Abstract

Teaching assistants (TAs) in the United Kingdom typically work with students with additional and special needs, including the most challenging and vulnerable pupils, in low paid, precarious roles. However, no research has examined how organisational factors such as job demand, control, and support can influence TAs wellbeing, despite recent evidence demonstrating the importance of organisational factors to teacher wellbeing. Using a large-scale questionnaire approach, data from 2,957 UK TAs investigated the extent to which job demands, control, role clarity, peer- and management-support, organisational change, and relationship quality, student and parental behaviour contribute to perceived stress. Results show that job demands and control consistently contribute to increased perceived stress in TAs regardless of the phase of school in which they are based. There is also some evidence that TAs experience aggression from pupils and parents. For primary-based TAs, a broader range of factors contribute to stress, including levels of support and negative pupil behaviour. Implications are subsequently discussed, with reference to the TAs themselves, and suggestions of the implications for the children in their care and for the culture of the schools in which they work, with suggestions for future research and intervention.

Key Words
Teaching assistant; stress; working conditions; student behaviour

The Impact of Working Conditions on the UK's Teaching Assistants

Introduction

In 2002 the UK (United Kingdom) government invested over £350 million into the training and recruitment of teaching assistants (TAs), with annual funding available to support this training and recruitment (Blatchford et al., 2004). The move was part of a wider New Labour commitment to increasing public funding into education and to pluralise the workforce of the public sector. It coincided with an international move towards New Public Management which saw the public services move sharply towards a customer-led modus operandi. An effect of this shift was an associated shift towards what Kessler et al. (2015) describe as "specialist-discard" as a dominant logic of professionalism. That is to say, qualified professionals concentrated on higher level tasks in their working practice, and jettisoned and redistributed the lower status tasks to assistants. This phenomenon was prevalent across the public sector and its impact on the nursing profession is documented by Kessler et al. (2015).

Given the amount of funding directed to this change in the work force, there was scant evidence that the introduction of TAs would have a significant impact on children's learning. The prevalent pedagogical model was of the TAs in support roles, working with individual pupils or with small groups of pupils with additional needs. The introduction of austerity after 2008 affected the role of the TA, with colleagues increasingly covering for colleagues who were absent, or stepping into vacancies, although the practice of TAs leading and taking responsibility for whole class teaching is not uncommon (Stevenson, 2007). This change is concurrent with changes in equivalent public service professions such as Health Case Assistants (e.g. Spilsbury & Meyer, 2004), care and support workers (e.g. removed for anonymity), and police community support officers (e.g. O'Neil, 2017). As such, it is part of a wider picture of shifting roles and employment precarity (such as pay which has not seen any increase, part time shifts, or even the use of zero-hours contracts; **removed for anonymity**) in the public services.

Despite their intrinsic role in schools, the lived experience of TAs is under-researched. Indeed, while qualitative research with teachers demonstrated that support workers play an integral part in reducing high workloads via teaching and administration, and support classroom management, there is otherwise a lack of research particularly when compared to teachers. This is commensurate with the under-researching of equivalent assistant roles in other professions in the UK. Kessler et (2015) argue that this "relative neglect" (p. 737) is significant in the light of the changes to professionalism in the health care workplace. However, relatively large-scale studies by Ofsted (2005) and Blatchford et al. (2009) demonstrate that TAs generally have good levels of job satisfaction, but are usually the lowest paid in schools, most work extra hours on top of those that they are contracted to, and have a lack of planning and feedback time within their workload allocations (Blatchford et al., 2009) despite often teaching whole lessons (and often more). Given that, as Sharples et al (2015) state, "a key reason for increasing the number of TAs was to help reduce teacher workload" (p.9), it is not surprising that many TAs have taken on key pedagogical roles, previously held by teachers themselves, particularly in relation to children with the highest levels of special needs. Many TAs therefore take on the role of "primary educator for the pupils in most need" (Sharples et al, p.15), teaching them directly for large amounts of time, often outside the classroom. Here we draw on data gathered from a survey of 2,957 TAs to investigate the extent to which job demand, role, clarity, peer and management support, organisational change and relationship quality contribute to perceived stress.

