et al. (2014). This instrument contains two scales. The first scale, positive

or ‘open’ climate, mainly represents receiving support from group workers, and possibilities for growth and autonomy development. The second scale, negative or ‘closed’ climate, expresses negative group atmosphere and interactions, such as chaos and lack of help from group workers and having nobody to rely on.

The GCIC 8–15 is now used in many youth care facilities in The Netherlands, Belgium, Germany, and other countries, which enables institutions to improve group climate. Still lacking is a comparable (child-report) instrument for children younger than 8 years. Such an instrument could be a valuable addition to other measurement methods for this young age group, such as physiological cortisol/stress measurements or observational instruments or questionnaires from the caretaker’s perspective, to evaluate group climate quality. Several researchers have argued that, notwithstanding the specific challenges related to early developmental stages, even young children are able to express themselves via a questionnaire (Bell 2007; Daly 2009), and can be stimulated in their autonomy by being involved more actively in daily processes and activities (Cashmore 2002; Leinonen and Venninen 2012).

1.2 The Present Study

The present study describes how the group climate instrument GCIC 8–15 (Strijbosch et al. 2014) was adapted for use with children aged 4 to 8 years who have their own age-specific developmental needs, and who need simpler wording and less items. In accordance with the outcomes of the validation study of Strijbosch et al. (2014), the questionnaire for children aged 4–8 years has two dimensions, namely positive (‘open’) and negative (‘closed’) group climate. Second, we tested the construct validity of this new instrument by means of a confirmatory factor analysis, and internal consistency reliability.

2 Method

2.1 Participants

The present study took place in 23 residential and semi-residential groups of 6 youth care organizations in the Netherlands. The sample contains questionnaire results of $N = 116$ children (78% boys, 22% girls). Mean age of the children was $M = 5.34$ ($SD = 1.29$). A total of 74% of the children received treatment in a group with other children aged 4 to 8 years, while 36% was in a group with children of a broader age range, from 4 up to a maximum of 12 years.

2.2 Ethical Approval

Institutional research ethics approval was granted from the Institutional Review Board of Just Youth Care, taking into account the ethical guidelines of the American Psychological Association, including adherence to the legal requirements of the study country. In order to obtain informed consent of participants, an information letter was sent to all parents or guardians of the children in the groups of interest, explaining that the results would be aggregated to the group level: their child’s results would therefore be anonymous. Children without written or verbal consent of the parents or guardians

were left out of the study, which pertained to less than 3% of the cases. Staff members (e.g., mentor) explained what the study was about to the children in their group, and the data were collected by well instructed research assistants.

2.3 Instrument

Group Climate Instrument for Children Aged 4 to 8 years (GCIC 4–8) This new instrument was based on the GCIC 8–15 (Strijbosch et al. 2014). The GCIC 8–15 consists of 14 items, and questions are rated on a 5-point Likert-type scale, ranging from 1 = *I do not agree* to 5 = *I totally agree*. Each item belongs to one of the two subscales positive ('open') or negative ('closed') climate.

To construct the GCIC 4–8, first the items of the GCIC 8–15 were changed into questions instead of propositions, for comprehensibility (e.g., "*Are group workers nice to you here?*" instead of "*Group workers are nice to me*"). Also, the original 5-point Likert scale was changed into a 3-point scale (1 = *not true*, 2 = *somewhat true*, 3 = *true*), consisting of "thumbs-up or down" pictures to enhance comprehension of the response categories.

Next, new items were added to reflect the age specific challenges such as attachment to adult caregivers (e.g., "*Is it possible to say anything that is on your mind to group workers?*"), and engaging in enjoyable and productive play (e.g., "*Do you play together with the other children here?*"). The set of questions was extended further, adding questions to measure the same topic, but with different wordings, to be able to test different formulations (e.g., "*Do you like playing here?*" as well as "*Is it nice to play here?*"). During a brainstorm session with eight field experts, a draft set of 40 items was judged for clarity, comprehensiveness, sensitivity, and practical relevance. Notably, consulting field experts in the construction phase of an instrument increases its ecological validity (Araújo et al. 2007). Some items were reformulated, and 20 items were dismissed because the alternative formulation was better, or because the items seemed to be too abstract or difficult for the young children (e.g., "*Can you do whatever you like in this group?*", "*Are the group rules very strict here?*"). A resulting list of 20 items formed the basis for the current validation study.

This questionnaire was administered as a little 'game' in one-to-one contact between the child and the research assistant. The questions were printed on cards and read aloud to the child, who could put it in the answer box of his/her choice.

2.4 Statistical Analysis

A confirmatory factor analysis (CFA) was performed in Mplus (Muthén and Muthén 1998) based on the sample of $N = 116$ children. This method was chosen because we wanted to test a predefined model with associated questions, in line with the scales of the GCIC for older children. Both the model's Chi-Square and fit-indices, which are insensitive to sample size (CFI, TLI, RMSEA), were used to examine model fit (Kline 2005). The following fit index cut-off values indicate good model fit: CFI > .95, TLI > .95, and RMSEA < .05 (Kline 2005). Whereas a non-significant Chi-Square indicates exact model fit, a ratio between the Chi-Square statistics and the degrees of freedom (df) that is lower than 2.5 indicates a close fit to the data (Hu and Bentler 1999).

