

## Abstract

**Aim** In 2013 the UKCAT included a non-cognitive situational judgement test in addition to the four cognitive subtests commonly used by UK dental schools to select students. However, little is known about the situational judgement test's psychometric properties and relationship to other selection tools. This study's aim was explore these issues to inform decisions about the inclusion of the UKCAT SJT in the dental student selection process.

**Method** The sample comprised a cohort of applicants to a Bachelor of Dental Surgery programme, at a UK dental school, which does not use achievement in the UKCAT SJT in its selection process. The impact on applicant outcomes of two theoretical uses of the UKCAT SJT was examined. Firstly, SJT Band was used as the criterion for offers of a place instead of the school's admission interview, and secondly, weighted UKCAT scores, including a weighted SJT Band score, were ranked to make interview invitation decisions. Associations between SJT Band, UKCAT cognitive scores, interview score and performance in first year assessments were examined.

**Results** If SJT Band 1 & 2 were used as the criterion for an offer of a place, some applicants rejected by this school's interview, including 'red flagged' applicants, would have received an offer of a place. Using a weighted UKCAT/SJT system for invitation for interview decisions increased the mean total UKCAT cognitive score of those invited for interview but included applicants rejected by this school's structured interview, including 'red flagged' applicants. Neither usage disadvantaged under-represented groups.

SJT band correlated with UKCAT score ( $n = 228$ ,  $r_s = -0.38$ ,  $p < 0.01$ ) with interview score ( $n = 186$ ,  $r_s = -0.17$ ,  $p < 0.05$ ) but not with first year study assessments.

**Conclusion** This study has shown that the UKCAT SJT does not add value to the existing methods of this dental school to make valid, reliable and fair student selection decisions.

## **Introduction:**

The UK Clinical Aptitude Test (UKCAT) is a selection tool used within the admissions process for undergraduate dentistry entry by the majority of UK dental schools.<sup>1</sup> In 2013 a situational judgement test (SJT), designed to evaluate the non-cognitive attributes of integrity, perspective taking, and team involvement, was added to the existing four cognitive subtests of the UKCAT. Use of the UKCAT SJT is optional, however, to our knowledge, it is not used summatively in the selection process of any UK dental school. The SJT comprises a series of ethical scenarios in relation to which candidates must rate the appropriateness or rank the importance of options in response to the scenario.<sup>2</sup> SJT raw scores are grouped into four bands (with Band 1 consisting of the top scoring candidates and Band 4 consisting of the lowest performing candidates) in common with other UK dental schools. At this school we also only use applicants' scores in the four cognitive subtests of the UKCAT in our selection process. Applicants with predicted or achieved academic entry requirements are ranked by UKCAT cognitive scores to determine interview decisions and offers of a place are then determined by the ranking of interview scores.<sup>3</sup> We have confidence in the validity of our interview process as studies have shown that carefully-structured interviews like ours, which ask relevant and standardised questions, use panels of trained interviewers and validated scoring criteria can achieve acceptable inter-rater reliability.<sup>4,5</sup>

Although there is increasing evidence of the reliability and validity of SJTs as a selection tool in a variety of contexts, including medicine, there is little evidence in respect of dentistry.<sup>6,7,8,9,10,11,12</sup> Moreover, there is a lack of evidence in the extant literature to inform the most valid, reliable and fair way to incorporate the SJT within undergraduate dental selection processes, which typically involve a variety of selection tools used in combination.<sup>13</sup> As such there is a clear need for further research to quality assure the reasonableness of high-stakes decisions made by the use of the UKCAT SJT in the selection of dental students. The objective of this study was to enable informed decision making on the use of the UKCAT SJT Band in undergraduate dental student selection and admissions. Our null-hypothesis was that the UKCAT SJT does not add to the existing methods of this dental school to make valid, reliable and fair student selection decisions.

