Psychological impacts of challenging behaviour and motivational orientation in staff supporting individuals with autistic spectrum conditions

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(Requests for access to data obtained and used in this study can be made in writing to the corresponding author.)

Abstract

Despite increased risk of experiencing challenging behaviour, psychological impacts on community and residential staff supporting adults with autistic spectrum conditions are under-explored. Studies examining related roles indicate protective psychological factors may help maintain staff well-being. This study investigated relationships between motivational orientation (eudaimonic or hedonic), challenging behaviour frequency and type (physical, verbal or self-injurious), and psychological impacts (anxiety, depression and life satisfaction). Participants (*N*=99) were recruited from six organisations providing autism-specific adult services within Scotland. A series of binary logistic regressions demonstrated weekly challenging behaviour exposure (compared to monthly or daily) significantly increased the likelihood of anxiety caseness. Increased eudaimonic motivation significantly reduced the likelihood of anxiety caseness while also predicting higher life satisfaction. Further, having high levels of eudaimonic motivation appeared to moderate the impact of weekly challenging behaviour exposure on anxiety. No motivational orientation or challenging behaviour factor significantly predicted depression. This sample also demonstrated higher anxiety, lower depression, and equivalent life satisfaction levels compared to general population norms. The results highlight the need for considering staff's motivational orientations, their frequency of exposure to

challenging behaviour, and both positive and negative psychological outcomes,

if seeking to accurately quantify or improve well-being in this staff population.

Introduction

Studies examining outcomes for adults diagnosed with Autistic Spectrum Conditions (ASCs) indicate a majority go on to live in supported or residential care (Ballaban-Gil et al., 1996; Chamak & Bonniau, 2015; Howlin et al., 2013). As Challenging Behaviour (CB) highly co-occurs with ASCs, with CB frequency rising in line with ASC symptoms (Holden and Gitlesen, 2006; Matson and Rivet, 2008), ASC-specific community and residential support staff are among those at greatest risk from CB. However, a notable lack of research exists quantifying the experiences of these staff (Butrimaviciute and Grieve, 2014).

While differences exist, staff experiences in ASC services share similarities with those from related roles, including staff supporting people with intellectual disabilities (Butrimaviciute and Grieve, 2014). As ASCs also highly co-occur with intellectual disabilities (Fombonne, 2003), literature examining this staff population could indicate likely effects of CB on ASC support staff. Most intellectual disability research quantifies staff impacts in terms of burnout, however, associations between CB-related stress and burnout are considered weak (Rose, 2011). While this may indicate CB does not negatively impact staff, it may also imply aspects of the role protect staff from burnout (Skirrow and Hatton, 2007).

One such example identified from the literature is staff's feelings of personal accomplishment, found to be unaffected or even increased when experiencing CB (Chung & Corbett, 1998; Hensel et al., 2012; Ko et al., 2012; Mutkins et al., 2011). These findings align with research advocating the consideration of protective psychological factors for maintaining well-being in support staff (Hastings et al., 2004). As similar feelings of achievement have been identified in ASC support staff (Butrimaviciute and Grieve, 2014), a factor worthy of examination in this population is eudaimonic motivation.

Eudaimonia, and the related concept hedonia, have long been explored as distinct yet overlapping conceptions of well-being. A recent review of the literature summarised extant definitions, isolating "core" elements for both (Huta and Waterman, 2014). Eudaimonia is most frequently defined by authenticity (acting accordingly with one's true self/values), meaning (relating, contributing, having purpose), excellence (striving to improve behaviour, performance, accomplishment) and growth (fulfilling potential, pursuing goals, seeking challenges), while hedonia is defined as pleasure, enjoyment and satisfaction with life (Huta and Waterman, 2014). As personal accomplishment positively correlates with opportunities for personal growth which overlap notably with core elements of eudaimonia (including "task significance" and "experienced meaningfulness of the work") (Maslach and Jackson, 1981), seemingly resilient

feelings of personal accomplishment identified in intellectual disability staff exposed to CB could represent experiences of eudaimonic well-being.

