

Factors affecting specialist psychiatry training in South Africa:

Are psychiatry residents satisfied with their training?

Natalie Beath¹, Karis Moxley¹, Ugasvaree Subramaney^{2, 3}, Zukiswa Zingela³,
Bonginkosi Chiliza⁴, John Joska⁵, Carla Kotzé⁶, Liezl Koen¹, Soraya Seedat¹

¹ Stellenbosch University, Cape Town, Western Cape, South Africa

² University of the Witwatersrand, Johannesburg, Gauteng, South Africa

³ Walter Sisulu University, Mthatha, Eastern Cape, South Africa

⁴ University of KwaZulu-Natal, Durban, KwaZulu-Natal, South Africa

⁵ University of Cape Town, Cape Town, Western Cape, South Africa

⁶ University of Pretoria, Pretoria, Gauteng, South Africa

*Correspondence to: Natalie Beath. Email: nbeath@gmail.com

Abstract

Objective

The authors investigated South African psychiatry residents' satisfaction with their training, physical and mental health to inform the development of a strategy to improve the quality and experiences of training.

Method

A cross-sectional online survey was undertaken to assess the factors affecting residents' satisfaction with their current training program. The authors conducted a comparative analysis of residents across the training institutions in South Africa.

Results

Of 179 psychiatry residents in the country, 70 responses were received (39.1% response rate). Most were satisfied with the overall quality of their training, various aspects of training

and access to training resources. However, significant differences across universities were identified with regards to residents' perception of the quality of their training, quality of their experiences, access to training resources, quality of supervision and clinical workload. More than a quarter were dissatisfied with their mental and/or physical health. The top four factors contributing to stress were all training-related.

Conclusion

While most residents were satisfied with their specialist training, institutional differences in access to training and training resources; quality of training; and availability of quality supervision were evident and need to be addressed to ensure equitable training. There is a need to actively address staff shortages for both clinical cover during protected academic time but also to meet training needs. A centralised examination process should remain in place to ensure that there is a national standard. Workplace Based Assessments could facilitate standardisation across institutions, should these assessments be standardised and accompanied by rigorous training of supervisors.

Key-words

South Africa

Psychiatry

Residency

Training quality

Training resources

Stress

Health

South Africa suffers a significant burden of mental illness contributed to by stressors such as trauma [1], socio-economic inequality, poverty [2], gender inequality [3] and criminal violence [4]. The only nationally representative study on the prevalence of common mental disorders in South Africa [1][5], the South African Stress and Health (SASH) Study, found a lifetime prevalence of common mental disorders among South African adults of 30.3%.

Despite the substantial need, there remains a dearth of psychiatrists relative to population needs in South Africa. Recently the National Department of Health commissioned a study to estimate target ratios for categories of medical specialists in South Africa. It is important to note that these targets were developed with the overarching strategy in mind of decreasing the need for medical specialists through task shifting and other mechanisms. Based on this research the recommended ratio of psychiatrists to population is 3.00 per 100,000 [6].

Considering this recommendation, there is a critical mental health workforce shortage, with 1.2 psychiatrists per 100,000 people on average in South Africa [2][7], 0.38 per 100,000 in the public sector [6] and 0.03 per 100,000 population in public rural settings [8].

Despite the realization that mental health care is not only provided by specialist psychiatrists, and conceding that the current treatment gap may have to be addressed by strategies such as appropriate task sharing, the overall situation seems to suggest that there are simply too few psychiatrists in the country to meet the mental health needs of the South African population and that we are continuing to train and qualify too few new specialists to meet demand.

In South Africa psychiatrists are medical specialists who require at least 13 years of rigorous training to qualify as independent practitioners [8]; this includes 6 years of undergraduate training, 2 years of internship, 1-year of community service and 4 years of residency training

(doctors who undertake residency training are referred to as registrars). Holistic training in psychiatry encompasses adequate exposure to general adult psychiatry that includes community psychiatry, as well as several psychiatric subspecialties including Child and Adolescent Psychiatry, Neuropsychiatry, Addiction Psychiatry, Geriatric/Old-age psychiatry, Forensic Psychiatry and Consultation-Liaison Psychiatry. In addition to clinical exposure, extensive training is expected in the domains of pharmacotherapy, psychotherapy, somatic treatment modalities (e.g. electro-convulsive therapy, ECT), ethics and research methodology, among others [9].

Universities accredited for specialist psychiatry training across South Africa include the University of Cape Town, University of the Witwatersrand, University of Pretoria, University of Free State, University of KwaZulu-Natal, University of Limpopo, Sefako Makgatho Health Sciences University (SMU), Stellenbosch University, and Walter Sisulu University. Universities serve primarily a training function while the College of Psychiatrists, a College of the Colleges of Medicine of South Africa (CMSA), performs an examination function with some training related functions.

