Determinants and outcomes of social climate in therapeutic residential youth care: A systematic review

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ABSTRACT

Background: Previous studies on effectiveness of therapeutic residential youth care (TRC) have indicated that, compared to short-term effects, long-term effects are less convincing. Moreover, there is limited evidence on how TRC achieves treatment goals: TRC remains too much of a “black box”. To gain durable treatment results we need to know more about how results are achieved, rather than investigating the achieved results itself. One of the factors associated with this process of change is the social climate within TRC institutions. Up until now, no literature reviews about how social climate is affected by institution and youth characteristics, and how social climate affects outcomes has been performed.

Objective: To provide an overview of the literature on associations between determinants and social climate and between social climate and outcomes in TRC.

Method: We searched multiple databases with a predetermined set of search criteria in the years 1990 and March 2017. We identified 8408 studies and reduced the final sample to 36 studies. Most studies were empirical assessments with a correlational design and were conducted in Western countries.

Results: Effect sizes for the studies ranged from small to large and varied between and within studies. Most associations were found between social climate and positive outcomes. The most mentioned social climate constructs were: an open climate, support, and autonomy.

Conclusions: The results are challenging to summarize due to variations in the concepts and operationalizations of social climate. The organizational culture must support a social climate which is supportive, structured and caring, and provide youth with an environment to grow. A positive social climate must constantly be evaluated and recreated based on combining the perspectives of residents, staff and external perspectives.

1. Introduction

Therapeutic Residential Youth Care (TRC) concerns the treatment and care of young people outside their family environment and aims to provide services to protect, care, and prepare young people for returning to life outside the institution (Harder & Knorth, 2015). These young people have been unable to live at home mainly due to parental problems or severe behavioral problems (Handwerk, Friman, Mott, & Stairs, 1998; Knorth, Harder, Zandberg, & Kendrick, 2008; Whittaker et al., 2016). Treatment usually takes place within a therapeutic holding and learning environment (Hair, 2005) and the number of institutions adhering to evidence-based treatment interventions is growing (De Swart et al., 2012). Recently, an international workgroup on therapeutic residential care created a consensus statement (Whittaker et al., 2016) using the following definition of TRC: “the planful use of a purposefully constructed multi-dimensional living environment designed to enhance or provide treatment, education, socialization, support, and protection to children and youth with identified mental health or behavioral needs in partnership with their families and in collaboration with a full spectrum of community-based formal and informal helping resources” (Whittaker, Del Valle, & Holmes, 2015, p. 24). Within this definition, we distinguish TRC from other types of residential care that serve other primary purposes, such as detention and basic care (e.g. non-therapeutic prisons and...
orphanages). The defining characteristic is the inclusion of a pronounced ‘therapeutic’ component.

Meta-analyses on outcomes in residential youth care (RYC) (e.g. De Swart et al., 2012; Grietens, 2002; Knorth et al., 2008; Scherrer, 1994) show small to moderate effects on improvement in emotional problems, a decrease in externalizing behavior problems, and less recidivism of adolescents re-admitted into residential care. However, long-term results show that the longer the follow-up period, the less convincing the effect of the intervention, while short-term effects show more positive results (Frensch & Cameron, 2002; Harder & Knorth, 2015; Knekt et al., 2016; Scherrer, 1994). Moreover, there is limited evidence for how RYC actually achieves treatment goals: RYC remains too much a “black box” (e.g. Harder & Knorth, 2015; Knorth, 2003; Libby, Coen, Price, Silverman, & Orton, 2005). In order to gain more durable positive treatment results we need to know more about how results are achieved, rather than investigating the achieved results (Harder & Knorth, 2015). One of the factors associated with this process of change is the living environment, hereafter denoted as social climate, within TRC institutions.

Social climate concept originates from social ecology and assumes that the behavioral direction of the individual is not determined solely by personality characteristics and individual needs, but also by the environmental demands (termed “press”) (Feagans, 1974; Murray, 1938; Stern, 1970). Social climate can be defined as the discrete, consistent, and continuity of events containing collective elements in the “press”. This “press” is shared among individuals in the same environment (Moos, 2003). For example, when staff members always make sure the place is neat (continuous discrete event) and they make sure that everyone follows the house rules (“press”), the social environment may be perceived as organized. Social climate also relates to the concepts of Self-Determination Theory by Deci and Ryan (1985, 2000). The theory specifies that an environment that satisfies three innate basic psychological needs (competence, relatedness, and autonomy) is a necessity for growth and motivation to learn. In addition, the “common factors” in youth care (factors considered effective in any youth care intervention), including a clear structure and good relationships between staff and adolescents, illustrate the importance of having a positive social climate (Van Yperen, Van der Strege, Addink, & Boendermaker, 2010).

Studies have shown that a positive (or open) social climate consists of high levels of support and autonomy, low levels of repression and anger, and a clean, safe, clear and structured environment. In addition, an environment that focuses on targeting young people’s problems and positive relationships between staff and young people is considered positive. A negative (or closed) social climate consists of lower levels of support, autonomy, staff-adolescent relationships and higher levels of repression, anger, non-clarity, and structure (Eltink, Van der Helm, Wissink, & Stams, 2015; Moos, 2003; Moos, 2012; Van der Helm, Stams, & Van der Laan, 2011). Social climates that adhere to the concepts of growth, support, and autonomy are thought to serve as the best conduciveness for the well-being of young people in TRC (Heynen, Van der Helm, & Stams, 2017; Strijbosch et al., 2014; Van der Helm, 2011).

According to the theoretical model of Moos and Lemke (1996), social climate in TRC can be regarded as an outcome factor for determinants and as a predictive factor for TRC outcomes. There can both be factors that have an effect on social climate (panel I and II) as well as aspects of social climate (panel III) that can affect care outcomes (panel IV and V). The framework thus emphasizes the central position of social climate in relation to determinants and outcomes (Moos, 2012; Moos & Lemke, 1996). Additionally, this model can be used to facilitate ‘matching’ the person with the environment in order to promote an environment most beneficial for positive treatment outcomes (Timko, Moos, & Finney, 2000).

