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Group climate and empathy in a sample of incarcerated boys

G.H.P. van der Helm, M.SC<sup>1</sup>

Leiden University of Applied Sciences (School of Social Studies).

G.J.J.M Stams, Ph.D

University of Amsterdam (Department of Forensic Child and Youth Care Sciences).

J.C. van der Stel, PhD

VU University Amsterdam & Leiden University of Applied Sciences (School of Social Studies)

M.A.M. van Langen, MsC

University of Amsterdam (Department of Forensic Child and Youth Care Sciences).

P.H. van der Laan, Ph.D

VU University Amsterdam & the Netherlands Institute for the study of Crime and Law Enforcement

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<sup>1</sup> Address correspondence to: Peer van der Helm, Leiden University of Applied Sciences, School of Social studies. P.O. Box 382,2300 AJ Leiden, The Netherlands, Email: helm.vd.p@hsleiden.nl



**Abstract**

The present study examined the influence of group climate on empathy in a Dutch youth correctional facility in a sample of 59 incarcerated delinquent boys. Higher levels of empathy have been shown to be associated with less delinquent and more prosocial behaviour, and may therefore be vital for successful rehabilitation and recidivism reduction. Although empathy was originally considered to be a trait, recent neurobiological research has shown that empathy has state-like properties in that levels of empathy change in response to the social environment. The present study showed that differences in group climate were associated with cognitive empathy in juvenile delinquents, but not with affective empathy. It is speculated that inmates' state-depressive feelings and anxiety could diminish the effects of prison group climate on affective empathy. The discussion focuses on group dynamics in youth correctional facilities. A positive prison group climate in a youth correctional facility could turn out to be a major factor contributing to effectiveness of secure institutional treatment.

**Key words:** Group climate; youth correctional facility; empathy

## Introduction

Juvenile delinquency and recidivism constitute serious problems in society (Loeber & Farrington, 1998). In order to attend to these problems, incarcerating adolescent delinquents in Dutch society and in most Western societies not only serves the goals of punishment and deterrence, but is also aimed at treatment and rehabilitation (Gatti, Tremblay, & Vitaro, 2009; Liebling & Maruna, 2005). Adolescents in Dutch youth correctional facilities are treated in living groups consisting of eight to ten youngsters, supervised by trained social workers. Yet little is known about the effectiveness of treatment in secure facilities (Camp & Gaes, 2005; Garrido & Morales, 2007; Van der Helm, Boekee, Stams, & van der Laan, in press; Parhar, Wormith, Derkzen, & Beauregard, 2008). In their review of group processes in offender treatment, Marshall and Burton (2010) concluded that characteristics of the therapist, therapeutic alliance and group climate constitute major mechanisms of effective treatment with juvenile offenders, and that more research on group processes is needed in offender treatment given the limited body of research in this area.

In their meta-analysis, Jolliffe and Farrington (2004) have shown delinquent youth to exhibit less empathy than non-delinquent youth (see also: Smith & Farrington, 2004; de Wied, Goedena, & Matthys, 2005; Lovett & Sheffield, 2007). Results were stronger for cognitive empathy (*understanding* of another's emotions) than for affective empathy (*experience* of another's emotions), although the relation between affective empathy and delinquency remains equivocal (Jolliffe & Farrington, 2007). This finding is of major importance, because empathy is thought to be a motivational base for moral development (Eisenberg & Eggum, 2009). In a recent meta-analysis, Van Vugt et al. (in press) showed more advanced moral development in terms of both moral emotion and moral cognition to be associated with lower recidivism rates, with the largest mean effect size for moral judgment. The findings of this meta-analysis concur with results from the meta-analysis by Stams et al. (2006), who showed that delay in moral judgment is strongly associated with juvenile delinquency.

*Empathy*

Recent studies of the social brain have shown that empathy is affected by the social environment (Batson, 2009; Decety & Lamm, 2006; Knafo, Zahn-Waxler, Van Hulle, Robinson, & Rhee, 2008; Zahn-Waxler, 2010). People respond to their social environment by mimicking other's behavioural cues and synchronization of one's behaviour with others, possibly leading to emotion sharing and empathy (Decety & Ickes, 2010; Decety & Meyer, 2008; Decety & Cacioppo, 2010; Hassin, Uleman & Bargh, 2005). These behavioural cues are processed in a subconscious direct and very fast 'emotional' way in the amygdalae in order to be able to act in a split second (Anderson, Christoff, Panitz, De Rosa, & Gabrieli, 2003; Reis & Gray, 2009). This behavioural activating system (the 'fast lane') is geared towards rewards without much thoughts about consequences and connects from the amygdalae direct to the motor areas. Because the prefrontal cortex is still underdeveloped in adolescents, this 'fast lane' is especially a feature of the adolescent brain (Blakemore, 2008; Crone & Westenberg, 2009). This is possibly why adolescents are even more sensitive to their social environment than adults are (Frey, Ruchkin, Martin, & Schwab-Stone, 2009).

