



How group climate in forensic and secured mental health is related to patients' treatment motivation

N.P.M.J Koeyvoets, A Van Dam & L.M.A Van Loon

To cite this article: N.P.M.J Koeyvoets, A Van Dam & L.M.A Van Loon (2024) How group climate in forensic and secured mental health is related to patients' treatment motivation, The Journal of Forensic Psychiatry & Psychology, 35:2, 259-277, DOI: [10.1080/14789949.2024.2324805](https://doi.org/10.1080/14789949.2024.2324805)

To link to this article: <https://doi.org/10.1080/14789949.2024.2324805>



© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 09 Mar 2024.



Submit your article to this journal [↗](#)



Article views: 945



View related articles [↗](#)



View Crossmark data [↗](#)



OPEN ACCESS



How group climate in forensic and secured mental health is related to patients' treatment motivation

N.P.M.J. Koeyvoets^{a,b}, A Van Dam^{b,c} and L.M.A Van Loon^b

^aResearch and Innovation, 4mb For Mind and Behavior, Roosendaal, Netherlands; ^bGGZ WNB Mental Health Institute, Research and Innovation, Halsteren, Netherlands; ^cTranzo Scientific Center for Care and Welfare, Tilburg University, Tilburg, Netherlands

ABSTRACT


Motivation is an important factor for successful treatment. Unvoluntary treatment conditions forced by law influence motivation negatively. To optimise motivation in these settings, this study aimed to examine whether group climate (GC) is related to motivation and whether the fulfilment of the basic psychological needs (BPN) as described in the Self Determination Theory (SDT) might explain this relationship. Participants ($n = 60$) were inpatients from two forensic and one secured mental health-care unit. Participants completed questionnaires including GC, BPN, and motivation scales. Demographic information was collected in their personal files. Correlation analyses showed that there was more treatment motivation when participants perceived a chance to learn (GC 'growth' ($r = .27, p < .05$)) and perceived flexibility and fairness (GC 'repression' ($r = .30, p < .05$)). The results showed insufficient support for BPN as mediators. However, autonomy did correlate significantly with both growth ($r = .50, p < .01$) and repression ($r = .27, p < .05$), as well as motivation ($r = .47, p < .01$). These results imply that creating prospect, hope for the future, using fair rules and be autonomy-supportive are important factors to pay attention to in reaching optimal motivation in these difficult treatment settings.

ARTICLE HISTORY Received 23 April 2023; Accepted 23 February 2024

KEYWORDS Group climate; treatment motivation; self determination theory; forensic psychology; compulsory treatment

Introduction

Motivation is a major concern in almost every psychological treatment setting when it comes to changing mind or behaviour (Ryan & Deci, 2017). Within unvoluntary treatment setting, motivation becomes even more complex. Dutch law provides several options to unvoluntary admit patients in residential mental health care. Under criminal law, individuals

CONTACT N.P.M.J. Koeyvoets  n.koeyvoets@4mb.nl

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

who have committed a serious crime and cannot be held (completely) accountable due to a mental disorder can be sent to a forensic secure unit in a mental health-care institution as a measure or as part of their sentence. Reducing the risk of recidivism for the safety of society is the main goal of forensic mental health care (Ministerie van Justitie en Veiligheid, 2019). Despite continued research to improve treatment, recidivism rates are still high; 36.9% of the patients who are admitted to forensic health care, commit a new crime within 2 years after treatment (Drieschner & Tollenaar, 2021). Under civil law, individuals in whom a psychological disorder results in behaviour that may lead to serious harm for themselves or for others mandatory treatment may be imposed (Ministerie van Volksgezondheid Welzijn en Sport, 2020). Patients who are placed under civil or criminal law, are in need of intensive care in a secure setting due to severe behaviour and mental health problems in terms of required intensity of treatment and level of security.

These coercive measures, like legal status, are not entirely related to the patients perceived coercion (Jaeger & Rossler, 2010). In fact, even voluntary patients can report high levels of perceived coercion. Szmukler and Appelbaum (2008) describe a spectrum of treatment pressure: 1) persuasion, 2) interpersonal leverage, 3) inducements, 4) threats and final 5) compulsory treatment (in the community or as an inpatient) which can all lead to different levels of perceived coercion. A commonly used instrument for examining perceived coercion is the Admission Experience Survey (AES) developed for the MacArthur Coercion Study (Golay et al., 2017). Lower levels of perceived coercion relate to a higher treatment satisfaction (Katsakou et al., 2010), whereas high levels can damage the therapeutic relationship (Theodoridou et al., 2012). It has been shown that different variables in treatment influence how patients perceive coercion. For example, being treated with fairness, concern, and respect reduces the perception of coercion even in compulsory treatment, whereas threat and physical force increases this (Jaeger & Rossler, 2010).

Although it is legally possible to admit patients to mental health care and offer them compulsory treatment, this does not mean that patients are motivated and ready to engage in treatment (Drieschner & Verschuur, 2010). Miller and Rollnick (2012) considered treatment motivation to be a state of readiness or eagerness to seek out help and work actively on a solution. Research of Roest et al. (2016) showed higher scores for treatment motivation for adolescents receiving treatment in an open facility than for adolescents in secure care facilities and youth prisons. In forensic risk assessment, the presence of treatment motivation is indicated as a protective factor (De Vries Robbé et al., 2011) and the lack of treatment motivation as a risk factor for recidivism (De Vogel et al., 2013). Although treatment motivation has been the subject of many studies, it is still a difficult concept to define.

