

Staff burnout in the Children and Young People Secure Estate (CYPSE) in England

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Data availability statement

The data that supports the findings of this study are available from the research team (sse@annafreud.org), upon reasonable request and approval from NHS England and NHS Improvement.

Abstract

Staff working in secure settings tend to experience elevated levels of work stress and burnout, with most of the evidence emerging from studies conducted in adult prison settings in the United States. There is a general lack of research on staff working in the Children and Young People Secure Estate (CYPSE) in England. The present study examined levels of burnout in a range of staff groups across CYPSE settings using data collected between October 2018 and March 2019. Findings revealed moderate burnout levels across a sample of 383 staff from 17 sites. Frontline operational staff in Young Offender Institutions (YOIs) had significantly higher burnout levels than operational support staff, health staff, and non-disclosed staff, but their burnout profile did not significantly differ from residential, operational management, and education staff, according to the Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005). Our findings indicate YOI frontline operational staff may be a particularly vulnerable group for whom workplace support is essential to reduce burnout rates, as are other frontline staff with considerable amount of direct interaction with young people in secure settings, such as teachers and residential staff.

Key words: *Children and Young People Secure Estate; staff burnout*

Introduction

Burnout has been defined as physical and psychological fatigue and exhaustion that a person attributes to specific factors, such as work in general or work with clients (Kristensen et al., 2005). High levels of work-related stress and burnout have been identified in staff groups across a wide range of occupations, particularly those that involve a high degree of person-to-person interaction (Johnson et al., 2005; Aronsson et al., 2017). Specifically, staff working in prisons and other secure settings have reported higher levels of work stress and burnout compared to other occupations (Kristensen et al., 2005, Johnson et al., 2005; Kinman et al., 2014). To date, most of the evidence of burnout in staff working in secure settings comes from research on correctional officers in juvenile settings and prison officers in adult settings in the United States (US) (as such, the terms used to describe frontline operational staff include “prison officers”, “correctional officers”, and “custody/custodial officers”). There is little comparable data on staff working in adult settings in the United Kingdom (UK), and even less on staff working in the Children and Young People Secure Estate (CYPSE). Identifying the extent to which the CYPSE workforce is experiencing burnout is a necessary precursor to planning appropriate resources that support staff wellbeing and consequently, job efficacy and young people’s care. Pursuant to this, we explored burnout levels in staff working in the CYPSE in England and whether these levels differed between settings, job roles, ethnicity, age, and gender.

The Children and Young People Secure Estate

The CYPSE in England and Wales comprises Secure Children's Homes (SCHs), Young Offender Institutions (YOIs), and Secure Training Centres (STCs). About 750 young people are accommodated in the secure estate (Youth Custody Service, 2020). Most of them are accommodated in YOIs (75.3%), followed by STCs (14.3%) and SCHs (10.4%). A range of staff work within these settings with varying duties and levels of proximity to young people, including frontline operational staff (traditionally referred to as "prison officers" or "correctional officers" in the adult, and some youth, literature), residential staff, educators, and healthcare providers. Children and young people in these settings have consistently been shown to have complex and unmet needs, often with significant histories of trauma (Beyond Youth Custody, 2016). Despite the high-risk and high-stress nature of the work in the CYPSE, staff burnout levels remain unclear, yet the consequences of burnout can be detrimental to staff, the workplace, and young people in custody.

Review of the literature

As the prevalence of burnout in the CYPSE has not yet been established, the following review of studies predominantly draws upon adult secure settings. The few studies undertaken with UK prison officers have found considerable work-related stress and feelings of being burnt out (Houdmont, 2013; House of Commons Justice Committee, 2009). In a study by the Prison Officers Association (POA), a professional union for UK prison and secure settings staff, the majority of the prison staff sample presented high rates of psychological distress (Kinman

et al., 2014). More than 35% had been diagnosed with a stress-related illness since working for their employing body. Three-quarters of the sample felt emotionally drained at least once a week, and 49% felt desensitized to the needs of people in prison at least once a week. Despite these findings, 84% of the sample felt pressure to come into work when unwell, increasing the risk of “presenteeism”, or underperformance at work due to illness.