Approximately 25% of the UK mainstream school workforce is made up of TAs, and there are currently more TAs in English early years providers and primary schools than teachers (Sharples et al., 2015). TAs therefore play an important role in supporting the development of children, and

reducing the workload of teachers across the country (Sharples et al., 2015). However, in spite of the importance of TAs to the education system, research investigating TA working conditions and health is limited. This is particularly problematic as TAs are being asked to play an increasingly important role in schools. They typically work with some of the most vulnerable and disadvantaged children who, arguably, require the most specialist and high-level care. Emerging literature on the impact of teacher stress and its links to high turnover rates (e.g. Ravalier and Walsh, 2018) suggests that high levels of stress might have an impact on TA's willingness to stay in roles and to work with children. Here we argue that the high levels of stress and reported deleterious impact of it on the wellbeing of TAs has implications for the provision of a stable and good quality education for children. These concerns are therefore to be taken seriously. The findings here should be understood in the context of the current crisis in SEN provision in the UK reported widely (see National Association of Head Teachers Report, 2018, 'Empty Promises: The Crisis in Supporting Children with SEND; and in the press [Weale & McIntyre, 2018]).

Stress

Theoretical approaches to understanding stress – both in the workplace and elsewhere – highlight the cognitive process of situational appraisal which was first demonstrated by Lazarus and Folkman (1984). In this model, stress is the results of a transaction between an individual and their environment. As such, stress encompasses a set of negative cognitive and coping variables, and asserts that the transaction between the person and the environment is only stressful due to the way in which it is internally evaluated (Lazarus & Folkman, 1984). This evaluative process encompasses two stages– in primary appraisal the individual identifies whether or not the stimulus/situation is threatening, and in secondary appraisal the individual determines whether they have the resources to deal with the perceived threat (Lazarus & Folkman, 1984).

Primary Appraisal in the Workplace

In primary appraisal, the individual judges whether they have the resources to cope with the situation, and if not, the situation will be defined as threatening. Theoretical approaches to workplace stress suggest that the organisation in which someone works is itself the main source of workplace stress. For example, the job demands-control (JDC) model of stress assumes that high levels of occupational demands combined with low decision latitude over a chronic period can lead to stress and related outcomes in employees (Johnson et al., 1988). Karasek and Theorell (1990) further highlight the role of social support in the job demands-control-support (JDCS) model. The JDCS posits that high levels of demand, combined with low levels of peer support and control over the working situation, lead to strain reactions in employees (the iso-strain hypothesis). Alongside this, Fineman (1981) suggests that individual experience of high workload, role ambiguity, or conflict which the individual can no longer 'cope' with also contribute to perception of stress. As such, primary appraisal suggests that should there be a mismatch between the organisational demands and individual expectations, an individual will register threat, and proceed to secondary appraisal.

Secondary Appraisal in the Workplace

During secondary appraisal, an individual will determine which of their available coping mechanisms is most appropriate to address the stressful situation, taking into account contextual factors such as available resources and power to make change (Folkman, 2011). Two subtypes of coping mechanisms have been highlighted: emotion-focused and problem-focused coping (Lazarus & Folkman, 1984).

Emotion-focused coping is directed towards the reduction of emotional distress caused by the threat. Examples of emotion-focused coping strategies include distancing from the situation, avoiding stressful situations, and engaging peer support networks. Problem-focused coping mechanisms are strategies which involve directly addressing the threat, for example by defining the

problem, using alternative solutions, and perhaps learning new skills (Folkman, 2011). With individuals generally tending to stick to a small number of tried-and-tested coping mechanisms, stress-related outcomes may occur within the workplace when favoured coping mechanisms (for example peer support, managerial support, or job crafting) are not available or insufficient.

Work, Stress, and Health

Chronic workplace has a significant negative effect on both the physiological and psychological health and wellbeing of employees (removed for peer review). For example, the INTERheart studies (Rosengren et al., 2004) demonstrated that chronic stress was as strongly associated with cardiovascular disease (CVD) as widely-known risk factors such as high blood pressure and smoking. Similarly, Segerstrom and Miller (2004) and Melchior et al. (2007) showed chronic stress can reduce auto-immune responses and depressive symptomology respectively. Chronic workplace stress has also been associated with the development of metabolic syndrome, which is a risk factor for the development of illnesses such as diabetes (Chandola et al., 2006).