Previous research has shown that social climate is an important factor for the well-being of young people in different types of TRC settings, such as child welfare (CW) (Gisson, Green, & Williams, 2012), RYC (e.g. Attar-Schwartz, 2013; Lancioti, Lemieux, & Mathys, 2016; Pinchover & Attar-Schwartz, 2014), therapeutic youth prisons (YP) (e.g. Elinik et al., 2015; Van der Helm, Stams, Van der Stel, Van Langen, & Van der Laan, 2012), supported group homes (SG) (e.g. Brunt & Hansson, 2002a, 2002b), and mental health facilities (MH) (e.g. Ilgen & Moos, 2006; Schalast, Redies, Collins, Stacey, & Howells, 2008).

Up until now, limited research has been conducted on what can be considered social climate determinants in a TRC context. Previous cross-sectional studies on the relation between determinants and social climate have shown that a small residential group size (Chipenda-Dansokho, 2003), publicly owned institutions, and institutions that adhere to routines and policies have a more positive social climate compared to larger, privately owned institutions and institutions that do not have structured policies (Moos, 2012). In addition, associations between social climate and previous treatment experiences (Picardi et al., 2006), psychiatric diagnoses, and behavioral problems (Attar-Schwartz, 2013; Attar-Schwartz, 2017) indicate that different environmental factors foster positive outcomes depending on the adolescents’ problems. For example, adolescents showing externalizing behavioral problems benefit more from a highly structured environment, compared to adolescents showing internalizing behavioral problems (Timko et al., 2000).

Furthermore, studies have reported on associations between social climate and TRC outcome measures. For example, a positive social climate is positively associated with the development of adolescents’ treatment motivation (Heynen et al., 2017), active coping strategies (Van der Helm, 2011), and higher levels of client and staff satisfaction about the treatment program (Mesman Schultz, 1992). On the other hand, a negative social climate is associated with more social and behavioral problems, peer victimization of adolescents during TRC (Pinchover & Attar-Schwartz, 2014; Sekol, 2016), and higher recidivism rates in therapeutic youth prisons (Van der Helm et al., 2012).

A comparison of the results proves to be difficult due to usage of various definitions of social climate (cf. group climate, living, physical, and psychosocial environment) (Brunt & Rask, 2012; Moos, 1974). Moreover, there are many different instruments to assess social climate and reliability and validity of those instruments for TRC is limited (Leipoldt, Kayed, Harder, Grietens, & Rimehaug, 2018; Tonkin, 2015). Consequently, we need more systematic knowledge of the social climate impact in TRC. The first aim of this systematic review is to provide systematic knowledge on what constitutes a good social climate according to adolescents and staff members. The second aim is to formulate “what works for whom” principles regarding good quality of TRC for adolescents with psychosocial problems by identifying how determinants affect social climate and obtain a more accurate view of how social climate can improve treatment results in TRC (Harder & Knorth, 2015). The main questions this review will address are:

- Which determinants are related to a positive social climate in TRC?
- Which determinants are related to a negative social climate in TRC?
- Which aspects of social climate in TRC are associated with positive outcomes of TRC?
- Which aspects of social climate in TRC are associated with negative outcomes of TRC?

This systematic review is guided by the theoretical framework of Moos and Lemke (1996). Based on previous research, we expect that different determinants, such as staff and organizational, and youth characteristics are related to positive and negative social climates and that a positive social climate is associated with both positive and negative outcomes for youth and staff.

2. Method

2.1. Inclusion and exclusion criteria

Inclusion and exclusion criteria for this review are presented in Table 1. We chose to slightly modify the definition of TRC (Whitaker
This statistic is based on a weighted mean and standard deviation from assessed. If a criterion was met, one point was credited up to a maximum of 14 points for qualitative studies and 13 points for quantitative studies.

2.2. Evidence acquisition

This review adhered to the protocol of the preferred reporting items for systematic reviews and meta-analyses (PRISMA-P; Shamseer et al., 2015). We carried out a systematic literature search in the following databases between 1990 and the end of March 2017: ERIC, PsycINFO, SOCIndex, Academic Search Premier, and Web of Science. The keywords that we used in the search are based on the Person, Intervention, and Outcome (PICO) model and are illustrated below.

**Person:** child* OR adolescence* OR juvenile* OR youth* OR teen* OR young*;

**Intervention:** residential OR therapeutic OR inpatient OR in-patient OR institution* OR incarcerat* out-of-home OR detention centre* OR secure unit* OR secure care OR secure resident* OR secure unit* OR institution* OR group home* OR children* home* OR hospital?ed. OR juvenile justice facilit* OR correctional institution* OR coercive treatment OR congregate care;

**Outcome:** (Social OR group OR relational OR correctional OR organi*?tional OR therapeutic OR living OR institution* OR psychosocial OR treatment OR ward) climate OR (social OR group OR relational OR correctional OR organi?tional OR therapeutic OR living OR institution* OR psychosocial OR treatment OR ward) environment OR (social OR group OR relational OR correctional OR organi?tional OR therapeutic OR living OR institution* OR psychosocial OR treatment OR ward) atmosphere.

The search terms between the PICO statements were entered with an AND statement and the search was performed on the field “All Text”, except for Web of Science, which was performed on the field “Title”. We did not use keywords for the Control part, since this study does not exclusively focus on experimentally designed studies.

2.3. Procedure

We carried out the search separately in each database. During the search we specified filters for age groups, time, and settings (see the aforementioned inclusion and exclusion criteria). We extracted the results from each database and uploaded them into Microsoft Excel where duplicate records were identified and omitted. To ensure a reliable selection procedure, three authors screened the identified records against the inclusion criteria.