Burnout does not appear to vary across the personal characteristics of ethnicity, age, or gender. A study of juvenile probation officers found no significant differences in burnout across race, gender, or age (Dir et al., 2019), and the POA study found no gender differences in levels of psychological distress or emotional exhaustion (Kinman et al., 2014). While Andersen et al. (2017) found no association between age or gender and burnout, they did find a borderline significant association between experience and burnout (i.e., less experienced staff reported higher burnout). Regarding job role, one study found correctional officers had higher levels of burnout compared to noncustodial staff (Lambert et al., 2010). To date, no study has explored differences between secure settings (i.e., YOIs, SCHs, and STCs).

Findings from a systematic review found that factors relating to organizational structure and climate have the most consistent relationship with prison officers’ job stress and burnout (Finney et al., 2013). These include workloads, physical demands, long hours, overcrowding, understaffing, perceived dangerousness of the job, role conflict, and lack of support (Auerbach et al., 2003; Blevins et al., 2006; House of Commons Justice Committee, 2009). Staff in the CYPSE face several challenges in the workplace, which differ across settings.

For example, a UK report found STCs and YOIs employed significantly fewer “on the ground” staff compared to SCHs, with YOIs having the lowest ratio of staff-to-young people on day and night shifts (Warner et al., 2018). Similarly, STCs and YOIs had significantly lower proportions of teaching staff to young people than SCHs.

Burnout can have harmful consequences for the individual and their workplace, colleagues, and clients. In secure settings already struggling with inadequate staffing levels, sick leave resulting from burnout places additional burden on colleagues to pick up extra workload and contributes to staff turnover. Work-related burnout has been associated with absence due to illness, sleep issues, and intention to quit (Kristensen et al., 2005), the development of unhealthy coping mechanisms, such as greater alcohol consumption (Elliot & Daley, 2013), poor mental health (Purba & Demou, 2019), and poor job performance and reduced client safety (de Lima Garcia et al., 2019; Tawfik et al., 2019). Moreover, young people in custody may be receiving less appropriate and sensitive care to meet their needs as a result (Maslach et al., 2001). Underperforming at work because of burnout can jeopardise the quality of the care clients receive. A meta-analysis found that burnout in healthcare providers, particularly emotional exhaustion, was associated with poorer quality of care, patient satisfaction, and perceptions of safety (Salyers et al., 2017).

A lack of appropriate training and job support may account for issues with staff recruitment and retention in secure settings (Bartlett et al., 2018). Young people in custody have a range of mental health, educational and welfare needs, and staff have not always been

appropriately trained to recognize and manage these complex needs (Lennox, 2014). In conditions of burnout, those working in secure settings are much less likely to sustain “mentalizing” states of mind that can attend to the possibility of coherent narratives that might contextualize a young person's behaviour and lead to the young person experiencing themselves as, firstly, understandable, and consequently more amenable to change (Fonagy et al., 2019). In “non-mentalizing” states of mind, staff are at greater risk of submitting to influences such as unconscious or systematic bias, with a tendency towards undue certainty and impulsive action, behaviours which are likely to engender contexts where sustainable (learned) change is impeded rather than facilitated (Civai & Sanfey, 2021). The focusing of staff attention on building these coherent narratives (i.e., formulations) lies at the heart of the framework for integrated care (SECURE STAIRS) initiative, following recent research and development work on the concept of "Epistemic Trust" (Fonagy & Allison, 2014).

The Maslach Burnout Inventory (MBI) is the most used measure of burnout in the literature, capturing three distinct dimensions – emotional exhaustion, depersonalisation, and reduced personal accomplishment (Schaufeli & Enzmann, 1998). In response to concerns over the construct validity of the MBI, the Copenhagen Burnout Inventory (CBI) was developed (Kristensen et al., 2005). The CBI puts exhaustion and fatigue at the core of burnout and attributes them to specific domains of the person's life: personal burnout, work-related burnout, and client-related burnout. Client-related burnout, specifically, measures the degree to which people see a connection between their fatigue and their “people work” (Kristensen

et al., 2005), which offers an opportunity to understand how client work affects staff wellbeing in challenging and busy environments, such as health or justice settings. To date, the CBI does not appear to have been used with staff working in UK prisons or the CYPSE; however, studies using the CBI have found moderate to high rates of burnout in other frontline professions that involve significant person-to-person contact, including doctors and midwives (Caesar et al., 2020; Hunter et al., 2019).