As well as individual health risks, workplace stress also has a negative impact on the organisation that they work for. Stress sickness absence is responsible for approximately 11.7 million working days lost in the UK alone, and is the largest cause of long-term sickness absence across the country (Chartered Institute of Personnel Development [CIPD], 2016). More relevant to TAs, the education sector has the third highest incidence of stress sickness absence in the UK, with this stress causing lower job satisfaction (Klassen & Chiu, 2010) and increased turnover intentions (Lightfoot, 2016). Indeed, the latest UK Department for Education (2019) teacher workforce statistics demonstrate that nearly 10% of teachers (42,100) left the profession in 2018 (most of these qualified teachers with significant amounts of experience), with 10.3% (44,600) of mostly (53%) newly qualified teachers replacing them, and slightly over 15% of newly qualified teachers leaving within 1 year. This has particular implications for schools where effective learning depends on continuity and a sense of security and predictability in the classroom. The implications are intensified for pupils with high levels of emotional and behavioural needs. Causes underlying this high rate of stress have focused on aspects unique to the education sector, with student behaviour highlighted as a major source of stress (Split et al., 2011). Additionally, negative parental behaviour towards education staff has been investigated (Cassidy, 2015), with parental behaviour being related to higher rates of burnout (Grayson & Alvarez, 2008).

Working Conditions and Stress

In 2004, the UK Health and Safety Executive (HSE) released a set of management standards (MS) which identify seven areas of the workplace, termed psychosocial hazards, which have the potential to negatively influence employee wellbeing (Cousins et al., 2004). The MS were originally based on the JDCS and were introduced in order to support organisations in effectively managing stress. The seven psychosocial hazards are demands, control, managerial support, peer support, relationships, role clarity, and organisational change (Cousins et al., 2004). The HSE suggests that, should these psychosocial hazards within the workplace be maintained at unacceptable levels, then workers may develop related illnesses and organisational performance will be affected (Cousins et al., 2004). However, when optimised, employees will be more engaged (author 2, removed for peer review) and performance will improve. Studies such as author 2 (removed for peer review) and Houdmont et al. (2013) have demonstrated that the MS are related to negative employee wellbeing outcomes in a number of public service organisations in the UK, and more recent evidence has started to apply these standards to teaching (authors, removed for peer review).

Alongside implications for employee health and wellbeing, psychosocial hazards also significantly influence employee outcomes. Bockerman and Ilmakunnas (2008) found that working conditions are related to both job dissatisfaction and sickness absence, and conclude that organisations should

focus on improving working conditions in order to improve satisfaction and sickness absence. Similarly, increasing evidence shows that working conditions significantly influenced jobs satisfaction in teachers and social workers in England (authors, removed for peer review). Hanushek and Rivkin (2007) also argue that teacher working conditions influence turnover in the occupation, with Loeb et al. (2009) also demonstrating this empirically. However, in spite of a growing evidence base considering the influence of the workplace on teacher wellbeing, no research has at present considered the impact of psychosocial hazards on TAs.

Stress in Auxiliary Workers in the Public Services

Although there is a paucity of literature on the working lives of TAs in the UK, there is an established research literature on the experiences of stress on auxiliary workers in the caring and health professions, particularly in the US and Canada, which provides some useful ways of reading the data on TAs supplied here. In their survey of nursing assistants in US care homes Tak et al. (2010) found that 34% of the surveyed participants reported experiencing physical injuries sustained as a result of aggression and violent behaviour from those for whom they were caring in their workplace (see also, Feld et al., 1992 and Pillemar and Hudson, 1993, for the experience of US nursing assistants).

Stress in education

Teaching in England is widely considered to be a highly stressful job (HSE, 2016), with the UK education sector reporting the third highest levels of stress sickness absence of all occupations in the country (HSE, 2016). Indeed, recent research with teachers in Scotland has demonstrated that stressful working conditions are related to the experience of greater perceived stress, turnover intentions (over 40% of respondents suggested wanting to leave their job role), and over 50% of respondents being dissatisfied in their job (Education Institute for Scotland; 2017). Similarly, Collie et al. (2012) demonstrated that teacher stress was related to job satisfaction. In the UK more widely, actual attrition rates are increasing due to stress (Lightfoot, 2016).