## **Materials and Methods:**

Retrospective analysis of a cohort of UK domiciled applicants to a UK dental school's Bachelor of Dental Surgery (BDS) programme for entry in academic year 2014-2015 (n=228). We examined; (1) the impact of replacing the admission interview with achievement of SJT Band 1 or 2 as the criterion to determine offers of a place, and (2) the impact of using weighted UKCAT subsection scores, including SJT, to rank applicants to decide on offers of an interview (see Table 1 for an explanation of weighting).<sup>14</sup> The impact of SJT usage was assessed by comparing what would have been the resultant offers and invitation to interview decisions with what actually occurred in selection. The impact of SJT usage on the socio-demographic profile of those receiving offers and those invited for interview was examined using Chi-squared tests of independence.

Where appropriate, Spearman's or Pearson's correlations were used to examine the degree of association between SJT Band, UKCAT cognitive scores, interview scores and performance in three assessments taken in the first year of study of matriculates of the 2014-2015 application cohort. Cohen's guidelines were used to assess the strength of the associations: weak (0.1 – 0.29), moderate (0.3 – 0.49), and strong (0.50 – 1.0).<sup>15</sup> Correlations between variables were uncorrected for restriction for range.

One-way between groups analysis of variance (ANOVA) was employed to examine the association between levels of SJT Band and interview score. Goodman and Kruskal's gamma (-1 to +1 with 0= no association),<sup>16</sup> a nonparametric measure of the strength and direction of association that exists between two variables measured on an ordinal scale, was used to examine the association between 'Red Flag' and SJT Band. Interviewees are 'red flagged' if they receive a global rating of 'No' from an interviewer in answer to the question 'Would you like this candidate as your dentist (options no, maybe, yes)?'

## Data

Applicant scores on the UKCAT cognitive subtests; Abstract Reasoning (AR), Verbal Reasoning (VR), Quantitative Reasoning (QR), Decision Analysis (DA), and Total UKCAT score (AR + VR + QR + DA), UKCAT SJT Band allocation, 1 – 4, admissions interview score (see Table 2 for correspondence between SJT domains and

attributes assessed by admission interview). Whether or not, an interviewee had received a 'Red Flag' (Yes =1, No = 0).

Applicant background measures included; gender, disability status, type of school attended and a socio-economic contextual indicator, Participation of Local Neighbourhoods (POLAR3 quintile).<sup>17</sup> POLAR3 is a postcode-based classification of UK neighbourhoods by young peoples' participation rates in higher education (coded quintiles 1 and 2, the lowest rates, versus 3, 4 and 5). There are many types of secondary school in the UK and for the purposes of this analysis we have categorised schools as either state or independent, with independent usually associated with fee-paying. School type (coded state comprehensive /grammar/Sixth Form College/Further Education College versus independent/private school). Disability (declared disability, coded yes versus no) (Table 3). Background information was derived from the applicants' Universities and Colleges Admissions Service application forms.<sup>18</sup>

Outcomes used in the predictive validity analyses were the scores achieved by first year dental students in two multiple choice question format examinations of Integrated Dental Science (IDS 1 and IDS 2) and an assessment of Inter-Professional Engagement 1 (IPE 1). Both types of assessment are integral to courses across this dental schools' curriculum. The IDS assessment was chosen because it tests academic knowledge of dental practice and not specifically any non-cognitive attributes. In contrast, the IPE assessment was chosen because we believe that it provides a proxy measure of student's perspective taking and team involvement. The IPE assessment involves a three-week placement within the community and requires a reflective report. Globally, the IPE assesses a number of personal attributes considered important for understanding and awareness of how different communities respond to dental health services and the issues and factors that impact the accessibility of dental services.