Drieschner et al. (2004) tried to unravel the concept motivation, after which they developed a questionnaire to measure motivation in forensics patients (Drieschner & Boomsma, 2008a). They argued that treatment motivation should be defined as the patients' willingness to make the efforts necessary for his treatment, or putting it differently, the motivation to engage in treatment (MtET). They described six determining factors: 1) level of suffering, 2) outcome expectancy, 3) problem recognition, 4) perceived suitability of the treatment, 5) perceived costs of treatment and 6) perceived external pressure. These internal factors can, for example, be reflected in the motivation for disclosure and in the commitment for session attendance and continuation of the treatment, especially when treatment becomes more difficult (Drieschner & Boomsma, 2008a). But motivation is not only affected by internal factors, external factors also have an important influence. In several studies (Drieschner & Boomsma, 2008a; Ryan et al., 2008) it is shown that internal factors that determine the development of motivation are affected by external factors such as treatment characteristics, external circumstances, life events, demographic features and the type of problem people need treatment for. Some of these external factors are static and cannot be influenced. For example, a life event such as loss of a family member, or an imposed compulsory treatment (Jochems et al., 2014). Others involve more dynamic factors offering the opportunity to affect them with interventions to enhance MtET, such as the quality of the therapeutic relationship (Jochems et al., 2017). Therefore, this research focuses on dynamic external factors that are present in secure, forensic units which can potentially be affected by interventions.

An obviously present external factor in a forensic or compulsory inpatient treatment is the secured unit where these patients stay in a group accompanied by the staff of the unit and the interactions between all of them. In the literature, various terminology is used to describe these group interactions such as group climate, social climate, ward climate, or ward atmosphere. Group climate (GC) has long been viewed as a potentially important factor underlying the efficacy of psychiatric inpatient facilities (World Health Organisation, 1953). Moos and Houts (1968) were the first to study ward climate in general psychiatric settings and showed that there is a whole range of dimensions which differentiates between wards. Hence, this must be taken into account in ward descriptions. Beazley and Gudjonsson (2011) studied a psychiatric ward with mostly male patients (83%, $n = 60$), diagnosed with schizophrenia-spectrum and/or personality disorders. They used the Patient Motivation Inventory (PMI) to measure motivation and the Ward Atmosphere Scale (WAS, 97 items) to measure social ward climate and showed that a positive ward atmosphere predicted more MtET. The measurement of GC has also been the subject of research in prisons and in secure forensic settings. Tonkin (2016) reviewed

questionnaire measures for assessing the social climate in prisons and forensic psychiatric hospitals. Based on 85 included articles, studying a total of 12 social climate questionnaires, he emphasises social climate should be seen as a multidimensional rather than a unidimensional construct. Group Climate Inventory (GCI (27 items)) was one of the questionnaires reviewed and was described as a recently developed questionnaire with promising psychometric results which compromises in terms of length and complexity.

Previous research of Van der Helm et al. (2011) showed that a more positive open GC has a positive influence on the development of juvenile patients. An open or positive GC is considered as a qualitative better GC than a closed GC and is characterized by high support, clear opportunities for personal growth, a structured and safe environment and there is balance between flexibility in regulations and organisational needs for control towards patients. In contrast, a closed or repressive GC is characterized by an oppressive atmosphere and excessive control. There is more rivalry, aggression and insecurity among groupworkers and patients and a lack of mutual respect (Neimeijer et al., 2019; Van Der Helm et al., 2013). It was found that an open GC is associated with stabilisation, lower levels of aggressive behaviour and higher levels of internal locus of control (i.e. belief that one can control one's own life) in patients (De Decker et al., 2018; Neimeijer et al., 2021; Van der Helm et al., 2009). Previous research of Van der Helm et al. (2014, 2018) in a youth correctional facility shows that an open GC is positively associated with treatment motivation. In sum, there is evidence that an open GC correlates with better treatment motivation. However, research mainly focused on juvenile settings. That raises the question whether these findings are generalisable to adult forensic settings and adult secure treatment settings. This is the first study focusing on GC and MtET in an adult secure treatment setting.

Assuming that an external dynamic factor as GC correlates with MtET raises the question of which internal factors are involved and might explain this relationship. The Self Determination Theory (SDT) may provide a hypothesis for this. This theory posits the existence of three basic psychological needs (BPN), namely: autonomy, relatedness, and competence. Autonomy refers to the need to be the originator of one's actions and desire for volition and choice. Competence refers to the need to feel capable of achieving desired outcomes, whereas relatedness is the need to feel close to and understood by others (Ryan & Deci, 2017). The fulfilment of these psychological needs is said to be universally essential for human thriving, it has an increasing effect on starting with changing behaviours and holding on to it (Ryan et al., 2008). In contrast, when these needs get frustrated, motivation reduction, maladjustment, and even psychopathology is supposed to be the possible outcome (Ryan & Deci, 2000; Ryan et al., 2016; Vansteenkiste & Ryan, 2013).

A study of Van der Helm et al. (2018) examined GC and treatment motivation and hypothesised the SDT as a theoretical frame. They found in secure residential and forensic youth care that a positive GC during the first month predicted greater treatment motivation 3 months later. However, there were no measurements of the fulfilment of the BPN autonomy, competence, and relatedness. They suggest further research measuring the BPN. In this study, we hypothesise that an open positive GC in adult secure residential and forensic care is positively related to MtET. Second, we hypothesise that this relationship is mediated by the level of fulfilment of the BPN described by SDT. Ultimately, these results may identify possible targets for enhancing motivation to improve treatment outcome and reduce criminal recidivism.

Method

Participants

In this cross-sectional correlational study, we invited patients of three different secure units of a mental health institution to participate. Two of the secure units were forensic units, one focusing on patients with mild intellectual disabilities ($IQ > 70$). The third unit was a secure unit where patients received mostly compulsory medical care mandated by civil law. The only inclusion criteria was being admitted to one of these units. There were no exclusion criteria. Of the 75 patients who were formally asked to participate in this study, 60 decided to take part (response rate 80%). The majority of the participants were male (80%), patients on a forensic unit (70%) and involuntary admitted (87%). Of the participants, 8% were in a transitional phase in terms of coercion as their legal title had ended and they still had to stay on the unit waiting for a follow-up residence (see Table 1). Due to high co-

Table 1. Sample characteristics ($n = 60$).