One key source of stress for teachers in the UK is organisational change (Ryan et al., 2017), brought about by regular changes to activities such as testing (Ryan et al., 2017) and the school climate (Collie et al, 2012). Interpersonal interactions have also been investigated, with over 50% of teachers in the UK reporting regular exposure to aggressive student behaviour (Barker, 2014). Some limited research also demonstrates that parental behaviour (Ratcliffe, 2017) and parent-community school relationships are predictive of worsened teacher satisfaction and burnout (Grayson & Alvarez, 2007). However, whilst many of these potential stress sources are unique to the education sector, they are not unique to teachers. The broader education sector workforce, especially TAs, is also exposed to these stressful conditions, but remains woefully understudied. This is an important oversight, as differences in role, training, and available support between TAs and teachers may lead to risk factors differentially affecting each group. Furthermore, evidence demonstrates that students receiving a lower quality of teaching have worsened attainment rates (Boyd et al., 2005), with similar results for less experienced teachers (Boyd et al., 2008). Similarly, teacher wellbeing is significantly impactful on student wellbeing (Mccallum & Price, 2010).

Present Study

This paper aims to investigate working conditions for TAs in the UK, and determine whether risk factors already investigated in teachers influence the experience of stress for TAs. We therefore seek to investigate psychosocial hazards, working hours, student behaviour, and parental behaviour, and the extent to which these factors predict stress in UK TAs.

Materials and Methods

Participants

We collected data from 3,242 TAs based across the UK. 2,980 (92%) were female and 259 (8%) male, with 3 identifying as 'other' or transgender. Respondents taught in either primary schools, who typically teach children aged between 4 and 11 years, secondary schools, who teach ages 11 through to 18, or specialist schools, who teach children with additional educational requirements (see Table 1). Ethical approval for this cross-sectional survey study was gained from the [name removed for anonymity] research ethics board.

Participants were members of one of three UK-wide organisations (names withheld for anonymity) which represent TAs. An executive in each organisation agreed to send an invitation email to all TA members. The online data collection tool SurveyMonkey (www.surveymonkey.com) was used to collect data between January and February 2017. As such an invitation email containing a link to the SurveyMonkey collector was distributed in the last week of January 2017 inviting members to take part in the project, and describing that the researchers are completely independent from the union. A reminder email was sent two weeks later, and the collector closed one week after this reminder.

Measures

Psychosocial Workplace Hazards

Measured via the HSE's Management Standards Indicator Tool (MSIT), which was released at the same time as the MS (Cousins et al., 2004). Within this project we used the shortened 25-item version of the MSIT to reduce the burden of questioning on respondents. This tool is psychometrically valid and reliable, and been used within public-sector organisations in previous organisations (Edwards & Webster, 2012) and outcome measures in previous studies (Houdmont et al., 2013), with Edwards and Webster (2012) demonstrating benchmark scoring on each of the seven factors. Responses are recorded on a 5 point likert scale from [1] never to [5] always for questions 1 to 15, and [1] strongly disagree to [5] strongly agree for the remaining questions. Higher scoring equates to more acceptable working conditions, with scores on the 'relationships' and 'demands' factors reversed.

Student Behaviour

We measured negative student behaviour via the 'disrespect' element of the Pupil Behaviour Patterns (PBP; Friedman, 1995) measure, which investigates the frequency of disrespectful student behaviour toward the teacher. It is an 11-item tool with responses given on a six-point likert scale from [1] never to [6] Always (Friedman, 1995). The measure is psychometrically valid and reliable (e.g. Hastings & Bham, 2003), with higher scoring demonstrated to be related to increased burnout symptomology in teachers (Hastings & Bham, 2003). In order to illicit truthful reporting, we reassured respondents that we had no interest in how well they as individuals could control a classroom. Rather we were interested in whether student behaviour potentially influenced perceived stress.

Parental Behaviour

Two items were designed to assess the frequency of negative parental behaviour. The first, focused on parental behaviours on school premises, stated 'I am subject to derogatory words and/or behaviour from parents in and around school premises'. The second sought to assess parental behaviour on internet platforms such as social media: 'I am subject to derogatory words from parents on the internet'. Each question was answered on the same 6-point Likert scale as the PBP measure.

Perceived Stress

We used a short four-item version of the Perceived Stress Scale (PSS; Cohen et al., 1983) to measure stress. The PSS is a popular measure of perceived stress which has been shown to be psychometrically valid and reliable (Warttig et al., 2013). Responses are given on a Likert scale from 0 (Never) to 4 (Very Often) with questions 2 and 3 reversed, meaning higher scoring reflects increased stress.

Demographic Questions

Demographic questions included age, gender, length of experience in the job role, and disparity between the number of hours respondents were contracted to and the estimated number that they actually worked.

