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Exploring ways to build a positive group climate in residential care for 4-15 year old children

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Publication date

2018

Document Version

Other version

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Citation for published version (APA):

Strijbosch, E. L. L. (2018). *Group work in progress: Exploring ways to build a positive group climate in residential care for 4-15 year old children*.

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Children in Residential Care: Development and Validation of a Group Climate Instrument

Published as:

Strijbosch, E.L.L., Van der Helm, G.H.P., Van Brandenburg, M.E.T., Mecking, M., Wissink, I.B., & Stams, G.J.J.M. (2014). Children in residential care: Development and validation of a group climate instrument. *Research on Social Work Practice, 24*, 462-469. doi:10.1177/1049731513510045

ABSTRACT

Objective: This study describes the development and validation of the Group Climate Instrument for Children aged 8 to 15 years, which purports to measure the quality of group climate in residential care.

Methods: A confirmatory factor analysis was performed on data of 117 children in Dutch residential youth care. Reliability analysis was performed and concurrent validity was tested.

Results: An adequate fit of a two-factor model indicated construct validity of the GCIC 8-15. Reliability coefficients were good, and a significant correlation between perceived group climate and treatment motivation supported concurrent validity.

Conclusions: The GCIC 8-15 can be used to identify positive and negative aspects of group climate in residential youth care, and enables further group climate research with children.

INTRODUCTION

In the Netherlands around 42.000 children and adolescents are currently unable to live with their parents for various reasons. Problems are mostly related to problem behaviour of the child (anti-social, aggression) and/or to problems in the home situation, such as violence, abuse or neglect (Boendermaker, Van Rooijen, & Berg, 2012; Scholte & Van der Ploeg, 2006). More than 25.000 of these young people are living in a residential care setting (Jongepier & Struijk, 2008). In general, residential care is considered a 'last resort' when other approaches (e.g., foster care) have failed (Frensch & Cameron, 2002).

Like in other countries, residential youth care is a continuous subject of debate in the Netherlands. Residential treatment is the most intensive and costly component of all child care systems. Questions are raised about effectiveness, healthy child development and even possible harm done (Chor, McClelland, Weiner, Jordan, & Lyons, 2012; Frensch & Cameron, 2002; Scholte & Van der Ploeg, 2006; Sunseri, 2001, 2005). It is increasingly argued that psychometrically sound, client-guided monitoring instruments are needed in order to continuously evaluate the quality of residential care (Cunningham, Duffee, Huang, Steinke, & Naccarato, 2009; Kelley, Vides de Andrade, Sheffer, & Bickman, 2010; Lee & McMillen, 2008; Weisz et al., 2011), enabling improvements.

According to international treaties, if a child is taken out of his or her home environment, this should not be longer than necessary, and should serve developmental goals (Höfte, Van der Helm, & Stams, 2012). Trained group workers are mainly responsible for establishing a supportive climate within residential care settings, which is suited for optimal development (Pazaratz, 2000; Van der Helm, 2011). This is important, as these young children are extremely vulnerable and develop rapidly at the physical, affective and cognitive level. A negative climate in residential care could be detrimental for development (Frame, Berrick, & Brodowski, 2000).

In a residential living group, group workers temporarily take over parenting tasks. Child rearing and education in residential youth care are complex and demanding tasks, because many children do not stay in residential care voluntarily. They often resent being there, and remain loyal to their parents, even when they do not wish to be reunited with them (Sen & Broadhurst, 2011). It is therefore a great challenge for group workers to take on a parenting role and be sensitive and responsive to children's needs; especially when children show aggressive behaviour. It has been argued that a positive living group climate is a necessary condition to establish warm and nurturing caregiver child relationships in residential child and youth care (Chance, Dickson, Bennett, & Stone, 2010; Doroshov, 2012; Fulcher, 2001), but very little research has been conducted on living group climate in residential care for children and young adolescents (Marshall & Burton, 2010; Sovereign, Stams, & Van der Helm, 2013).