In the past, the aforementioned universities had substantial waiting lists for relatively few psychiatry resident posts [10] although there is no recent documented evidence of this trend having continued over time. The inability to meet training demands, coupled with the duration and intensity of specialist training, has contributed to low outputs of only about 27 new psychiatrists per year [8]. Overall, there is a need to develop and implement a strategy to increase specialist training, examination capacity and specialist training completion within the specified four year training period in South Africa. As a first step, a situational review was undertaken by the College of Psychiatrists and the South African Society of Psychiatrists

to inform the development of such a strategy. This study forms one component of that situational analysis.

Numerous international studies have demonstrated a relationship between both trainees subjective experience of their training programs [11][12][13][14], their stress levels [14][15][16] and their eventual academic performance, this study aimed to determine to what extent residents are satisfied with various components of training at their respective institutions, as well as with the CMSA (the national examinations body that determines qualification as a specialist psychiatrist), their physical and mental health and the key sources of stress during training. The study also compared residents' experience across 8 of the 9 universities that participated and included training institutions that were racially divided during South Africa's apartheid era. Such racial division was associated with many structural flaws including a disparities in resource allocation [17]. Despite post-apartheid policy shifts many of the apartheid-era discriminatory practices continue to influence higher education in South Africa to this day [18].

Methods

This cross-sectional, descriptive study made use of an online survey to determine the factors affecting residents' satisfaction with the current specialist training program. The survey was open for responses from participating training institutions between 1 June 2019 and 30 November 2019.

All current psychiatry residents (Department of Health (DOH)-funded, supernumerary and self-funded) at nine of the academic psychiatry departments in South Africa were eligible to participate. Eight of nine psychiatry departments provided consent to participate. The estimated

total number of psychiatry residents in the country is 179 and we received 70 responses (39.1% response rate). With a population of 179 and a sample size of 70 at a confidence level of 95%, the margin of error for any question in the survey was 9.2. As the number of occupied training posts is variable across institutions, the percentage of residents from each institution represented in our sample varied from 22% to 75%.

The online, anonymous, self-administered survey comprised four sections on demographic characteristics, satisfaction with current specialist training; physical and mental health, sources of stress and bullying/discrimination, and career plans after qualifying (the latter two will be reported separately in manuscripts). Most questions were closed-ended, but a few open-ended questions were included to gain richer perspectives from residents. The survey was prepared in English only using CheckBox online survey software. The survey was piloted and revised before formal dispatch. A secure link was distributed via email to a representative at each training institution. The representatives then disseminated the survey amongst residents at their respective sites via email.

The participating universities were anonymised and were assigned unique identifiers (alphabet letters; A, B, C, D, E, F, G and H). Statistical analyses were undertaken using IBM SPSS Statistics software, version 25. Statistical significance was set at $p < 0.05$. For closed-ended questions, data were summarised as frequencies and percentages. Chi-square tests were used to assess for any associations between the training institution that respondents were studying at and responses to the various closed ended questions. Open-ended questions were subjected to qualitative analysis for commonly recurring themes.

Approval to conduct the study was obtained from the Stellenbosch University's Health Research Ethics Committee (N18/06/063). Additionally, ethics and institutional permission was obtained from all participating training institutions. Resident participation was voluntary and anonymous and informed consent was obtained from all participants.

Results

Table 1 shows a summary of the descriptive characteristics of the 70 residents who responded to the survey. Most respondents were female (n= 45, 64.3%) and between the ages 30-34 years (n=39, 55.7%). More than a third were Caucasian (n=27, 38.6%) and just over half had children (n=36, 51.4%). Across the universities, there were no statistically significant differences on any demographic variables.

Most respondents (82.9%) reported having psychiatry experience prior to joining a residency program, 31.4% had a Diploma in Mental Health qualification, and 14.3% had completed the Part 1 exams prior to joining a residency program. Reasons selected for choosing a particular institution included location (n=46, 65.71%) and reputation (n=34, 48.57%), followed by family/partner support (n=22, 31.43%), links with future career opportunities (n=13, 18.57%), lifestyle (n=11, 15.71%), advised by supervisor (n=7, 10%) and the availability of accommodation (n=6, 8.57%). Just over a third of respondents (n=26, 37.1%) reported having to relocate to start a residency program.