Data Analysis

Following data screening and description of demographic data, participant scores on the MSIT were collated and compared against benchmark scoring where available. A series of multivariate linear regression analyses were used to investigate the extent to which MSIT factors, pupil behaviour, parent behaviour, and work hours disparity predict perceived stress.

Results

Data screening

Independent variables to be entered into the analysis were mean scores for the MSIT factors (demands, relationships, role, change, control, managerial support, peer support), student behaviour, and hours disparity (calculated by subtracting reported hours worked from contracted hours), with the dependent variable as stress. Before inferential statistical tests could be carried out, data were screened for outliers, missing data, normality, and inter-correlations for each independent variable.

The initial sample consisted of data from 2,957 participants once incomplete data had been removed, all of whom identified their employment role as a TA. Outliers were detected through the calculation of Z-scores for each independent variable. Per Field (2013), Z-scores greater than 3.29 identified scores as outliers. A total of 32 participants were found to have outlying data, and, considering the large sample size of the dataset, these cases were removed.

Missing data were detected using IBM SPSS 22. A total of 147 missing cases were identified (6.8% of the total sample), which further investigation showed was the result of a systematic error with the survey tool used for data collection in the early phase of the study. These cases were removed, as participants had not been given the opportunity to respond to the whole survey due to this error. Alongside these, a further 97 participants (2.3% of the sample) had not responded to the student behaviour measures as they did not have consistent contact with students. These participants were also removed from the analysis, leaving a final sample of 2,681 participants (see Table 1 for demographics of population).

Table 1: Demographics of teaching assistants, separated by educational establishment type.

	Age (SD)	Gender (N)		Median Experience	Mean Hours Contracted (SD)	Mean Hours Worked (SD)	Parental Behaviour*	
		Male	Female				Online	Personal
All respondents N = 2681	47.71 (9.14)	8% (215)	92% (2466)	Over 10 years	28.68 (6.56)	33.67 (6.59)	4.30	15.70
Primary School N=2020	47.61 (8.80)	2% (42)	98% (2010)	Over 10 years	28.05 (6.53)	33.3 (9.23)	4.30	17.00
Secondary School N=400	48.85 (10.05)	12% (49)	88% (364)	Over 10 years	29.79 (5.68)	33.76 (9.03)	2.20	7.40
Specialist School N=261	46.62 (9.95)	12% (31)	88% (236)	Over 10 years	31.90 (6.25)	37.29 (9.28)	5.60	19.50

*Demonstrates the percentage of respondents that are exposed to negative behaviours in the form of words or actions at least once a month.

Normality of data was examined using the Kolmoragov-Smirnov test. This examination showed significant negative skew for the "peer support" variable (p<0.05). To resolve this, a transformation was carried out to reflect and square root the scores, as advised by Tabachnick and Fidell (2007). The transformed variables were tested again and found to be normally distributed using the Kolmoragov-Smirnov test (p>0.05).

Finally, inter-correlations were calculated to ensure that strong relationships did not exist between variables, and this showed that no variables had a correlation coefficient greater than 0.7, indicating that the multi-collinearity assumption for parametric testing had been met.

Descriptive statistics

After screening, 2,681 valid cases remained. Table 2 (below) presents descriptive statistics on MSIT, student behaviour, and perceived stress for the final sample. Across each group (all participants, primary, secondary, and TAs in specialist schools) both demands and control scored below the cut-off identified by Edwards and Webster (2012) for the fifth percentile of respondents. Therefore, scoring was worse than at least 95% of organisations within their sample. Similarly scoring on role understanding in secondary school teachers and change communication across all participants, and those in secondary and specialist schools in particular scored as low.

Across all participants, scoring on role understanding scored better than 5% of the benchmark, primary TAs better than just 5% on the 'change' factor, secondary school TAs better than 5% on the managerial support factor, and those in specialist schools better than just 5% on the 'relationships' factor. Across all participants, scoring was worse than 90% of the benchmark on the managerial support and relationships factors, primary TAs worse than 90% on the managerial support and role factors, secondary TAs on peer support and relationships, and those employed by specialist schools on the role factors. All participants, those employed in primary schools, and specialist schools, each performed better than 25% of participating organisations on peer support, and primary school on the relationships factor. Finally, TAs employed in specialist schools scored better than 75% of the benchmark scoring on the managerial support factor of the MSIT.