Eudaimonic well-being has been demonstrated both during challenging tasks and those related to the "core-work" (substantive purpose) of a role, while hedonic well-being was experienced during easy, non-core-work tasks (Kopperud and Vittersø, 2008; Vittersø et al., 2010). As ASC support staff are at high risk of CB, their job is likely frequently challenging, with most work hours spent conducting the core-work of supporting individuals. They are therefore far more likely to encounter opportunities for eudaimonic well-being.

Both eudaimonia and hedonia have been operationalised as motivational orientations (Huta and Waterman, 2014). As fulfilling motive-congruent goals have been found to promote well-being (Brunstein, 2010), eudaimonically-motivated ASC support staff will have greater opportunity to experience motivational congruence, and therefore well-being. However, those whose experiences do not align with their motivations have demonstrated a greater risk of depressive symptoms (Schultheiss et al., 2008). As CB exposure and other core duties (e.g. administering personal care) are unlikely to be experienced as pleasurable or enjoyable, being hedonically-motivated may therefore negatively impact these individuals.

In response to calls from the literature, this study explores the experiences of community and residential staff supporting adults with ASCs by first investigating the influence of CB (Butrimaviciute and Grieve, 2014) on staff anxiety, depression and life satisfaction, then exploring potential moderating effects of motivational alignment (eudaimonic/hedonic) to determine if eudaimonic motivation acts as a protective psychological factor (Hastings et al., 2004).

Methods

Data collection and participants

Ethical approval was granted by the University of Glasgow. Participants were support workers recruited from six organisations providing ASC-specific adult services within Scotland. Selection criteria required that participants' roles involved directly supporting an adult with a confirmed ASC diagnosis requiring round-the-clock care and presenting with challenging behaviour at least monthly. Participants either worked in community settings (individual's homes or supported independent accommodation) or in residential care facilities. Self-report data detailing staff experiences in the role, and of the individual they supported, was collected via anonymous questionnaire.

The final sample (*N*=99) included 64 females and 35 males ranging from 19 to 65 years old (*M*=42.2, *SD*=11.5). Duration in the role ranged from one to 30 years, with staff averaging approximately eight years' experience (*M*=7.98, *SD*=6.14). Participants worked in either community-based accommodation (81.8%) or residential care homes (18.2%), with 71.7% holding a qualification they considered relevant to their role. Participants encountered CB either monthly (19.2%), weekly (35.4%) or daily (45.4%), as verbal (60.6%), physical (67.7%) and self-injurious (75.8%) behaviours, experiencing all three categories (35.7%), two (34.7%) or only one (29.6%). Participants worked with either verbal (53.5%) or non-verbal (46.5%) individuals, describing them as requiring constant (58.6%), frequent (31.3%), occasional (8.1%) or minimal (2.0%) support with daily tasks (e.g. washing, dressing) and having high (8.1%), medium (49.5%) or low (42.4%) levels of general function.

Measures

Hedonic and Eudaimonic Motives for Activities (Revised) scale (HEMA-R).
Eudaimonic and hedonic motivation were measured using the trait version of the 10-item HEMA-R, a revision of the original nine-item HEMA scale (Huta and Ryan, 2010) obtained by personal communication from Veronika Huta and based on her recent theoretical developments (Huta, 2015). The HEMA-R demonstrated

good internal consistency for both eudaimonic (α=.845, 95% CI=[.791, .888]) and hedonic (α=.807, 95% CI=[.739, .861]) subscales.

The Satisfaction with Life (SWL) Scale. Subjective well-being was measured by life satisfaction, as described by Diener et al. (1985). The scale demonstrated good internal consistency (α=.840, 95% CI=[.785, .885]).