Table 1: Demographic profile of psychiatry residents (N=70)

Variable	n	%
Gender		
Female	45	64.3
Male	25	35.7
Age (years)		
40 years and younger	62	88.6
Over 40 years	8	11.4
Ethnicity		
Asian/Indian	15	21.4
Black/African	20	28.6
Mixed ancestry	8	11.4
White/Caucasian	27	38.6
Nationality†		
South African	64	91.4
Other	3	4.3
South African citizenship status†		
Foreign citizen with residence permit	1	1.4
South African citizen	66	94.3
South African permanent resident	3	4.3
Marital status†		
Single/Separated/Divorced	13	18.6
In a relationship/Married	56	80
Number of children†		
0 children	34	48.6
1 to 2 children	29	41.4
3 or more children	6	8.6
Ages of children		
Under one year	5	8.5
1-4 years	22	37.3
5-10 years	19	32.2
11-13 years	8	13.6
14 years and older	5	8.5

*Other: British, Mosotho, Nigeria

Most participants indicated that the overall quality of psychiatry residency training was excellent (25.7%), good (37.1%) or average (28.6%), which suggests that trainees were generally satisfied with their training. However, when training at the different institutions was evaluated, statistically significant differences were identified between institutions [$\chi^2(32, n=70)=77.460, p=0.000$] with Universities A, D and F having more excellent/good responses, Universities B, E, G and H having more average responses and University C more poor/very poor responses.

Reasons for rating an institution favourably included exposure to a wide range of psychopathology, a well-structured academic program and training, regularly scheduled and protected academic time, a well-structured and regular exam preparation program, and knowledgeable and accessible consultants who regularly provided both formal and informal teaching and clinical supervision. Reasons for rating an institution unfavourably included an unstructured department with little teaching, the lack of protected academic time, too few consultants being available for clinical supervision, little formal or informal consultant teaching, minimal mentorship, high workload with regards to clinical responsibilities, and service delivery being prioritized over academic activities and clinical training.

More than a third (35.7%) of respondents rated the overall quality of their residency experience as excellent, 22.9% as good, 30% as average, 7.1% as poor and 4.3% as very poor. When comparing institutions, statistically significant differences were again identified for overall quality [$\chi^2(32, n=70)=56.689, p=0.005$], with respondents from Universities A, D and F more frequently rating their experience as excellent or good, respondents from Universities E and H more frequently rating their experience as average and respondents from University C more frequently rating this as poor/ very poor.

Reasons for favourable ratings included the completion of the Diploma in Mental Health and the primaries (i.e., integrated neuroscience examination) prior to joining a residency program (which relieved a lot pressure), good support and guidance from fellow residents and consultants, a well-rounded and supportive department, exposure to a wide variety of psychopathology, and exposure to subspecialty areas in psychiatry with knowledgeable supervisors. Reasons for unfavourable ratings included poor support when preparing for the examinations, poor support in clinical settings, a shortage of consultant psychiatrists, punitive

consultants, poor research support, poor organization with regards to psychotherapy training, resource constraints in public sector clinical settings, a high workload with minimal support and supervision, minimal academic support, no protected academic time, clinical rotations at hospitals that were geographically far removed from home and family, and difficulty balancing clinical and academic responsibilities.

Most training resources were endorsed as being accessible on a regular basis (Table 2). Across the universities there were statistically significant differences in wifi/ internet access, formal teaching for the primaries, formal teaching and/or exam preparation for the final exit examinations, research supervision, mentorship, child and adolescent psychiatry training, neurology training and psychotherapy training.

Table 2: Regular access to the following resources

Variable	Yes (n)	%	Chi-square	P value	University with access more frequently	University with access less frequently
WIFI/internet	40	57.1	$X^2(16,N=70)=33.929$	$p=0.006$	B and F	C and D
Computer	53	75.7				
Library/academic resources	58	82.9				
Formal Part 1 teaching	57	81.4	$X^2(16,N=70)=35.339$	$p=0.004$	D, F and H	C and G
Formal Part 2 teaching	58	82.9	$X^2(16,N=70)=31.610$	$p=0.011$	D and F	C
Informal consultant-led clinical teaching	66	94.3				
Exam preparation	50	71.4	$X^2(16,N=70)=45.828$	$p=0.000$	A, B, D, E and F	C, G and H
Dedicated research support (writing skills, statistics)	57	81.4				
Research supervision	65	92.9	$X^2(16,N=70)=36.025$	$p=0.003$	A, D, F and H	G
Mentorship	50	71.4	$X^2(16,N=70)=34.256$	$p=0.005$	D, E and F	C, G and H
Child and adolescent psychiatry training	63	90	$X^2(16,N=70)=34.676$	$p=0.004$	A, D, F and H	C and G
Neurology training	56	80	$X^2(16,N=70)=35.075$	$p=0.004$	A, D, F and H	C, E and G
Psychotherapy training	56	80	$X^2(16,N=70)=33.187$	$p=0.007$	A, B and F	C, E and G

Part 1 = Primary examination (Neuroanatomy, Neurophysiology, Psychopharmacology, Behavioural Sciences, Introduction to Psychiatry), Part 2 = Final/exit examination