Normally distributed variables have a skewness statistic (sk) of zero and a kurtosis statistic (k) of 3.<sup>19</sup> Scores for total UKCAT (sk=-.21 k= 3.1), IDS 1(sk= .37 k= 2.8), IDS 2 (sk=-.38 k= 2.8) and IPE 1 (sk=-.21 k= 3.1) were approximately normally distributed. Interview scores were not (sk=-.38 k= 2.2), however, logarithmic transformation changed the distribution closer to normality (sk= -.18, k=3.03).

## **Ethics:**

Ethics approval was sought from the school's Ethics Committee and deemed not necessary as the data analysed was collected as part of routine audit work and anonymised.

## **Results:**

SJT Band 1 & 2 to determine offer of a place:

Using the school's normal admissions process, 186 applicants were invited for interview, and 130 offers of a place were made to those who met or surpassed the admissions interview threshold score (Figure 1). The mean interview score of those offered a place was 22.9 (SD= 2.6, minimum = 18.33, maximum = 29.67).

When SJT Band 1 & 2 was used as the criterion for an offer of a place, 125 applicants were identified and, hypothetically, would have been offered a place. Their mean interview score was 20.9 (n=125, SD= 4.2, minimum = 11, maximum = 29.7) and included 33 applicants who originally had not been offered a place because they failed to meet the interview cut-score (18.33 points). Importantly, 21 of these hypothetical offers would have been made to applicants who had been 'red flagged' (5 in Band 1 and 16 in Band 2) at interview by at least one interviewer (Figure 1). SJT Bands 3 and 4 contained twelve and three 'red flagged' interviewees respectively. Conversely, 38 applicants in Bands 3 and 4 originally offered a place would have been excluded (Figure 1), 12 of whom had in fact accepted this school's offer and matriculated.

There was a weak positive association between receipt of a 'red flag' at interview and SJT Band level, ( $G = .22$ ,  $ASE = 0.15$ , Table 4). However, gamma was not significant.<sup>20</sup> That means, it is unlikely the result represents a true association in the population.

The use of SJT Band 1 & 2 as the criteria for an offer did not appear to have an adverse equality impact. Chi-squared tests of independence revealed that the association between offer of a place, and, individually, gender, school type, POLAR3 and disability was not statistically significant. That is, the distribution of outcomes of

offer of a place did not depend on the categories of; gender, school type, POLAR3 and disability.

Weighted SJT Band and UKCAT cognitive scores:

Ranking applicants by weighted SJT and UKCAT scores, (and approximating the numbers actually invited for interview) 189 applicants would, hypothetically, have been invited for interview (41 in Band 1, 94 in Band 2, 50 in Band 3 and 4 in Band 4). This included 25 applicants who originally had not been invited for interview. The mean total UKCAT score (cognitive tests) of those invited for interview using the weighted system was 2661(SD=204.6, min = 2240, max=3220) some 40 points greater than those invited using our normal selection process (M=2620, SD=250.5, min=1930, max=3220). Applicants who did well in the SJT appeared to do well in the UKCAT cognitive tests.

Among the 189 applicants invited for interview using the weighted system, 29 had been interviewed using our normal selection process and had received a 'red flag' from one or more interviewers.

The use of weighted SJT and UKCAT scores to determine invitation for interview decisions did not appear to have an adverse equality impact. Chi-squared tests of independence revealed that the association between invitation for interview, and, individually, gender, school type, POLAR3 and disability was not statistically significant. That is, the distribution of outcomes of invitation to interview did not depend on the categories of; gender, school type, POLAR3 and disability .

Correlations:

There was a significant, weak to moderate, negative Spearman's correlation between total UKCAT score and SJT band (n= 228,  $r_s = - 0.38$ ,  $p < 0.01$ ). The individual UKCAT cognitive subtests were also significantly correlated with SJT band (Table 5). The coefficients show that as UKCAT scores increased so SJT band classification tended to decrease (SJT Band 1 = highest, SJT Band 4 lowest). Results show a positive and significant relationship between SJT and UKCAT

cognitive ability tests. Applicants who did well in the SJT tended to do well in the UKCAT cognitive tests.