The aims of this exploratory study are to provide a snapshot of staff burnout levels across the CYPSE and explore whether these levels differ between settings, job roles, ethnicity, age, or gender. The study also aims to add to the limited evidence base on burnout as measured by the CBI in England. Drawing from previous research findings, it is hypothesised that:

- (1) Burnout levels in the CYPSE will be high. This is based on the considerable work-related stress and feelings of being burnt out found amongst UK prison officers (Houdmont, 2013; House of Commons Justice Committee, 2009).
- (2) Burnout will not differ significantly between staff according to demographic characteristics such as age, gender, and ethnicity. This is based on previous studies that have found no differences across various characteristics, e.g., (Dir et al., 2019; Kinman et al., 2014; Andersen et al., 2017).
- (3) Burnout levels will differ significantly according to setting type, and be higher in YOIs. This is based on previous findings that organizational structure and climate have factors the most consistent relationship with prison officers' job stress and

burnout (Finney et al., 2013), and the differences found in organizational structures between YOIs and SCHs (Warner et al., 2018).

- (4) Burnout levels will be significantly higher among staff with custodial roles. This is based on the previous findings that correctional officers have higher levels of burnout compared to noncustodial staff (Lambert et al., 2010).

Materials and Methods

Participants

Staff were recruited from 19 sites in the CYPSE in England to participate in a self-administered survey between October 2018 and March 2019 as part of a wider study during the early implementation phase of the framework for integrated care (SECURE STAIRS; D'Souza et al., 2021). Local collaborators disseminated the surveys alongside participant information sheets and consent forms in both online and paper form to different staff groups across their service. All participants provided informed consent prior to participation and were provided with the opportunity to ask questions. A sample of 383 staff from 17 sites in the CYPSE participated in the survey, with 1 – 80 surveys completed per site. Sites included 11 SCHs, two STCs and four YOIs.

Materials

The surveys captured demographic (ethnicity, gender, age) and service-related information (setting type, service ID, job role). Job role was free text and categorized into the following groups with input from NHS England: frontline operational staff (YOI), frontline

operational staff (residential workers), operational support, operational management, health staff, education staff and not specified. All groups represented a minimum of 5% of the total sample.

The surveys also captured information on staff burnout. Staff were asked to complete the *Copenhagen Burnout Inventory* (CBI; Kristensen et al., 2005), a 19-item tool consisting of three independent subscales: personal burnout (e.g., *How often do you feel worn out?*), work-related burnout (e.g., *Is your work emotionally exhausting?*), and client-related burnout (e.g., *Does it drain your energy to work with clients?*). Respondents were asked to score items on a 5-point scale ranging from “Always”, to “Never/almost never” or from “To a very high degree”, to “To a very low degree”. The response to each item is scaled to range from 0 to 100 and the total score for each subscale is the average score across subscale items, with higher scores indicating higher levels of burnout. Participants who do not complete three or more items in a subscale are marked as non-responders for this subscale. In our sample, three staff were marked non-responders for the client-related burnout subscale and two for the work-related burnout and the personal burnout subscales, for whom the total score for the subscale was coded as missing. All three scales of the CBI have been found to have very high internal reliability, and low non-response rates (Kristensen et al., 2005). In this study, Cronbach alpha reliability coefficients of the CBI subscales were high (personal $\alpha = .84$; work-related $\alpha = .84$; and client-related $\alpha = .94$).

Ethics and funding

Ethics approval for data collection was granted by UCL Ethics Committee (6087/007) and Her Majesty's Prison and Probation Service (2018-335). All data was stored and analysed within the UCL Data Safe Haven (University College London, 2020). This work is supported by NHS England and NHS Improvement and is sponsored by University College London (UCL). No grant number is available.

Statistical Analysis

All analyses were performed using STATA 15 (StataCorp, 2017) and R Studio 3.6.2 (R Core Team, 2020). Descriptive statistics are reported for all variables collected. Multilevel modelling was appropriate given the clustered structure of the data, in which staff were grouped within the services at which they work. In the null models, the variance explained at the service level was examined and no predictors were added. The intraclass correlation coefficient was over 10% for all models, indicating that there was significant service-level variation and confirming that multilevel modelling was the appropriate statistical approach. The second models were run including site, gender, age, and ethnicity as predictors. The final models included job role in addition to previous predictors. The likelihood ratio test was used to compare successive models, which were significant, and all variables were therefore retained in the final models.