Modification indices were consulted to examine if there were problems with the model that could be remediated. For instance, by allowing measurement errors to correlate or removing items. Items were removed when the factor loadings were below .30, if they did not significantly contribute to the factor solution (i.e., low R^2 and/or high error variances), and if they showed many significant correlated errors with other items that could not be explained by (for instance) specific item content or similar wording (Brown 2015; Gerbing and Anderson 1984). Reliability of the scales was assessed using Cronbach's alpha statistics.

3 Results

3.1 Construct Validity

Confirmatory Factor Analysis The 20 items were used as input for the confirmatory factor analysis in Mplus. A total of 12 items (see the correlations among these items, and their means and standard deviations in the Appendix Table 2) made it to the final confirmatory factor solution; 8 items belonging to the positive climate scale, and 4 items belonging to the negative climate scale (see Table 1). Several items were allowed to correlate in the model, as they were conceptually comparable (e.g. “*Is it nice to play here*” and “*Are the toys nice here?*”). The two factor model with these correlated errors (see Fig. 1) showed a good fit to the data, indicating construct validity of the GCIC 4–8: $\text{Chi-Squared} = 63.122$, $df = 50$, $p = .101$. The ratio between the Chi-Square statistic and the degrees of freedom was 1.26, which indicates a close fit to the data. The root mean square error of approximation (RMSEA) was .048, $CFI = .943$ and $TLI = .924$. This indicates a satisfactory to good model fit.

3.2 Internal Consistency Reliability

Reliability in terms of Cronbach's alpha was .72 for the positive climate scale, and .71 for the negative climate scale.

4 Discussion and Applications to Social Work

This study describes the development and validation of the Group Climate Instrument for Children 4 to 8 years old (GCIC 4–8). A confirmatory factor analysis showed an adequate fit of a two-factor model (positive and negative climate) to the child-reported data, which is an indication of construct validity. The two scales structure is consistent with the GCIC for children aged 8 to 15 (Strijbosch et al. 2014). Internal consistency reliability for both scales in the GCIC 4–8 was sufficient. These outcomes imply that even with young children it is possible to use a child-report instrument about group climate.

Comparing the positive climate scale of the GCIC 4–8 and that of the GCIC 8–15, we observe that the focus is similar and differences can be ascribed to the developmental stage of the children. In the group climate experience of young children their learning by (social) playing is reflected (e.g. “*Do you play together with the other children here?*”),

Table 1 Results from the confirmatory factor analysis of the GCIC 4–8

Items	Scale/Item	Standardised estimates for first order factors
Item No.		
Positive climate (alpha = .72)		
V1	Do you like it here?	.388
V2	Do group workers answer your questions?	.458
V3	Do you sometimes get cuddles from group workers?	.507
V4	Do group workers listen when you want to tell something fun?	.562
V5	Is it nice to play here?	.401
V6	Are the toys nice here?	.575
V7	Do you play together with the other children here?	.662
V8	Do the other children want to play with you?	.369
Negative climate (alpha = .71)		
V9	Do group workers get angry at you often?	.505
V10	Do some children beat you here?	.814
V11	Do some children bite you here?	.626
V12	Do some children bump in to you on purpose here?	.544

Items that are allowed to correlate in this model: V1 with V5, V5 with V6, and V5 with V8

and in that of children from age 8 is their (start of) understanding of the concept of goals (e.g., “*I feel that I am working on my goals here*”). Also, the items loading high on the positive climate scale for young children mainly pertain to receiving emotional support from group workers (e.g., “*Do group workers listen to you?*”), whereas the items of the scale for older children pertain to a broader spectrum of support, emotionally and/or task oriented (e.g., “*I can ask group workers for help when I need it*”). The main difference between the two versions is that the 8–15 version also contains items on trust and honesty in the group. For children aged 4–8, this was not regarded to be an explicit issue. Young children automatically (have to) rely more on their adult caretakers because they are extremely dependent on them (Belsky 2006). Also the negative climate scale of the GCIC 8–15 contains items on (dis)trust and nobody to rely on (e.g., “*You can trust everybody here*”; recoded to negative formulation), whereas in the 4–8 version the items of negative climate mainly pertain to concrete negative interactions within the group (e.g., “*Do some children beat you here?*”).