Living group climate

A positive or 'open' climate can be characterised by warmth and responsiveness from group workers, opportunities for development, and a safe and structured environment in which children and group workers treat each other with respect (Van der Helm, Stams, & Van der Laan, 2011). Maintaining an open group climate requires a balance between responsiveness and keeping order to maintain a structured environment. In other words, it is important that group workers combine therapeutic flexibility (needed for therapeutic goals) with control (to avert chaos and anarchy at the group) (Van der Helm et al., 2011). This turns out to be a fragile balance, as the group climate can readily turn into a 'closed' or repressive climate (Van der Helm & Stams, 2012).

A repressive or 'closed' group climate (Toch, 2008; Toch & Kupers, 2007) is characterised by an extremely asymmetric balance of power, great dependency on staff, lack of mutual respect, emphasis on incremental and haphazard rules and punishment ('chickenshit rules'), aggression, boredom, hopelessness, fear and lack of protection (Harvey, 2005; Liebling & Maruna, 2005; Little, 1990; Wright & Goodstein, 1989). A repressive group climate has been shown to correlate with stress, fear and distrust, and less empathy of both group workers and children (Fishbein & Sheppard, 2006; Nelson & Trainor, 2007; Miers, 2010; Wright, 1991).

Recent research has provided some first steps towards understanding the effects of living group climate on adolescents residing in residential facilities. Instrument development has contributed to gaining knowledge. Several staff/carer-report rating scales are available for residential care settings, with a focus either on the individual young person's functioning in the group (Tarren-Sweeney, 2007, 2012) or on the content of care provided by staff (Bastiaanssen et al., 2012). In their factor analysis, Bastiaanssen et al. (2012) found three constructs that can be regarded as important aspects of living group climate: 'controlling', 'warmth/support', and 'autonomy granting'. In addition to the staff/carer-report instruments, there are observation instruments. One example is the Staff Observation Form (Hurley et al., 2009), which assesses staff competence delivering interventions to youth in group home care, and which contains group climate related items, such as *'encourages youth to engage in positive interactions with peers'*. Self-report rating scales appear to be less commonly used in residential settings. The engagement instrument developed by Cunningham et al. (2009) is an example of such a scale for adolescents. The items of the instrument pertain to the young person's attitudes about their treatment, their relationship with staff, and their behaviour in the treatment group. Research on instruments concerning positive and negative aspects of group climate, not per se related to the individual's functioning, until recently, was limited mainly to studies performed in the 1970's in adult prisons.

Van der Helm et al. (2011) provided an overview of climate research in the 1970's, and found more or less the same dimensions recurring in several different instruments,

namely, 'support', 'growth', 'atmosphere' and 'repression'. The Prison Group Climate Instrument (PGCI; Van der Helm et al., 2011) was developed to assess group climate in youth prisons and secure residential treatment facilities, and it is based on these dimensions. The main difference compared to existing prison climate instruments, is that all items are meaningful in the context of living groups, and mainly focus on social interaction and treatment.

The PGCI was shown to have good validity and reliability, and is currently being used in more than 42 secure and non-secure institutions in the Netherlands. Translations of the Dutch questionnaire into several other languages (e.g., German, French, Papiamentu, Hindi and Tamil; see for an example Heynen, Van der Helm, Korebrits, & Stams, 2014) make it a widely used instrument to assess living group quality. Because of this, further research is enabled. As main dimensions of living group climate do not appear to be different for prisons and closed (secure) residential facilities, it is likely that the same dimensions also apply to open residential facilities with adolescents or even children. Items may differ, depending on the level of complexity and developmental tasks. So far, however, no group climate instrument suitable for children and young adolescents is available.

In recent climate research using the PGCI, among other instruments (Harder, 2011; Nijhof, 2010; Van der Helm, 2011), quality of group climate proved to be associated with several relevant outcome variables. For instance, a closed climate was found to be associated with negative developmental characteristics and aggression, whereas an open climate was related to positive social development (Van der Helm, Stams, Van Genabeek, & Van der Laan, 2012). These findings were supported by a recent study of Schubert, Mulvey, Loughran, and Losoya (2012), which showed perceived living group climate to be a main factor in reducing behavioural problems and recidivism in adolescents.