Reference groups in the regression analysis represent the largest groups, other than for job role where prison officers were our comparator group of interest. Age categories were collapsed to account for small numbers (65+ merged with 55-64) and create a larger reference

group (15-24 merged with 25-34). Site type was also excluded from the final analysis due to limited power, therefore analysis of variance (ANOVA) test was performed to explore if burnout varied by site type.

Furthermore, it is important that research studies are made relevant to a range of different groups and recognize the importance of looking at the experience of individuals from different minoritized ethnic groups. As there were small numbers in this study, ethnicity items were collapsed in the final analysis. The remaining groups were White, People of colour, and Not specified. We recognize that this is a pragmatic decision to avoid including statistically underpowered groups in the main analysis but does not align with the empirical interest of examining the heterogeneous experiences of individuals from different minoritized ethnic groups. We have therefore conducted supplementary analysis to look at burnout across the more detailed ethnicity groups, with no significant differences found (see supplementary materials).

Results

Respondents were 55.9% (n=214) female, 87.7% (n=338) White, and the largest age group was 15 – 34 years, 35.8% (n=137). Demographic data of respondents are included in Table 1.

[Insert table 1 about here]

Levels of burnout are presented by setting type in Table 2. The overall high levels of burnout are in support of hypothesis 1. To examine the relationship between setting type and burnout scores, ANOVAs were performed. No significant differences were found for personal, client-related, and work-related burnout scores by site type. This does not support hypothesis 3.

Across participants, burnout scores were similar across all three subscales (Table 2), the confidence intervals of burnout scores mean estimates overlapped, thus it could not be concluded that mean scores were different across subscales.

[Insert table 2 about here]

Multilevel regression analyses are presented in Table 3. The likelihood ratio test was significant for the final client-related burnout model compared to its first model [$\chi^2(1) 6.74, p < .01$], therefore all variables were retained. Compared to frontline operational staff (YOI), operational support staff, health staff and staff who did not disclose their job role were significantly more likely to have lower client-related burnout scores. This supports hypothesis 4. No main effects of age, gender or ethnicity were found. This supports hypothesis 2. The likelihood ratio test was significant for the final personal burnout model compared to its first model [$\chi^2(1) 6.24, p < .05$] and the final work-related burnout model compared to its null model [$\chi^2(1) 5.85, p < .05$], therefore all variables were retained. No main effects of age, gender, ethnicity, or job role were found. This supports hypothesis 2 and does not support hypothesis 4, respectively.

[Insert table 3 about here]

Discussion

The aims of the present study were to provide a baseline of burnout levels in staff working in the CYPSE and explore whether these levels differ between settings, job roles, and demographic variables. Additionally, the study added to the limited literature using the CBI measure in England. Our results and their implications are the focus of this discussion.

In relation to the PUMA study's baseline levels of burnout, within which the CBI was developed, our findings show burnout is generally high across CYPSE staff compared to other professions (Kristensen et al., 2005). This is in support of the first hypothesis. However, studies using the CBI in the UK have used different CBI score thresholds to measure burnout in their samples, which highlights limitations in the interpretation of the measure. Using the scale from Caesar et al.'s research (2020) (low burnout scores < 25, moderate burnout scores between 25-50 and high burnout scores > 50), our sample's average burnout score of 46.2 suggests moderate to high burnout. However, in comparison to that used by Hunter et al. (2019), which uses different burnout thresholds, the scores within our sample would be interpreted as low, approaching moderate burnout (low < 50, moderate 50-74, high 75-99.9, severe 100+). Nevertheless, the findings provide a baseline for a sample that is under-represented in the prison staff literature and identify particularly vulnerable subsamples for whom further consideration should be given.