Characteristics		<i>n</i> (% of sample)
Gender	Male	48 (80)
	Female	12 (20)
Legal title	Forensic	38 (64)
	Compulsory medical care	14 (23)
	Legal title ended/transitional phase	8 (13)
Diagnosis	Addiction problems	40 (66)
	Psychosis spectrum	28 (46)
	Personality disorder	24 (40)
	Mild intellectual disability	13 (22)
	Affective disorder	10 (16)
	Trauma related disorder	7 (12)
	ADHD	6 (10)
	Anxiety disorder	5 (8)
	Autism spectrum disorder	5 (8)

morbidity in this population, all diagnoses were registered and clustered into main categories, for example, addiction problems, personality disorder and psychotic spectrum disorders.

Procedure

All respondents participated voluntarily, signed an informed consent declaration, and were assured that their answers would be treated confidentially and processed anonymously. Participants received printed questionnaires with a return envelope. After filling out questionnaires, participants returned the sealed envelope in a box on the ward. Data on participants' characteristics were obtained from their patient file. At the end of the study, to improve response, participants could receive a reward when they completed the questionnaires: a gift card to spend at the local cafeteria/shop on institution grounds. Participants who already participated in the study and still stayed in the institution also received this reward. The study protocol was approved by the Committee of Science and Research of the mental health institution.

Measures

Group climate

GC was measured with the revised Group Climate Instrument (GCI, see [appendix](#)), which in the revised version has been adjusted and validated for individuals with mild intellectual disability and borderline intellectual functioning (Neimeijer et al., 2019; Van der Helm et al., 2011). It is a self-report questionnaire consisting of 29 items rated on a 5 point Likert scale, ranging from 1 = I do not agree to 5 = I totally agree, which serve four subscales: support, growth, repression and atmosphere. The quality of the GC is measured by means of the total scale as well as the four subscales. Higher scores reflect a more open and positive GC. The support subscale (11 items) assesses the responsivity of the group workers towards the needs of participants, including giving attention to participants, taking complaints seriously and providing respect and trust. The growth subscale (6 items) assesses the degree to which participants feel they learn, gain hope for the future and comprehend the benefit of their stay at the ward. The repression subscale (7 items) assesses the experience of strictness and control, unfair and coincidental rules and a lack of flexibility in the living group. The atmosphere subscale (5 items) assesses the degree to which participants trust one another, feel safe and secure towards one another (both clients and group workers), are able to find rest and receive sufficient daylight and fresh air. In the present study, reliabilities were good (support $\alpha = .88$, growth $\alpha = .85$, repression $\alpha = .73$, atmosphere $\alpha = .66$ and overall GC $\alpha = .92$), which corresponds to findings from previous studies (support $\alpha = .88$, growth $\alpha = .79$,

repression $\alpha = .64$, atmosphere $\alpha = .76$ and overall GC $\alpha = .92$ (e.g. Neimeijer et al., 2019).

Motivation to engage in treatment (MtET)

Treatment motivation was measured using the Motivation to engage in Treatment scale (MET, see [appendix](#)). This scale is part of the questionnaire Treatment Motivation Scales for Forensic Outpatient Treatment (TMS-F). The MET scale addresses the patient's motivation for several subcategories of treatment engagement, which are considered of primary importance in forensic outpatient treatment. These subcategories are 1) commitment for session attendance and continuation of the treatment, especially in case of obstacles, emotional strain, or dissatisfaction with aspects of the treatment; 2) readiness to make sacrifices in terms of money, social life, pleasurable activities, and emotional burden; 3) motivation for disclosure and 4) readiness to make treatment efforts in between sessions. The scale consists of 16 items rated on a 5-point Likert scale, ranging from 1 = totally disagree to 5 = totally agree. The reliability of this scale is good ($\alpha = .88$ in Drieschner & Boomsma, 2008b), which we also found in this study ($\alpha = .88$).

Basic psychological needs

The questionnaire Basic Psychological Need Satisfaction and Frustration Scale – Intellectual Disability (BPNSFS-ID, see [appendix](#)) was used to measure both satisfaction and frustration of the three BPN as defined in the SDT namely autonomy, relatedness and competence. The questionnaire consists of 24 items, eight for each need and per need four aimed at satisfaction and four aimed at frustration. All items were rated on a 5-point Likert scale, ranging from 1 = completely untrue to 5 = completely true. The reliability of this scale is good ($\alpha = .92$ in Frielink et al., 2019), which was also found in this study ($\alpha = .89$).

Statistical analyses

An a priori power analysis was conducted using G*Power version 3.1.9.7 (Faul et al., 2007) to determine the minimum sample size required to test the study hypothesis. Results indicated the required sample size to achieve 80% power for detecting a medium effect, at a significance criterion of $\alpha = .05$, was $n = 89$ rather than the $n = 60$ we achieved. This means there is a chance of a type II error, and thus a failure to find an effect which is present.

Data management and analyses were performed using SPSS 26.0. Subscale regression of the GCI was recoded so all scores pointed in the same direction (the higher the score, the more open the GC). Mean and standard deviation of the main variables were calculated. Pairwise correlations (Pearson's) were

calculated between sex, age, months on ward, the GCI total scores and subscales, the MET total score and the BPNFNS-ID total score and subscales. Separate regression analyses were conducted for each predictive factor to test for relationships between GC and MtET. Only for the significant relationships found with regression, a mediation analysis was performed using PROCESS in SPSS, using model 4 (Hayes, 2017).

Results

The mean and standard deviations of the study variables are shown in Table 2 as well as the correlations among these variables. The age of the patients was between 20 and 67 years, with a mean age of 41.22 years ($SD = 12.1$). The mean duration of stay was 7.65 months ($SD = 9.57$), with a range between 1 and 42 months.

There were no significant correlations between the covariates age, sex or months on ward and the main outcome variable MtET. Neither were there correlations between the covariates age, sex or months on ward and the independent variable GC (both total score and separate subscales), except for months on ward and the GC subscale repression ($r = .286, p < .05$), so the longer the staying on the unit the less repression patients perceived.

