

# **Research Bulletin**

## Staff and inmate experiences of prison social climate at Rapid Build correctional centres: A quantitative evaluation

## Mark Howard<sup>1</sup>, Vasilis Sarafidis<sup>2</sup>, Julie Barkworth<sup>1</sup>, & Jennifer Galouzis<sup>1</sup>

<sup>1</sup> Corrections Research Evaluation and Statistics, Corrective Services NSW <sup>2</sup> Frontier Econometrics

#### Aim

To assess staff and inmates' perceptions of prison social climate, and staff perceptions of other work-related outcomes, over the initial two years of operations of Rapid Build correctional centres in NSW.

#### Methods

Cohorts of staff and inmates completed self-report surveys over four rounds at approximately six-month intervals. Rounds of surveys were conducted at both Rapid Build centres in addition to selected comparison traditional correctional centres. Staff and inmates completed the same psychometric measure of prison social climate, and staff completed additional measures of job satisfaction and stress associated with job demands.

#### Results

Staff at Rapid Build centres were more likely to give favourable ratings of prison social climate, job satisfaction and job demands than staff at traditional centres on average over the rounds of surveys. Variance in response trends between centre categories indicated that staff at Rapid Build centres gave ratings of social climate that improved over time, as well as declining ratings of job demands, relative to staff at traditional centres. Additional analyses revealed substantial differences in ratings on most measures and over time between staff at Macquarie and Hunter Rapid Build sites. Differences in inmate ratings across centres was limited and may have been impacted by response bias.

#### Conclusion

Staff survey responses indicated that experiences of prison social climate were more favourable at Rapid Build centres over the initial years of their operation, compared to traditional centres. This may be partly attributable to pre-existing differences among staff at different centres; however, there were also some indications of further positive development in social climate at Rapid Build centres over time. Comparison of centre categories was moderated by substantial differences in reported experiences of social climate and other staff outcomes between the Rapid Build sites. Further study is needed to explore how key features of the Rapid Build model interact with local operational or population differences to influence outcomes.

### INTRODUCTION

From 2011 to 2018, NSW experienced rapid growth in the state's prison population, with an increase of more than 50% (Audit Office, 2019; Weatherburn et al., 2016). Additional infrastructure to safely and securely accommodate the rising inmate population was established through the commissioning of two 400-bed Rapid Build correctional centres under the Corrective Services NSW Prison Bed Capacity Project (PBCP). Relative to existing centres, a key feature of the Rapid Build centres is housing of high security inmates in dormitory-style accommodation. Given the unique infrastructure and population requirements, implementation of the Rapid Build centres was associated with development of a tailored operating philosophy and model. While initially formulated to mitigate potential security risks, the new operating philosophy was soon recognised as an opportunity to build an environment conducive to rehabilitation that would promote behaviour change among inmates. To this end, an identified objective of the Rapid Build model is development and maintenance of a positive prison social climate.

Prison social climate refers to "the social, emotional, organizational and physical characteristics of a correctional institution as perceived by inmates and staff" (Ross et al., 2008, p.447). The structural environment of the prison, such as design features and ongoing operations, and the attitudes, beliefs and values of inmates and staff that ultimately impact inmate and staff behaviour, all contribute to how the social climate of a centre is viewed (Burek & Liederbach, 2021). Prison social climate has been identified as an important predictor of the level of disorder within a centre, with a more negative social climate linked to greater occurrences of prison violence, including both verbal and physical aggression (Day et al., 2011; Gadon et al., 2006; Tonkin, 2016). Prison social climate has also been related to rehabilitative outcomes such as inmates'

readiness for treatment (e.g., Day et al., 2011; Reading & Ross, 2020; see also Tonkin, 2016).

Research has identified several factors that contribute to prison social climate, including the physical building infrastructure, staff characteristics and the composition of the inmate population (Boone et al., 2016). Privacy; safety and order; support, including maintaining relationships with family and friends, and developing good staffinmate relationships; social stimulation and access to meaningful activities; prison facilities, such as good food or cell conditions; and freedom or feeling a sense of autonomy have all been identified as key factors relating to prison social climate (Boone et al., 2016; Toch, 1977). A range of these factors, such as the inmate population mix, the availability of meaningful activities and how inmates use their time, the accommodation model, and positive staffprisoner and prisoner-prisoner relationships are generally associated with lower inmate misconduct (Bosma et al., 2020; Gadon et al., 2006). It is argued, therefore, that understanding and managing the social climate of a prison would aide in improving the overall safety and effectiveness of that centre (Bennett & Shuker, 2018).

The Rapid Build model includes a number of innovations that have been identified in the literature as relevant to prison social climate, and may contribute to differences in social climate when compared to traditional correctional centres. Central is among these the dormitory-style accommodation, where units or 'pods' house 25 inmates each. They include a shared living space and individual semi-private cubicles with a bed, desk, seat and interactive touch-screen. Inmates also have access to a number of phones from 6am to 9pm with calls lasting for 12 minutes, providing them with greater opportunity to contact family and friends. A comprehensive built-in surveillance system with state-of-the-art technology allows for 24-hour observation across all areas of the centres and a coordinated rapid response from staff.

One of the key features of the Rapid Build operating philosophy is the involvement of inmates in a 'purposeful day' where they engage in activities such as work, education, life skills courses, programs to address criminogenic needs and leisure activities. As a result, inmates were selected for placement in the Rapid Build centres not only based on high security classifications and long sentences, but also a recent history of good behaviour and compliance, a willingness to participate in work and training, and basic literacy and numeracy skills. The combination of the unique design of the centres and access to additional activities amenities, programs and means placement in a Rapid Build centre is seen as a privilege, which ultimately incentivises inmates to maintain good behaviour to avoid being transferred out of the centre. Due to the selective nature of the inmate population, the perceived privilege associated with placement in the Rapid Build centres and the lack of offenders on remand, it was expected the centres would have very little inmate turnover (see Thaler et al. (2022) for a comprehensive review of Rapid Build innovations).

#### **Study Context**

Corrections Research Evaluation and Statistics (CRES) has been commissioned to develop an evaluation agenda for the Rapid Build correctional centres, in line with a logic model that articulates Rapid Build inputs and activities and how they contribute to intended outcomes. An identified priority for initial evaluation related to understanding the prison social climate at Rapid Build centres, and how innovative features of the Rapid Build model contribute to perceptions of social climate as well as other staff experiences of their working environment. Evaluation of prison social climate has incorporated a two-stage approach with both qualitative and quantitative components.