We found a significant, weak, negative correlation between SJT band and the scores of those interviewed ( $n = 186$ ,  $r_s = -0.17$ ,  $p < 0.05$ ) (Table 5). As interview score increased so SJT band classification tended to decrease. Those who performed well in the SJT tended to perform well in this school's admissions interview.

However, analysis of variance revealed that only the mean interview score of those in SJT Band 1 was significantly different from the grand mean of all interview scores. Moreover, only the mean scores of applicants in Band 1 and Band 3 were significantly different from each other (Table 6). A finding which indicated that SJT Band discriminated poorly in respect of interview score (Figure 1).

Correlations between SJT Band and scores in first year assessments of Integrated Dental Science 1 ( $n = 44$ ,  $r_s = -0.33$ ,  $p = 0.14$ ), Integrated Dental Science 2 ( $n = 44$ ,  $r_s = -0.24$ ,  $p = 0.12$ ) and Inter-Professional Engagement 1 ( $n = 44$ ,  $r_s = -0.15$ ,  $p = 0.34$ ) were not statistically significant (Table 5).

Correlations between interview score and scores in first year assessments of Integrated Dental Science 1 ( $n = 44$ ,  $r = -0.01$ ,  $p = 0.89$ ), Integrated Dental Science 2 ( $n = 44$ ,  $r = -0.07$ ,  $p = 0.62$ ) and Inter-Professional Engagement 1 ( $n = 44$ ,  $r = -0.04$ ,  $p = 0.79$ ) were also not statistically significant (Table 5).

The correlations between total UKCAT score and scores in first year assessments of Integrated Dental Science 1 ( $n = 44$ ,  $r = 0.32$ ,  $p < 0.01$ ) and Integrated Dental Science 2 ( $n = 44$ ,  $r = 0.38$ ,  $p < 0.05$ ) were statistically significant, but not at the individual UKCAT subtest level (Table 5).

The correlation between total UKCAT score and Inter-Professional Engagement 1 ( $n = 44$ ,  $r = -0.04$ ,  $p = 0.79$ ) was not statistically significant, nor between UKCAT subtests and Inter-Professional Engagement 1 (Table 5).

## **Discussion:**

The objective of this study was to enable informed decision making on the use of the UKCAT SJT band in this school's undergraduate dental student selection and admissions process. This study has shown that the use of the SJT, in terms of the

consequential aspect of validity, impacted unfairly on offer decisions and outcomes. As Patterson *et al* point out, selection methods 'must discriminate fairly between applicants and ensure few 'false negative' decisions (i.e. where applicants who are potentially successful at interview are rejected)'.<sup>12</sup> This was not the case when the SJT was used instead of the interview to determine offers of a place. A significant proportion of those who had originally been made an offer were displaced by applicants who had underperformed at the interview and had not received an offer.

Clearly, applicants with theoretically 'false positive' offer outcomes performed well in respect of integrity, perspective taking, and team involvement as measured by the UKCAT SJT. They may also have performed well in respect of these attributes as measured by this school's interview. Nevertheless, these applicants did not demonstrate at interview many of the personal attributes this dental school considers important for a dentist and, consequently, were not offered a place. More importantly, candidates who had been 'red-flagged' by one or more interviewees as potentially unsuitable to be a dentist would have been made an offer of a place. Analysis of the association between the variables 'Red Flag' and SJT Band indicated that applicants who had raised concern at interview about their suitability to study dentistry appeared to be randomly distributed across SJT Bands. This rather undermines the view that SJTs are a more effective and generally fairer selection method than traditional interviews.<sup>13</sup>