Table 3: Satisfaction with aspects of training

Variable	Frequency, n (%)							
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied	Chi-square	University Satisfied/ Very satisfied more frequently	University Dissatisfied/ Very Dissatisfied more frequently
Induction and orientation	17 (24.3)	26 (37.1)	15 (21.4)	10 (14.3)	1 (1.4)			
Administration	14 (20)	27 (38.6)	18 (25.7)	8 (11.4)	2 (2.9)			
Quality of clinical training	19 (27.1)	31 (44.3)	9 (12.9)	7 (10)	2 (2.9)	$X^2(40,N=70)=69.426,p=0.003$	A, D and F	C
Quality of supervision for clinical work	16 (22.9)	27 (38.6)	13 (18.6)	9 (12.9)	3 (4.3)	$X^2(40,N=70)=74.538,p=0.001$	A, D and F	B, C and H
Quality of supervision for research	24 (34.3)	24 (34.3)	12 (17.1)	7 (10)	2 (2.9)			
Quality of supervision for psychotherapy	21 (30)	18 (25.7)	16 (22.9)	9 (12.9)	5 (7.1)			
Clinical workload	9 (12.9)	26 (37.1)	18 (25.7)	9 (12.9)	7 (10)	$X^2(40,N=70)=73.926,p=0.001$	A, B and D	H
Level of workplace responsibility	12 (17.1)	34 (48.6)	13 (18.6)	5 (7.1)	5 (7.1)	$X^2(40,N=70)=69.930,p=0.002$	A, B, D and G	C and H
Feedback on your training progress/formative assessments	11 (15.7)	26 (37.1)	19 (27.1)	9 (12.9)	4 (5.7)	$X^2(40,N=70)=56.913,p=0.040$	D and F	C
Availability of training and educational resources	16 (22.9)	24 (34.3)	17 (24.3)	9 (12.9)	3 (4.3)	$X^2(40,N=70)=61.972,p=0.014$	A, D and F	C, E and H
Availability of research/academic resources	18 (25.7)	24 (34.3)	17 (24.3)	6 (8.6)	3 (4.3)			

Quality of supervision for research was most frequently endorsed as very satisfactory (n=24; 34.3%) while clinical workload was the least frequently endorsed as very satisfactory (n=9; 12.9%) and the most frequently endorsed as very unsatisfactory (n=7; 10%). There were significant differences across institutions in the quality of clinical training, quality of supervision for clinical work, clinical workload, level of workplace responsibility that was expected, in feedback on training progress and formative assessments, and in the availability of training and educational resources (Table 3).

Psychotherapy training was most frequently endorsed as sufficiently emphasized in residency training (n=42, 60%), although 32.9% (n=23) indicated that it was underemphasized and 5.7% (n=4) that it was overemphasized. Differences were significant among universities with regards to the aforementioned [$\chi^2(24, n=70)=41.077, p=0.016$], with respondents from Universities A, B and D more frequently rating psychotherapy training as sufficiently emphasized, from Universities C, E, G and H more frequently rating it as underemphasized, and respondents from University F more frequently rating it as overemphasized.

The majority of respondents (n=40, 57.1%) thought that psychotherapy training was very important with regards to future practice. Thirty percent (n=21) endorsed it as moderately important, 10% (n=7) endorsed it as slightly important and 2.9% (n=2) endorsed it as not at all important. There were no statistically significant differences among the 8 universities. Reasons given for rating psychotherapy as important for their future careers included wanting to know how to provide appropriate psychotherapy without referring patients to psychology (especially in settings where it is not easy to access psychologists), providing a basic foundation to help identify patient needs and facilitate appropriate referral, providing a good basis to facilitate holistic patient management, forming the foundation of management of some common

psychiatric conditions, and psychotherapy being considered as a core competency. Reasons for rating psychotherapy as not important for their future careers included having every intention to remain in public sector practice where patient load and time would not allow for in-depth psychotherapy intervention, no interest in personally providing psychotherapy and an intention to refer patients to psychologists, limited time and training allocated to psychotherapy (as such, respondents indicated that they felt that it was not important), believing it was not an expected competency, and feeling ill equipped to safely conduct psychotherapy.

The majority of respondents either strongly agreed (n=21; 30%) or agreed (n=36; 51.4%) that clinical rotations at their institutions were optimised for training, while 10% (n=7) neither agreed nor disagreed, and 8.6% (n=6) disagreed. Across the 8 universities, significant differences were found [$\chi^2(24, n=70)=41.378, p=0.015$], with respondents from Universities A, B, D and F more frequently strongly agreeing or agreeing, while respondents from Universities C and H more frequently disagreeing. Reasons provided for agreeing or strongly agreeing included the integration of practice, theory and exam content into rotations, the wide variety of psychopathology in each rotation, the coverage of a wide variety of subspecialties in clinical rotations and the availability of knowledgeable consultants who were accessible and taught, supervised and supported them. Reasons endorsed for disagreeing included poor supervision, minimal consultant access or cover, little training in certain subspecialties, no consistency in training or support across the different clinical rotations, a random allocation of rotations resulting in some residents repeating some rotations while others not being exposed, and the allocation of rotations based on clinical service delivery demands and not on training or academic needs.