We performed the selection procedure in three steps. First, the first author (JL) screened the titles yielded by the search against the inclusion criteria. Second, for the remaining studies, three authors screened the abstracts (JL, AH, and TR) and cases of inclusion uncertainty (n = 53) were discussed until consensus was reached. Third, the first two authors (JL and AH) determined the eligibility of the remaining studies by reading the complete manuscript. To ensure literature saturation, we scanned the reference lists of the included studies resulting in no extra studies being included.

After determining the final selection, the first author assessed the quality of the included studies using critical review forms (Law et al., 1998; Letts et al., 2007). The critical review criteria consist of yes/no questions that provide an indication of study quality. The following aspects of each study were assessed in the quality evaluation: Study’s purpose, justification, design, (justification of the) sample, reliability, validity, and appropriateness of measures and analyses. Finally, descriptions of results, adequacy of conclusions, and implications were assessed. If a criterion was met, one point was credited up to a maximum of 14 points for qualitative studies and 13 points for quantitative studies.

Quality assessment was discussed with the second author and the awarded points were reported together with the characteristics of the study. The goal of this assessment was to provide a general quality indication of the strengths and weaknesses of the included studies. We did not base further decisions in this review (e.g. providing weights to conclusions) on quality assessment. The main reason for this decision is the ambiguity that exist between the usage of different appraisal instruments and the contested relevance of quality assessment (Dixon-Woods, Shaw, Agarwal, & Smith, 2004; Hannes, Lockwood, & Pearson, 2010).

2.4. Data synthesis and presentation

Fig. 1 presents the inclusion flowchart with the number of identified records at each screening stage (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009).

A total of 8408 studies were identified and the final selection consists of 36 studies. All manuscripts were subject to a three-step qualitative synthesis. First, we extracted general study characteristics, such as country, setting, study design, participant statistics, focus, and a quality appraisal (Table 2). Next, we extracted the variables under investigation and reported the associations between determinants and a positive social climate (Table 3), determinants and a negative social climate (Table 4), social climate and positive outcomes (Table 5), and social climate and negative outcomes (Table 6).

For the included quantitative studies, we calculated standardized effect sizes to provide an indication of the strength of the reported association. This was not possible for eight studies due to missing of complete statistical information and we reported those studies in the qualitative sections. For Cohen’s d, effect sizes of 0.20, 0.50, and 0.80 are considered small, medium, and high respectively. For Cohen’s $f^2$, effect sizes of 0.02, 0.15, and 0.35 are considered small, medium, and high respectively. For the product-moment correlation, effect sizes of 0.10, 0.30, and 0.50 are considered small, medium, and high respectively (Cohen, 1992), and for Cramer’s V with one degree of freedom, values of 0.10, 0.30, and 0.50 are considered small, medium, and high respectively (Cohen, 1988). For Odds Ratio’s (OR), we used the following interpretation: OR < 1 indicated a negative effect, OR close to 1 indicated no effect, and OR > 1 indicated a positive effect.

2.5. Study characteristics

The characteristics and quality assessment of the included studies are shown in Table 2. Nearly all (n = 31, 86.1%) studies were performed in the USA, Australia, and European countries. Sample sizes ranged from 17 to 2043 participants. After correcting for studies that have re-used samples, this review involves 6775 adolescents ($M_{age} = 14.84^1$, SD = 3.93, range 5–22) and 1980 staff members (with an age range of 20–64). The majority of the selected studies reported on RYC settings (47.2%) or therapeutic youth prisons (44.4%). One study (2.8%) reported on a mental health (MH) setting and two (5.6%) on a combination of RYC, YP, and MH settings. Quantitative study designs were most prevalent (77.8%), followed by qualitative designs (16.7%), and mixed-methods designs (5.6%). Most studies (69.4%) were concerned with the association of social climate and outcomes and eleven studies (30.6%) focused on associations of determinants with social climate.

3. Results

3.1. Associations between determinants and a positive social climate

In the ten studies that focused on the associations between

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1 This statistic is based on a weighted mean and standard deviation from studies (n = 19) where means and standard deviations were reported. This was the case for a total of 4531 participants.
The significant results of the six quantitative studies, ordered by effect size strength and number of identified constructs, are presented in Table 3. The ‘strength-based treatment approach’, which has the most associations with positive social climate aspects, is a program description (and an assessment tool) designed to incorporate youths’ strengths into their individual treatment plans and in evaluation of those plans. Incorporating youths’ strengths is achieved by supporting efforts to repair harm, use mistakes, and past negative behavior as learning opportunities, encourage involvements in pro-social activities, build on positive mentoring opportunities, and identification and generation of resources to support the youth in being successful (Barton & Mackin, 2012; Barton, Mackin, & Fields, 2008). No significant associations to ‘order and organization’ and ‘personal problems orientation’ were found. Second, we found medium effect sizes for positive associations between improvement of youths’ perception of spontaneity, safety, autonomy, and having a positive focus on youths’ problems after implementing the Sanctuary treatment model in TRC. The main feature of the Sanctuary model is that the treatment environment is the core modality for modeling healthy relationships among interdependent members of the community and provide empowerment to youths to influence their own live (Rivard, Bloom, McCorkle, & Abramovitz, 2005). Third, staff and adolescents in an open unit perceived the social climate as more positive compared to staff and adolescents in secure

determinants and a positive social climate we identified a total of 27 different determinants and 20 different positive social climate variables. The significant results of the six quantitative studies, ordered by effect size strength and number of identified constructs, are presented in Table 3. The ‘strength-based treatment approach’, which has the most associations with positive social climate aspects, is a program description (and an assessment tool) designed to incorporate youths’ strengths into their individual treatment plans and in evaluation of those plans. Incorporating youths’ strengths is achieved by supporting efforts to repair harm, use mistakes, and past negative behavior as learning opportunities, encourage involvements in pro-social activities, build on positive mentoring opportunities, and identification and generation of