The results indicated that applicants who performed well in the SJT tended to perform well at the selection interview. This was not unexpected, as this school's standardised admission interview includes assessment of the attributes (perspective taking, integrity and team involvement) measured by the SJT. However, the correlation between SJT Band and UKCAT scores, indicated that they measure overlapping constructs, which somewhat diminishes the construct validity evidence in support of use of the SJT. This finding concurs with other studies which have found that, although designed to measure non-cognitive attributes, variance in SJT scores can be partially explained by cognitive ability.<sup>21,22</sup> As Husbands *et al* point out, a positive correlation between SJT and cognitive ability is undesirable for two reasons. Firstly, because it points to the redundancy of the SJT and, secondly because 'cognitive ability tests are often associated with adverse impacts against certain ethnic minority subgroups'.<sup>23</sup> Indeed, there is evidence that the



UKCAT(cognitive tests) is as sensitive to socio-demographic characteristics as tests of cognitive ability such as the Advanced Level General Certificate of Education (A-level),<sup>24</sup> and that scores on both are lower for applicants from under-represented backgrounds,<sup>25</sup> and offers of a place less likely.<sup>26</sup> The A-Level is a subject-based qualification taken by students completing secondary or pre-university education in the UK. We acknowledge that a recent study found the relationship between SJT and UKCAT scores was not statistically significant.<sup>23</sup>

Additionally, neither the SJT Band nor interview score predicted first year dental student examination performance in the assessments of Integrated Dental Science. This was not unexpected as the outcome criteria measured by the assessments focus on the acquisition of academic knowledge and not non-cognitive attributes and inter-personal interactions. Thus, the finding of no correlation with a measure of a completely different ability may add some criterion related validity evidence in support of the use of the UKCAT SJT.

Moreover, neither the SJT Band nor interview score predicted performance in the assessment of Inter-Professional Engagement. However, the SJT and the structured interview may be less predictive of performance in the early years of dental school which tends to be more academically focussed.

More positively, in respect of widening access, this study's findings concur with previous research that has shown SJTs are less sensitive to socio-demographic characteristics.<sup>27, 28</sup> The individual associations between gender, school type, POLAR3, disability and whether an applicant received an offer or not using the SJT instead of the school's admissions interview were not statistically significant.

The finding that the UKCAT cognitive scores correlated positively with performance in first year BDS multiple choice question examinations of academic ability appears to provide predictive validity evidence in support of the UKCAT. We urge caution in interpreting this finding given this study's small sample size. In contrast, a multiple regression analysis, powered by a much larger sample and adjusted by demographic factors and prior academic achievement, found that UKCAT cognitive scores did not correlate with examination performance in the first year of dental school.<sup>29</sup> At this time the predictive validity evidence in support of use the UKCAT cognitive scores in selection to dentistry is ambivalent.

Ranking applicants by weighted SJT and UKCAT scores, to determine invitation for interview highlighted the 'undesirable' correlation between UKCAT cognitive tests and the UKCAT SJT.<sup>23</sup> More importantly, those invited for interview using this system would have included many who had actually received a 'red flag' at interview. Clearly, the SJT had limited utility to deselect potentially unsuitable applicants when incorporated into the selection process at pre-interview stage. However, we acknowledge that this may be question of weighting and evidence from other studies suggests the contrary.<sup>13</sup>

We decided to model the replacement of the admissions interview with UKCAT SJT performance to determine an offer of place, rather than use scores from both in conjunction, because we wished to clearly establish the SJT's independent effect on offer outcomes. That is, whether or not the SJT rejected applicants who had met the (predicted /achieved) academic entry requirements and UKCAT threshold and who had been made a post-interview offer. Indeed, computer-delivered and machine marked SJTs are often used in the early stages of selection because of their ability to reduce a large applicant pool to a feasible and cost effective size prior to interview.<sup>27</sup> Whether used as an initial applicant screening tool or, in conjunction with an aptitude entry test.<sup>22</sup> We acknowledge that long-term validity studies may yet show that, when used in combination with structured interviews, the SJT may add significant value to the selection process. However, this was beyond the scope of this exploratory study. Nevertheless, a key finding of this study is that it reinforces the view that optimal combinations of selection tools remain a major research challenge.