Table 2: mean and SD descriptive statistics for different occupational groups scoring on MSIT, student behaviour, and PSS-4 scoring

	All Respondents	Primary Schools	Secondary Schools	Specialist Schools
Demands	2.72 (.85)	2.76 (.83)	2.52 (.84)	2.76 (.90)
Control	2.73 (.86)	2.73 (.85)	2.69 (.92)	2.99* (.88)
Managerial Support	3.17 (.95)	3.18 (.93)	3.09 (1.01)	3.54 (.99)
Peer Support	3.73 (.77)	3.74 (.76)	3.65 (.85)	3.77 (.78)
Relationships	4.15 (.88)	4.24 (.83)	3.92 (.98)	3.87 (.94)
Role	3.83 (.83)	3.86 (.81)	3.69 (.90)	3.88 (.88)
Change	2.53 (.86)	2.55 (.85)	2.42 (.85)	2.49 (.98)
Student Behaviour	41.84 (16.0)	40.45 (15.17)	46.94 (16.65)	39.22 (17.04)
Perceived Stress	7.20 (3.11)	7.20 (3.06)	7.21 (3.22)	7.17 (3.63)

Finally, according to Wartigg et al. (2013) mean normative scoring on the PSS-4 in an English sample is 6.11 (SD = 3.14). Therefore, mean scoring from across our sample (7.20) is higher than that in the Wartigg et al. (2013) study, but still within 1 standard deviation.

Primary analysis

A linear regression analysis (see Table 3) was performed to examine whether demands, relationships, role, change, control, management support, peer support, student behaviour, parental behaviour (online and on school premises), and hours disparity predict perceived stress scores in TAs. Results demonstrated the model has good predictive power ($F(10,2686)= 109.9$, $p<.001$), accounting for 29.0% of the variance in stress scores.

Table 3: Linear regression for influence of predictor variables on PSS scoring.

Significantly Related Factor	Coefficient Estimate (B)	T	*P*
Demands	.22	11.22	<.001
Control	-.07	-3.68	<.001
Managerial Support	-.07	-3.98	<.001
Peer Support	-.45	-3.83	<.001
Relationships	.15	3.64	<.001

Student Behaviour	.01	3.06	<.05
Parental Behaviour (at School)	.108	1.72	<.05

Further examination of coefficients data shows that seven of the factors investigated contributed to PSS scoring across all respondents. As such demands (B = .22, p<.001), control (B = -.07, p <.001), managerial support (B = -.07, p <.001), peer support (B = .45, p <.001), relationships (B = .15, p <.001), student behaviour (B = .01, p <.05), and parental behaviour on school premises (B = .108, p <.05) each significantly contributed to increased experience of stress.

Secondary Analysis

A series of linear regression analyses were conducted to determine the influence of working conditions, hours disparity, parental behaviour, and student behaviour on perceived stress in TAs employed across different parts of the educational sector (see Table 4). Each regression model was found to suitably predict perceived stress scores. For those TAs employed in primary schools, the model accounted for 29% of variance of PSS scores (F(11, 1847) = 69.72, p <.001), and 30% of variance in secondary school TAs (F(11, 356) = 14.21, p<.001). Finally regression model accounted for 31% of variance in TAs employed in specialist schools (F(11, 203) = 8.67, p<.001). Irrespective of whether respondents were employed in primary schools, secondary schools or specialist schools, high levels of demands and low levels of control were predictive of higher levels of perceived stress. However, for primary TAs the model also found that managerial support, peer support, role, pupil behaviour, and parental behaviour on school premises also contributed.

Table 4: Regression analyses demonstrating the influence of predictor variables on perceived stress scores, separated by school type.

	Significantly related factor	Coefficient Estimate (B)	T	*P*	R2	Adjusted R2
Primary school	Demands	.19	8.40	<.001	.29	.29
	Control	-.06	-2.63	<.05		
	Managerial Support	-.09	-4.21	<.001		
	Peer Support	.50	3.67	<.001		
	Role	-.08	-2.56	<.05		
	Pupil Behaviour	.01	2.83	<.05		
	Parental Behaviour (personal)	.13	2.03	<.05		
Secondary school	Demands	.33	5.93	<.001	.30	.28
	Control	-.12	-2.30	<.05		
Specialist school	Demands	.25	4.15	<.001	.31	.27
	Control	-.16	-2.44	<.05		