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| Study                                                                 | Country | Type of Design | Participants | Mean age in years (SD) [range] | Study focus | Quality appraisal |
|----------------------------------------------------------------------|---------|----------------|--------------|-------------------------------|-------------|-------------------|
| 1. Anglin (2002)                                                     | AUS     | QL – Policy    | N/A          | 14.06 (3.11) [11-19]          | D           | N/A               |
| 2. Attar-Schwartz (2011)                                            | ISR     | RYC QL – CS    | 1324         | Youth (54% male) 14.06 (3.11) [11-19] | O 12/13     | N/A               |
| 3. Attar-Schwartz (2013)                                            | ISR     | RYC QL – CS    | 1324         | Youth (54% male) 14.06 (3.11) [11-19] | O 12/13     | N/A               |
| 4. Barton and Mackin (2012)                                         | USA     | YP QN – SCD    | 17 youth     | Youth (50% male) 15.06 (3.11) [15-19] | D 6/13      | N/A               |
| 5. Barton et al. (2008)                                             | USA     | YP QN – SCD    | 17 youth, 12 staff | Youth (100% male) 15.06 (3.11) [15-19] | D 5/13      | N/A               |
| 6. Bastiaanssen et al. (2012)                                       | NLD     | RYC QN – CS    | 212          | Youth (64% male) 12.63 (3.84) [5-18] | O 11/13     | N/A               |
| 7. Caldwell and Rejino (1993)                                       | USA     | RYC QL – RVW   | N/A          | N/A                          | D           | N/A               |
| 8. Creedy and Crowe (1996)                                          | NZ      | MH QL – RVW    | N/A          | N/A                          | O           | N/A               |
| 9. Daly and Dowd (1996)                                             | USA     | RYC QL – Policy | N/A          | N/A                          | D           | N/A               |
| 10. De Valk et al. (2015)                                           | NL      | RYC QL – CS    | 114 studies  | Youth (59% male) 15.06 (3.11) [12-19] | O 10/13     | N/A               |
| 11. Eltink et al. (2015)                                            | NL      | RYC QL – CS    | 128 RYC: 105 | Youth (55.2% male), Youth: 15.7 (1.4) [12-19] | O 10/13     | N/A               |
| 12. Hoag, Primus, Taylor, and Burlingame (1996)                     | USA     | RYC QL – RCT   | 21           | Youth and staff members Youth: 14.3 (2.16) | O 9/13      | N/A               |
| 13. Izzo et al. (2016)                                              | USA     | RYC QL – CS    | 264 youth    | Youth (67% male) 14.87 (1.79) [12-19] | O 9/13      | N/A               |
| 14. Jordan et al. (2009)                                            | USA     | YP QN – CS     | 499 youth    | Youth (59% male) 16.2 (1.03) [12-18] | O 9/13      | N/A               |
| 15. Khoury-Kassabri and Attar-Schwartz (2014)                       | ISR     | RYC QN – CS    | 307 youth    | Youth (68% male) 16.56 (1.48) [12-22] | O 8/13      | N/A               |
| 16. Langdon et al. (2004)                                           | UK      | YP QN – CS     | 49 youth     | Staff members Staff: 14.76 (1.03) | O 9/13      | N/A               |
| 17. Lanctôt et al. (2016)                                           | CAN     | RYC QN – CS    | 153          | Youth (100% female) 15.3 (1.31) | D 6/13      | N/A               |
| 18. Mathys (2017)                                                   | BE      | RYC QN – CS    | N/A          | Youth (67% male) 16.52 (1.48) [12-22] | O 9/13      | N/A               |
| 19. Minor, Wells, and Jones (2004)                                  | USA     | YP QN – CS     | 107          | Staff (67% male) 15.06 (3.11) [12-19] | O 10/13     | N/A               |
| 20. Minor, Wells, and Jones (2004)                                  | USA     | YP QN – CS     | 296          | Youth (56.3% male) 15.06 (3.11) [12-19] | O 10/13     | N/A               |
| 21. Mota and Matos (2015)                                           | PT      | YP QN – CS     | 431          | Youth (53% male) 15.06 (3.11) [12-19] | O 9/13      | N/A               |
| 22. Palareti and Berti (2010)                                       | IT      | RYC QN – CS    | 59           | Youth (55.9% male) 15.06 (3.11) [12-19] | O 8/13      | N/A               |
| 23. Wolf et al. (2014)                                              | USA     | RYC QN – CS    | 2043 youth   | Youth and staff members Aggregated scores | O 9/13      | N/A               |
| 24. Pinchover and Attar-Schwartz (2014)                             | ISR     | RYC QN – CS    | 60           | Youth (56% male) 14.6 (1.13) [11-19] | O 10/13     | N/A               |
| 25. Rivard et al. (2005)                                            | USA     | YP QN – CS     | 158          | Youth (63% male) 15.06 (3.11) [12-19] | O 9/13      | N/A               |
| 26. Scholte and Van der Ploeg (2000)                                | NL      | YP QN – CS     | 200          | Youth (67% male) 15.06 (3.11) [12-19] | O 9/13      | N/A               |
| 27. Sekol (2016)                                                    | CRT     | RYC QN – CS    | 272          | Staff members Staff: 16.59 (1.48) [12-22] | O 10/13     | N/A               |
| 28. Southwell and Fraser (2010)                                     | USA     | YP QN – CS     | 96           | Youth (100% male) 15.06 (3.11) [12-19] | O 8/13      | N/A               |
| 29. Towberman (1992)                                                | USA     | YP QN – CS     | 96           | Staff members Staff: 15.06 (3.11) [12-19] | O 8/13      | N/A               |
| 30. Van der Helm, Van der Stel, and Van der Laan (2012)              | NL      | YP QN – CS     | 99           | Youth (100% male) 15.06 (3.11) [12-19] | O 8/13      | N/A               |
| 31. Van der Helm, Stams, Van der Stel, et al. (2012)                 | NL      | YP QN – CS     | 107          | Youth (63% male) 15.06 (3.11) [12-19] | O 9/13      | N/A               |
| 32. Van der Helm, Stams, Van der Stel, et al. (2012)                 | NL      | YP QN – CS     | 107          | Youth (63% male) 15.06 (3.11) [12-19] | O 9/13      | N/A               |