The aims of this study align with those of a recent systematic review that identified the need for research into the 'gaps in evidence for the combination of selection tools that is most effective and the weighting to be given to each tool'.<sup>13</sup> We acknowledge that there is no 'gold standard' selection tool and that selection assessments 'are not valid or invalid, rather assessment scores have more (or less) validity evidence to support the proposed interpretations.'<sup>30</sup> This applies as equally to this school's structured interview as it does to the UKCAT SJT. We recognise that use of the SJT would not result in the same selection decisions as made by this school's interview-based process. However, validity should be approached as a hypothesis, with data collected to support or fail to support the proposed score interpretations, at a given point in time.<sup>30</sup> In the context of this dental school's selection process, this study's

findings failed to support the use of the UKCAT SJT, either in lieu of the structured interview or weighted in conjunction with the UKCAT cognitive scores,

We acknowledge the variety of admissions processes and different weighting of selection tools used by UK dental schools, variance in curricula and assessment methods, and the limitations this imposes on the generalisability of these findings. Furthermore, this is compounded by the relatively small sample size. Nevertheless, we believe that single institution studies can make an important contribution to the aim of identifying best practice in the selection of dental students.

### **Conclusions:**

Within the limitations of this study the findings do not provide support for the use of the UKCAT SJT in this school's undergraduate dental student selection process. In our hands, the UKCAT SJT does not offer an acceptable alternative to the structured interview within dental student selection. The findings also show that the weighting of UKCAT scores, including SJT to determine interview invitation decisions, is not a suitable alternative to the current UKCAT ranking process. The weight of evidence of this study supported acceptance of the null-hypothesis that the UKCAT SJT does not add value to the ability of the existing methods of this dental school to make valid, reliable and fair student selection decisions .

### **Conflict of interest:**

The authors, Paul Lambe, Elizabeth Kay and David Bristow, declare no conflict of interest.

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## TABLES

**Table 1: The Nottingham Medical School method of scoring the UKCAT cognitive subtests and the UKCAT SJT Bands (maximum score = 39, minimum score = 16). The method used by Nottingham excludes so called 'lower performing applicants' who have achieved a band 4 at this ranking stage for invitation for interview. We did not exclude band 4 applicants.**

Cognitive subtest scores	SJT Band
801 - 900 = 9 points	Band 1 = 3 points
701 - 800 = 8 points	Band 2 = 2 points
601 - 700 = 7 points	Band 3 = 1 point
501 - 600 = 6 points	Band 4 = 0 points
401 - 500 = 5 points	
301 - 400 = 4 points	

**Table 2: The correspondence between the personal attributes assessed by the dental admissions interview\* and those assessed by the UKCAT SJT.**

Interview	SJT Attributes
Empathy and pro-social behaviour	Perspective taking
Reflective manner	
Being non-judgemental	
Demonstrates a suitable approach to life and people	
Insight about self	
Honesty, integrity and veracity	Integrity
Know own limitations, strengths and weaknesses	
Insight into roles and responsibilities of dentist	
Ability to work in a team, to be a team player, Flexibility.	Team involvement
Communication skills	
Insight into stress	
Decision making skills	
Insight about illness and dentistry	

**\*The interview is designed to assess a range of personal attributes. Applicants select one of three alternative scenarios to consider, each of which centres on a contemporary ethical issue. The scenario forms the basis of four of the nine interview questions. Prior to the interview, applicants are asked to complete a written questionnaire, which aims to investigate their commitment and motivation to study dentistry. All nine interview questions assess communication skills.**

**Table 3: Frequencies of gender, disability, POLAR3 and school type, direct school leaver applicants (excludes overseas applicants and applicants without UKCAT scores) for entry to the Bachelor of Dental Surgery programme in 2014-2015.**