A significant correlation was found between the GC subscale growth and MtET ($r = .268, p < .05$) and between the GC subscale repression and MtET ($r = .299, p < .05$). Separate regression analyses confirmed that only the subscale growth ($\beta = .20, p = .04$) and repression ($\beta = .27, p = .02$) were related to MtET (see Table 3). The more patients feel they learn and the more hope they gain for the future, the better their MtET. When they experience less repression in GC by perceiving more flexibility in GC and fewer strictness and control, the more motivation they have to engage in treatment.

Significant correlations were found between GC scores and BPN, ranging from $r = .27 (p < .05)$ to $r = .52 (p < .01)$ (see Table 2). The more patients perceive an open GC, the more they feel their BPN are fulfilled. We only found a significant correlation between the basic psychological need autonomy and MtET ($r = .47, p < .01$). The more patients perceive autonomy, the more they are motivated to engage in treatment.

In mediation analyses regarding growth, the unstandardised regression coefficient was reduced from $b = .196$ (= path C/total effect) to $b = .069$ (= path C'/direct effect) (see Figure 1). This reduction was not significant since the confidence interval of the indirect effect included zero (indirect effect: $b = .127, 95\%-CI: -.031/.248$), despite the significant relations between growth and autonomy ($b = .339^{**}$) and between autonomy and MtET ($b = .426^{**}$). For repression, the reduction in this unstandardised regression coefficient from $b = .296$ (= path C/total effect) to $b = .202$ (= path C'/direct effect) (see Figure 2)

Table 2. Group climate, treatment motivation, basic psychological needs and co-variates: means, standard deviations, and correlations.

	N	M	SD	1	2	3	4	5	6	7	8	9	10
Age	60	41.22	12.11	.123	.156	.099	-.056	.164	-.029	-1.21	.102	-.270*	-.159
Sex	60	1.20	.40	.066	.099	.062	-.169	.193	.162	-.130	-.073	-.001	-.237
Months on ward	60	7.65	9.57	.169	.161	.054	.051	.286*	.049	-.110	-.037	.048	-.257
1. GCI total	59	3.54	.71	-	-	-	-	-	-	-	-	-	-
2. GCI support	57	3.80	.85	.921**	-	-	-	-	-	-	-	-	-
3. GCI growth	59	3.56	1.05	.873**	.749**	-	-	-	-	-	-	-	-
4. GCI atmosphere	60	3.47	.90	.608**	.359**	.507**	-	-	-	-	-	-	-
5. GCI repression	57	3.04	.84	.785**	.698**	.526**	.351**	-	-	-	-	-	-
6. MET	59	2.58	.79	.247	.088	.268*	.234	.299*	-	-	-	-	-
7. BPNSEF-ID total	59	3.36	.61	.457**	.331*	.454**	.515**	.261*	.347**	-	-	-	-
8. BPNSEF-ID autonomy	59	3.03	.75	.460**	.313*	.492**	.514**	.266*	.465**	.837**	-	-	-
9. BPNSEF-ID relatedness	57	3.86	.69	.265*	.204	.297*	.255	.127	.246	.762**	.474**	-	-
10. BPNSEF-ID competence	57	3.27	.91	.391**	.292*	.326*	.461**	.245	.146	.848**	.528**	.438**	-

* $p < .05$.

** $p < .01$.

Table 3. Regression analyses.

	Motivation to Engage in Treatment (MET)				
	β	R ²	F	t	p
GCI total	.27	.06	3.63	1.91	.06
GCI support	.08	.01	.43	.66	.52
GCI growth	.20*	.07*	4.33*	2.08*	.04
GCI atmosphere	.21	.06	3.32	1.82	.07
GCI repression	.27*	.09*	5.38*	2.32*	.02

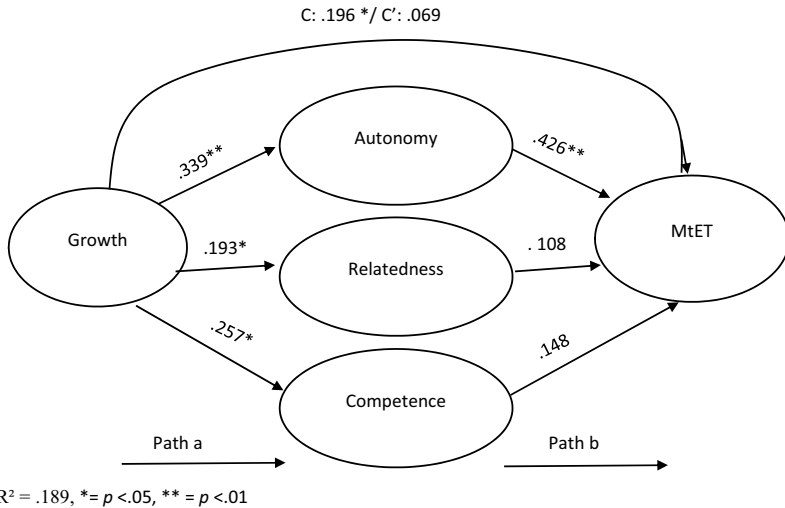


Figure 1. Mediation model of basic psychological needs explaining the relationship between growth and motivation to engage in treatment.

was also not significant since the confidence interval of the indirect effect included zero (indirect effect: $b = .067$, 95%-CI: $-.062/.179$).