A previous study by Thaler and colleagues (2022) examined how features of Rapid Build correctional centres contribute to perceptions of prison social climate, and how this compares to those of traditional correctional centres, through a series of interviews with inmates and staff. Results indicated that key areas such as housing, activity, inmate composition, and staff relationships were important to prison social climate at both Rapid Build and traditional centres, and differences in these areas contributed to more positive perceptions of social climate among inmates and staff at Rapid Build centres. For example, the dormitory accommodation style was seen to provide overall greater freedoms, and tended to promote a prosocial community atmosphere that enabled inmates to interact, work together and solve issues quickly, relative to traditional cell-based accommodation. Increased activity levels and days filled with purposeful activities were identified as important for alleviating boredom and hopelessness that was often associated with conflict, drug use and a generally unpleasant atmosphere. Inmates felt that the right mix of personalities, and those who were culturally, ethnically and even geographically similar, enabled good relationships to form and contributed to a more positive social climate; this appeared to be facilitated by the relatively low inmate turnover at Rapid Build centres. A more positive social climate was also attributed to good staff-inmate relationships and the opportunities inmates had to maintain contact with family and friends. Thaler and colleagues (2022) also identified that innovative features of the Rapid Build model were interconnected, whereby infrastructure, operational, and inmate and staff population factors interacted to promote a positive climate and reinforce a sense of privilege that incentivised ongoing prosocial behaviour.

The current study aims to complement and extend upon the qualitative evaluation (Thaler et al., 2022) by using a quantitative research design to examine staff and inmate experiences of the prison social climate over the initial phases of establishment and operation of the Rapid Build correctional centres. To achieve this, we conducted multiple rounds of including established psychometric surveys, measures of prison social climate, to inmates and staff at Rapid Build sites in addition to comparable traditional sites. In recognition of the importance of correctional officer staff in execution of the Rapid Build operational model, as well as prison social climate overall (Day et al., 2011; Liebling & Kant, 2018), rounds of surveys also assessed a range of staff outcomes including job satisfaction and stress, and attitudes towards prisoners.

The current study aimed to address three research questions:

- Is there a consistent difference (main effect) in responses to the survey measures by staff and inmates at Rapid Build correctional centres, compared to those at traditional centres?
- 2) Is there evidence of trends in responses to the survey measures over time, and do these trends differ between respondents from Rapid Build sites and those at traditional sites?
- 3) Is there evidence of differences in responses to survey measures across the two Rapid Build correctional centres?

### **METHODS**

#### Design

This study employed a longitudinal quasiexperimental design. This involved administration of multiple rounds of surveys to both staff and inmates at the two Rapid Build sites, in addition to staff and inmates at two comparison traditional correctional centre sites. Comparison sites were identified from a review of NSW correctional centres on the basis of similar inmate cohorts (predominantly sentenced males with A or B classification categories), security level, centre size (moderate – large), and region of service compared to the Rapid Build sites.

#### Procedure

Four rounds of surveys were administered at all sites over the measurement period of 2018-2019, at approximately 6-month intervals. At Rapid Build sites, the first round was conducted shortly after the centres opened and before they had fully established inmate populations. As a result, it was not possible to administer surveys to inmates at Macquarie Correctional Centre during the first round. To accommodate this, the current study examines data across all four rounds for staff and the latter three rounds only for inmates (see Table 1). In recognition of the pre-operational stage of initial surveys to staff at Rapid Build sites, we refer to this round of surveys as 'round 0' and describe the remaining rounds of surveys to inmates and staff during fully operational phases as rounds 1 to 3.

For each round, local custodial staff were elected to support delivery and collection of pen-and-paper surveys from staff and inmates at their centre. These staff were given a total of 100 staff surveys and 100 inmate surveys for delivery throughout the centre.

The exact procedure for administering surveys permitted some degree of variation across locations and time, to accommodate local conditions and advice from custodial staff at the centre. Typically, surveys were handed out to staff during shift changes or staff meetings, and a collection point was established for staff to return the surveys once completed. Custodial staff were given the opportunity to complete surveys while on duty and discouraged from taking materials home. For administration of surveys to inmates, typically a small number of pods or units were identified in advance as holding inmates who shared similar characteristics to those of Rapid Build sites (for example, units holding remandees or women were excluded in all cases). Surveys were given to all inmates in those units when they returned to their cell or dormitory for lock-in at the end of the day, until the supply of surveys was exhausted. Local staff supports then collected surveys from inmates the next morning before being released from their cell or dormitory.

A participation sheet was attached to all surveys administered to staff and inmates. Participation was voluntary and no identifying information was collected about staff or inmates in order to promote unbiased responding. Ethics approval was obtained by the CSNSW Ethics Committee prior to conduct of this study.

#### Participants

A detailed breakdown of survey responses received from staff and inmates is given in Table 1. Across the four rounds of surveys, a total of 968 staff returned completed surveys. As a function of the total number of surveys distributed, this corresponds to a response rate of 65.3% at Rapid Build sites; 55.8% at traditional sites; and 60.5% among staff overall.

Across the three waves of inmate surveys that were included in analyses for this study, a total of 769 inmates returned completed surveys. This corresponds to a response rate of 71.0% at Rapid Build sites; 57.2% at traditional sites; and 64.1% among inmates overall.

#### Measures

Staff surveys contained a number of established psychometrics that measured their perceptions of the correctional centre's social climate; their attitudes towards prisoners; and indicators of job satisfaction and stress. Inmates were asked to give their perceptions of the centre's social climate, using the same measure that was administered to staff. The following section gives an overview of the psychometric measures included in the study.

Social climate. The Essen Climate Evaluation Schema (EssenCES: Schalast et al., 2008) was developed to assess the essential traits of the social and therapeutic atmosphere of forensic psychiatric wards. The instrument has since been adapted to assess general prison atmosphere and validated in prison settings across multiple jurisdictions, including Australia (Day et al., 2011; Howells et al., 2009; Tonkin et al., 2012). The instrument used in this research includes 15 items, as well as unscored opening and closing items, covering three identified dimensions of social climate: hold and support from staff (5 items; e.g., "Staff members take a lot of time to deal with inmates"), inmates' social cohesion and mutual support (5 items; e.g., "There is good peer support among inmates"), and experienced safety (5 items; e.g., "There are some really aggressive inmates in this unit"). Items are measured on a 5-point Likert scale (1 = Not at all; 5 = Very much).