*Treatment and group climate in a youth correctional facility*

In a youth correctional facility, the social environment has been described in terms of group climate, which can be relatively open (rehabilitative) or closed (repressive, Van der Helm et al., 2009). A structured, safe and rehabilitative environment at the living group is designated as an 'open' climate (Van der Helm, Stams, & van der Laan, in press). An open group climate, with sufficient support from group workers, ample opportunities for growth and a safe atmosphere is thought to foster affiliation, perspective taking and empathy (Barrett & Wager, 2006).

A closed or repressive group climate (Toch & Kupers, 2007, Toch, 2008; Van der Helm et al., in press) 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; Little, 1990; Wright & Goodstein, 1989). A repressive group climate with permanent danger signals in the immediate environment will result in stress, aggression, fear and distrust, reducing empathy (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschell, 2001; Fishbein & Sheppard, 2006; Miers, 2010; Nelson & Trainor, 2007; Wright, 1991).

The present study examines the relation between group climate and empathy in a sample of incarcerated delinquent boys. We hypothesize that an open group climate in a youth correctional facility, characterized by support from group workers, ample opportunities for growth and a safe atmosphere, will be associated with more empathy (hypothesis one), but a closed (repressive) living climate will be associated with less empathy (hypothesis two).

## Method

### Participants

The present study was conducted in a Dutch youth correctional facility. The population consisted of 59 boys. The mean age of respondents was 17.4 years ( $SD = 1.79$ ) and the mean length of stay was 10 weeks ( $SD = 2.3$ ). Most boys were reoffenders (86%) with theft (38%), violence (23%) and a combination of both theft and violence (32%) as the main offense types. All adolescents voluntarily agreed to participate in this study, signed an informed consent declaration and were told that their answers would be treated confidentially and anonymously and would be accessed only by the researchers. Data were collected during the winter holiday week in the correctional facility in order not to interfere with daily routine. The response rate was 90%. Two boys refused to participate and two were unable because of disciplinary measures. As a token of gratitude for their participation, all boys received a telephone card of €2.50. All names on the questionnaires and interview transcripts were deleted and given a code number in SPSS. In order to protect the privacy of the adolescents,

researchers had no access to the names. Questionnaires were administered by specially trained graduate students of the Leiden School of Social Studies (Bachelor of Social Work and master Youth care) and the University of Amsterdam (Department of Forensic Child and Youth Care Sciences).

### *Measures*

*Prison Group Climate (PGCI, van der Helm, Stams & van der Laan, in 2011).* Items from the PGCI were derived from existing instruments measuring prison climate and adapted for specific use at the living group level. The PGCI consists of 37 items rated on a five-point Likert-type scale, ranging from 1 = 'I do not agree' to 5 = 'I totally agree'. Each item belongs to only one of the four scales for group climate. This factor structure showed adequate model fit in a confirmatory factor analysis. The support scale (12 items) assesses professional behaviour and in particular the responsiveness of group workers towards specific needs of the inmates. Paying attention to inmates, taking complaints seriously, respect and trust are important characteristics of support. An example of a support item is: 'group workers treat me with respect'. The growth scale (9 items) assesses learning perceptions, hope for the future and giving meaning to prison stay. An example for a growth item is: 'I learn the right things here'. The repression scale (7 items) assesses perceptions of strictness and control, unfair and haphazard rules and lack of flexibility at the living group. An example of a repression item is: 'You have to ask permission for everything here'. The group atmosphere scale (7 items) assesses the way inmates treat and trust each other, feelings of safety towards each other, being able to get some peace of mind and having enough daylight and fresh air. An example of a relationship item is 'We trust each other here'. Scores on each scale were obtained by computing the average of the items belonging to the scale. The four factors proved to be reliable, with internal consistency reliabilities of Cronbach's  $\alpha >.77$ . Cronbach's alpha for the overall climate scale was .82 (4 items), and was a summation of the four subscales divided by four. The PGCI was cross-validated, using in-depth interviews with juvenile

delinquents that corroborated quantitative data obtained with the PGCI (Van der Helm et al., 2009).