Little empirical research has been performed on group climate with children and young adolescents. Based on several international studies, Riksen-Walraven (2004) proposed four basic child care goals: providing physical and emotional security, personal development, enhancing social skills, and the development of values and norms. For children in the age of 8 to 15 the development of social contacts with peers, dealing with social problem situations, discipline and learning are important too (Matthys, 2000; Van der Helm et al., 2012a). In the present study these insights are taken into account.

The present study

The present study describes how the original PGCI climate questionnaire (Van der Helm et al., 2011) was adapted for use with children and young adolescents aged 8 to 15 years, and how construct validity for this new instrument was established by means of confirmatory factor analysis. In addition, we examined the association between living

group climate and treatment motivation in order to establish concurrent validity of the GCIC 8-15.

The study mostly took place in residential groups, but also semi-residential groups were included. Although the escalation levels of problem behaviour generally differs between residential and semi-residential care settings (Huefner, James, Ringle, Thompson, & Daly, 2010), and each kind of setting has its own climate characteristics, no substantial differences with regard to the concepts of group climate between residential and semi-residential care were expected beforehand.

A positive correlation between an open group climate and treatment motivation is expected because the two concepts are theoretically connected. That is, treatment motivation is defined as “a state of readiness or eagerness” to seek out help and work actively at a solution (Miller & Rollnick, 2012). To attain this state, some environmental conditions have to be met. These conditions have been described in motivational Self-Determination Theory (SDT; Deci & Ryan, 2000) and pertain to positive contact with others (relatedness), a perspective on attaining a better future (possibilities for growth) and a stable environment enabling a person to act for himself (autonomy). An open climate, characterised by support from others, possibilities for growth and autonomy (Van der Helm et al., 2011), is therefore thought to be connected with greater treatment motivation. Empirical evidence supporting this link has been found in previous studies (De Jongh, Van der Helm, & Stams, 2013; Van der Helm, Klapwijk, Stams, & Van der Laan, 2009). For example, Van der Helm et al. (2009) found that inmates felt better understood by group workers in an open group climate, where they were given ‘space’ to experiment. This perception of being understood was associated with greater treatment motivation and higher internal locus of control. A closed climate, characterised by a lack of contact and autonomy and a chaotic environment, is thought to result in less treatment motivation (Ros, Van der Helm, Wissink, Schaftenaar, & Stams, 2013; Van der Helm et al., 2012b; White, Shi, Hirshfield, Mun, & Loeber, 2009). Both theoretical connections (open climate and treatment motivation; closed climate and treatment motivation) are taken into account, testing concurrent validity in the present study.

METHODS

Participants

The sample consisted of 117 children (79 boys, 38 girls, age mean [M] = 10.8; standard deviation [SD] = 1.89, range = 7-15 years), belonging to 20 residential and 7 semi-residential groups, in three youth care organizations in the Netherlands. Of these children, 66% had a Caucasian white background, and 34% had a non-Caucasian background. All children had developmental and/or (severe) externalizing and/or internalizing behavioral problems, and the majority had an average or above average

IQ. Many of the children in the residential groups were admitted after failure of previous help attempts, such as home care or foster care. It is a very challenging group, in which attachment problems, violence, neglect, sexual abuse, and psychiatric problems of parents are common (Van IJzendoorn, 2008; Zegers, Schuengel, Van IJzendoorn, & Janssens, 2008). Residential groups in the present study concern living groups in which youths generally stay more than two years, as well as (general and specialised) treatment groups in which youths generally stay for one year or less. During data-collection, the mean length of stay in the current group was approximately 13 months.

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. Children without written or verbal consent of parents or guardians were left out of the study. Staff members (e.g., mentor) explained to the children in their group what the study was about, and the data were collected by well instructed research assistants.

Instruments

Group Climate Instrument for Children aged 8 to 15 years (GCIC 8-15)

This new instrument was based on the open and closed climate scales of the Prison Group Climate Instrument (PGCI) for adolescents and adults (Van der Helm et al., 2011). The PGCI consists of 37 items 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 three subscales for open group climate, being 'support', 'growth', and 'group atmosphere', or to the closed group climate scale 'repression'. These four basic dimensions were derived from extensive climate research in groups of adolescents and adults (Van der Helm et al., 2011).