Previous validation research has found evidence to support the factorial structure of the EssenCES and good internal consistency of factors (e.g., Tonkin et al., 2012). In the current study, internal consistency statistics for EssenCES measures were adequate at  $\alpha$ = .83 for the Cohesion factor,  $\alpha$  = .76 for Safety,  $\alpha$ = .75 for Support, and  $\alpha$  = .83 for the aggregate total of all 15 items<sup>1</sup>.

<sup>&</sup>lt;sup>1</sup> In order to minimise the effects of dependence of observations when testing internal consistency for measures used in the study (see Analytical Plan), all Cronbach's alpha statistics were derived from scores given by staff during the first round of surveys only.

		Total n			
	0	1	2	3	TOTALI
Measurement period	S1 2018	S2 2018	S1 2019	S2 2019	
Rapid Build sites					
Staff n	125	171	131	95	522
Inmate n	-	166	146	114	426
Traditional sites					
Staff n	77	126	128	115	446
Inmate n	-	98	129	116	343

Table 1. Measurement period and number of staff and inmate responses for each round of surveys

Attitudes towards prisoners. The Attitudes Towards Prisoners (ATP) measure was developed by Melvin et al. (1985). The measure originally included 36 items that assessed an individual's general attitude toward prisoners, with an emphasis on dimensions relating to prisoners as normal members of society who were capable and deserving of change (e.g., "Most prisoners can be rehabilitated"). The current study used an adapted 16-item version of the scale, utilising a balanced selection of forward-scored and reverse-scored items with the highest factor loadings as reported by Kjelsberg et al. (2007). In line with the results reported by Kjelsberg and colleagues (2007), each of the 16 items was deemed to assess a single factor of overall attitudes towards prisoners. Cronbach's alpha statistics for the 16 ATP items indicated strong reliability in scoring across items ( $\alpha = .90$ ). Items are measured on a 5-point Likert scale (1 = strongly disagree; 5 =strongly agree).

**Job satisfaction.** The Job Satisfaction scale was adapted from Warr et al.'s (1979) measure that asks staff to indicate their level of satisfaction with a range of components related to their current job (e.g., *"Your physical work conditions"*). A 10-item short form was validated in a clinical medical context by Hills et al. (2011), with a reported reliability coefficient of  $\alpha$  = .86. Hills et al. (2011) also adapted the scale from a 7-point Likert scale to a 5-point scale (1 = extremely dissatisfied; 5 = extremely satisfied). The current study adopted this short form version, and derived total scores from

the 9 Likert-type items while excluding scoring of the open-ended response item ( $\alpha = .85$ ).

**Correctional Officer Job Demands.** The Correctional Officer Job Demands (COJD) measure was developed by Brough and Williams (2007) based on interviews with Australian correctional officers about their current job demands. The COJD asks staff to indicate how much each of the demands causes them stress, and is broken down into two broad factors: organisational job demands (6 items; e.g., *"Understaffing and resource inadequacy"*) and operational job demands (4 items; e.g., *"Possibility of violence from offenders"*). Brough and Williams (2007) reported Cronbach alpha coefficients of .81–.85 across factors, which is similar to internal consistency found for COJD items in the current study ( $\alpha = .87$ ).

#### Analytical Plan

Responses to all items on psychometric measures were given on an ordinal scale ranging between 1 and 5. Given the ordinal structure of the data, primary analyses were based on a series of ordered logistic regression models. These models estimate the probability of an individual giving a response of a specific value (1, 2, 3, 4, or 5) to a given item, conditional on their location at a Rapid Build site or traditional site. The underlying regression equation is a mixed model including both between–subjects terms and within–subjects terms, the latter allowing for repeat measures representing each of the items in a given measure while accounting for intra– individual correlation in the error terms between items.

To facilitate interpretation and communication of results, we report on analyses relating to a single response outcome of interest. Specifically, we report on probabilities and odds that an individual will give a clearly favourable response (4 or 5 on the Likert scale<sup>2</sup>) relative to other responses. Relatedly, primary analyses of differences between Rapid Build and traditional sites were examined as odds ratios, or the ratio between the odds of a clearly favourable response among individuals at Rapid Build sites and the odds of a clearly favourable response among individuals at traditional sites. In this case, odds ratios can be interpreted so that values higher than 1 indicate greater odds of a positive response from individuals at Rapid Build sites, and values lower than 1 indicate lower odds of a positive response from individuals at Rapid Build sites, compared to those at traditional sites.

Pooled regression models were used to examine main effects between individuals at Rapid Build and traditional sites. These involved generating response probability estimates and odds ratios after pooling together all responses on a given measure across the multiple rounds of surveys. The significance of differences between Rapid Build and traditional sites was determined by testing whether the pooled odds ratio was significantly different from 1, or equal odds of a favourable response.

In order to test trends, or patterns of variation in responding between sites over the multiple rounds of surveys, we employed the same ordered regression modelling approach although conducted separate sets of models for each round of surveys. Regression models were estimated for samples surveyed in each round to generate round-specific probability estimates, as compared to the pooled sample used for estimating main effects. We then assessed for the significance of differences over time by running chi-square test statistics on the null hypothesis that odds ratios between Rapid Build and traditional sites remained constant across the rounds of surveys.

A subset of analyses also compared differences in response probabilities between the Rapid Build sites only, being Macquarie Correctional Centre and Hunter Correctional Centre. In these analyses the same ordered logistic regression models were used; however, they were specified to estimate response probabilities conditional on the individuals' location at one of the two correctional centres, as opposed to Rapid Build or traditional sites as categories of location.

A complication for analyses is that there is likely to be an unknown degree of dependence between observations. Specifically, the same staff members or inmates may have completed survey measures more than once, in the event they remained at a centre over a period spanning two or more rounds of surveys. It was not possible to account for this correlation between survey responses directly, because participants were not identified. To account for this, all analyses applied cluster-robust standard errors. Cluster-robust standard errors are a special kind of robust standard errors that allow for valid statistical inferences in the event that observations are correlated within clusters (in this case, within specific correctional centres) although observations across clusters are independent (e.g., Cameron & Miller. 2015).