Regression analyses did not find main effects for age, gender, or ethnicity for any of the subscales of burnout. The findings of no main effects of demographic variables on burnout support those from previous research (Dir et al., 2019; Kinman et al., 2014; Andersen et al., 2017) and demonstrate that assumptions should not be made in the workplace based on demographic characteristics as to who is more vulnerable, or more resilient, to burnout. This is in support of hypothesis 2. That being said, future qualitative studies are needed to continue to monitor how burnout might be experienced amongst different groups. Particularly considering the wider context of inequality and oppression faced by people existing at the intersection of multiple marginalised identities, which could compound the impact of workplace burnout on their life outcomes. There was, however, variation by job role for client-related burnout as hypothesised in hypothesis 4. The present findings showed that frontline operational staff (YOI) had significantly higher client-related burnout than operational support staff, health staff, and those who did not specify their roles. These results correspond with those of the PUMA study, which found prison officers scored highest on client-related burnout compared to midwives, social workers, doctors, nurses, and psychiatric staff (Borritz et al., 2006). Residential staff, operational managers and education staff did not differ significantly from frontline operational staff (YOI) in terms of client-related burnout scores. This suggests that these groups, most of which have the greatest amount of person-to-person contact with the children and young people alongside prison officers, are particularly vulnerable and is consistent with previous research findings (Milfont et al., 2008; Titheradge et al., 2019). Working closely with young people with complex trauma histories and in a

psychologically and physically unsafe environment can result in staff experiencing vicarious or secondary trauma (Figley, 1995; Senol-Durak et al., 2006). Furthermore, Isenhardt & Hostettler (2020) found that witnessing violence between people in prison leads to increased burnout amongst staff. The researchers also found that staff working with young people were witness to greater levels of violence than those working with adults, and reported a higher level of burnout. This effect was mediated by a sense of security at work, which was unexpectedly found to be higher for female workers (Isenhardt & Hostettler, 2020).

The finding that levels of client-related burnout differed by job role (hypothesis 4) is important because it identifies subgroups that would most likely benefit from additional support and/or training initiatives that focus on improving the staff-client relationship, such as the framework for integrated care (SECURE STAIRS; Taylor et al., 2018). Through focusing attention on building coherent narratives (formulations) and developing a deeper understanding and trust between staff and the young people in their care, it is intended that staff will be better equipped for their role, thus reducing staff stress and associated burnout, and building a safer environment for both staff and young people. In nurses, staff burnout has been associated with poorer quality care provision (Prapanjaroensin et al., 2017), highlighting staff burnout as not only an occupational concern but also a risk for service-users (Maslach et al., 2001). For example, staff experiencing burnout may struggle with attention to detail or take more unnecessary risks (Halbesleben & Rathert, 2008). In the CYPSE, compromised care provision could look like reduced ability to manage young people or engage in rehabilitative

activities. Given this, it is important that policymaking at both the institutional and national level critically examines the suitability of current support mechanisms for staff working in the CYPSE, and whether they are sufficient for fulfilling the duty of care custodial settings have to ensuring that the safety of young people is a priority. Work-related burnout did not differ by job role, which means that, overall, hypothesis 4 was partially supported. This hypothesis was based on findings that did not separate out client- and work-related burnout, and as such this nuance in findings furthers knowledge, while also raising questions for further research.

Hypothesis 3, that there would be differences in levels of burnout per site type, was not supported by the present findings. It is possible that these findings may be skewed by the unequal sample sizes in each group. The planned regression analysis was not possible due to the low power. Therefore, it would be beneficial to explore this hypothesis on larger and more equitable samples across site types. Nevertheless, it is proposed that organisational-level initiatives, such as improving communication between management and correctional officers, could improve the organisational climate and, consequently, lower levels of stress and burnout (Finney et al., 2013), and increased physical and psychological safety for the children in their care. This is supportive of current developments across the CYPSE (e.g., the framework for integrated care (SECURE STAIRS; Taylor et al., 2018) indicating a move towards more psychologically and trauma-informed approaches that acknowledge the impact of trauma on the environment and, crucially, on those working in it and emphasize the need for staff supervision and support to mitigate against the deleterious effects of this. Future research

should explore which factors specific to the CYPSE affect burnout in frontline operational staff (YOI) to inform practice. This could include moderating factors such as job tenure, amount of direct contact with young people, or the quality of relationships between staff and young people to further explore differences.

Implications

The present findings highlight particular staff groups at heightened risk of client-related burnout, including frontline staff, management, and those working in educational roles. Particular attention to these staff groups is required to ensure adequate support and to avoid the detrimental effects of burnout such as staff absence, staff attrition, or presenteeism (Kristensen et al., 2005; Toppinen-Tanner et al., 2005). The results would appear to support ongoing initiatives in the CYPSE, such as the implementation of the framework for integrated care (SECURE STAIRS; Taylor et al., 2018) and wider reforms, in which staff are trained and supported to work collaboratively in more psychologically informed environments to foster therapeutic relationships with young people in their care. The framework for integrated care (SECURE STAIRS) offers those working in the CYPSE a clear focus around which they can co-create a coherent narrative (“formulation”) of the young people in whose care they collaborate and shared “understanding” (i.e., as mentalizing), along with enhanced opportunities for reflective discussions to make sense of their work experiences. It is argued that increased staff understanding of young people’s stories, facilitated through collaboration and mentalizing, acts as a hereditary “cueing system” for the establishment of epistemic trust, which in turn opens

communicative channels that are assumed to have previously been blocked as adaptive responses to abuse, trauma, exploitation, etc. (Fonagy & Allison, 2014).