Discussion

The main aim of the current paper was to investigate working conditions and stress in TAs in the UK. In order to do this, we collected survey data from TAs in primary, secondary, and specialist schools, and used a regression analysis to examine the extent to which psychosocial stressors defined in the Management Standards framework predict stress in TAs. Results from this analysis show that TAs in the UK are exposed to high levels of negative working conditions, irrespective of the phase of schooling (primary, secondary etc) in which they are based. Indeed, according to benchmark figures by Edwards and Webster (2012) scoring was worse than at least 75% of organisations on each of the MSIT factors. The only exception to this was the amount of support offered by management for those TAs who worked within a specialist school, in which scoring was better than approximately 75% of organisations. This would suggest that school culture is an important factor, with specialist schools typically smaller and with a culture and vision which supports the needs of the pupil. It is also worth noting that the ratio of support staff to teaching staff in specialist schools is typically much higher than in mainstream schools, with TAs often outnumbering the teaching staff. An effect of being part of a critical mass of colleagues might, it could be surmised, mitigate against the experience of occupational stress. The groups each scored higher than UK normative data on stress, indicating high levels of perceived stress. Furthermore, results indicate that approximately 20% of TAs were the subject of derogatory words or behaviour either on school premises or online from parents at least once a month.

A series of regression analyses also investigated the extent to which individual psychosocial stressors affect TA's perceived stress levels. Across each group the level of demands that individuals had to face at work, as well as a lack of control of the way in which they undertook their work, were related to higher levels of perceived stress. In keeping with the 'strain' hypothesis of the JDCS (Karasek & Theorell, 1990) however, for TAs based in primary schools, in addition to demands and control, support (both peer- and management-support), individual understanding of their role in the workplace, pupil behaviour, and negative parental behaviours on school premises each contributed to the experience of stress.

Interestingly, despite finding a consistent disparity between the number of hours worked by TAs across the education sector and the number of hours to which they are contracted, this disparity did not significantly influence the experience of stress. This suggests that TAs expected to put in extra hours throughout the work week, and did not consider this to be a stressor, although this may be one of the coping mechanisms used by TAs to deal with the poor working conditions that they are exposed to. This is in spite of the fact that, even though TAs are working for more hours than their contracts require, demands placed on TAs continue to be high. However, compared to teachers (14 hours extra per week, Ravalier and Walsh, 2018) and social workers (11 hours extra per week, Ravalier, 2018), TAs worked fewer extra hours per week than comparable occupations.

Implications for Research

In presenting the first academic study investigating wellbeing in TAs across the UK, we provide important contributions to the knowledge base. Additionally, with results demonstrating that high levels of demands and low control significantly contribute to the experience of stress in this important population of educators, future studies should seek to evaluate the efficacy of interventions which improve on these working conditions. By reducing the stress experienced by these groups, organisations can improve efficiency and productivity at work (Klassen & Chiu, 2010), and thus make it more likely for improvements in educational outcomes for students. In particular the JDCS suggests that increased levels of peer support can buffer the negative effects of high demands and low control (Karasek & Theorell, 1990), and thus interventions to improve peer support (such as Schwartz Rounds in healthcare [e.g. see Flanagan et al., 2020], or Ballint Groups in

social care [e.g. see Van Roy et al., 2015]) should be investigated. Furthermore, negative parental behaviours were influential in the experience of stress across all participants, with approximately 20% of TAs regularly exposed to negative parental behaviours. Despite this the effect of parental behaviour has never been investigated in TAs, and therefore further investigation is required to substantiate these findings. In order to do so, however, measures which have been previously designed for teachers (e.g. the Pupil Behaviour Patterns) should also be validated within a TA sample because, as we have seen, TAs and teachers seem to have different experiences of stress and exposure to pupil behaviours.

While this study demonstrated that a proportion (between 29% and 31%) of perceived stress was accounted for by working conditions, student behaviour, and parental behaviour, this also suggests that there are likely a number of other factors also influencing TA stress. However, while studies have demonstrated that factors such as testing (Ryan et al., 2017), organisational health (Oullette et al., 2017), and school climate (Collie et al., 2012), amongst others, influence stress in teachers, there have been no studies which assess the conditions in TAs who perform a related and yet distinct role. Studies should therefore investigate these wider factors in longitudinal and comparative studies, and further participatory studies should be undertaken in order to design and evaluate interventions for stress management in TA samples. There is certainly space for more work into the lived realities of TAs, and the Foucauldian model of investigating the experience of power and discipline among assistant care workers demonstrated by Scales et al. (2017) provides a useful model of how this might be replicated in an education study. Scales and her colleagues noted that "direct care staff enacted their own 'empowerment' from a point of view of 'disempowerment'" (p. 240) and an enquiry into if and how a similar dynamic works for TAs in UK schools would be a fruitful study.