The above modelling techniques were conducted for each of the psychometric constructs of interest measured in the surveys. These included each of the three factors of the EssenCES, in addition to a composite total of all EssenCES scores to give an

<sup>&</sup>lt;sup>2</sup> Prior to analyses, all items were recoded so that higher scores indicated more favourable responses (in terms of better social climate, better attitudes towards prisoners, more job satisfaction, less job stress) and lower scores indicated less favourable responses.

overall indication of social climate. Total measures of attitudes towards prisoners and job satisfaction were also included. Initial data analyses indicated strong correlations between the operational and organisational factors of the COJD (r = .601; p < .005) and similar patterns of results for primary analyses; in the interests of parsimony, we aggregated both of these factors into a single composite measure of stress associated with the job demands of being a correctional officer.

## RESULTS

#### Average differences between Rapid Build and traditional sites

Table 2 provides the results of pooled regression models testing differences in response probabilities between participants located at Rapid Build or traditional sites, aggregated across the rounds of surveys. As previously mentioned, results are given as odds ratios, or differences in the odds of a favourable response among individuals at Rapid Build sites compared to those at traditional sites.

For staff, there were multiple indications that individuals at Rapid Build sites were significantly more likely to give favourable responses about aspects of social climate, including the Cohesion and Safety factors of the EssenCES in addition to the aggregate total score, than individuals at traditional sites. For example, odds ratio statistics indicated that staff at Rapid Build sites were almost twice as likely (1.94 times as likely) to give clearly favourable responses across all items of the EssenCES than staff at traditional sites. Staff at Rapid Build sites were also significantly more likely to give favourable ratings about their job satisfaction, and their experience of job demand-related stressors, compared to those at traditional sites. There were no significant differences in attitudes towards prisoners across the site types.

For inmates, pooled regression analyses indicated that there were no significant differences in the odds of giving a favourable response on social climate factors of the EssenCES between those housed at Rapid Build sites and those housed at traditional sites, when assessed over the three rounds of inmate surveys.

**Table 2.** Pooled regression model results for odds offavourable responses on survey measures by staff andinmates at Rapid Build and traditional sites

Moosuro	Sta	aff	Inm	Inmates		
Measure	OR	(SE)	OR	(SE)		
Social climate						
Cohesion	2.64**	(1.19)	1.11	(.289)		
Safety	3.79***	(.917)	1.00	(.466)		
Support	1.36	(.269)	0.83	(.109)		
EssenCES	1 94***	(399)	0.96	( 066)		
Total	1.51	(	0.50	(.000)		
ATP	1.15	(.402)	-	-		
Job demands	1.54***	(.166)	-	-		
Job satisfaction	1.32***	(.173)	_	-		

Note. OR = odds ratio; SE = standard error. \*p<.1; \*\*p<.05; \*\*\*p<.01.

#### Trends in responses among individuals at Rapid Build and traditional sites

#### Staff

Table 3 provides round-specific odds ratios for favourable responses on each of the measures among staff at Rapid Build and traditional sites, in addition to chi-square test statistics for the significance of variation in odds ratios across the four rounds (see also Appendix A for round-specific probabilities). It can be seen that significant variation in odds ratios across rounds was found for staff ratings of the Support factor of the EssenCES, in addition to stress associated with correctional officer job demands. There was also marginal (p < .1) variation across rounds on overall ratings of social climate derived as an aggregate of all items from the EssenCES.

	Round 0		Round 1		Round 2		Round 3		Variance
Measure	OR	(SE)	OR	(SE)	OR	(SE)	OR	(SE)	χ2
Social climate									
Cohesion	2.86***	(-0.59)	2.01	(-1.41)	3.44**	(-1.39)	3.72**	(-2.07)	2.72
Safety	3.77***	(-0.83)	3.83***	(-0.72)	2.91**	(-1.11)	5.69***	(-1.49)	5.87
Support	2.50***	(-0.45)	0.99	(-0.19)	1.05	(-0.35)	1.69*	(-0.50)	11.68***
EssenCES Total	2.28***	(-0.23)	1.67***	(-0.39)	1.79***	(-0.43)	2.53***	(-0.66)	7.25*
ATP	1.34	(-0.35)	1.02	(-0.38)	1.17	(-0.48)	1.18	(-0.43)	1.16
Job demands	2.97***	(-0.46)	1.51**	(-0.29)	0.98	(-0.12)	1.44***	(-0.25)	10.78**
Job satisfaction	2.25***	(-0.27)	1.28	(-0.36)	1.03	(-0.05)	1.05	(-0.20)	5.59

Table 3. Round-specific odds ratios and tests of variance across survey rounds for staff at Rapid Build and traditional sites

Note. OR = odds ratio; SE = standard error. \*p<.1; \*\*p<.05; \*\*\*p<.01

To assist with interpretation of significant trends, the following figures provide a graphical illustration by plotting combined response probabilities. For example, Figure 1 shows the round-specific probabilities that staff at Rapid Build sites and traditional sites gave a clearly favourable response on items of the EssenCES Support factor. Consistent with the pattern of odds ratios across the four rounds, it can be seen that staff at Rapid Builds were initially more likely to give favourable ratings on the Support factor than those at traditional sites. Staff ratings at each site category appeared to converge for rounds 1 and 2, with indications of both declines at Rapid Build sites and increases at traditional sites. Staff at Rapid Build sites again tended towards more favourable ratings compared to staff at traditional sites in round 3.

Figure 2 shows staff round-specific probabilities of returning a favourable rating of overall social climate as an aggregate of all items of the EssenCES. Staff at Rapid Build sites tended to give consistently more favourable ratings compared to staff at traditional sites across all rounds of surveys. There was also evidence of improving probabilities of a favourable response among staff at Rapid Builds in the latter rounds of surveys; examination of the confidence intervals around probabilities indicated that their ratings of social climate significantly improved between round 0 and round 3. By contrast, ratings made by staff at traditional sites remained relatively stable across rounds.



**Figure 1.** Round-specific probabilities of favourable responses on the EssenCES Support factor by staff at Rapid Build and traditional sites



**Figure 2.** Round-specific probabilities of favourable responses on the total EssenCES social climate measure by staff at Rapid Build and traditional sites

Figure 3 illustrates trends in probabilities of a favourable response (interpreted in this case as endorsement of lower levels of stress) on the COJD. Among staff at Rapid Build sites, there appeared to be a decline in favourable ratings between round 0 and subsequent rounds. For staff at traditional

sites, ratings fluctuated more substantially with signs of both improvements and declines across the rounds. Examination of the odds ratio results similarly showed that differences in the odds of a favourable response across site categories were most pronounced at round 0, and tended to contract over subsequent rounds.