In the present study, we found no significant correlations between socially desirable answering, assessed with the social desirability scale of the Burke-Durkee Hostility Inventory -Dutch (BDHI=D, Lange et al. 1995), and the climate scales. Currently, the PGCI is used in 24 secure juvenile institutions in the Netherlands for research purposes. Preliminary results of an ongoing longitudinal study ( $N = 64$  inmates) show a relation between open and repressive climate and aggression after a period of 6 months. The correlations were  $r = .34$  ( $p < 0.05$ ) and  $r = -.26$  ( $p < 0.05$ ), respectively (Van der Helm & Stams, 2011). These results may be considered indicative of the predictive validity of the PGCI.

*Basic Empathy Scale (BES).* The BES (Jolliffe & Farrington, 2006) was developed using four basic emotions (anger, sadness, fear and happiness, Power & Dalgleish, 1997) and was translated into Dutch and validated for the Netherlands by Van Langen, Wissink, Stams, Asscher, and Hovee (2010) in a general population sample of  $N = 1789$  adolescents. The instrument consists of 20 items measuring cognitive (9 items) and affective (11 items) empathy. An item measuring cognitive empathy was: 'I can see when my friends are afraid' and an item measuring affective empathy was: 'When I am with friends who are afraid, I feel afraid too'. Jolliffe and Farrington performed a confirmatory factor analysis in their validation study among 720 adolescent school children and found a satisfactory fit for the two-factor model and satisfactory reliability (cognitive empathy  $\alpha = .79$  and for affective empathy  $\alpha = .85$ ). Van Langen et. al. replicated their study with 1789 adolescent school children and found comparable results (a two-factor solution and alpha's for cognitive empathy of .72 and affective empathy .81). In the present study, we found no significant correlations between social desirability, assessed with the BDHI (see the previous paragraph), and cognitive and affective empathy.

## Results

### *Preliminary analyses*



Table 1 presents the means, standard deviations of the four group climate dimensions and cognitive and affective empathy as well as the associations among these variables. Juvenile delinquents reported lower affective empathy ( $M=2.7$ ,  $SD=.61$ ) than cognitive empathy ( $M= 3.5$ ,  $SD=.73$ ): paired samples t-test,  $t(51) = 6.37$ ,  $p = 0.00$ ). The empathy scores can be compared with normative data from the BES validation study in the Netherlands that was carried out in a general population sample of adolescent boys and girls (Van Langen et al., 2010). Adolescent boys' mean scores for affective empathy ( $M = 3.02$ ,  $SD = .65$ ,  $N = 957$ ) and cognitive empathy ( $M = 3.80$ ,  $SD = .57$ ,  $N = 957$ ) were significantly higher in the validation study than in the present study: for affective empathy  $t(1014) = 3.68$ ,  $p < .01$ ; for cognitive empathy  $t(1014) = 3.85$ ,  $p < .001$ . The effect sizes (Cohen's  $d$ ) for the differences in affective and cognitive empathy between the validation study and the present study were .49 and .52, respectively, that is, medium. Table 1 further shows that support and atmosphere were positively associated with cognitive empathy (both  $r = .27$ ), whereas repression was negatively associated with cognitive empathy ( $r = -.28$ ). Associations among the four climate scales were in the expected direction, with repression showing a negative relation with the other three climate scales ( $-.28 < r < .73$ ).

### *Structural equation modelling*

To investigate relations between prison group climate scales and cognitive empathy a structural equation model was fitted to the data using the statistical software package Amos 18. We chose only to present the best-fitting model. Cognitive empathy was the dependent variables. Fit-indices (CFI, TLI, and RMSEA<sup>2</sup>) and the model Chi-Square, also designated as the generalized likelihood ratio, were used

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<sup>2</sup> NFI (Normed Fit Index), CFI (Comparative Fit Index), TLI (Tucker-Lewis Index) and RMSEA (Root Mean Square Error of Approximation) are indices of goodness of fit that are independent of sample size. Models that fit well score favourably on these fit-indices. For further references see Arbuckle (2007).

to evaluate model fit (Kline, 2005). The following cut-off values are indicative of close model fit: NFI<sup>3</sup> and CFI > .90, TLI > .95 and RMSEA < .06, whereas a non-significant Chi-Square indicates exact model fit (Hu & Bentler, 1999; Arbuckle, 2007; Kline, 2005).