(continued on next page)
Table 2 (continued)

| Study | Country | Type of TDC | Design | N | Participants | Mean age in years (SD | [Range] | Study focus | Quality appraisal |
|-------|---------|-------------|--------|---|--------------|----------------------|--------|--------------|------------------|
| 32    | NL      | YP          | QN – CS | 59 | Youth (100% male) | 17.4 (2.9) | [12–20] | O | 10/13 |
| 33    | NL      | YP          | QN – CS | 59 | Youth (84.4% male) | 14.0 (2.5) | [12–20] | O | 10/13 |
| 34    | NL      | YP          | QN – CS | 128 | Youth (62% male) | 15.7 (1.4) | [12–19] | O | 10/13 |
| 35    | NL      | YP          | QN – CS | 59 | Youth (43% male) | 16.1 (1.5) | [12–20] | O | 10/13 |
| 36    | NL      | YP          | QN – CS | 59 | Youth (100% male) | 17.4 (1.79) | [12–20] | O | 10/13 |

Note: Quality ratings for the included studies ranged between 5 and 12 points (on a maximum of 13 for quantitative and 14 for qualitative studies). Eight studies did not meet all outlined criteria. Quality ratings were not applied (noted as N/A) in policy and review studies, because the appraisal instrument was more suited for empirical studies.

a MH=mental health setting; YP=therapeutic youth prison; RYC=residential youth care.
b QN=quantitative study; QL=qualitative study; RVW=review study; SCD=single case design; COH=cohort study; RCT=randomized control trial; CS=cross-sectional design.
c N/A=not applicable due to review study types.
d D=study focus on determinants; O=study focus on outcomes.
e Study 2=Study 3, 15 and 24; Study 31=Study 32, 33 and 36.
f Data was gather by performing unstructured interviews based on a topic list. All interviews were written out verbatim, transcribed, and coded. Afterwards, thematic analysis was done to identify the most important themes.
g The findings for this study were based on unstructured interviews. All interviews were written out verbatim, transcribed, and coded into aspects related to an open and closed social climate.

3.3. Associations between social climate and positive outcomes

The 22 studies that focus on the associations between determinants and a negative social climate include a total of six different determinants and thirteen different negative social climate variables. The significant results of these three studies, ordered by effect size strength and number of identified constructs, are presented in Table 4.

Table 4 shows that youth having five or more previous placements perceive the social climate as more negative. Furthermore, staff members working in urban or rural facilities more often perceive a negative social climate compared to staff members working in middle-size city areas. Third, youths with a distressed pretreatment profile, which includes more internalizing, trauma-related symptoms, occurrence of substance abuse, and more personal problems in terms of self-doubt, self-blame, and low self-efficacy more often perceive the social climate as negative than youth with self-efficient and conflictual pretreatment profiles. Fourth, a severe pretreatment profile characterizes youths with internalizing problems, a tendency to dominate and control other people, a strong propensity to engage in disruptive behavior, many trauma-related symptoms, and being referred because of abuse also perceive the social climate as negative, more often than youth with self-efficient and conflictual pretreatment profiles. Besides the findings in Table 4, Langdon et al. (2004; study 20) report that adolescents within secure (vs. open) units report less supportive environments and room for autonomy, while staff ratings regarding on support and autonomy were similar in both secure and open units.

3.3. Associations between social climate and positive outcomes

The 22 studies that focus on the associations between social climate and positive outcomes include a total of 27 social climate variables and 53 different outcome variables. The significant results of the 14 quantitative studies are shown in Table 5 and are again ordered by effect size and number of identified constructs.

The strongest associations with positive outcomes were found in five studies describing an open climate, defined as an environment with high levels of staff support, peer support and youth autonomy, low levels of youth depression and anger, and a clean, safe, clear and structured environment. On the other hand, a closed climate, which consists of lower levels of youth support by staff, perceived autonomy by youth, higher levels of depression, anger, non-clarity, and structure show one small effect size in association with positive outcomes. units (Langdon, Cosgrave, & Tranah, 2004). The most important determinant of a positive social climate seems to be staff characteristics, especially more working experience (with the highest effect-size), is associated with a positive social climate.
Second, the constructs caretaker support, peer support, and caretaker and peer support in combination are associated with positive outcomes in terms of focusing on youths’ cognitive strategies and a lower odds ratio for being classified as a bully or a victim of bullying. Third, we found small to medium effect sizes for positive associations between higher levels of youth growth and a positive atmosphere and the positive outcomes youths’ lower scores on problematic reactions to social problem situations and aggression. Finally, for staff members, we found positive associations between treatment structure and positive outcomes in terms of focusing on youths’ cognitive strategies and a lower odds ratio for being classified as a bully or a victim of bullying.

In the ten qualitative studies, we found that an open climate is associated with positive outcomes in terms of youths’ perceived autonomy, motivation to work on their own problems, staff members having attention for youths’ feelings (Van der Helm, Klapwijk, Stams, & van der Laan, 2009), and experiencing less staff punishment and aggression by delinquent peers (De Valk et al., 2015). Second, staff support is associated with secure attachment, successful adaptation after treatment, higher treatment motivation, and positive behavior of youth (Mathys, 2017). Moreover, higher caretaker support is associated with less runaway from care (Attar-Schwartz, 2013), physical victimization by peers (Khoury-Kassabri & Attar-Schwartz, 2014), and less physical and verbal maltreatment by RYC staff (Attar-Schwartz, 2011). For peer support, Mathys (2017) shows positive associations with youths’ solidarity enhancement, lower stress levels, and less peer contagion behaviors. Fourth, balanced levels of staff control is associated with a perceived democratic parenting style and less anxiety, dropout, and misconduct by youth (Mathys, 2017). Fourth, a positive organizational climate profile (which consists of high levels of staff and youth engagement and functionality with low levels of stress) is associated with more treatment success (e.g., increased skills, accomplished goals, reduced risk behavior), more discharges to less intensive treatment settings (Wolf, Dulmus, Maguin, & Cristalli, 2014), and less aggression towards peers and less property destruction by youth (Izzo et al., 2016).