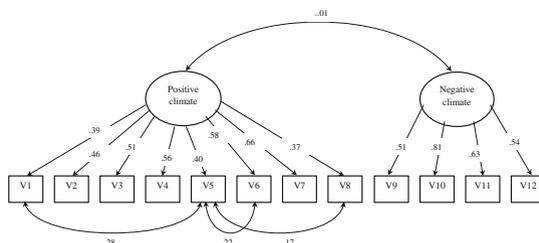


Fig. 1 Confirmatory factor analysis model for the GCIC 4–8, with standardized estimates

There is consistency between the GCIC 4–8 questionnaire and the basic group care goals mentioned by Riksen-Walraven (2004). The positive climate scale represents getting support from group workers, relating to the goal of *'physical and emotional security'*, and individual and social play of the child, relating to *'personal development'* and *'enhancing social skills'*. Only the basic goal of *'development of values and norms'* is not clearly covered by the GCIC 4–8. The draft set of questions contained items on structure, norms and boundaries (e.g., *"Do you get what you want when you are nagging?"*, and *"Are the group rules very strict here?"*), but these seemed to be too complicated for the young children to understand.

4.1 Limitations of the Study

The main limitation of this study is that there was no second measurement of the same construct (group climate measured by a different instrument) or a presumably related construct, such as treatment motivation, available in order to determine convergent or concurrent validity. There were no other self-report instruments available on these topics for such young children. Yet another limitation is the fact that the sample was not large enough to address measurement invariance, examining structural differences in answer patterns pertaining to possible age, age group (i.e., receiving treatment in a group with children aged 4 to 8 or 4 to 12 years) or gender differences. These are interesting topics for future research.

4.2 Implications for Policy and Practice

The GCIC 4–8 offers a valuable alternative for, or addition to, other measurement methods, such as observational instruments or questionnaires from the caregiver's perspective concerning group climate aspects. Taking into account the perspective of young children by means of child-report questionnaires when working on a positive group climate has hardly been done before in specialized group care settings. In addition, this questionnaire is relatively easy to use, as it only contains 12 items. Moreover, it can be fun and empowering for children to give their opinion about the group climate by playing a little 'game' (Cashmore 2002; Leinonen and Venninen 2012). At least, the latter appeared to be true for most of the children in the present study. No substantial problems occurred during the data collection, and children were very willing to cooperate. Only for some four year olds the questions were somewhat more difficult to understand, so research assistants took some more time to explain these questions to them. Discussing the most important outcomes with the children provided group workers with new insights, and offered an opportunity to bring up related issues. For example, some children said they did not understand why they could not live with their parents, or why they had to go to therapy. The group workers thereby realized that they had not focused enough on talking with children about these issues, and agreed that this was an important action to implement in order to improve individual treatments and the group climate.

Notably, given the fact that three out of the four general group care dimensions of Riksen-Walraven (2004) are covered by this questionnaire, and the questions are not merely confined to specialized care, it may be considered to apply this questionnaire also in general child group care. Also, the instrument may not only be suitable for children with normal intelligence aged 4 to 8 years, but also for older children with a mild intellectual disability and mental age of 4 to 8 years. We have seen in the past years that the GCIC 8–

15 can also be administered to adolescents with lower cognitive capacities. Finally, in order to obtain a more varicoloured view on group climate, the questionnaire can be combined with other measurement methods, such as observation (e.g., Harms et al. 1998).

4.3 Implications for Future Research

As children develop very fast between the ages of 4 and 8, it would be interesting to investigate with a larger dataset whether the questionnaire is measurement invariant for children of different ages. In addition, this could be examined for children in different age groups, and boys and girls. Also, attention should be paid to optimizing the reliability of the scales. One solution to further enhance the validity and reliability of the GCIC 4–8 could be the direct involvement of children themselves and possibly also their parents in the adaptation of the questionnaire, which diminishes the possibility of blind spots and increases both face validity and ecological validity, and therefore practical applicability (Bell 2007; Cashmore 2002).

4.4 Conclusions

Notwithstanding the limitations, this study has delivered an instrument to monitor the group climate experiences of children with a (mental) age of 4–8 years within specialized, and possibly also regular group care settings. Using this instrument on a regular basis can help group workers to better understand the dynamics in their group, enabling them to make continuous improvements as a team, thereby eventually helping the children in their personal and social development.

Appendix

Table 2 Items of the GCIC 4–8: Correlations, means and standard deviations

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	<i>M</i>	<i>SD</i>
V1	–											2.61	.65
V2	.27**	–										2.56	.69
V3	.20*	.13	–									2.36	.82
V4	.12	.32**	.26**	–								2.62	.61
V5	.41**	.10	.25**	.21*	–							2.82	.49
V6	.33**	.35**	.27**	.27**	.42**	–						2.72	.56
V7	.20*	.26**	.37**	.42**	.28**	.36**	–					2.64	.61
V8	.08	.09	.32**	.24*	.27**	.18	.24**	–				2.45	.70
V9	–.17	–.05	.14	.04	–.25**	–.10	.00	–.08	–			1.50	.68
V10	–.17	.04	.12	.05	–.12	–.01	.00	–.01	.42**	–		1.84	.81
V11	–.08	.05	.16	–.01	–.15	–.11	.02	–.09	.27**	.52**	–	1.58	.83
V12	–.02	–.06	.17	–.10	–.05	–.02	–.11	.11	.32**	.43**	.35**	1.88	.90

* $p < .05$; ** $p < .01$

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