#### Inmates

Table 4 gives round-specific odds ratios for favourable responses on the EssenCES measures among inmates at Rapid Build and traditional sites. Round-specific differences in inmates' ratings across site categories tended to be minor on average. There was a marginally significant (p < .1) chi-square statistic indicating variation in odds ratios across site types for responses to the Safety factor of the EssenCES.

Figure 4 plots the round-specific probabilities of giving favourable ratings to items on the EssenCES Safety factor for inmates housed at Rapid Build and traditional sites. It can be seen that inmates at Rapid Build and traditional sites had very similar probabilities of favourably rating the Safety factor during the first round of surveys. These ratings appeared to deteriorate over the course of the study for inmates at both Rapid Build and traditional sites, although following differing trajectories across the three rounds of surveys



**Figure 3.** Round-specific probabilities of favourable responses on the total Correctional Officer Job Demands measure by staff at Rapid Build and traditional sites



**Figure 4.** Round-specific probabilities of favourable responses to the EssenCES Safety factor by inmates at Rapid Build and traditional sites

	Rou	Round 1		Round 2		Round 3	
Measure	OR	(SE)	OR	(SE)	OR	(SE)	χ2
Social climate							
Cohesion	1.28	(-0.55)	1.54	(-0.53)	0.96	(-0.34)	0.95
Safety	0.94	(-0.26)	0.62**	(-0.15)	1.38	(-0.35)	5.29*
Support	0.73*	(-0.13)	0.91	(-0.12)	0.92	(-0.13)	1.42
EssenCES Total	0.89	(-0.11)	0.96	(-0.08)	1.07	(-0.11)	1.54

Table 4. Round-specific odds ratios and tests of variance across survey rounds for inmates at Rapid Build and traditional sites

Note. OR = odds ratio; SE = standard error. \*p<.1; \*\*p<.05; \*\*\*p<.01

#### **Differences between Rapid Build sites**

Additional analyses were conducted to explore whether there were significant within-category differences in survey responses among staff and inmates from the two Rapid Build sites. The above models were replicated with samples from Rapid Build sites only, and conditional probabilities calculated according to staff and inmates' location at Macquarie Correctional Centre or Hunter Correctional Centre.

#### Staff

The results of pooled regression modelling for staff responses are given in Table 5, and round-specific analyses are given in Table 6. It can be seen that staff at Macquarie were significantly more likely to give favourable ratings on all measures of interest compared to staff at Hunter, when pooled across the four rounds of surveys. In addition, there was evidence of significant intertemporal variation in odds ratios for ratings made by staff from Macquarie and Hunter across the four rounds of surveys, for each of the measures.

To illustrate these patterns of results, a series of graphs showing round-specific probabilities of a favourable response to items on each measure are given in Appendix B. In addition to showing response probabilities for individuals at Macquarie Correctional Centre and Hunter Correctional Centre, the graphs also include a single set of probabilities for traditional sites as a baseline and source of comparison.

The graphs represented in Appendix B are consistent with results of pooled regression models, showing that staff at Macquarie tended to have higher average probabilities of favourable responses across the measures compared to staff at Hunter. Staff at Macquarie tended to have probabilities of favourable ratings that were consistently higher than other staff groups across measures and survey rounds, including Hunter as well as traditional sites. In contrast, response probabilities for staff from Hunter were closer to those of staff from traditional sites, and overlapped with or in some cases underperformed trends for traditional sites. One prominent example of this is for the Attitudes Towards Prisoners measure, where probabilities of a favourable response were consistently higher for staff at Macquarie, and consistently lower for staff at Hunter, relative to the baseline of responses from staff at traditional sites.

**Table 5.** Pooled regression model results for odds of favourable responses on survey measures by staff and inmates at Macquarie and Hunter correctional centres

Maacura	Sta	aff	Inmates		
Measure	OR	(SE)	OR	(SE)	
Social climate					
Cohesion	3.06***	(092)	1.72**	(019)	
Safety	1.68***	(053)	0.36***	(004)	
Support	1.67***	(009)	1.30***	(028)	
EssenCES Total	1.67***	(036)	0.89***	(007)	
ATP	2.15***	(002)	-	-	
Job demands	1.26***	(004)	-	-	
Job satisfaction	1.38***	(011)	-	-	

Note. OR = odds ratio; SE = standard error. \*p<.1; \*\*p<.05; \*\*\*p<.01

Trends in responses from staff at Macquarie and Hunter were more variable. Staff located at Macquarie tended to show relatively consistent trajectories towards more favourable ratings of social climate, including most EssenCES factors as well as the aggregate social climate measure, across survey rounds. These growth trajectories were less apparent or subject to greater fluctuation among staff at Hunter. In contrast, probabilities of favourable ratings for job satisfaction and job demands-related stress appeared to decline over time among staff at Macquarie. While staff at Hunter also showed some decline in these ratings across survey rounds, trends again appeared to be more variable by comparison.

#### Inmates

Table 5 also shows that when pooled across the three rounds of surveys, inmates at Macquarie and Hunter differed significantly in their ratings of social climate. Interestingly, the direction of differences varied across factors. Inmates at Macquarie were significantly more likely to give favourable ratings on the Cohesion and Support factors of the EssenCES, but also significantly less likely to give favourable ratings on the Safety factor, compared to inmates at Hunter. When aggregating all items on the EssenCES, inmates at Macquarie were less likely to give favourable ratings of overall social climate than inmates at Hunter over the survey rounds.

Examination of the round-specific odds ratios and corresponding tests of variance (see Table 7) also indicated significant variation in the extent to which Rapid Build sites differed across survey rounds for each of the three EssenCES factors, as well as marginally significant variation for the aggregate social climate measure.

illustrating Graphs round-specific response probabilities for inmates at Macquarie and Hunter, in addition to traditional sites, are also given in Appendix C. It can be seen that in round 1, inmates Macquarie tended towards relatively low at probabilities of a favourable response on the Cohesion and Support factors and total social climate measure, compared to both Hunter and traditional sites. This was followed by marked increases in probabilities for these measures in rounds 2 and 3. An inverse pattern of responses was observed among these inmates for the Safety factor, so that probabilities of favourable ratings were initially high before declining in rounds 2 and 3. Trends in responses among inmates housed at Hunter were flatter and tended to intersect with the Macquarie trends between rounds 1 and 2.