Implications for Practice

This study provides a number implications for the practice of managing and being employed as a TA in the UK. Results show that, in support of the JDC model of stress (Johnson et al., 1988), job demands and control are important factors in the experience of stress in the sample. School management and the wider local authorities need to consider these findings in their workforce planning because it is widely understood that high demands and low control can lead to sickness absence (e.g. Van Der Doef & Maes, 1999; Hausser et al., 2010).

As such we demonstrate that TAs are exposed to many of the same organisational factors as those in other occupations and employment sectors (e.g. author 2, removed for peer review), and are exposed to high levels of poor student behaviour and stress. However, there is little emphasis on the TA role in UK governmental reports, and much less emphasis in academic literature than teachers. For example, while the school workforce in England census (Department for Education, 2017) discusses variables such as pay, sickness absence, and vacancy rate for teachers, there are no such statistics available for TAs, despite the important role that they play in the teaching and learning process, whilst such figures are available for teachers (for example, Department for Education, 2017).

More work is needed to develop a perspective which is gained from in depth, small scale qualitative enquiry. Furthermore, while Ofsted rightly assess the wellbeing of students in school, the wellbeing of teachers is significantly overlooked. As already demonstrated, wellbeing of teachers is not only integral to their own psychological and physiological health, but is also integral to student health and school attainment. Data on the academic outcomes for disadvantaged children in receipt of the pupil premium is already collected by the government and published publicly as part of the school performance tables. These tables also include data on the total number of teachers and teaching assistants, and similar to teachers (Department for Education, 2017), there is a case for the collection of data on rates of turnover of teaching and teaching assistant staff in schools.

It may be possible to draw on the findings from interventions with other professional groups to think through the sort of education required to protect TAs from some of the aspects of stress to which they are exposed. In their evaluation of an "innovative, interactive training model" (p.128) designed to support US nursing assistants in dealing with abuse from residents in elderly care institutions, Pillemar and Hudson (1993) noted a degree of relief from the participants when the programme allowed them collectively to talk about the abuse they faced on a daily basis. The public recognition of the problem allowed them to work together to name it and to think through strategies for dealing with it. "Participants indicated that they were disturbed by abuse in homes but felt powerless to prevent it" (p.130) before the intervention took place but this was ameliorated after participating in the intervention. We would suggest here that collectivism is a powerful tool for TAs in recognising the stress in their working lives and that school consortia and unions have a powerful part to role in providing the fora for discussions and interventions to take place.

Limitations

Our study has a number of limitations which need to be considered. By using self-report measures we asked questions which were retrospective in nature, and thus relies on respondent recall over period of up to a year. The Pupil Behaviour Patterns (Friedman, 1995) was also developed for use with teachers (rather than TAs) and thus its utility can be questioned in this population. Similarly, the response rate is unknown due to the internet mediate approach taken, and thus the validity of findings must be taken into question. Furthermore, self-report measures may introduce bias via common method variance. However, this bias was likely reduced having used measures which are heavily validated (although noting that they have not been so within TA populations). Also, there may be issues with generalising the study because our respondents were drawn from schools of different 'phases' (i.e. primary, secondary etc), with the majority of respondents being primary school TAs, and thus potentially skewing results. As such further research should extend the scope of this project to investigate each of these groups specifically. However, the study is the first of its kind and did recruit a large sample of participants.

Conclusion

Overall, the results from this large-scale study show that organisational factors such as job demand, available support, and role clarity are significant predictors of stress in TAs. Psychosocial stressors have a differential effect on perceived stress depending on what phase of school TAs are based in, and this is likely due to differences in political, social, and organisational factors within these phases driven by the need to account for variation in pupil needs in schools. Overall, high demands in particular were consistently found to be a significant predictor of stress levels, and the impact of these demands on wellbeing is likely exacerbated by poor peer and management support structures. Future research should aim to implement interventions which are specifically targeted at key stress sources in order to reduce the high stress levels seen in TAs across the education sector.

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