For 8-15 year old children, many of the items had to be simplified (e.g., '*Group workers listen to me*' instead of '*Group workers pay attention to me and respect my feelings*'). Items were reformulated to suit younger children, and new items were added because they reflected the age specific challenges of developing social contacts and dealing with social problem situations better (e.g., '*Group workers are nice to me*' and '*I get annoyed by the noise that other children make*'). This resulted in a draft set of 48 items, which was judged for clarity, comprehensiveness, sensitivity, and practice relevance during a brainstorm session of three hours with eleven field experts (group workers from three residential youth care organizations) and three researchers. Consulting field experts in the construction phase of an instrument is a way to enhance ecological validity (Araújo,

Dauids, & Passos, 2007). During the brainstorm session, again, new items were added to the list, as the experts found that these were specifically relevant for this age group (e.g., *'I can laugh with the group workers'* and *'I can try things that are new to me'*). Several items were dismissed because they were too abstractly formulated for 8-15 year olds (e.g., *'Life is meaningful here'*). Other items were reformulated (e.g., *'I feel that I am working on my goals here'* instead of *'I work at my future here'*). This resulted in a new list of 54 items, which formed the basis for the validation study.

Adolescent Treatment Motivation Questionnaire (ATMQ)

This instrument was used to measure treatment motivation. The ATMQ (Van der Helm, Wissink, De Jongh, & Stams, 2013) consists of 11 items measuring the active phase of treatment motivation as a single construct. Answers are rated on a 3-point scale using little pictures of thumbs (thumb up or down) for better comprehension. An example of an item is *'It is good for me to be here'*. The questionnaire is suitable for adolescents with a mild mental retardation. It is therefore also supposed to be suitable for children starting from age 8. Van der Helm et al. (2012) reported good internal consistency reliability, with Cronbach's alpha of .84. The treatment motivation score is the mean score of the 11 ATMQ items; a higher score indicates greater treatment motivation.

Statistical analysis

The first statistical analysis was a principal component analysis (PCA, with Varimax Rotation) in order to examine whether the GCIC 8-15 would yield the same factor structure as the PGCI. Subsequently, a confirmatory factor analysis (CFA) was performed in Mplus (Muthén & Muthén, 1998) on the scales and items belonging to these scales derived from the PCA. 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 >.90, TLI >.90, 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 & Bentler, 1999). Concurrent validity was tested by computing Pearson's correlations between the two climate scales and the theoretically connected construct of treatment motivation. Reliability of all scales was assessed using Cronbach's alpha and Guttman's Lambda-2.

RESULTS

Construct Validity

Principal Component Analysis

The first analysis was a principal component analysis, with a Varimax rotated solution (see Appendix), which yielded two factors, replicating the second order scales of the PGCI, 'open climate' and 'closed climate'. However, the PGCI first order scales ('support', 'growth', 'atmosphere') were not replicated in the GCIC 8-15 data as separate factors.

Confirmatory Factor Analysis and Reliability

Of the original 54 items, 46 were used as input for the confirmatory factor analysis in Mplus; items that had a component loading below .40 were left out. A total of 14 items made it to the final confirmatory factor solution; 9 items belonging to the 'open climate' scale, and 5 items belonging to the 'closed climate' scale (see Table 1). The two factor model showed a good fit to the data, indicating construct validity of the GCIC 8-15. Chi-Squared = 89.29, $df = 76$, $p = .141$. The ratio between Chi-Squared and the degrees of freedom was 1.17, which indicates a close fit to the data. The root mean square error of approximation (RMSEA) was .039, CFI .980 and TLI .976.

Table 1. Results from confirmatory factor analysis of the GCIC 8-15.

Item No.	Scale/Item	Standardised estimates for first order factors
Open climate ($\alpha = .91$)		
V1	Group workers are nice to me	.848
V2	I trust the group workers	.861
V3	The group workers understand me	.791
V4	When I complain about something, this is being taken seriously	.745
V5	The group workers are honest	.770
V6	I feel that I am working on my goals here	.671
V7	In this group, there are always enough people to help me	.706
V8	Group workers stick to their promises	.606
V9	I can ask group workers for help when I need it	.521
Closed climate ($\alpha = .71$)		
V10	In this group, children trust each other	-.764
V11	You can trust everybody here	-.666
V12	The chaos in this group drives me crazy	.496
V13	There are too many children here	.471
V14	Group workers are often too busy to help me	.450

Reliability in terms of Cronbach's alpha was .91 for the 'open climate' scale; Guttman's Lambda-2 was .92. For the 'closed climate' scale, Cronbach's alpha was .71 and Guttman's Lambda-2 was .69. In the present study, a Cronbach's alpha of .76 and Guttman's Lambda of .78 were found for the ATMQ. This was somewhat lower than found by Van der Helm et al. (2012), but still good.