 Table 6. Round-specific odds ratios and tests of variance across survey rounds for staff at Macquarie and Hunter correctional centres

	Rou	Round 0		Round 1		Round 2		nd 3	Chi-sq test
Measure	OR	(SE)	OR	(SE)	OR	(SE)	OR	(SE)	χ2
Social climate									
Cohesion	1.42***	(-0.01)	5.74***	(-0.22)	2.41***	(-0.08)	3.51***	(-0.12)	1.50E+03***
Safety	1.44***	(-0.02)	1.42***	(-0.02)	2.14***	(-0.10)	1.48***	(-0.07)	2.10E+02***
Support	1.17***	(0.00)	1.60***	(-0.01)	2.18***	(-0.01)	1.97***	(-0.02)	1.80E+13***
EssenCES Total	1.22***	(-0.01)	1.79***	(-0.04)	1.82***	(-0.04)	1.76***	(-0.05)	308.82***
ATP	1.94***	(0.00)	2.17***	(-0.01)	2.30***	(0.00)	2.80***	(0.00)	4.50E+03***
Job demands	1.14***	(0.00)	1.55***	(-0.01)	.973***	(0.00)	1.63***	(-0.01)	1.60E+10***
Job satisfaction	1.20***	(-0.01)	1.98***	(-0.03)	1.09***	(0.00)	1.46***	(-0.01)	2.00E+03***

Note. OR = odds ratio; SE = standard error. p<.1; p<.05; p<.01

Table 7. Round-specific odds ratios and tests of variance across survey rounds for inmates at Macquarie and Hunter correctional centres

Measure	Rou	Round 1		Round 2		Round 3	
	OR	(SE)	OR	(SE)	OR	(SE)	χ2
Social climate							
Cohesion	0.23***	(-0.14)	6.81***	(-2.87)	4.15***	(-1.87)	21.77***
Safety	1.38	(-0.48)	0.14***	(-0.04)	0.21***	(-0.08)	29.64***
Support	0.75	(-0.17)	1.65***	(-0.25)	1.82***	(-0.31)	11.66***
EssenCES Total	0.71***	(-0.10)	0.97	(-0.09)	1.05	(-0.11)	5.2*

Note. OR = odds ratio; SE = standard error. \*p<.1; \*\*p<.05; \*\*\*p<.01.

## DISCUSSION

The aim of this study was to examine how staff and inmate experiences of prison social climate, and other staff job-related factors, differed between Rapid Build and comparable traditional correctional centres over the initial two years of Rapid Build operations. Key research questions included whether staff and inmate responses to survey measures consistently differed between Rapid Build and traditional centres; whether there were observable trends in responses as Rapid Build centre operations became established and developed over time; and how patterns of responding compared between the two Rapid Build sites. Findings for each of these research questions will be discussed over the following sections.

## Differences between Rapid Build and traditional centres

Results indicated a number of relatively stable differences in responses between staff at Rapid Build and traditional sites over the four rounds of surveys. Staff at Rapid Build sites were significantly more like to report favourable perceptions of social climate, including factors of safety and cohesion among inmates as well as the global EssenCES measure, compared to staff at traditional sites. This is consistent with results from our recent qualitative study (Thaler et al., 2022), which emphasised the interplay of multiple Rapid Build innovations in contributing to more positive experiences of prison social climate. The qualitative study also highlighted the importance of perceived safetv and relationships between inmates and staff in overall perceptions of social climate, which are reinforced by quantitative patterns of staff responses on the EssenCES. In this regard, higher scores on the EssenCES Cohesion factor at Rapid Build sites may reflect the influence of particular features such as selection processes for inmate cohorts or social community aspects of the dormitory style accommodation structure (Thaler et al., 2022).

In addition, staff at Rapid Build sites were more likely to give favourable ratings of job satisfaction and stress associated with the demands of being a correctional officer than staff at traditional sites. While job-related outcomes for staff were considered an important outcome of the Rapid Build model independent of social climate, it is possible that this pattern reflects a causal or interacting relationship between more positive social climate and staff experiences of job satisfaction and stress. A number of studies have indicated that common factors are relevant to both officers' experiences of their jobs and overall prison social climate, including perceived safety from harm and support from colleagues (e.g., Palmen et al., 2022; Tonkin, 2016; van Ginneken et al., 2020). An important implication of these findings is that initiatives to improve prison social climate could have positive effects for the wellbeing of staff while also addressing more rehabilitative goals for inmates (e.g., Bennett & Shuker, 2018; Day et al., 2011).

Conversely, inmates' perceptions of social climate did not differ across Rapid Build and traditional sites on average. This finding is in contrast to those of our qualitative study, in which both inmates and staff tended to give higher ratings of social climate at Rapid Build correctional centres, albeit using different measures (Thaler et al., 2022). An examination of inmate data suggested that this pattern of results may be partly attributed to survey response factors. For example, inmates' responses on the Safety factor of the EssenCES often followed oppositional trends compared to responses on the Cohesion and Support factors. Given that the Safety factor is reverse coded, this suggests that many inmates may have adopted a response style where they gave the same rating for every item on the EssenCES. This form of 'careless or insufficient effort' (e.g., Curran, 2016) responding can serve to invalidate an individual's results and contribute to increasing error in subsequent analysis. While some degree of self-report response bias may not be unexpected with many samples, including inmates (e.g., Cullen, 2016; Juarez & Howard, 2018; Tierney & McCabe, 2001), it nonetheless represents a significant limitation that has a bearing on interpretation of findings in this study.

#### Trends in survey responses

A more complex pattern of results emerged when comparing trends in survey responses over multiple administrations. Differences in trends between respondents at Rapid Build and traditional centres tended to be less pronounced compared to main effects, and were marked by substantial inter-round fluctuation, particularly at traditional centres. There was evidence of significant round-specific variation in differences between staff responses at Rapid Build and traditional sites for the EssenCES Support factor and the job demands measure, as well as marginal round-specific variation for the EssenCES global measure of social climate. Again, there was no evidence of significant trends in perceptions of social climate among inmates.