In a mental health setting, youths’ perception of structure, staff containment, and treatment program involvement are associated with a decrease in problem behavior (less conflict), more trust in treatment effectiveness, and development of peer helping relationships, respectively (Creedy & Crowe, 1996). Finally, a positive social climate, consisting of high caretaker support, youth satisfaction, coping and closeness (Marsh et al., 2010).

In the eight studies that focused on the associations between social climate and negative outcomes, we identified a total of eight social climate variables and 11 negative outcome variables. The significant results of four quantitative studies are shown in Table 6 and are again ordered by effect size.

Table 6 shows that the youths’ perceived repression by staff members, is associated with medium effect sizes to six specified negative

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**Table 3**

Significant associations between determinants and a positive social climate.

| Study | Determinant | Positive social climate | Effect |
|-------|-------------|-------------------------|--------|
| 4, 5<sup>†</sup> | Strength-based approach treatment program | Perceived staff and peer support | d = 1.0, 0.34<sup>a</sup> |
| | | Room for expressiveness of feelings | d = 0.95 |
| | | Clarity of treatment program rules | d = 0.75, 0.09<sup>b</sup> |
| | | Perceived autonomy by youth | d = 0.73 |
| | | Perceived involvement by youth | d = 0.32 |
| | | Less perceived staff control by youth | d = 0.09 |
| | | Perceived practical orientation by youth | d = 0.21 |
| | | Spontaneity of youth | d = 0.45 |
| | | Youth’s perceived support | d = 0.39 |
| | | Perceived safety of youth | d = 0.36 |
| | | Youth’s perceived autonomy | d = 0.34 |
| | | Problem orientation of youth<sup>c</sup> | d = 0.34 |
| | | Perceived staff and peer support | d = 0.54 |
| | | Perceived practical orientation by youth | d = 0.44 |
| | | Clarity of treatment program rules | d = 0.43 |
| | | Positive perception of authority and structure by staff | f² = 0.12 |
| | | More facility satisfaction by staff | f² = 0.06 |
| | | More organizational satisfaction by staff | f² = 0.12 |
| | | More job satisfaction by staff | f² = 0.10 |
| | | More facility satisfaction by staff | f² = 0.55 |
| | | Positive perception of authority and structure by staff | f² = 0.08 |
| 17 | Staff and adolescents in an open unit | More facility satisfaction by staff | f² = 0.06 |
| | | More organizational satisfaction by staff | f² = 0.12 |
| | | More job satisfaction by staff | f² = 0.10 |
| | | More perceived program belonging by youth | f² = 0.44 |
| | | Program<sup>d</sup> | f² = 0.15 |
| | | Relationship<sup>e</sup> | f² = 0.08 |

<sup>a</sup> The study numbers correspond to the studies reported in Table 2.

<sup>b</sup> d = Cohen’s d, f² = Cohen’s f², OR = Odds Ratio. Medium and high effect sizes marked in bold.

<sup>c</sup> This effect size indicates follow-up data compared with post-implementation data of the strength-based approach treatment program.

<sup>d</sup> The effect sizes related to the Sanctuary treatment model indicate how social climate improved after implementation as compared to standard residential services (treatment as usual).

<sup>e</sup> This construct relates to seeking to understand youth feelings and personal problems (Moos, 2009).

<sup>f</sup> An engaged social climate is defined by high levels of satisfaction and closeness and low levels of coping. A balanced social climate consists of high levels of satisfaction, coping and closeness (Marsh et al., 2010).

<sup>g</sup> Aggregated score of scales describing perceived support, involvement, and room for spontaneity perceived by youth (Moos, 2009).

<sup>h</sup> Aggregated score of scales describing perceived support, involvement, and room for spontaneity perceived by youth (Moos, 2003).

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outcomes related to youths' reaction to social problem situations. Second, there is a large effect size for the association between more staff control and more externalizing youth problems. Third, we found small effect sizes for associations between staff’s autonomy granting, warmth and more internalizing youth problem. These associations are only documented in one study each.

Four studies with associations between social climate and negative outcomes are described qualitatively. First, youths’ perception of a closed climate associates with more feelings of strictness, unfair rules, more group punishment versus individual punishment, lack of attention and trust, boredom, lack of perspective, and perception of differential treatment from group workers (Van der Helm et al., 2009). Second, youth’s perceptions of staff strictness are associated with more physical peer victimization (Khoury-Kassabri & Attar-Schwartz, 2014) and verbal and physical maltreatment by staff members (Attar-Schwartz, 2011). Finally, staffs’ perception of their workload and work fairness is associated with more internalizing problems of youth (Jordan et al., 2009).

4. Discussion

The main aim of this systematic literature review was to identify associations between determinants and both positive and negative outcomes of social climate in TRC. Out of 8408 studies from various sources we eventually included 36 studies of which 12 studies focused on the association between determinants and social climate and 24 on the association between social climate and outcomes. As expected, the results are challenging to summarize due to variations in the concepts and operationalizations of social climate. Most evidence was found for associations between social climate and positive outcomes, followed by associations between determinants and social climate, and least for social climate associations with negative outcomes. Nearly all studies used cross-sectional designs and the quality of the included studies was above average.