Discussion

The aim of this study was to investigate whether perceived GC by adult patients on a forensic or secured mental health care unit relates to their MtET. Our results show that a more open GC is indeed related to MtET: when patients perceive more opportunities for personal growth and see hope for the future, and when they perceive less repression in GC, they are more motivated to engage in treatment. This is in line with a previous study of Van der Helm et al. (2018) in Dutch secure youth facilities and forensic youth care institutions and shows that this relationship is also present in an adult group of patients. These results are hopeful as GC seems to be a variable that can be affected by interventions in contrast to offence-related guilt, for

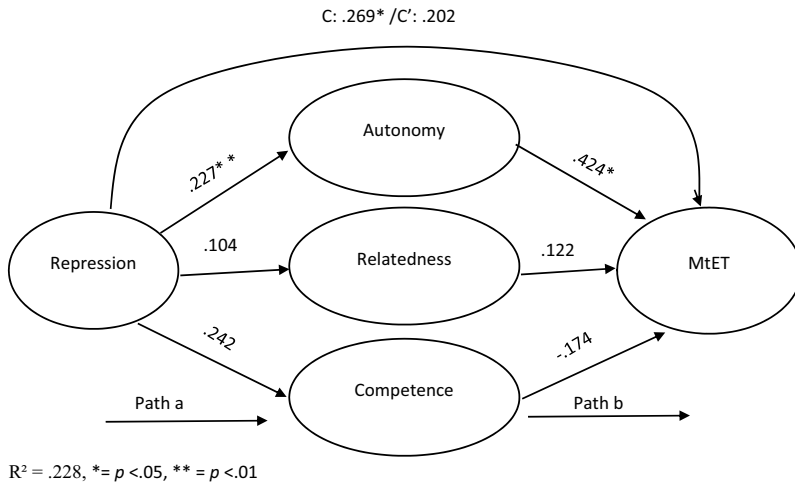


Figure 2. Mediation model of basic psychological needs explaining the relationship between repression and motivation to engage in treatment.

example, which was found to positively correlate with motivation to engage in treatment (Fuller et al., 2019). There are several interventions that can be thought of to improve GC's growth and reduce GC's repression. For example, involve the patient and staff together in establishing unit rules and review and revise them periodically, so patients can have a voice and experience fairness in the rules and regulations, which can also influence their perceived coercion (Jaeger & Rossler, 2010). Or formulate after-treatment or future goals together with the patient, so that the goals match their needs and give hope for the future, and integrate them in the treatment program (Turley et al., 2013). What might also be valuable, is to celebrate individual success of growth by certificates or ceremonies. That can be an extra confirmation they can achieve their goals. And involving role models (ex-patients) who can tell about their personal journey can strengthen their hope for the future (Bennett & Shuker, 2018).

Although growth and repression seem to play an important role, the other subscales measuring GC, social support and atmosphere, did not relate to MtET. A possible explanation for not finding an association between perceived social support and MtET in our adult sample could be that adults and adolescents differ in their psychosocial development stage. Erikson (1963) describes that when there is a stagnation in the development in earlier stages this may result in problems in adulthood, like having problems forming close relationships or seeking social support. Another explanation may be that there are a considerable number of patients in the sample with an antisocial personality disorder (ASPD), or

traits of it. Symptoms include failure to conform to law, manipulation of others for personal gain, deception of others and failure to develop stable interpersonal relationships (American Psychiatric Association, 2013). So limited skills to relate to others could explain why social support and also atmosphere are not related to motivation in this target group. Also, relatedness might not be a basic psychological need that these patients want to fulfill in general. It could also be that cultural differences influence these results. In a study of Sevilir et al. (2020), it was found that adolescents with a Turkish or Moroccan background in residential youth care experience less support compared to native Dutch adolescents. We did not add this variable in our study so no conclusions could be made.

Our results also show that a more open GC leads to more fulfilment of all the BPN. But only the fulfilment of autonomy relates to more MtET. Our finding that only autonomy is related to motivation for treatment is in line with findings of Vansteenkiste et al. (2020) that depending on individuals' personality, they may differently be sensitised to the benefits associated with need satisfaction. It is not surprising that autonomy is the most important BPN in this sample where participants are known for antisocial behavior. Several studies showed that insecure attachment and need for autonomy are related in this population (Allen et al., 2002; Bekker et al., 2007).

Strengths and limitations

The present study is the first to examine the association between GC and MtET on adult forensic treatment units and secured residential mental health care units, investigating the BPN of the SDT as a possible explanation for the hypothesised relation.

However, there are some limitations to this study that need to be acknowledged. A main limitation is the small sample size ($n = 60$). A larger sample size may be needed to see whether there would be a significant mediation effect of autonomy, as we did find direct relations between autonomy with both group climate and motivation. And it gives the opportunity to differentiate more in this varied sample. Because of the small sample size and the diversity in the sample group we have to be cautious by generalising these results.

Another limitation is that there was only one measurement moment. To infer causality and its direction, a longitudinal study with a repeated-measures design could be done given the assumption that GC and motivation are dynamic factors that can change over time (Lamberti et al., 2014, Jochems et al., 2018). Also, causality can be inferred with an experimental design to examine the effect of an intervention targeting GC on MtET. For example, an intervention on group level is to give staff feedback about the GC reported by patients, making GC an explicit topic in their work.

A last limitation is that GC and MtET were only measured by self-report questionnaires. This entails the risk that perspective of the patients is just a reflection of their psychopathology and the risk of receiving socially desirable responses. Adding questionnaires for staff, interviewing patients as well as staff and observations of the GC should be used in future research. Previous research has only been found regarding validating the MtET-questionnaire in out-patient groups. However, there is no indication that the MtET-questionnaire would not be a suitable scale to measure motivation in in-patients groups as our results are in line with other research (Van der Helm et al., 2018).

Implications for research and practice

Next to a larger sample size, it would be interesting for future research to get more insight in the perception of GC and motivation in different phases of the treatment period. It might be that the perception of GC at start of the treatment has a stronger relationship with motivation later in the treatment period, as previous research showed (Van der Helm et al., 2018). It is also recommended to investigate variables such as history on a secured unit and perceived coerciveness. When people have a long history of staying on a secured unit, or in prison, they can get hospitalised or prisonised which can lead to pseudocompliance and can be related to MtET (Danzer & Wilkus-Stone, 2015). The same applies to perceived coerciveness, although the treatment is enforced it can vary how patients perceive this coerciveness, which might be related to MtET (Lamberti et al., 2014).