The model showed an exact fit to the data when using a null hypothesis significance test:  $X^2(8) = 9.0, p = .34$ . Fit indices that are less sensitive to differences in sample size than the Chi-square test (Sivo et al, 2006) showed a close fit to the data: NFI= 0.91; CFI= 0.98; TLI = 0.96; RMSEA = 0.046. It can be derived from Figure 1 that repression is negatively related to cognitive empathy ( $p = 0.01$ ). Support is positively related to cognitive empathy ( $p = 0.03$ , one tailed significance). The relation between atmosphere and cognitive empathy was only marginally significant ( $p = 0.06$ , one tailed significance) and could therefore be considered a trend.

### Discussion

This study showed prison group climate in terms of support, repression and atmosphere (a trend) to be associated with cognitive empathy. No association, however, was found between growth and cognitive empathy. Moreover, none of the four climate dimensions proved to be associated with affective empathy. The discussion focuses on the meaning of the results for secure institutional treatment and directions for future research.

The absence of a relation between growth and cognitive empathy could reflect the social state status of the empathy construct, as support, repression and atmosphere pertain to social interaction and growth to personal development. Lack of associations between prison group climate and affective empathy may be attributed to numb affect in criminal boys who used to live on the streets in a harsh, competitive environment where showing affect could be considered a weakness (Anderson, 2000, De Jong, 2007). There is empirical evidence showing that a 'stiff upper lip', showing reactance or 'playing

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the system' (Harlamolos & Holborne, 1995; Little, 1990) enhances status among juvenile delinquent boys (Van der Helm, Klapwijk, Stams, & van der Laan, 2009).

In the present study, delinquent boys rated lower on affective empathy than on cognitive empathy, which may not only be accounted for by negative peer influences within prison, but also by high levels of depression among incarcerated boys (White, Shi, Mun, Hirschfeld & Loeber, 2010). A post hoc analysis, again using single items from the same Big Five personality questionnaire, showed rumination, boredom, hopelessness, and lack of contact with the outside world to be negatively associated with affective empathy ( $-.33 < -39, p < 0.01$ ). In sum, fear and depression in a youth correctional facility could result in numb affect, explaining the lack of associations between the four prison group climate dimensions and affective empathy.

Marshall and Burton (2010) called for more research on group process in offender treatment. The present study adds to the limited body of research examining the possible effects of group climate as a process variable facilitating treatment and positive outcomes. It was found that a favourable group climate was positively associated with cognitive empathy, but not with affective empathy in young incarcerated offenders. The positive association with cognitive empathy seems important, as Jolliffe and Farrington (2004) found cognitive empathy to be related to delinquency in their meta-analysis of empathy and offending. Moreover, Van Vugt et al. (in press) conducted a meta-analysis of moral development and recidivism, showing that moral cognition was more strongly related to recidivism ( $r = .20$ ) than moral affect ( $r = .10$ ), which is in line with Jolliffe and Farrington's meta-analytic results. Based on our study results, we argue that interventions targeting empathy development in young offenders need the context of a positive group climate, and should account for the possibility that depression and anxiety in juvenile offenders may hamper the development of affective empathy.

There are some important limitations of this study that need to be acknowledged.

The small sample size and the inclusion of only one youth correctional facility hamper the generalizability of the study findings. Although we found no indication of social desirability bias in the self-report scales, we cannot rule out a general tendency of juvenile offenders to give socially desirable self- and other- descriptions (Breuk et al., 2007; Van der Helm et al. 2009). Further, the sample size was too small to allow multi-level analysis in order to account for dependency of measurements in hierarchically structured data (e.g. inmates are nested into living groups). Notably, the neglect of statistical dependency results in chance capitalisation and the risk of spurious research findings. Because of this and other limitations the results of our study should be interpreted with great caution.

The present study is probably one of the first quantitative studies with criminal adolescents to examine the relation between group climate and empathy in a youth correctional facility. As the present study only provides preliminary evidence of associations between a positive prison group climate and empathy, results should be replicated in a prospective, longitudinal study that allows for the examination of contextual effects by means of multi-level analysis. Nevertheless this study opens the way to further research into the effectiveness of group interventions with incarcerated boys and possibilities of recidivism reduction. A positive prison group climate in youth correctional facilities could turn out to be a major factor contributing to effectiveness of secure institutional treatment.

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Table one: correlations n = 59

	M	SD	support	growth	repression	atmospher e	cognitive empathy
support	2.8	0.94					
growth	3.1	0.98	.73***				
repression	3.3	0.76	-.28*	-.29*			
atmosphere	3.2	0.88	.63**	.62**	-.30*		
cognitive empathy	3.5	.73	.27*	.15	-.28*	.27*	
affective empathy	2.7	.61	-.016	.15	-.21	.050	0.1

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  (one-tailed significance)

figure one: sem-model