Table 2. Means, standard deviations and correlations between perceived group climate and treatment motivation.

	<i>M</i>	<i>SD</i>	(2)	(3)
Open climate (1)	3.54	1.01	-.36***	.64***
Closed climate (2)	3.15	.90		-.14
Treatment motivation (3)	2.17	.43		

*** $p < .001$.

Concurrent Validity

Concurrent validity was assessed by computing correlations between both climate scales and treatment motivation. There was a positive and significant correlation between 'open climate' and 'treatment motivation': $r = .64$, $N = 97$, $p < .001$. No significant correlation was found between 'closed climate' and 'treatment motivation'. Table 2 shows the correlations between the two scales of group climate, and treatment motivation.

DISCUSSION

This study describes the development and validation of the Group Climate Instrument for Children and young adolescents aged 8 to 15 years (GCIC 8-15). A confirmatory factor analysis showed an adequate fit for a two-factor model ('open climate' and 'closed climate'), which indicates construct validity. The positive correlation found between open climate and treatment motivation partly supports concurrent validity. Reliability for all scales was good. The open climate scale represents trust, honesty and getting help from group workers, whereas the closed climate scale expresses distrust, restlessness, chaos, lack of help from group workers and nobody to rely on.

Discovering that the 'open' and 'closed' climate dimensions are found not only in secure residential care for adolescents, but also in open residential care for children and young adolescents, brings us one step closer to a standardised instrument that can be used to measure group climate in different kinds of youth care settings, or even child care in general. Notably, the items that were found to represent the group climate according to the children and young adolescents in the present study, correspond with the four basic child care goals formulated by Riksen-Walraven (2004): providing physical and emotional security, personal development (working on goals), enhancing

social skills, and the development of values and norms. If the GCIC 8-15 turns out to be suitable in a broader range of care setting besides residential youth care, this can facilitate group workers to learn about and improve group climate aspects, working together with different colleagues in the field.

Open climate consisted of only one scale instead of three in the original PGCI questionnaire ('support', 'growth' and 'group atmosphere'; Van der Helm et al., 2011). A possible explanation may be found in the age of the respondents. Lower age is associated with less cognitive complexity and less differentiation, which may therefore account for the bipolar climate construct.

Although open climate proved to be positively associated with treatment motivation, we did not find a negative association between closed climate and treatment motivation. Therefore, only partial support for concurrent validity was established. An explanation for this unexpected finding may also be found in the age of the youths. The closed climate scale of the original PGCI mainly contains items about repression by group workers. However, children and young adolescents seem to perceive closed climate more in terms of the trouble and annoyance they encounter in their relationships with other children in the group (Uliando & Mellor, 2012). Only one item in the closed climate scale directly refers to group workers acting negatively. It is plausible to suggest that experiencing a closed climate in terms of negative peer interactions will not stop children from being motivated, as long as group workers are still supportive enough.

Notwithstanding the above, the closed climate scale appears to underrepresent repression from group workers. This would imply supplementing the closed climate scale with items measuring repression from group workers and staff. In the present study eleven field experts (i.e., group workers) were involved in the development process of the GCIC 8-15. In future improvements of the closed climate scale, a next step could be to actively involve (e.g., interviewing) children and young adolescents in order to uncover more of their ideas on repression by group workers and staff. Adding items about repression may lead to optimisation of reliability and construct validity of the closed climate scale. Notably, involving children in the assessment of group climate would be advantageous for the participation of children and young people in residential care (Cashmore, 2002; Daly, 2009).