Our study showed that GC as well as BPN and motivation differ in various target groups. This should be taken into account in practice and is subject for future research in order to improve forensic and compulsory treatment. A promising development for improving practice is a UK program in prisons called Psychological Informed Planned Environments (PIPEs). Kuester et al. (2022) describe how this specific intervention may improve GC : ‘Staff members have additional training to develop an increased psychological understanding of their work. They aim to maximise ordinary situations and to approach these in a psychologically informed way, paying attention to interpersonal difficulties for example, those issues that might be linked personality disorder. This is developed through six core components, including the development of an Enabling Environment, a combination of structured groups between staff and residents, focused PIPE keywork, socially creative sessions and training, supervision and reflective sessions for staff.’ An Enabling Environment may therefore be supportive for an open or positive GC. In conclusion, our study showed that a more open or positive GC is related to MtET, in

which more opportunity for growth and less repression seem to play an important role.

Acknowledgements

We would like to thank the participants for their cooperation.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Allen, J. P., Marsh, P., McFarland, C., McElhaney, K. B., Land, D. J., Jodl, K. M., & Peck, S. (2002). Attachment and autonomy as predictors of the development of social skills and delinquency during midadolescence. *Journal of Consulting & Clinical Psychology, 70*(1), 56. <https://doi.org/10.1037/0022-006X.70.1.56>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*. (5th ed.). Author.
- Beazley, P., & Gudjonsson, G. (2011). Motivating inpatients to engage with treatment: The role of depression and ward atmosphere. *Nordic Journal of Psychiatry, 65*(2), 95–100. <https://doi.org/10.3109/08039488.2010.502244>
- Bekker, M. H., Bachrach, N., & Croon, M. A. (2007). The relationships of antisocial behavior with attachment styles, autonomy-connectedness, and alexithymia. *Journal of Clinical Psychology, 63*(6), 507–527. <https://doi.org/10.1002/jclp.20363>
- Bennett, J., & Shuker, R. (2018). Hope, harmony and humanity: Creating a positive social climate in a democratic therapeutic community prison and the implications for penal practice. *Journal of Criminal Psychology, 8*(1), 44–57. <https://doi.org/10.1108/JCP-06-2017-0030>
- Danzer, G., & Wilkus-Stone, A. (2015). The give and take of freedom: The role of involuntary hospitalization and treatment in recovery from mental illness. *Bulletin of the Menninger Clinic, 79*(3), 255–280. <https://doi.org/10.1521/bumc.2015.79.3.255>
- De Decker, A., Lemmens, L., Van der Helm, P., Bruckers, L., Molenberghs, G., & Tremmery, S. (2018). The relation between aggression and the living group climate in a forensic treatment unit for adolescents: A pilot study. *International Journal of Offender Therapy and Comparative Criminology, 62*(7), 1821–1837. <https://doi.org/10.1177/0306624X17712347>
- De Vogel, V., de Vries Robbé, M., Bouman, Y. H. A., Chakhssi, F., & de Ruiter, C. (2013). *HCR-20V3 historical, clinical, risk management (versie 3): Richtlijnen voor het beoordelen van het risico van geweld*. De Forensische Zorgspecialisten.
- De Vries Robbé, M., de Vogel, V., & de Spa, E. (2011). Protective factors for violence risk in forensic psychiatric patients: A retrospective validation study of the SAPROF.

- International Journal of Forensic Mental Health*, 10(3), 178–186. <https://doi.org/10.1080/14999013.2011.600232>
- Drieschner, K. H., & Boomsma, A. (2008a). The treatment motivation scales for forensic outpatient treatment (TMS-F) construction and psychometric evaluation. *Assessment*, 15(2), 224–241. <https://doi.org/10.1177/1073191107311650>
- Drieschner, K. H., & Boomsma, A. (2008b). Validation of the treatment motivation scales for forensic outpatient treatment (TMS-F). *Assessment*, 15(2), 242–255. <https://doi.org/10.1177/1073191107311651>
- Drieschner, K. H., Lammers, S. M., & van der Staak, C. P. (2004). Treatment motivation: An attempt for clarification of an ambiguous concept. *Clinical Psychology Review*, 23(8), 1115–1137. <https://doi.org/10.1016/j.cpr.2003.09.003>
- Drieschner, K., & Tollenaar, N. (2021). Recidive tijdens forensische zorgtrajecten 2013–2017. Retrieved 11 september 2022 from <https://repository.wodc.nl/bitstream/handle/20.500.12832/3090/Cahier-2021-18-volledige%20tekst.pdf?sequence=1&isAllowed=y>
- Drieschner, K. H., & Verschuur, J. (2010). Treatment engagement as a predictor of premature treatment termination and treatment outcome in a correctional outpatient sample. *Criminal Behaviour and Mental Health*, 20(2), 86–99. <https://doi.org/10.1002/cbm.757>
- Erikson, E. H. (1963). *Childhood and society* (2nd ed.). Norton.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. <https://doi.org/10.3758/BF03193146>
- Frielink, N., Schuengel, C., & Embregts, P. J. (2019). Psychometric properties of the basic psychological need satisfaction and frustration scale–intellectual disability (BPNSFS-ID). *European Journal of Psychological Assessment*, 35(1), 37–45. <https://doi.org/10.1027/1015-5759/a000366>
- Fuller, J., Tapp, J., & Draycott, S. (2019). Are guilt and shame in male forensic patients associated with treatment motivation and readiness? *Criminal Behaviour and Mental Health*, 29(2), 111–121. <https://doi.org/10.1002/cbm.2105>
- Golay, P., Semaili, I., Beuchat, H., Pomini, V., Silva, B., Loutrel, L., Thonney, J., Fassasi Gallo, S., Morandi, S., & Bonsack, C. (2017). Perceived coercion in psychiatric hospital admission: Validation of the French-language version of the MacArthur admission experience survey. *BMC Psychiatry*, 17(1), 1–8. <https://doi.org/10.1186/s12888-017-1519-4>
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- Jaeger, M., & Rossler, W. (2010). Enhancement of outpatient treatment adherence: Patients' perceptions of coercion, fairness and effectiveness. *Psychiatry Research*, 180(1), 48–53. <https://doi.org/10.1016/j.psychres.2009.09.011>
- Jochems, E. C., Duivenvoorden, H. J., van Dam, A., Mulder, C. L., & van der Feltz-Cornelis, C. M. (2018). Testing the integral Model of treatment motivation in outpatients with severe mental illness. *Motivation and Emotion*, 42, 816–830. <https://doi.org/10.1007/s11031-018-9708-0>
- Jochems, E. C., Duivenvoorden, H. J., Van Dam, A., Van der Feltz-Cornelis, C. M., & Mulder, C. L. (2017). Motivation, treatment engagement and psychosocial outcomes in outpatients with severe mental illness: A test of self-determination theory. *International Journal of Methods in Psychiatric Research*, 26(3), 1537. <https://doi.org/10.1002/mpr.1537>