As expected in our first hypothesis, the results showed that a wide variety of determinants in terms of staff, youth, and organizational characteristics were associated with a positive social climate. Staff members that incorporate youths’ strengths into their daily live and treatment plans were associated with youths’ positive perception of the social climate. Furthermore, we found that staff members who are satisfied with their jobs in terms of leadership, working with protocols, working day shifts, having less burnouts, and having more work experience, report more positive views on social climate in terms of authority, structure, and receiving the environment as safe. These aspects are in line with studies in related fields, which showed that positive expectations and affective communication skills of the therapist are associated with higher academic achievement and less anxiety in youth (Cheung, Lwin, & Jenkins, 2012; Dill, Flynn, Hollingshead, & Fernandes, 2012; Verheul, Sanders, & Bensing, 2010). For youth, determinants that promote a positive social climate are feelings of involvement in the treatment program, being supported, living in an open unit, and having a social personality match with the therapist. For determinants in terms of organizational characteristics, TRC programs that are small in size, structured, have daily intensive routines and protocols in place for dealing with incidents are related to a positive social climate. These program aspects create more space for a constructive focus on treatment of behavioral problems, and promote a sense of autonomy in youths (Anglin, 2002; Caldwell & Rejino, 1993). TRC settings should carefully evaluate how their organization is built up, which protocols are in place, and how their work routines are organized in order to facilitate safe and positive social climate (Ainsworth & Fulcher, 2006).

Table 4
Significant associations between determinants and a negative social climate.

| Study | Determinant | Negative social climate | Effect |
|-------|-------------|-------------------------|--------|
| 28    | Having five or more previous placements | Less getting along with caregivers | V = 0.19 |
|       |             | Caregivers care less for what is best for youth | V = 0.19 |
|       |             | Caregivers listen less to youth | V = 0.18 |
| 20    | Previous work experience at private facilities | Negative staff perception of supervision | $\chi^2 = 0.14$ |
|       | Staff working in urban facilities | More job stress | $\chi^2 = 0.10$ |
|       | Staff working in rural facilities | Less organizational satisfaction | $\chi^2 = 0.09$ |
|       |             | Less facility satisfaction | $\chi^2 = 0.09$ |
|       |             | More job stress | $\chi^2 = 0.09$ |
| 16    | Distressed vs. self-efficient pretreatment profile | Unsafe, connected vs. healthy social climate | OR = 5.79 |
|       |             | Unsafe, connected vs. safe, disconnected social climate | OR = 5.21 |
|       |             | Unhealthy vs. healthy social climate | OR = 5.06 |
|       |             | Unhealthy vs. safe, disconnected social climate | OR = 4.55 |
|       | Severe vs. self-efficient pretreatment profile | Unsafe, connected vs. healthy social climate | OR = 6.79 |
|       |             | Unsafe, connected vs. safe, disconnected social climate | OR = 6.29 |
|       |             | Unhealthy vs. healthy social climate | OR = 6.14 |
|       |             | Unhealthy vs. safe, disconnected social climate | OR = 4.29 |
|       | Distressed vs. conflictual pretreatment profile | Unsafe, connected vs. safe, disconnected social climate | OR = 4.86 |
|       |             | Unhealthy vs. safe, disconnected social climate | OR = 6.79 |
|       | Severe vs. conflictual pretreatment profile | Unsafe, connected vs. safe, disconnected social climate | OR = 4.55 |

* The study numbers correspond to the studies reported in Table 2.

$\chi^2 = $ Cohen’s $\chi^2$, $V = $ Cramer’s $V$, OR = Odds Ratio.

- As compared with having one up to and including four previous placements.
- A self-efficient pretreatment profile characterizes youth that exhibited the fewest problems. They are less disruptive, have fewer anger problems, less trauma-related, and showed a strong self-efficacy.
- A conflictual pretreatment profile characterizes youth with anger management problems and problems with maintaining healthy relationships with others, also showing few internalizing symptoms and having conflictual relations with their teachers.
- Youths’ perception of an unsafe but connected social climate is characterized by feelings of unsafety within their group, higher chances of having experienced verbal and indirect aggression, but feelings of connections with their peers and showing trusting relationships. They perceive care workers as warm, close, and fair with having a voice in the unit.
- Youths’ perceptions of an unhealthy social climate is characterized by poor relationships with peers, feelings of unsafety, relationships with care workers that lack closeness, warmth, unfair practice, and low autonomy.
- Youths’ perceptions of a healthy social climate is the opposite of the above described profile with having the worst relationships with care workers and feelings of less support, clarity, equity, and more unfairness.
- Youths’ perceptions of a safe but disconnected social climate is the opposite of the above described profile with having the worst relationships with care workers and less getting along with caregivers, and less having a voice in the unit.
Table 5
Reported social climate constructs and significant associations with positive outcomes.

| Study | Social climate construct | Positive Outcome | Effect |
|-------|--------------------------|------------------|--------|
| 34, 36, 30 | Open climate | Youths’ treatment motivation | $r = 0.70$, $0.66$, $0.57$ |
| 30 | Internal locus of control | | $r = 0.47$ |
| 33 | Agreeableness personality trait | | $r = 0.49$ |
| 36 | Detention length | | $r = 0.39$ |
| 34 | Active coping strategies | | $r = 0.50$ |
| 33 | Youths’ direct aggression | | $r = -0.30$ |
| 35 | Caretaker support | Problems with accepting authority | $r = -0.48$ |
| 33 | Problems with accepting/giving help | | $r = -0.35$ |
| 35 | Youth growth | Problems with accepting authority | $r = -0.37$ |
| 32 | Problems with accepting/giving help | | $r = -0.30$ |
| 35 | Problems with competition | | $r = -0.19$ |
| 33 | Problems with accepting/giving help | | $r = -0.25$ |
| 33 | Youths’ direct aggression | | $r = -0.36$ |
| 35 | Youths’ direct aggression | | $r = -0.19$ |
| 33 | Problems with competition | | $r = -0.27$ |
| Positive atmosphere | Youths’ indirect aggression | | $r = -0.33$ |
| 33 | Problems with accepting/giving help | | $r = -0.30$ |
| 33 | Problems with accepting authority | | $r = -0.27$ |
| 33 | Youths’ indirect aggression | | $r = -0.45$ |
| 31 | Youth growth | Problems with accepting authority | $r = 0.27$ |
| 32 | Youths’ direct aggression | | $r = 0.19$ |
| 35 | Youths’ direct aggression | | $r = 0.27$ |
| 31 | Treatment program structure | Innovation of treatment program | $r = 0.55$ |
| 27 | Passive leadership | | $r = 0.27$ |
| 27 | Peer support | Bully classification | OR = 0.89 |
| 27 | Victim classification | OR = 0.86 |
| 32 | Caretaker and peer support | Youths’ cognitive empathy | $r = 0.27$ |
| 21 | Relationship to significant caregivers | Youths’ well-being | $f^2 = 0.16$ |
| 21 | Resilience of youth | $f^2 = 0.13$ |
| 21 | Positive living group climate | Less social problem situations | $f^2 = 0.66$ |
| 22 | Relational routines | Youths’ treatment satisfaction | $f^2 = 0.16$ |
| 12 | Positive curative climate | Less therapist iatrogenic effects | d = 0.46 |
| 26 | Balanced support and control | Less externalizing behavioral problems | $V = 0.28$ |
| 33 | Closed climate | Low neuroticism personality trait | $r = -0.24$ |