In endorsing the quality of formal, informal and bedside teaching at their institutions, the majority rated the teaching as excellent (n=22; 31.4%) or good (n=24; 33.3%), 22.9% (n=16) as average, 5.7% (n=2) as poor, and 5.7% (n=2) as very poor. Significant differences were identified across universities [$\chi^2(32, n=70)=67.485, p=0.000$], with respondents from Universities A, D and F more frequently rating teaching as good or excellent, respondents from Universities B and E more frequently rating it as average, and respondents from Universities C and H more frequently rating it as poor or very poor. Reasons for favourable responses included the presence of well-structured rotations, plenty of structured teaching time, the availability of consultant psychiatrists who were knowledgeable, experienced, supportive, and regularly available, the use of ward rounds as teaching opportunities, and consistent offerings of ward round teaching and supervision. Reasons for unfavourable responses included the lack of teaching, little or no formal teaching, workloads resulting in rushed clinical rounds and lost teaching opportunities, disorganized and sporadic teaching that was hospital and consultant dependent, and teaching provided by fellow residents because of the infrequent availability of consultant psychiatrists.

The majority endorsed the intensity of their routine workday as very heavy (n=14, 20%) or heavy (n=32, 45.7%), 27% (n=19) endorsed it as about right, and 7.14% (n=5) as light or very light. Significant differences were noted across universities [$\chi^2(32, n=70)=57.956, p=0.003$], with respondents from Universities C, F and H more frequently rating their workday as heavy or very heavy, and respondents from University A more frequently endorsing it as about right. When considering overtime work, the majority of respondents endorsed this as about right (n=41, 58.6%), 18.6% (n=13) endorsed it as heavy, 10% (n=7) endorsed it as very heavy, 10% (n=7) as light, and 2.9% (n=2) it as very light. There were significant differences across Universities [$\chi^2(32, n=70)=62.174, p=0.001$], with respondents from University B more

frequently rating it as light, from Universities G and H more frequently rating it as heavy or very heavy, and from Universities A, C and D more frequently endorsing it as about right.

The majority of respondents (n=21; 30%) indicated that they had to cope beyond their capacity on a weekly basis with their clinical responsibilities, followed by less than monthly (n=20; 28.6%), monthly (n=13; 18.8%) and never (n=13; 18.8%), while 2.9% (n=2) indicated that this was a daily occurrence. No statistically significant differences were identified across universities.

The majority of respondents (n=40; 57.1%) endorsed spending 1-2 hours per week on teaching, 22.9% (n=16) 3-5 hours, 8.6% (n=6) 0 hours and 10% (n=7) more than 6 hours. There was no statistically significant difference in the number of hours per week that residents spent teaching across the different institutions. 'Neutral' was endorsed most frequently for both the availability (n=20; 28.6%) and quality (n=20; 28.6%) of teaching support. This was followed by being satisfied with the availability (n=20, 28.6%) and quality of teaching (n=20, 28.6%), 7.1% (n=5) being very satisfied, 11.4% (n=8) and 12.9% (n=9) dissatisfied for availability and quality, respectively, and 2.9% (n=2) very dissatisfied with availability and quality, respectively. Significant differences among institutions were found for both (i) availability of support [$\chi^2(40, n=70)=59.596, p=0.024$], with respondents from Universities A and D more frequently satisfied or very satisfied, from Universities E and H more frequently neutral, and from Universities F more frequently dissatisfied or very dissatisfied; (ii) quality of support [$\chi^2(40, n=70)=59.473, p=0.024$], with respondents from universities A, B and D more frequently satisfied or very satisfied and from Universities E and H more frequently neutral.