- Jochems, E. C., Mulder, C. L., Duivenvoorden, H. J., van der Feltz-Cornelis, C. M., & van Dam, A. (2014). Measures of motivation for psychiatric treatment based on self-determination theory: Psychometric properties in Dutch psychiatric outpatients. *Assessment*, 21(4), 494–510. <https://doi.org/10.1177/1073191113517928>
- Katsakou, C., Bowers, L., Amos, T., Morriss, R., Rose, D., Wykes, T., & Priebe, S. (2010). Coercion and treatment satisfaction among involuntary patients. *Psychiatric Services*, 61(3), 286–292. <https://doi.org/10.1176/ps.2010.61.3.286>
- Kuester, L., Freestone, M., Seewald, K., Rathbone, R., & Bhui, K. (2022). *Evaluation of Psychologically Informed Planned Environments (PIPEs): Assessing the first five years*. HM Prison & Probation Service. <https://assets.publishing.service.gov.uk/media/63467b7fd3bf7f6184a293c2/evaluation-of-psychologically-informed-planned-environments-pipes.pdf>
- Lamberti, J. S., Russ, A., Cerulli, C., Weisman, R. L., Jacobowitz, D., & Williams, G. C. (2014). Patient experiences of autonomy and coercion while receiving legal leverage in forensic assertive community treatment. *Harvard Review of Psychiatry*, 22(4), 222–230. <https://doi.org/10.1097/01.HRP.0000450448.48563.c1>
- Miller, W. R., & Rollnick, S. (2012). *Motivational interviewing: Helping people change*. Guilford press.
- Ministerie van Justitie en Veiligheid (2019). Handboek forensische zorg. Retrieved september 11 2022, from https://www.forensischezorg.nl/files/handboek_5_forensische_zorg_januari_2020_0.pdf
- Ministerie van Volksgezondheid Welzijn en Sport (2020). Compulsory mental health-care act. Retrieved 11 september 2022 from <https://www.dwangindezorg.nl/wvggz/english-version>.
- Moos, R. H., & Houts, P. S. (1968). Assessment of the social atmospheres of psychiatric wards. *Journal of Abnormal Psychology*, 73(6), 595–604. <https://doi.org/10.1037/h0026600>
- Neimeijer, E. G., Delforterie, M. J., Roest, J. J., van der Helm, P., & Didden, R. (2021). Group climate, aggressive incidents and coercion in a secure forensic setting for individuals with mild intellectual disability or borderline intellectual functioning: A multilevel study. *Journal of Applied Research in Intellectual Disabilities*, 34(4), 1026–1036. <https://doi.org/10.1111/jar.12841>
- Neimeijer, E. G., Roest, J. J., Van der Helm, G. H. P., & Didden, R. (2019). Psychometric properties of the group climate instrument (GCI) in individuals with mild intellectual disability or borderline intellectual functioning. *Journal of Intellectual Disability Research*, 63(3), 215–224. <https://doi.org/10.1111/jir.12567>
- Roest, J. J., Van der Helm, G. H. P., & Stams, G. J. J. M. (2016). The relation between therapeutic alliance and treatment motivation in residential youth care: A cross-lagged panel analysis. *Child & Adolescent Social Work Journal*, 33(5), 455–468. <https://doi.org/10.1007/s10560-016-0438-4>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.
- Ryan, R. M., Deci, E. L., & Vansteenkiste, M. (2016). Autonomy and autonomy disturbances in self-development and psychopathology: Research on motivation, attachment, and clinical process. In D. Cicchetti (Ed.), *Developmental Psychopathology* (3rd ed, Vol. 1, pp. 385–438). Wiley.