In order to work in this way, staff need to be open to their own vulnerability and emotional experience. This however may lead to them being more susceptible to burnout. Therefore, support for staff to mediate against these effects appears to be an essential component of any systemic approach to supporting young people with complex presentations and histories of trauma. It may be argued therefore that a focus on supporting staff through enhanced awareness of the impact of trauma on individuals and systems, promoting the need for self-care and collaborative, co-regulated relationships, and enhanced support systems for staff in the form of clinical supervision and reflective practice, may allow them to make more sense of their own experiences and help to buffer against the effects of vicarious traumatisation and burnout. This study points towards the efficacy of staff being helped to build their own capacity and ability to mentalize the young people in their care. The mechanisms of having better understanding of trauma, which in turn helps staff hear a young person's holistic story of themselves (not just their offending behaviour), which then further enriches their understanding through joint formulations, appear to have a protective influence over burnout and facilitate better care. This increased capacity to mentalize appears to help staff to tolerate the behaviour that would otherwise overly challenge them, which tends to lead to a withdrawal of care. This notion of promoting and supporting positive well-being for adults in a caring role, that allows them to maintain high levels of mentalizing and the ability to offer co-regulation to the children in their care, is one of the central ideas in attachment and

trauma-informed care (e.g., Bevington, Fuggle, & Fonagy, 2015; Bloom, 2013; Bloom & Farragher, 2013; Esaki et al., 2014; Golding, 2008; Hughes et al., 2019; Menschner & Maul, 2016).

Future research is required to explore whether psychologically-informed systemic approaches mitigate against client-related burnout through increased compassionate understanding and improved therapeutic relationships, particularly, to test the mechanisms that increase capacity and ability to mentalize. Future research could also focus on determining the predictors and outcomes of burnout, especially among frontline operational staff. Several work environment factors have been known to impact burnout, including work stress, role conflict and ambiguity, job autonomy, participation in decision making, recognition, and supervisor and collegial support (Lambert et al., 2002, Morse et al., 2012). Qualitative research could also offer rich perceptions of burnout in staff (e.g., Clarke, 2014).

Strengths and limitations of the research

The present study is the first to explore burnout in the CYPSE in England. By including a wide range of roles, it addressed a gap in the literature by highlighting differences in burnout between job roles. Also, by using the CBI measure, we were able to differentiate between three distinct domains of burnout. However, there was a limitation in interpreting the scores, as we found other studies used different cut-offs to differentiate between burnout levels.

Limitations regarding the sample must also be noted. First, the sampling method and recruitment techniques such as opportunity sampling are more prone to bias (e.g.,

oversampling healthcare professionals, those who are more engaged in the research, or those who are less burnt out). Our sample may be susceptible to social desirability bias or non-participation bias (i.e., staff who chose not to take part in the study may differ in their burnout profile). There was also an over-representation of White staff, which is a limitation to burnout research generally, although our sample is representative of the staff sample in the CYPSE. Moreover, the analysis was based on data from sites where the framework for integrated care (SECURE STAIRS) was partially rolled out and potentially alongside other initiatives. These findings may be different for sites where the framework for integrated care (SECURE STAIRS) has been fully or not at all implemented.