The Hospital Anxiety and Depression Scale (HADS). Participants' psychological distress was measured using the HADS (Zigmond and Snaith, 1983). A score of 8+ on either subscale has been recommended as the optimal cut-off point to indicate "caseness" (the presence of the condition of interest) (Bjelland et al., 2002). Both anxiety (α=.840, 95% CI=[.786, .884]) and depression (α=.776, 95% CI[.701, .837]) subscales demonstrated good internal consistency.

Analytical approach

Data distributions were evaluated by visual inspection (histograms and Q-Q plots) and Kolmogorov–Smirnov tests. All dependent variables and several independent variables displayed significant departures from normality despite numerous attempted transformations. Consequently, non-parametric statistical tests were favoured and median scores were used as a more suitable measure of central tendency.

Univariate analysis was first conducted between the three dependent variables (anxiety, depression and life satisfaction) and variables relating to staff (age, gender, years of experience, working in a community or residential setting, holding a qualification relevant to the role) or the individuals they support (perceived level of function, support frequency required, being verbal or non-verbal). Spearman correlations were used to investigate relationships between continuous variables. Chi-Squared tests were used for examining dichotomous data, or Fisher's exact tests if any cell counts were less than five. Kruskal-Wallis H tests were used to compare dichotomous outcomes with ordinal categorical data. Type 1 error was not controlled for at this stage, as not identifying possible confounders was deemed a greater concern. Type 1 error was controlled for in each subsequent stage of analysis using the Holm-Bonferroni correction (Abdi, 2010). A family-wise error rate of .15 was chosen, in line with recommendations from Tabachnick and Fidell (2007).

The second analysis stage included binary logistic regressions to identify possible predictors of clinically significant cases of anxiety/depression (or anxiety/depression "caseness"). As data obtained for life satisfaction violated assumptions required for effective analysis using linear or ordinal logistic regression methods, the variable was dichotomised, splitting the sample above (n=54) or below (n=45) the median, and also analysed via binary logistic

regression. For the purposes of prognostic modelling, clinical samples with less than 10 "events" (eg: cases of anxiety) per predictor have been defined as "small", presenting problems of overinflated regression coefficients (Steyerberg et al., 2000). This being the case for all dependent variables in this study, in line with recommendations to improve predictive utility, linear shrinkage factors for regression models were attained using Van Houwelingen and Le Cessie's (1990) heuristic formula as outlined by Steyerberg et al. (2000). This provided "shrunken" regression coefficients better for considering predictor's effects out-with this sample. Challenging behaviour (CB frequency, presence of self-injurious, physical or verbal CB) and motivational orientation measures (eudaimonic and hedonic movation) were included as potential predictors in all models. One measure, variety of CB, was removed from analysis due to issues of multicollinearity. Demographic variables relating at stage 1 to dependent variables with a significance level of $p < .50$ were also included in the relevant regression models as potential confounders, as predictive gains doing so were found to outweigh the costs caused by erroneously including "noise" covariables in similar, small-sample clinical studies (Steyerberg et al., 2001). Comparison groups chosen in regression models for nominal or ordinal categorical variables were the largest possible subset of the sample. Goodness-of-fit for all regression

models was assessed using Hosmer and Lemeshow tests (p<.05 indicating poor model fit).

A third, exploratory stage of analysis was included to investigate whether motivational orientation altered CB's psychological impacts.

Results

Median scores, interquartile ranges, and maximum/minimum scores observed/possible for all continuous variables, are displayed in Table 1.

Prevalence in this sample was 35.4% for anxiety caseness and 13.1% for depression caseness. Participants were further categorised via the HADS as having normal (64.6%), mild (20.2%), moderate (12.1%) or severe (3%) anxiety, and normal (86.9%), mild (10.1%) and moderate (3%) depression.