A primary objective of assessing trends was to gauge whether survey responses reflected respondents' changing experience of social climate and other factors as the Rapid Build operational model was established and matured, or preexisting differences among staff and inmates at different centres; this was particularly relevant for staff, who were assessed on a more diverse range of constructs and could be surveyed from very early stages of Rapid Build operations. Among staff, the presence of significant differences on many measures across sites at round 0, in addition to the relatively modest evidence of change over subsequent rounds, suggest that main effects are partly attributable to baseline differences among staff cohorts at Rapid Build and traditional sites. Consistent with this, one of the few significant trends appeared to indicate highly favourable ratings of job demands by Rapid Build staff at baseline that moderated over time.

Indications of pre-existing differences among staff cohorts do not necessarily have negative implications for the Rapid Build model. An identified component of the Rapid Build program logic is specially selected and trained staff, who may be expected to have different perspectives about prison climate and their job compared to others. In line with this program logic, it is possible that recruiting staff with high existing job satisfaction or perceived ability to manage job demands is an important precondition for establishing and developing the Rapid Build operational model. Under these conditions, maintenance of existing experiences and attributes may be a more relevant goal as compared to continued positive change. In this case, however, our results suggest that management of stress associated with the demands of being a correctional officer may be a target for ongoing monitoring among staff at Rapid Build centres.

Notwithstanding these observations, we did find some evidence of trends towards improving perceptions of social climate among staff at Rapid Build centres. This finding emphasises that prison social climate is a dynamic construct (e.g., Boone et al., 2016; Reading & Ross, 2020) which requires ongoing development and maintenance over time. An identified value of the Rapid Build model is that it incorporates an operational philosophy that is intended to actively promote and be responsive to changes in climate, complementary to more static factors associated with the infrastructure and inmate population specifications. Further study would be beneficial to better understand drivers of dynamic change in social climate, and how key features of the Rapid Build model act to mitigate potential shocks to climate as centre operations, populations and resources evolve over time.

#### **Comparisons between Rapid Build sites**

Critically, underlying the observed differences between correctional centre categories, our results indicated a range of significant differences in survey outcomes between the two Rapid Build sites. Staff at Macquarie gave significantly more favourable ratings on all measures, including social climate, attitudes towards prisoners, and indicators of job satisfaction and stress, compared to staff at Hunter. There was also significant inter-round variation in survey responses between the two sites. The clearest pattern to emerge (see Appendix B) was that perceptions of factors relating to prison social climate tended to become more favourable over time among staff at Macquarie, whereas trends were less pronounced among staff at Hunter.

Findings for differences across Rapid Build sites are of particular interest because both centres share a range of common characteristics in terms of infrastructure and operational models. As a result, potential influences on staff perceptions and experiences may be indicated by exploring known differences between the centres. One possibility is that staff cohorts at Macquarie and Hunter had preexisting differences that moderated outcomes. For example, staff at Macquarie reported having substantially more favourable attitudes towards prisoners at round 0 compared to staff at Hunter staff at Hunter reported the lowest average attitude towards prisoners scores of all centres in this study - which persisted across all rounds of surveys. Recent research has indicated that collective cultural orientations towards prisoners within a correctional centre are significantly related to individual staff perceptions of prisoners as well as their job satisfaction and stress (Howard et al., in press). As discussed, pre-existing previously staff characteristics, such as their attitudes towards prisoners, could act as important preconditions for establishing and developing social climate at Rapid Build centres. It is noted, however, that ratings of job satisfaction and stress associated with job demands, in addition to perceptions of social climate, were relatively similar for staff at Macquarie and Hunter at round 0.

Another identified difference between sites related to inmate composition. Feedback from operational stakeholders indicated that Macquarie had a more intensive process of selection for eligible and motivated inmates, whereas Hunter has housed inmates that may differ from those initially intended for the Rapid Builds, such as sex offenders and those on protection. Our qualitative study indicated the impact of various innovations delivered by the Rapid Build model on prison social climate may be substantially moderated by the type and mix of inmates housed at the centre (Thaler et al., 2022). Inmate composition may also serve to reinforce or interact with staff factors that influence climate; for example, staff who have less positive attitudes towards prisoners may have difficulty developing relational aspects of a positive social climate with sex offenders. At the same time, it is noted that both Rapid Build sites manage a range of serious offenders. A possible implication is that promoting positive, and resilient, attitudes towards prisoners could mitigate the impacts of changing inmate composition on social climate and other staff experiences of their jobs.

Our results also indicated significant differences in inmate ratings on the EssenCES between Rapid Build sites and over time. The most prominent pattern to emerge from these results involved reversed trends between EssenCES factors. For example, inmates at Macquarie appeared to have an uptick in favourable ratings of Cohesion and Support in rounds 2 and 3, which contrasted with a decline in ratings of Safety over the same period. As previously mentioned, this pattern of results appears to be indicative of frequent invalid responding on surveys among inmates and may not be interpreted with confidence.

#### Limitations

Some other limitations of the study are noted. While traditional correctional centres were selected for their similarity across a range of characteristics to Rapid Build centres, it was not possible to ensure equivalence between staff or inmate respondent samples across sites, including by use of statistical matching procedures. Differences in survev outcomes between centre categories or individual sites may therefore be a function of differences in the characteristics of respondents to some extent. Specially selected staff and inmate compositions are features of the Rapid Build model that warrant exploration and evaluation; as discussed previously, the current study intended to partly address this by including a 'round 0' wave of surveys. However, such features decrease confidence in attributing observed results to the causal impacts of Rapid Build innovations on staff and inmate experiences, as compared to pre-existing differences among respondents.

A related limitation is that while pre-existing differences were identified as important, it was not possible to gather ratings from staff or inmates prior to their exposure to the Rapid Build context and operation. This was largely an outcome of logistic factors in the development of this study, including Rapid Build rollout timelines and the adoption of anonymous surveying methods. As a result, ratings gathered from Rapid Build sites shortly after their establishment could be variously influenced by pre-existing differences or shortterm impacts of working or living within the new prison climate. Future studies may address this limitation by tracking the experiences of inmates and staff as they transition from a traditional centre to a Rapid Build centre.