Conclusion

The present study is the first national study exploring burnout among staff working in the CYPSE in England. The results suggest that levels of burnout are generally high amongst staff in the CYPSE, but we have also been able to identify particularly vulnerable staff subsamples for whom further consideration should be given. While these groups were not identified by personal characteristics such as age, gender, and ethnicity, we found that frontline operational staff (YOI), residential staff, and teachers experience higher client-related burnout than others, such as health staff. A qualitative enquiry would help to support our findings, primarily to explore what factors contribute to the overall high levels of staff burnout across the CYPSE, which align with high levels of burnout in staff that are involved in a high level of person-to-person interactions. This would also support the exploration of

factors contributing to the differing levels of client-related burnout and need across staff roles, which are noted as roles that involve the most amount of person-to-person contact with children and young people. There have been previous calls for more investment in the health support to children accommodated by the secure estate across Europe (MacDonald et al., 2013), which could be a first step in addressing existing staffing level challenges, and resourcing staff training. As a priority, consideration should be given to additional support and resources, to staff that have been found to experience the most amount of burnout. This is particularly pertinent as the nature of client-related burnout is such that it is perceived to be a result of working with clients. These findings support the rationale for current efforts and initiatives increasing staff support and training in the CYPSE (e.g., the framework for integrated care (SECURE STAIRS), that includes trauma-informed care, with a particular focus on improving staff-young person relationships, and building epistemic trust, to improve the young people's physical and psychological safety.

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Tables

Table 1. Burnout by demographic characteristics.

	Total	Client-related burnout	Personal burnout	Work-related burnout
	N (%)	Mean [95% CI]	Mean [95% CI]	Mean [95% CI]
Gender				
<i>Female</i>	214 (55.9)	46.9 [42.3, 51.5]	48.5 [45.8, 51.3]	46.6 [43.7, 49.6]
<i>Male</i>	168 (43.9)	43.4 [38.9, 47.8]	46.2 [42.7, 49.7]	44.9 [41.6, 48.2]
<i>Other</i>	< 3	-	-	-
Age (years)				
<i>15 – 34</i>	137 (35.8)	51.7 [46.6, 56.8]	47.5 [43.7, 51.3]	46.1 [42.4, 49.8]
<i>35 – 44</i>	117 (30.5)	44.5 [38.5, 50.5]	48.3 [44.7, 51.9]	45.4 [41.8, 49.0]
<i>45 - 54</i>	94 (24.5)	39.2 [32.8, 45.7]	46.9 [42.2, 51.6]	46.6 [41.9, 51.4]
<i>55 +</i>	34 (8.88)	39.1 [26.7, 51.5]	46.4 [38.7, 54.2]	44.5 [36.6, 52.5]
<i>Not specified</i>	< 3	-	-	-
Ethnicity				
<i>Asian/ Asian British</i>	8 (2.09)	43.8 [24.5, 63.0]	44.8 [32.2, 57.4]	42.0 [28.7, 55.2]
<i>Black/ Black British</i>	15 (3.92)	58.2 [38.0, 78.4]	47.0 [30.4, 63.7]	45.3 [27.9, 62.8]
<i>Mixed race</i>	13 (3.39)	48.7 [27.5, 70.0]	48.7 [37.4, 60.0]	45.1 [36.6, 53.5]
<i>White</i>	336 (87.7)	44.5 [41.0, 47.9]	47.2 [44.8, 49.5]	45.8 [43.4, 48.1]
<i>Ethnic group - other</i>	5 (1.31)	43.8 [14.9, 72.8]	49.2 [17.0, 81.4]	51.4 [29.3, 73.5]
<i>Prefer not to disclose</i>	6 (1.57)	56.3 [17.6, 94.9]	61.8 [45.6, 78.0]	54.8 [38.6, 71.0]
Job role				
<i>Frontline operational staff</i>	57 (14.9)	57.0 [50.5, 63.5]	47.3 [41.3, 53.3]	43.5 [37.4, 49.5]
<i>Residential (1)</i>	95 (24.8)	46.2 [40.1, 52.3]	46.8 [42.2, 51.4]	45.7 [41.7, 49.7]
<i>Operational – support (3)</i>	46 (12.0)	43.0 [32.6, 53.5]	44.4 [37.2, 51.7]	42.2 [34.2, 50.1]
<i>Management (4)</i>	44 (11.5)	48.5 [37.9, 59.1]	52.6 [47.2, 57.9]	48.6 [43.5, 53.8]
<i>Health (5)</i>	56 (14.6)	37.9 [28.4, 47.4]	43.5 [37.6, 49.3]	43.7 [37.4, 49.9]
<i>Education (6)</i>	36 (9.40)	47.8 [36.9, 58.7]	49.8 [43.0, 56.6]	49.3 [42.4, 56.2]
<i>Not specified (7)</i>	49 (12.8)	35.4 [26.7, 44.2]	49.7 [43.6, 55.7]	50.0 [44.0, 56.0]

Table 2. Staff burnout by site type.