Using the satisfaction with life scale, most participants (72%) rated themselves as satisfied with their lives (7.1% extremely satisfied, 36.4% satisfied, 28.3% slightly satisfied), with the remainder either neutral (4%), slightly dissatisfied (15.2%), dissatisfied (8.1%) or extremely dissatisfied (1%).

Demographic Variables

Three possible confounders for depression were identified; gender ($\chi^2(1)$=5.858, p=.016), holding a qualification relevant to the role (Fisher's Exact

Test, p=.312), and whether individuals being supported were verbal or non-verbal ($\chi^2(1)$=2.529, p=.112). Similarly, gender ($\chi^2(1)$=1.703, p=.192), holding a relevant qualification ($\chi^2(1)$=1.037, p=.308) and supported individuals being verbal or non-verbal ($\chi^2(1)$=1.565, p=.211) were also identified as possible confounders for life satisfaction.

Differences between supported individuals' perceived levels of function (low, medium, high) demonstrated significance sufficient for inclusion as a possible confounder for anxiety, $H(2)$=1.912, p=.384.

Examining "support frequency", due to a low number of events in each, and a possible lack of conceptual distinction between them, results for the least frequent categories listed in the questionnaire ("occasional" and "minimal") were combined, giving three final ordinal categories ("occasional/minimal", "frequent" and "constant"). Support frequency demonstrated significance sufficient for inclusion as a possible confounder for anxiety, $H(2)$=4.512, p=.105.

No remaining variables (age, years of experience in the role, working in a community or residential setting) were found to be potential confounders.

Logistic Regression

Table 2 summarises regression results for anxiety caseness. The model was statistically significant, $\chi^2(11)$=30.558, p=.001, explaining 37.1%

(Nagelkerke R^2) of the variance. Weekly CB exposure significantly predicted an increased likelihood of anxiety caseness (OR=7.22, p=.002; 95% CI=[2.06, 25.35]). Increased eudaimonic motivation significantly predicted a decrease in likelihood of anxiety caseness (OR=.849, p=.003; 95% CI=[.763, .944]). For each unit reduction in HEMA-R eudaimonic motivation score, the odds of anxiety caseness increased by a factor of 1.18 (1/.849). No other variables significantly predicted anxiety caseness after correcting for type 1 error.

The regression model for life satisfaction was not statistically significant, $\chi^2(10)$=15.821, p=.105. However, increased eudaimonic motivation significantly predicted an increased likelihood of higher life satisfaction (OR=1.13, p=.007; 95% CI=[.352, 2.906]) after correcting for type 1 error.

No variables significantly predicted depression after correcting for type 1 error.

Additional Analysis

The sample was split by HEMA-R scores at the median giving high (n=54) and low (n=45) eudaimonic motivation subsamples. Anxiety caseness was twice as prevalent in those low (44.4%) than those high in eudaimonic motivation (22.2%). Depression caseness was also more prevalent in those low (17.8%) than those high (7.4%) in eudaimonic motivation. Finally, more of those in the

high eudaimonic motivation group (63%) than the low (44.4%) reported above average life satisfaction. The difference in anxiety caseness across subsamples was statistically significant ($\chi^2(1)$=5.541, p=.019), though those for depression ($\chi^2(1)$=2.478, p=.115) and life satisfaction ($\chi^2(1)$=3.395, p=.065) were not.

A full sample post-hoc logistic regression was conducted to attain regression coefficients for eudaimonic motivation and CB frequency, adjusted only for each other, in predicting anxiety caseness. Observed coefficients were slightly smaller for both previously observed main effects of eudaimonic motivation (*B*=-0.14 vs. *B* =-0.16) and daily CB frequency (*B*=1.78 vs. *B*=1.98). It was therefore estimated that regression models containing only these two variables would provide conservative estimates of their effects suitable to examine whether eudaimonic motivation moderated the impact of CB frequency on anxiety caseness. Logistic regressions were next conducted examining the effect of CB frequency, adjusted for eudaimonic motivation, in each subsample. Results are presented in Table 3.