- Ryan, R. M., Patrick, H., Deci, E. L., & Williams, G. C. (2008). Facilitating health behaviour change and its maintenance: Interventions based on self-determination theory. *The European Health Psychologist, 10*(1), 2–5. <https://ehps.net/ehp/index.php/contents/article/view/ehp.v10.i1.p2>
- Sevilir, R., Van der Helm, G. H. P., Roest, J. J., Beld, M. H. M., & Didden, R. (2020). Differences in perceived living group climate between youth with a Turkish/Moroccan and native Dutch background in residential youth care. *Children and Youth Services Review, 114*, 105081. <https://doi.org/10.1016/j.childyouth.2020.105081>
- Szmukler, G., & Appelbaum, P. S. (2008). Treatment pressures, leverage, coercion, and compulsion in mental health care. *Journal of Mental Health, 17*(3), 233–244. <https://doi.org/10.1080/09638230802052203>
- Theodoridou, A., Schlatter, F., Ajdacic, V., Rössler, W., & Jäger, M. (2012). Therapeutic relationship in the context of perceived coercion in a psychiatric population. *Psychiatry Research, 200*(2–3), 939–944. <https://doi.org/10.1016/j.psychres.2012.04.012>
- Tonkin, M. (2016). A review of questionnaire measures for assessing the social climate in prisons and forensic psychiatric hospitals. *International Journal of Offender Therapy and Comparative Criminology, 60*(12), 1376–1405. <https://doi.org/10.1177/0306624X15578834>
- Turley, C., Payne, C., & Webster, S. (2013). *Enabling features of psychologically informed planned environments*. National Offender Management Service.
- Van der Helm, P., Beunk, L., Stams, G. J., & van der Laan, P. (2014). The relationship between detention length, living group climate, coping, and treatment motivation among juvenile delinquents in a youth correctional facility. *The Prison Journal, 94*(2), 260–275. <https://doi.org/10.1177/0032885514524884>
- Van der Helm, P., Klapwijk, M., Stams, G., & Van der Laan, P. (2009). 'What works' for juvenile prisoners: The role of group climate in a youth prison. *Journal of Children's Services, 4*(2), 36–48. <https://doi.org/10.1108/17466660200900011>
- Van Der Helm, P., Kröger, U., Schaftenaar, P., & Van Vliet, J. (2013). *Leefklimaat in de klinische forensische zorg*. Uitgeverij SWP.
- Van der Helm, G. H. P., Kuiper, C. H. Z., & Stams, G. J. J. M. (2018). Group climate and treatment motivation in secure residential and forensic youth care from the perspective of self determination theory. *Elsevier Children and Youth Services Review, 93*, 339–344. <https://doi.org/10.1016/j.childyouth.2018.07.028>
- Van der Helm, P., Stams, G. J., & Van der Laan, P. (2011). Measuring group climate in prison. *The Prison Journal, 91*(2), 158–176. <https://doi.org/10.1177/0032885511403595>
- Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration, 23*(3), 263. <https://doi.org/10.1037/a0032359>
- Vansteenkiste, M., Ryan, R. M., & Soenens, B. (2020). Basic psychological need theory: Advancements, critical themes, and future directions. *Motivation and Emotion, 44*(1), 1–31. <https://doi.org/10.1007/s11031-019-09818-1>
- World Health Organisation. (1953). The community mental hospital: Third report of the expert committee on mental health, no. 73. *Switzerland*

Appendix

Questionnaires:

Group Climate Inventory (GCI)

(Original in Dutch, not available in English, this is a translated version)

Instruction: rated each item on a scale from 1 = I do not agree to 5 = I totally agree

- (1) There is a good atmosphere on the unit
- (2) Sociotherapists help me when I ask them
- (3) Clients must ask permission for everything
- (4) I feel good at the unit
- (5) I trust the sociotherapists
- (6) I think the sociotherapists are honest
- (7) I get attention from the sociotherapists
- (8) The sociotherapists listen to my opinion
- (9) The turmoil on the unit drives me crazy
- (10) On the unit, clients trust each other
- (11) I work on my goals here
- (12) I think it's good that I'm here
- (13) Here, I learn how to behave outside the institution
- (14) It is safe on the unit
- (15) The sociotherapists always get their way
- (16) I get to decide things for myself here
- (17) Because of the sociotherapists, I try new things
- (18) When I have a complaint, it will be dealt with
- (19) What I learn here helps me
- (20) I'm bored here
- (21) I learn the right things here
- (22) There are always enough people around to help me
- (23) I feel understood by the sociotherapists
- (24) The sociotherapists have little time for me
- (25) I think sociotherapists deal with angry clients in a good way
- (26) The sociotherapists often talk things through with the clients
- (27) There is nothing to do here
- (28) It is dirty and it smells bad here
- (29) This unit makes me feel down

Motivation to Engage in Treatment Scale (MET)

(Original in Dutch, not available in English, this is a translated version)

Instruction: rated each item on a scale from 1 = I do not agree to 5 = I totally agree

- (1) At home I want to distance myself from the therapy as much as possible and not always work on it
- (2) You should be able to keep things in front of you that you find too difficult to talk about.
- (3) If I see no progress for several weeks, my commitment to treatment is likely to decrease
- (4) Outside of therapy I just want to be myself and not have to think about my behavior again
- (5) If I want to keep a subject out of the treatment, one has to accept it

- (6) I would end the treatment even earlier than having to give up certain contacts
- (7) You can sometimes also better keep to you what is going on in you towards therapists
- (8) If I had a lot of setback in the treatment, my bet would probably decrease
- (9) If I had to do something else that is important for my future, I would probably cancel the therapy
- (10) If I saw little change in my life I would end the treatment

Basic Psychological Need Satisfaction and Frustration Scale – Intellectual Disability (BPNSFS-ID)

(Original in Dutch, not available in English, this is a translated version)

Instruction: rated each item on a scale from 1 = completely untrue to 5 = completely true.

- (1) In my life I can do whatever I want
- (2) In my life I feel left out by the people I want to belong to
- (3) In my life I think I can do things right
- (4) In my life I think I mainly do things because I have to
- (5) In my life, the people I care about also care about me
- (6) In my life I doubt whether I do things right
- (7) In my life I think I can choose what I really want
- (8) Important people in my life keep me at a distance
- (9) In my life I think I am good at what I do
- (10) In my life I have to do things I don't really want to do
- (11) In my life I feel a connection with the people who care about me
- (12) In my life I am disappointed in the results of what I do
- (13) In my life I feel that the choices I make really suit me
- (14) In my life I feel that people I spend time with hate me
- (15) In my life I feel that I can achieve my goals
- (16) In my life I think I should do too many things
- (17) In my life I experience a good relationship with people who are important to me
- (18) In my life I feel insecure about the things I do
- (19) In my life I always find the things I do fascinating
- (20) The relationships in my life never go deep
- (21) I can easily complete difficult tasks in my life
- (22) My daily life consists only of mandatory activities
- (23) In my life I have a warm feeling with people who are important to me
- (24) In my life I feel like a failure because of the mistakes I make