We allowed for anonymous participation in the current study to promote honest responding and engage staff and inmates who may otherwise be reluctant to make disclosures about their experiences of prison. This appeared to be supported by the high rates of responding observed in this study compared to others (e.g., Thaler et al., 2022). Repeated measurement of the same individuals was also deemed unfeasible given an expected degree of turnover within a single centre over the study timeframe. While this approach has its merits, the range of analytical techniques available to assess key research questions was somewhat limited compared to repeated measures designs. It is also possible that some respondents were more likely to apply invalid response styles under conditions of anonymity. Planned future evaluations of the Rapid Build model intend to address such limitations by using more objective administrative indicators of inmate and staff outcomes at the centre level.

Lastly, we acknowledge that this study captures inmate and staff experiences over the first two years of Rapid Build operations only. It is possible that factors influencing perceptions of social climate and other staff outcomes differ qualitatively or quantitatively during establishment phases of a correctional centre compared to 'business as usual' phases. As a previously mentioned example, it is possible that staff or inmate characteristics are highly influential in developing an initial sense of climate or culture at a centre, which could then become self-perpetuating or normalised over time. In this regard, the current study may be best conceptualised as giving insights into early implementation of Rapid Build correctional centres. Additional research is needed to better understand dynamics of social climate and the influence of innovations when introduced into fully established and operational Rapid Build centres.

#### Conclusions

The results of this study were consistent with other indications (Thaler et al., 2022) that infrastructure and operational innovations of the Rapid Build correctional centres are associated with more positive experiences of prison social climate, relative to traditional centres. Promisingly, staff experiences of the Rapid Build centres were also associated with more favourable ratings of job demands and satisfaction. Our analyses indicated that differences across centres may be partly attributed to pre-existing differences among staff, which is consistent with the operational philosophy of Rapid Build centres. There was also some evidence of trends towards positive development of social climate at Rapid Build centres over time.

It is important to note, however, that underlying the main distinction of centre categories, there were a number of significant differences in survey results between the two Rapid Build sites. This raises interesting implications about how the various similarities of the core Rapid Build model across sites combine with local operational or population differences to influence outcomes. As utilisation of these centres continues to evolve over time, it is important to identify and implement the combinations of innovative factors that optimise prison social climate and other outcomes for Rapid Build centres across locations.

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## **APPENDIX A**

## Round-specific probabilities of a favourable response to measure items between respondents at Rapid Build and traditional correctional centres

#### Staff

Maaaaaa	Survey round						
Measure	Round 0	Round 1	Round 2	Round 3			
Social climate: Cohesion							
Rapid Build	0.337	0.343	0.447	0.505			
	(0.026)	(0.025)	(0.029)	(0.037)			
Traditional	0.184	0.255	0.296	0.314			
	(0.032)	(0.025)	(0.034)	(0.029)			
Social climate: Safety							
Rapid Build	0.205	0.249	0.241	0.327			
	(0.018)	(0.019)	(0.021)	(0.032)			
Traditional	0.0686	0.0981	0.118	0.0992			
	(0.012)	(0.013)	(0.013)	(0.012)			
Social climate: Support							
Rapid Build	0.571	0.504	0.503	0.554			
	(0.027)	(0.024)	(0.025)	(0.032)			
Traditional	0.396	0.508	0.493	0.447			
	(0.039)	(0.029)	(0.029)	(0.027)			
Social climate: Total							
Rapid Build	0.375	0.376	0.401	0.473			
	(0.017)	(0.018)	(0.019)	(0.026)			
Traditional	0.209	0.280	0.293	0.277			
	(0.020)	(0.016)	(0.018)	(0.016)			
Attitudes towards prisoners							
Rapid Build	0.376	0.360	0.386	0.357			
	(0.020)	(0.020)	(0.024)	(0.027)			
Traditional	0.324	0.356	0.361	0.326			
	(0.031)	(0.022)	(0.023)	(0.019)			
Job demands							
Rapid Build	0.574	0.493	0.511	0.474			
	(0.026)	(0.024)	(0.029)	(0.030)			
Traditional	0.383	0.424	0.517	0.411			
	(0.034)	(0.026)	(0.030)	(0.031)			
Job satisfaction							
Rapid Build	0.707	0.643	0.628	0.592			
	(0.026)	(0.024)	(0.027)	(0.031)			
Traditional	0.582	0.605	0.625	0.584			
	(0.036)	(0.026)	(0.030)	(0.028)			

#### Inmates

Magazina	Survey round						
Measure —	Round 0	Round 1	Round 2	Round 3			
Social climate: Cohesion							
Rapid Build	-	0.468	0.598	0.558			
		(0.031)	(0.029)	(0.034)			
Traditional	-	0.446	0.543	0.560			
		(0.035)	(0.034)	(0.036)			
Social climate: Safety							
Rapid Build	-	0.449	0.347	0.334			
		(0.028)	(0.026)	(0.034)			
Traditional	-	0.456	0.422	0.283			
		(0.034)	(0.030)	(0.025)			
Social climate: Support							
Rapid Build	-	0.302	0.356	0.293			
		(0.020)	(0.019)	(0.023)			
Traditional	-	0.355	0.376	0.309			
		(0.024)	(0.024)	(0.023)			
Social climate: Total							
Rapid Build	-	0.404	0.437	0.400			
		(0.016)	(0.013)	(0.017)			
Traditional	-	0.428	0.447	0.382			
		(0.020)	(0.017)	(0.021)			

## **APPENDIX B**

#### Round-specific probabilities of a favourable response to measure items among staff at Macquarie and Hunter Rapid Build centres and staff at traditional centres















Note. Error bars represent 95% confidence intervals

## **APPENDIX C**

Round-specific probabilities of a favourable response to measure items among inmates at Macquarie and Hunter Rapid Build centres and inmates at traditional centres









Note. Error bars represent 95% confidence intervals

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- Sept 2019 Evaluation of EQUIPS treatment pathways for domestic violence offenders in New South Wales
- Sept 2019 Process evaluation of the Practice Guide for Intervention (PGI): Staff experiences of implementation and continuing service delivery
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- Aug 2019 The Custody Triage Risk Assessment Scale (Custody TRAS): An updated statistical model for predicting risk of return to custody
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Corrections Research, Evaluation & Statistics Governance & Continuous Improvement Corrective Services W GPO Box 31 Sydney NSW Australia

Telephone: (02) 8346 1556 Email: research.enquiries@justice.nsw.gov.au