In the low eudaimonic motivation group, the model was significant, $\chi^2(3)$=10.640, p=.014, explaining 28.7% (Nagelkerke R^2) of the variance. As in the full sample, experiencing CB weekly (compared to daily) was significantly associated with an increased likelihood of anxiety caseness (OR=10.64, p=.004;

95% CI=[2.16, 52.36]). However, increased eudaimonic motivation no longer significantly predicted decreased anxiety caseness.

This trend was reversed in the high eudaimonic motivation group. The model was significant, $\chi^2(3)=11.294$, $p=.010$, explaining 28.9% (Nagelkerke R^2) of the variance, however, while CB frequency no longer significantly predicted anxiety caseness, increased eudaimonic motivation once again significantly predicted decreased anxiety caseness (OR=.525, $p=.006$; 95% CI=[.331, .834]). For each unit reduction in HEMA-R eudaimonic motivation score, the odds of anxiety caseness increased by a factor of 1.90 (1/.525).

Discussion

This study extends the literature examining support staff in ASC-specific community and residential services by quantifying their experiences, examining CB's psychological impacts, and relating these impacts to possible resilience factors (motivational alignment).

Staff psychological distress and subjective well-being

This sample demonstrated higher anxiety (35.3%) and lower depression (13.1%) than equivalent scores from a large German general population sample (anxiety=21%, depression=23%) (Hinz and Brähler, 2011) using recommended HADS cut-off scores (8+) discussed previously. The same trend of higher anxiety

(15.1%) and lower depression (3%) also occurred in comparison with a large British non-clinical population (anxiety=12.6%, depression=3.6%) using higher HADS cut-off scores (11+) (Crawford et al., 2001).

Little opportunity for comparison with equivalent staff populations exists in the literature. However, a sample of Australian intellectual disability support staff (*N*=80) showed 16.25% of respondents reporting clinically significant levels of anxiety using the DASS-21 (Mutkins et al., 2011), while 16.2% of a sample of Welsh staff (*N*=78) working in residential intellectual disability support services also reported clinically significant anxiety levels using The Thoughts and Feelings Index (Jenkins et al., 1997). This study's sample recorded more than double the percentage of clinically significant cases of anxiety (35.3%).

These results align with findings indicating anxiety and fear are frequently reported reactions to CB more broadly, and that fear is a "core experience" of ASC support staff facing CB (Butrimaviciute and Grieve, 2014).

As anxiety involves heightened sensitivity to threat, higher anxiety in this sample could arise from CB frequency increasing in line with ASC symptoms. Hence, while ongoing vulnerability/threat assessment is necessary in roles encountering CB, demand is perhaps heightened for ASC support staff. This greater demand may explain the intense physical and mental engagement found

to be core to ASC support staff experiences, as well as staff's greater compulsion to explore CB's meaning (Butrimaviciute and Grieve, 2014).

It is notable that depression is lower in this sample than in general population samples. Depression was however still higher (13.1%) than in aforementioned Australian (3.8%) and Welsh (7.5%) samples from intellectual disability services (Jenkins et al., 1997; Mutkins et al., 2011), though previous qualitative work highlights a possible explanation for this observation. ASC support staff demonstrated continuous self-reflection regarding work experiences, being "largely responsive to either failure or success", with perceived "failure" arising from ineffectively dealing with CB, often leading to feelings of guilt, self-blame and self-doubt (Butrimaviciute and Grieve, 2014). CB being more frequent in ASC services would give support staff more CB experiences to reflect on, more opportunities to perceive "failure", and consequently, more feelings of guilt, self-blame and self-doubt which could exacerbate or maintain depressive thinking.