Table 4: Sources of stress

Variable	Fresquency, n (%)					Chi-square	University “A lot” or “Significant” more frequently
	Very Little	Little	Some	A Lot	Significant		
Clinical Workload	8 (11.4)	7 (10)	32 (45.7)	15 (21.4)	7 (10)		
Teaching Workload	9 (12.9)	26 (37.1)	26 (37.1)	5 (7.1)	2 (2.9)		
Exam Preparation	3 (4.3)	7 (10)	10 (14.3)	23 (32.9)	25 (35.7)	X ² (40,N=70)=56.416,p=0.044	A, C, G and H
Training Requirements	4 (5.7)	3 (4.3)	19 (27.1)	22 (31.4)	21 (30)		
Research Project	3 (4.3)	8 (11.4)	14 (20)	21 (30)	23 (32.9)	X ² (40,N=70)=56.804,p=0.041	A, C, G and H
Time Pressure	1 (1.4)	6 (8.6)	17 (24.3)	22 (31.4)	23 (32.9)		
Financial Pressure	8 (11.4)	23 (32.9)	18 (25.7)	13 (18.6)	7 (10)		
Physical Health	17 (24.3)	19 (27.1)	20 (28.6)	6 (8.6)	7 (10)		
Mental Health	13 (18.6)	13 (18.6)	23 (32.9)	17 (24.3)	3 (4.3)		
Personal Relationships	16 (22.9)	20 (28.6)	19 (27.1)	8 (11.4)	5 (7.1)		
Harassment/Bullying by Patient/Patient Family	23 (32.9)	27 (38.6)	12 (17.1)	5 (7.1)	2 (2.9)		
Harassment/Bullying by Colleagues	35 (50)	12 (17.1)	13 (18.6)	4 (5.7)	5 (7.1)		

Exam preparation (n= 25; 35.7%), completing their research projects (all residents are required to complete a research dissertation in fulfilment of the MMED degree) (n=23; 32.9%) and time pressures (n=23; 32.9%) were most frequently endorsed as contributory factors to significant stress, while harassment/bullying by a colleague (n=35; 50%) and harassment/bullying by a patient/patient family member (n=23; 32.9%) were the most frequently endorsed as factors that contributed very little to stress. There were significant cross-university differences in the contribution of exam preparation and research project-related stress (see Table 4).

Most respondents were satisfied with their physical (n=24; 34.3%) and mental (n=26; 37.1%) health, 11.4% (n=8) and 12.9% (n=9) were very satisfied with their physical and mental health respectively, and 27.1% (n=19) and 31.43% (n=22) were dissatisfied/very dissatisfied with their physical and mental health, respectively. Cross-university differences in mental or physical health satisfaction were not statistically significant.

Hobbies (n=45, 64.29%) was selected most frequently as a preferred coping mechanism, while medical treatment from psychiatrist/ general practitioner (GP) was selected least frequently (n=8, 11.43%). Other options endorsed included dietary measures (n=31, 44.29%), regular exercise (n=34, 48.57%), meditation (n=23, 32.86%), religious activities (n=31, 44.29%), spiritual activities (n=20, 28.57%), sport (n=10, 14.29%) and psychotherapy/ coaching/counselling (n=17, 24.28%). No statistically significant gender or cross-university differences were identified.

Responses to the question “Given your overall experience, what are some of the best aspects of your training experience?” included: easy accessibility to training opportunities, knowledgeable consultant psychiatrists who are dedicated to teaching and providing support,

exposure to a wide variety of psychopathology, well organised, regular teaching and protected academic time, formal academic teaching and meetings, exposure to training in subspecialties, good research supervision, mentorship, collegial support, ability to work with and develop friendships with likeminded individuals, international input from travelling academics, and being able to deliver services in under-resourced areas.

With regards to the examinations body, the CMSA, there was an overwhelming ‘neutral’ response to all aspects of CMSA involvement (see Table 5). No statistically significant differences were found across universities. Suggestions for improvement included providing more examination preparation workshops, more transparency with regards to curriculum, and expectations and depth of knowledge expected, condensing the required reading list for the exit examination, written examinations that were less subjective, providing answer memos for past/failed examinations, providing more training from the College of Psychiatrists, providing more input on the examination format, reviewing the exam format, reviewing teaching support, auditing universities to ensure uniformity in training, providing more teaching and support, providing more direct assistance to universities known to struggle, and the introduction of an intermediate examination (falling between the primaries and the exit examination). Most residents (n=53; 75.5%) were very satisfied with their choice of speciality, followed by satisfied (n=12, 20%) and neutral (n=3, 4.3%). No respondents were dissatisfied/very dissatisfied. No significant cross-university differences were identified.

Table 5: How would you rate your satisfaction with your experience of the following aspects of the College of Psychiatrists.

Variable	Frequency, n (%)				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Assessment	2 (2.9)	22 (31.4)	32 (45.7)	7 (10)	3 (4.3)
Regulations	2 (2.9)	22 (31.4)	36 (51.4)	5 (7.1)	1 (1.4)
Curriculum	3 (4.3)	26 (37.1)	30 (42.9)	6 (8.6)	1 (1.4)
Training workshops	2 (2.9)	17 (24.3)	31 (44.3)	13 (18.6)	3 (4.3)
Communication	3 (4.3)	21 (30)	34 (48.6)	3 (4.3)	4 (5.7)

Discussion

This survey was undertaken by the College of Psychiatrists and the South African Society of Psychiatrists to determine residents' satisfaction with their training and physical and mental well-being, so as to inform the development of a strategy aimed at improving both the quality and experience of training. This is the first national survey of its kind of psychiatry trainees in South Africa.