* The study numbers correspond to the studies reported in Table 2.  
* $d$ = Cohen’s $d$, $f^2$ = Cohen’s $f^2$, $r$ = product-moment correlation, OR = Odd’s Ratio, $V$ = Cramer’s $V$. medium and high effect sizes marked in bold.  
* These variables indicate how adolescents react to social problem situations.  
* Youth Growth relates to learning perceptions, hope for the future and giving meaning to the stay in care (Van der Helm et al., 2013).  
* A positive atmosphere concerns how young people treat and trust each other, safety perceptions, feelings of hainging privacy, and a fresh environment (Van der Helm et al., 2013).  
* Living group climate consists of the subscales support, atmosphere, and repression (Eltink et al., 2015).  
* Curative climate is defined as an index to assess curative factors in group therapy and consists of items that measure cohesion, catharsis, and insight related to Yalom’s therapeutic factors (Yalom, 1995).
other interpretations.

4.1. Strengths and limitations

The primary strength of this review is that it is the first to systematically identify social climate determinants and outcomes in TRC. Second, the review had a broad focus, which has enabled us to identify many variables which contributes to a more complete picture. The results may prove to be valuable when recommending policies and practices for TRC, and for improving and tailoring the social climate in existing TRCs. It enables us to better answer the question: what works for whom in TRC.

As any other study, our review also has some limitations. The first limitation is that the effect sizes should be interpreted with caution as some were calculated with only small sample sizes (Barton et al., 2008; Barton & Mackin, 2012) and several results and studies are based on the same/reused sample. We did not perform a meta-analysis, because of the broad nature of this review, and therefore we could not compare the effects of different aspects of social climate with each other. The second limitation is that most of the studies included in this review were cross-sectional studies with correlational designs. This makes it difficult to formulate causal links between social climate, determinants, and outcomes. Third, although the broad review is also a strength, it implied including different and partly overlapping social climate constructs and outcome indicators, which makes it challenging to summarize the results and dubious to point to some as more important than others. Finally, we only focused on published literature and significant findings while omitting books, dissertations, and non-published studies. This may have resulted in a biased selection of determinants, social climate variables, and outcome indicators.

4.2. Future directions and implications

Despite these limitations, some future directions for research, policy, and practice can be identified. The reported determinants, social climate constructs, and outcome variables should be examined in an integrated empirical longitudinal study to investigate how these constructs function together as most studies entered into our review examined them separately and cross-sectionally. Factors may moderate and interact with each other, especially between individual characteristics, experiences, and program factors, which is relevant to the issue of “what works for whom”. Factors within each panel may also fade each other out due to overlap. The abundance of over 50 different social climate aspects, indicates the need for an overarching integrative model of social climate aspects, potentially reducing the number of constructs and factors.

This review has some potential concrete implications for TRC treatment staff and managers. Treatment staff can gather information regarding strengths of the young people and discuss how these strengths can help them when faced with difficult situations during treatment. In addition, this can also help staff to have a concrete focus on positive aspects of the youth compared to only focusing on problematic behaviors. Furthermore, managers should ensure continuous training programs for staff members, because this has positive effects on organizational satisfaction and can lead to less incidents. This study has also shown that different youth characteristics, such as treatment history and trauma related problems of a youth does have implications for the perception of the social climate. Staff members should therefore consider how these factors have shaped a young person’s perceptions of group care and intervene in an early stage to ensure that both staff members and the social climate remains positive. Finally, a relevant recommendation for policy and evaluation is that information in this review can be used to critically evaluate TRC settings on how social climate is shaped by the determinants and whether the current living environment is adequate to promote positive outcomes. They can use these specific findings to improve organizational culture, procedures, staffing, and the tailoring between youth characteristics and the program. As this review has also demonstrated that evidence-based treatment models are relevant for social climate, these aspects together with determinants for a positive social climate and aspects of a positive social climate can be integrated into a measure of quality assessment domains for TRC (Daly et al., 2018). By utilizing a quality framework, policy makers can continue to monitor and improve the provided care in TRC.

5. Conclusion

Social climate seems to profit from a location which is surveyable, but has varied opportunities for activity, growth, and learning. Staff should be selected, educated, trained and cared for, and given adequate working conditions, procedures and support systems. The organizational culture must support a social climate which is supportive, structured and caring, and provide youth with an environment to grow as formulated by Ainsworth and Fulcher (2006). A positive social climate must constantly be evaluated and recreated based on combining the perspectives of residents, staff, and external perspectives. The general aspects of a good social climate are rather well developed, so the “black-box problem” in TRC (Harder & Knorth, 2015) does no longer need to continue. However, our knowledge about causal links and “what works for whom” – tailoring social climate to youth characteristics - is still underdeveloped and will require future attention.

Disclosure of potential conflict of interest

The authors declare that they have no conflict of interest.

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