Life satisfaction scores (*Mdn*=24, *IQR*=8) lay within range of established population norms (Pavot and Diener, 1993, 2008), were close to mean norms for English male (*M*=23.0, SD=6.8) and female adults (*M*=23.7, *SD*=6.7) (Pavot and Diener, 2008), along with nurses and health workers (*M*=23.6*, SD*=6.1) (Pavot and Diener, 1993), staff populations also exposed to CB. This could indicate ASC

support staff are approximately as satisfied with their lives as the general population, and comparative staff populations, despite increased CB exposure risk.

This sample demonstrating life satisfaction levels comparable to general and equivalent population samples, lower depression than general population samples, and an increased likelihood of being high in life satisfaction with rising eudaimonic motivation, may result from rewarding aspects of the work, including feelings of achievement and fulfilment in successfully supporting others (Butrimaviciute and Grieve, 2014).

Impacts of the role and challenging behaviour

No variables relating to staff (age, gender, years of experience, working in a community or residential setting, qualifications), the individuals they support (perceived level of function, support frequency required, being verbal or non-verbal), or specific forms of CB encountered (physical, verbal, self-injurious) significantly predicted staff anxiety, depression or life satisfaction. However, staff experiencing CB weekly were significantly more likely to experience anxiety caseness than those with daily exposure, while those experiencing it monthly did not significantly differ. Accounting for statistical shrinkage, these results indicate that workers in similar roles in ASC services in the general population,

experiencing CB weekly, may be up to 3.78 times more likely to experience anxiety caseness than those encountering CB daily. This appears to indicate that not only is CB a key factor in determining staff well-being in ASC services, but exposure frequency is of greater importance than the form it takes.

These results also contradict literature findings of positive monotonic relationships between CB exposure frequency and feelings of fear/anxiety (Lambrechts et al., 2009). Monthly CB exposure may not be sufficiently frequent to increase anxiety, and daily exposure may offer more frequent opportunities to acclimatise, developing coping strategies and confidence. Weekly CB exposure may be the "worst of both worlds"; not frequent enough to form adaptive responses, and not infrequent enough to limit concern. It is also possible however that a decreasing likelihood of anxiety caseness with increased CB exposure (weekly to daily) could result from emotional exhaustion or numbing indicative of burnout.

Relating staff well-being and motivational alignment

Increased eudaimonic motivation significantly predicted reduced anxiety caseness, contradicting previous general population findings that eudaimonia would not be therapeutically useful in reducing anxiety (Henderson et al., 2013a). It may be that eudaimonically-motivated staff in this sample were likelier to view

incidents of CB as meaningful opportunities for personal growth/accomplishment rather than threats. Also, given CB can serve communicative functions for individuals with ASCs, eudaimonically-motivated staff seeking to relate and contribute to others could be more likely to view CBs as opportunities to understand and assist supported individuals, for example, by identifying and alleviating discomfort. Qualitative findings already demonstrate strongly valued feelings of personal achievement and fulfilment exist in ASC support staff (Butrimaviciute and Grieve, 2014). Framing CB experiences as described above could therefore afford staff opportunities for enhanced eudaimonic well-being sufficient to reduce the likelihood of developing anxiety. This is further supported by the results demonstrating weekly CB frequency was more likely to predict anxiety caseness in the "low" eudaimonic motivation group than in the full sample, and did not significantly predict anxiety caseness for those with "high" eudaimonic motivation. Also, the prevalence of anxiety caseness observed in the "high" eudaimonic motivation subsample (22.2%) is not only half that of the "low" subsample (44.4%), but is comparable to general population norms discussed previously (21%) (Hinz and Brähler, 2011). This indicates eudaimonic motivation moderating the impact of weekly CB exposure.

Implications and suggestions for future work

Anxiety, more so than depression, appears a significant risk for this staff population. Future work should therefore examine staff anxiety as a priority, both to improve staff well-being and minimise impacts to supported individuals arising through staff stress.