		2014-2015	
Gender		n	%
	Male	112	51
	Female	116	49
	Missing	0	0
	Total	228	100
Disability		n	%
	Yes	13	6
	No	215	94
	Missing	0	0
	Total	228	100
POLAR3		n	%
	1	17	7
	2	39	17
	3	31	14
	4	55	24
	5	72	32
	Missing	14	6
	Total	228	100
School type		n	%
	State	155	68
	Independent/Private	50	22
	Missing	23	10
	Total	228	100

**Table 4: Cross-tabulation (n, % within column) of the ordinal variables, SJT Band (1, 2, and 3/4 combined) and 'Red Flagged' (yes /no) reporting Goodman and Kruskal's gamma and Spearman's correlation statistics (n= 186 interviewees for entry in 2014/15).**

'Red Flag'	SJT Band1	SJT Band2	SJT Band3&4	Total
No	32	72	46	150
	86.5%	81.8%	75.4%	80.6%
Yes	5	16	15	36
	<b>13.5%</b>	<b>18.2%</b>	<b>24.6%</b>	19.4%
Total	37	88	61	186
	100.00%	100.00%	100.00%	100.00%
Goodman & Kruskal's gamma = 0.2164 ASE = 0.145, z = 1.49				

**Table 5: Correlations between SJT Band and (1) UKCAT cognitive scores, (2) SJT Band and interview scores, (3) SJT Band and scores in first year assessments, and (4) UKCAT cognitive scores and scores in first year assessments, matriculates of the 2014-2015 direct school leaver applicant cohort (Spearman's ( $r_s$ ) and Pearson's ( $r$ ) where appropriate).**

Applicants n=228	SJT Band	AR	VR	QR	DA	Total UKCAT
		( $r_s$ ) = -0.13*	( $r_s$ ) = -0.47**	( $r_s$ ) = -0.28**	( $r_s$ ) = -0.26**	( $r_s$ ) = -0.38**
Interviewees n=186	SJT Band	Interview score				
		(r) = -0.17*				
Matriculates (n=44)	SJT Band	IDS 1	IDS 2	IPE1		
		n/s	n/s	n/s		
		IDS 1	IDS 2	IPE1		
	UKCAT	r = 0.32*	r = 0.38*	n/s		
	AR	n/s	n/s	n/s		
	VR	n/s	n/s	n/s		
	QR	n/s	n/s	n/s		
	DA	n/s	n/s	n/s		
*p<=0.05, ** p<=0.01 (two-tailed), n/s not significant						

**Table 6: Comparison of the mean interview score of each SJT Band with the grand mean of all SJT Band groups and comparison of the mean interview score between each SJT Band, direct school leaver applicants for entry in academic year 2014 – 2015 and 2015 - 2016.**

SJT Band	n	Contrast	Std.Err.	t	P>t	95% C.I.	
1 vs mean	37	1.45	.68	2.14	<b>0.04</b>	.11	2.79
2 vs mean	88	.52	.55	0.95	0.34	-.56	1.61
3 vs mean	51	-.73	.62	-1.18	0.24	-1.96	.49
4 vs mean	10	-1.24	1.08	-1.15	0.25	-3.39	.90
2 vs 1		-.93	.87	-1.07	0.28	-2.65	.78
3 vs 1		-2.19	.96	-2.28	<b>0.02</b>	-4.08	-.29
4 vs 1		-2.70	1.58	-1.71	0.09	-5.83	.42
3 vs 2		-1.25	.78	-1.61	0.11	-2.80	.28
4 vs 2		-1.77	1.48	-1.19	0.23	-4.70	1.15
4 vs 3		.51	1.53	0.33	0.73	-2.52	3.54



## Figures

**Figure 1: Box and whisker plots of the distribution of interview score by SJT Band of direct school applicants to the Bachelor of Dental Surgery programme in academic year 2014-2015 (n=186, Band 1 n=37, Band 2 n=88, Band 3=51, Band 4 n=10).**