Most residents rated their psychiatry training, overall experience, access to training resources and the quality of various aspects of training as either excellent or good, suggesting that trainees were satisfied with the training they received. These findings are comparable to studies conducted in Australia [19] and India [20]. The majority of respondents felt that psychotherapy was sufficiently emphasized, similar to trends in Canada [21] and the United States of America [22]. The majority of respondents also indicated that their clinical departments sought to optimize training and that they received quality formal, informal and bedside teaching.

However, when comparing different institutions, statistically significant differences were identified on most of the aforementioned parameters, with a pattern emerging that residents from certain institutions (Universities A, D, F and to some extent B) were more satisfied with their training and had more access to training resources, while respondents from other institutions (Universities C, G and to some extent H) were more dissatisfied with their training and had less access to training resources. Academic teaching, clinical training and many of the training resources listed in Tables 2 and 3 require human resources. A shortage of general psychiatrists in public and academic settings as well as the pull of private practice for those working in both public and private sectors, could account for the dissatisfaction raised by some residents with regards to access to these resources. This is in keeping with similar concerns

raised by surgical residents in South Africa [23]. Historical disparities in resource allocation [17][18] could account for the differences seen between institutions. Similar disparities in training across different institutions in India resulted in the recommendation that a training program be developed at the level of the Indian Psychiatric Society and Medical Council of India to harmonize training across India [22].

While CMSA regulations specify the content and duration of training, residents' experiences of the quality of their exposure varied by university institution. This is concerning because if we want to increase the throughput rate of trainees who are suitably equipped to perform the profession they are trained in, it would be ideal if equivalent (uniform and quality) training was offered across university institutions. With regards to subspecialist training exposure, it is critical that all accredited institutions develop capacity to provide adequate exposure to residents in the various subspecialties, either through inter-institutional or private-public collaborations or by addressing subspecialist staffing and post shortages at their respective institutions.

Given the high burden of mental illness in South Africa and the shortage of psychiatric services, it is not surprising that most residents indicated that they carried a heavy clinical workload and that clinical responsibilities took preference over academic activities with most indicating that they did not have protected academic time. Similar concerns were raised in a study of surgical residents training in South Africa, who ranked the lack of protected academic time as the greatest hindrance to training [23]. This is especially concerning considering that all residents are registered students and have responsibilities to both the Department of Health and their respective universities. To minimise tensions between these competing responsibilities it may be useful to define the minimum amount of dedicated time allocated to academic pursuits (i.e.

formal and informal teaching, training, and supervision). Once this is defined, to address staff shortages for both clinical cover during protected academic time but also to meet training needs, more psychiatrists need to be trained and retained in the country and in the public sector, as well as private-public collaborations to enhance training opportunities.

It was interesting to note that of the response options for contributors to stress, four training related factors (Exam preparation, Training requirements, Research project and Time pressure) were also the top 4 factors most frequently endorsed as contributing to stress. Among respondents at 4 universities (A, C, G and H) who more frequently indicated that the stress contributed by exam preparation was a lot or significant, respondents at 3 out of 4 (C, G and H) also indicated more frequently that they did not have regular access to exam preparation and teaching. This suggests that regular exam preparation and teaching may help to contain stress levels around examination preparation. While a certain level of stress may have beneficial effects, chronic excessive stress can lead to several pathophysiological conditions including poorer cognitive function and academic performance [24]. International studies have found that 30-60% of residents experience burnout or mental health concerns[25][26]. In turn burn out and mental health concerns have been associated with physician attrition, suicidal ideations, depression, reduced working hours, reduced number of patients seen, increased medical errors, decrease in quality of patient care, decreased job satisfaction and early retirement [25][26]. While residents did endorse several coping strategies, some studies have suggested universities take a more active role in stress management with interventions that include cognitive, behavioural and mindfulness techniques, and mentorship programs [27][28]. Other studies have found a marked contribution of workplace-related factors including dysfunctional work environment, negative working environment and excessive work demands to residents' stress levels and burnout and suggest organizational interventions/ restructuring

to address residents stress levels / burnout [29]. As time pressures and training requirements were among the most frequently selected contributors to stress, it would not be a far stretch to suggest, as some respondents did, that being supported and encouraged to complete some of the training requirements before joining the residency program, might help to mitigate this stress. This could possibly be facilitated both by making the primaries a requisite for entry into a specialist training program, while supporting medical officers wishing to specialise in psychiatry to undertake their primaries. As factors contributing to stress levels can be multifactorial including work-place related factors, personal factors [26] and academic/training related factors a root-cause analysis of factors specifically contributing to residents' stress/burnout at each respective institution may be of benefit. Once these factors have been identified strategies to address each of these causes could be investigated, implemented and its effects studied. Interventions found to positively contribute to decreasing stress/burnout could be incorporated into each institution's curriculum.