Undesirable organisational factors can result from staff stress, such as turnover, absenteeism, and the loss of skilled/experienced staff, discontinuities of care actually found to be widely predictive of behavioural disorders (Hastings, 2002). The finding that weekly CB exposure (more so than daily or monthly) predicted anxiety in this sample could therefore help inform staff management to minimise such impacts. However, further studies (including longitudinal designs) should be conducted to better understand CB frequency's relationship with anxiety.

Previous research also demonstrates that interventions successful in reducing staff stress (including anxiety) in a related staff population (intellectual disability services) led to positive changes in staff interaction with supported individuals, including increased positive, social and assistance interactions (Rose et al., 1998). Similar interventions from the intellectual disability literature could therefore be explored in ASC services to improving both care and staff well-being.

It should be noted that staff anxiety or depression can also arise via stress-inducing organisational factors, including role ambiguity and lack of managerial support (Hastings, 2002). Future work should therefore consider organisational factors' impacts on staff well-being. This could be achieved using a larger sample and adopting a mediation model with structural equation modelling to allow for the testing of possible mediators of outcome.

This study's results support further consideration of the protective function of positive role experiences and internal psychological factors in improving staff well-being (Hastings et al., 2004), with interventions promoting eudaimonic motivation being particularly worthy of exploration in ASC and related staff populations. Existing interventions, including acceptance commitment therapy and well-being therapy, may already promote eudaimonic motivation by framing psychological distress as an opportunity for personal development (Huta, 2015).

Finally, eudaimonic well-being experiences appear more likely for ASC staff, as those with the complimentary motivational alignment experienced reduced psychological distress (anxiety) in this study. This has implications for future measurement of staff distress in this and related populations. Specifically, as feelings of personal accomplishment overlap conceptually with core aspects of eudaimonic well-being, the Maslach Burnout Inventory's use of a personal accomplishment subscale to quantify burnout may represent a confounding

variable in ASC and intellectual disability staff. Its ongoing and widespread use in related staff populations should therefore be considered with caution.

Limitations

The present findings should be considered in the context of a number of limitations. The study was based on self-report measures susceptible to retrospective and self-presentation biases, particularly in organisational contexts (Donaldson and Grant-Vallone, 2002). Further, using staff self-reports to subjectively detail the individuals they support (e.g. "level of function") means results can only be interpreted as revealing the well-being impacts of staff's perceptions of such aspects of their role, though this is less of a limitation for less subjective variables (e.g. CB frequency being a "weekly" or "daily" occurrence).

Concerning the measures used, unlike the HADS and life satisfaction scales, the HEMA-R has not received extensive validation in the literature. Also, the scale upon which claims of construct validity are based (Huta, 2013), the Orientations to Happiness Scale (Peterson et al., 2005), has itself been criticised for lacking construct validity (Henderson et al., 2013b). Further, the concepts of eudaimonia/hedonia have been criticised for being potentially too broad and indistinct (Kashdan et al., 2008). However, this is perhaps unavoidable when considering a still-evolving concept. Finally, the use of trait (rather than state)

measures of motivational orientation, did not allow us to exclude the possibility that eudaimonic motivation's relationship with life satisfaction in this sample exists independently of staff's supportive role. Future research should consider using state-level measures to better explore relationships between well-being and protective aspects of the role.

Conclusion

This study meaningfully extends the literature on an under-explored population: community and residential staff supporting people with ASCs. Further, it demonstrates the need to consider their experiences as distinct from those of staff working in related services due to divergent impacts in terms of anxiety and depression.

This study also highlighted the need to consider both positive and negative aspects of roles exposed to CB, as well as potential sources of psychological resilience, if seeking to understand and promote staff well-being in these populations. By encouraging such exploration, it is hoped this study can contribute to future improvements in staff support, maximising service's abilities to provide high quality care.