Cultural issues could impact the use of the GCIC 8-15 outside the Netherlands. First steps to explore the effects of culture have already been taken by De Backer, Van der Helm, Wissink and Stams (2013), who conducted a validation study of the GCIC 8-15, translated in Hindi and Tamil, with 145 children living in several residential care units in India. In this study, the open and closed climate scales proved to be valid and reliable, despite the different cultural contexts. For example, within residential care in India there is often very little attention for fun/playing, and children from the lower castes have

very little to say. More research into these and other possible cultural issues with regard to group climate is recommended.

The development of the GCIC 8-15 was not without limitations. First, the sample was too small to examine measurement invariance in a multi-group factor analysis that distinguishes between the two sexes, age groups (e.g., 8-10, 10-12 and 12-15), and different care settings, testing the equality of the factor solution in these different groups. In addition, more proof for concurrent validity can possibly be found when examining the relations between group climate and problem behaviours and aggression incidents. Predictive validity could not be established yet. Future studies should, for instance, test whether group climate predicts future successful adaptation of the children.

Despite these limitations, the GCIC 8-15 appears to be a valuable instrument for group social workers in residential care facilities. Measuring group climate can support teams who are trapped in a cycle of daily incidents and hostile behaviour (Ros et al., 2013). More generally, the instrument can be used to monitor quality of youth group care and training of group workers.

To conclude, the present study provides preliminary evidence for the validity and reliability of the GCIC 8-15. Confirmatory factor analysis and reliability analyses showed that the open and closed climate scales can be used to validly and reliably assess group climate within residential care for children and young adolescents in the ages 8 to 15. More research is recommended in order to further improve the closed climate scale. Also, suitability of the GCIC 8-15 in a broader range of care settings, including semi-residential youth care and general child care, should be further explored. Finally, conducting validation research in several other (non-western) countries will help to address the possible cultural issues in using this instrument on a wider scale.

APPENDIX

Pattern matrix of the two factor solution for the GCIC 8-15.

	Component	
	1. open climate	2. closed climate
Group workers make time for me	.861	
Group workers are nice to me	.849	
I trust the group workers	.837	
I can laugh with the group workers	.810	
The group workers listen to me	.794	
The group workers take me seriously	.790	
The group space looks homelike	.783	
There is nothing to do here	-.753	
The group workers understand me	.749	
I feel good here	.742	
The group workers are honest	.737	
Group workers are into doing fun things with me (football, game, watching tv, drawing, etc.)	.730	
When I complain about something, this is being taken seriously	.689	
The group workers give me attention without having to ask for it	.688	
In this group, there are always enough people to help me	.684	
The group workers encourage me to try new things	.680	
I feel that it is good for me to be here	.667	
I feel that I am working on my goals here	.662	
Group workers stick to their promises	.661	
What I learn here, will help me when I am outside	.649	
When I have a problem, there is always somebody I can turn to	.637	
When something is not permitted, group workers will explain why	.612	
I can try new things	.603	
I can be alone for a while if I want to	.593	
I can get some privacy in this group	.590	
If I want something, this is possible	.583	
Group workers listen to me, even when I am angry	.566	
I can ask group workers for help when I need it	.552	
I feel safe here	.550	
We have nothing to do here	-.545	
I can choose what I want to do in the group	.542	
I am sleeping well here	.535	
I am learning here to use social skills outside the group	.515	
I get some piece of mind at the group	.509	
We talk about the group with the group workers	.477	.404
I feel fine here	.470	

Pattern matrix of the two factor solution for the GCIC 8-15. (Continued)

	Component	
	1. open climate	2. closed climate
In this group, children trust each other	.460	
The food is nice here	.439	
I can give my opinion about what I prefer to eat	.438	
The group is a place where I can be myself	.437	
I know enough people outside the group		
I am allowed to give my opinion about the rules here		
I can try things that are new for me		
I feel fine being in this group		
Whatever group workers want, happens		
The chaos in this group drives me crazy		.809
There are too many children here		.668
I get annoyed by the noise that other children make		.621
Group workers are often too busy to help me		.587
You can trust everybody here		-.504
I am afraid for other children in the group		.487
Exceptions on the group rules are possible here		
You have to ask permission for everything		
I feel restless here		

Note. Values below .40 are left out of this table. Extraction method: Principal Component Analysis. Rotation method: Varimax with Kaiser Normalisation.

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