Variable	Secure children's home N = 229	Secure training centre N = 87	Young offender institution N = 67	All sites N = 383
	Mean [95% CI]	Mean [95% CI]	Mean [95% CI]	Mean [95% CI]
Personal burnout	48.1 [45.2, 51.0]	46.9 [42.6, 51.2]	45.8 [40.7, 51.0]	47.4 [45.2, 49.6]
Client burnout	44.8 [40.4, 49.1]	50.3 [43.9, 56.7]	40.5 [33.2, 47.9]	45.3 [42.1, 48.5]
Work burnout	47.1 [44.2, 50.0]	44.2 [39.5, 49.0]	43.8 [39.1, 48.4]	45.9 [43.7, 48.0]

Table 3. Multilevel regression analysis with age, gender, ethnicity, and job role predicting burnout levels.

Variable	Client burnout	Personal burnout	Work burnout
	Coefficient [95% CI]	Coefficient [95% CI]	Coefficient [95% CI]
Age			
15 - 34 (ref)			
35 - 44	-1.67 [-7.34, 4.00]	1.98 [-3.01, 6.97]	0.82 [-4.06, 5.69]
45 - 54	-2.91 [-9.17, 3.36]	1.34 [-4.17, 6.86]	2.67 [-2.74, 8.07]
55+	-4.29 [-13.03, 4.45]	0.87 [-6.83, 8.58]	0.17 [-7.36, 7.69]
Gender			
Female (ref)			
Male	-4.20 [-9.02, 0.62]	-1.44 [-5.67, 2.79]	-0.74 [-4.89, 3.40]
Ethnicity			
White (ref)			
People of colour	7.36 [-0.25, 14.98]	0.67 [-6.05, 7.40]	-0.27 [-6.90, 6.35]
Not specified	11.22 [-6.91, 29.34]	13.58 [-2.37, 29.54]	8.28 [-7.31, 23.87]
Job role			
Operational frontline (YOI) (ref)			
Operational frontline (Residential worker)	-8.56 [-18.15, 1.03]	-2.91 [-11.13, 5.31]	-0.23 [-8.31, 7.86]
Operational support	-15.11* [-24.65, -5.57]	-6.49 [-14.92, 1.94]	-4.91 [-13.13, 3.32]
Operational management	-3.91 [-13.44, 5.61]	3.46 [-4.97, 11.88]	2.92 [-5.32, 11.15]
Health	-12.03* [-21.32, -2.74]	-5.81 [-13.93, 2.31]	-1.81 [-9.75, 6.14]
Education/ teacher	-8.72 [-19.61, 2.16]	-1.99 [-11.48, 7.51]	0.25 [-9.05, 9.55]
Not disclosed	-11.82* [-21.36, -2.28]	4.15 [-4.21, 12.51]	7.65 [-0.53, 15.83]

Note: * p<0.05, ** p<0.01, *** p<0.001

Supplementary materials

Staff burnout scores by ethnicity

Mean burnout scores by ethnicity are present in Table A. To examine the relationship between ethnicity and burnout scores, ANOVAs were performed. No significant differences were found for personal, client and work burnout scores by ethnicity.

Table A. Staff burnout by ethnicity

Variable	Personal burnout	Client burnout	Work burnout
	Mean [CI]	Mean [CI]	Mean [CI]
Total	47.4 (45.2-49.6)	45.3 (42.1-48.5)	45.9 (43.7-48.0)
Asian/ Asian British	44.8 (32.2 – 57.4)	43.7 (24.5 – 63.0)	42.0 (28.7 – 55.2)
Black/ Black British	47.0 (30.4 – 63.7)	58.2 (38.0 – 78.4)	45.3 (27.9 – 62.8)
Mixed race	48.7 (37.4 – 60.0)	48.7 (27.5 – 70.0)	45.1 (36.6 – 53.5)
White	47.2 (44.8 – 49.5)	44.5 (41.0 – 47.9)	45.8 (43.4 – 48.1)
Ethnic group - other	49.2 (17.0 – 81.4)	43.8 (14.9 – 72.8)	51.4 (29.3 – 73.5)
Not stated	61.8 (45.6 – 78.0)	56.3 (17.6 – 94.9)	54.8 (38.6 – 71.0)