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Table 1. Medians, Interquartile Ranges and maximum and minimum

possible/observed scores, for all experimental variables (*N*=99)

Measures	EM	HM	SWL	Anxiety	Depression
Possible Range of scores	5-35	5-35	5-35	0-21	0-21
Mdn	30	23	24	5	3
IQR	8	8	8	6	4
Max	35	35	33	18	11
Min	12	8	7	0	0

Mdn: Median; IQR: Interquartile Range; Max: Maximum score observed among all participants; Min: Minimum score observed among all participants; EM: Eudaimonic Motivation; HM: Hedonic Motivation; SWL: Satisfaction with life.

Table 2. Results of the logistic regression model predicting anxiety caseness (*N*=99)

Predictors	*B*	*B* (Sh)	OR (95% CI)	OR (Sh)	*p*
Motivational Orientation					
Eudaimonic Motivation	-0.16	-0.11	0.85 (0.76-0.94)	0.90	0.00*
Hedonic Motivation	-0.04	-0.03	0.96 (0.88-1.05)	0.97	0.33
Challenging Behaviour					
Self-Injurious CB	0.03	0.02	1.03 (0.28-3.77)	1.02	0.97
Verbal CB	0.97	0.66	2.65 (0.83-8.44)	1.93	0.10
Physical CB	1.24	0.83	3.45 (1.00-11.92)	2.29	0.05
Frequency of CB (Weekly)[a]	1.98	1.33	7.22 (2.06-25.35)	3.78	0.00**
Frequency of CB (Monthly)[a]	1.06	0.72	2.89 (0.62-13.46)	2.04	0.18
Possible Confounding Variables					
Support Level (Occ./Min.)[b]	-1.06	-0.71	0.35 (0.04-3.03)	0.49	0.34
Support Level (Frequent)[b]	0.52	0.35	1.69 (0.50-5.71)	1.42	0.40
Level of Function (Medium)[c]	0.42	0.28	1.52 (0.50-4.64)	1.32	0.46
Level of Function (High)[c]	2.14	1.30	8.48 (1.00-72.08)	3.67	0.05

(Sh): Shrunk using linear shrinkage factor of 0.673, OR: Odds Ratio, CI: Confidence Interval, (Occ./Min.): Occasional/Minimal.

[a] Comparison group = Frequency of CB (Daily)

[b] Comparison group = Support Level (Constant)

[c] Comparison group = Level of Function (Low)

* Exact p value is 0.003, significant corrected for family-wise error rate of .15.

** Exact p value is 0.002, significant corrected for family-wise error rate of .15

Table 3. Results of logistic regression models predicting anxiety caseness for respondents high or low in eudaimonic motivation.

Groups / Predictors	*B*	*B* (Sh)	OR (95% CI)	OR (Sh)	*p*
Low Eudaimonic Motivation (n=45)					
Eudaimonic Motivation	-0.11	-0.09 [b]	0.90 (0.75-1.08)	0.92 [b]	0.26
Frequency of CB (Weekly)[a]	2.37	1.92 [b]	10.64 (2.16-52.36)	6.82 [b]	0.00*
Frequency of CB (Monthly)[a]	1.26	1.03 [b]	3.54 (0.60-20.99)	2.79 [b]	0.16
High Eudaimonic Motivation (n=54)					
Eudaimonic Motivation	-0.64	-0.53 [c]	0.53 (0.33-0.83)	0.59 [c]	0.00**
Frequency of CB (Weekly)[a]	1.41	1.16 [c]	4.08 (0.76-21.88)	3.18 [c]	0.10
Frequency of CB (Monthly)[a]	0.08	0.06 [c]	1.08 (0.14-8.14)	1.06 [c]	0.94

(Sh): Shrunk using linear shrinkage factor, OR: Odds Ratio, CI: Confidence Interval.
[a] Comparison group = Frequency of CB (Daily)
[b] Shrinkage factor used = 0.812
[c] Shrinkage factor used = 0.823
* Exact p value is 0.004, significant corrected for family-wise error rate of .15.
** Exact p value is 0.006, significant corrected for family-wise error rate of .15.