Bearing in mind the training discrepancies between institutions found in this study, the CMSA in its function as an examining body that sets uniform standards for assessing candidates, it is encouraging to note that residents across institutions had similar experiences of the CMSA. It is possible that moving to workplace-based assessments (WBA), while not addressing differences in the quality and amount of supervision and training at different institutions, may result in similar disparities with regards to assessment. The improvements that were suggested by respondents are in keeping with suggestions made in a Canadian study that regular mock oral examinations by Royal College examiners be incorporated into training programs to prepare psychiatry residents for successful exam completion [30].

While we did compare residents' satisfaction with different aspects of training and access to educational material at the eight universities that agreed to participate in this study, it is important that these findings are historically contextualised. The lasting effects of the apartheid era structuring of universities, particularly classifying certain universities as 'white' and others as 'non-white' and the disproportionate allocation of resources that accompanied this division cannot be underestimated [17]. That said continued strategies to develop equitable training amongst these universities remain of utmost importance.

A number of limitations warrant mention. Our sample had more female (n=45, 64.3%) than male residents as well as more white residents (n =27, 38.6%) which may represent a shortcoming in our sampling strategy or may be representative of the psychiatry resident population in South Africa. If the latter is true, considering that most undergraduate medical students in South Africa are black [31], then racial and gender differences in the choice of postgraduate specialist training may be reflected in our sample [32][33]. Our survey evaluated subjective experiences of the quality of various aspects of residency training but did not ask more objective questions, for instance asking respondents to quantify the amount of time spent on various components of training.

In conclusion, while most psychiatry residents were satisfied with their training, institutional differences in access to training and training resources, quality of training, and availability of quality supervision were evident and need to be addressed to ensure equitable training. A situational analysis of the current psychiatric specialist and subspecialist to psychiatric resident/trainee ratio at the nine South African universities may be useful in elucidating current disparities across training institutions and motivating for more equitable resource allocation. There is a need to actively address staff shortages in an effort to provide both clinical cover for

residents during protected academic time and to meet training needs in the form of lecturers, mentors and supervisors. To achieve this, more psychiatrists and subspecialist psychiatrists need to be trained and retained in the country and in the public sector. While staff shortages exist, inter-institutional and public-private sector collaborations may need to be considered to meet training needs. A centralised examination process should remain in place to ensure a national standard. Workplace-based assessments could facilitate some degree of standardisation across institutions, should these assessments be standardised and accompanied by rigorous training of supervisors.

References

1. Williams SL, Williams DR, Stein DJ, Seedat S, Jackson PB, Moomal H. Multiple traumatic events and psychological distress: the South Africa stress and health study. *J Trauma Stress*. 2007;20(5):845-855. doi:10.1002/jts.20252
2. Lund C, Breen A, Flisher AJ, Kakuma R, Corrigall J, Joska JA, Swartz L, Patel V. Poverty and common mental disorders in low and middle income countries: A systematic review. *Soc Sci Med*. 2010 Aug;71(3):517-528. doi:10.1016/j.socscimed.2010.04.027.
3. Dunkle KL, Jewkes RK, Brown HC, Gray GE, McIntyre JA, Harlow SD. Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinics in South Africa. *Lancet*. 2004;363(9419):1415-1421. doi:10.1016/S0140-6736(04)16098-4
4. Kaminer D, Grimsrud A, Myer L, Stein DJ, Williams DR. Risk for post-traumatic stress disorder associated with different forms of interpersonal violence in South Africa. *Soc Sci Med*. 2008;67(10):1589-1595. doi:10.1016/j.socscimed.2008.07.023

5. Stein DJ, Seedat S, Herman A, Moomal H, Heeringa SG, Kessler RC, Williams DR. Lifetime prevalence of psychiatric disorders in South Africa. *Br J Psychiatry*. 2008 Feb;192(2):112-7. doi: 10.1192/bjp.bp.106.029280.
6. Wishnia J, Strugnell D, Smith AM & Ranchod S. The supply of and need for medical specialists in South Africa. Cape Town: Percept, 2019.
7. Demyttenaere K, Bruffaerts R, Posada-Villa J, et al. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *JAMA*. 2004;291(21):2581-2590. doi:10.1001/jama.291.21.2581
8. De Kock JH, Pillay BJ. A situation analysis of psychiatrists in South Africa's rural primary healthcare settings. *Afr J Prim Health Care Fam Med*. 2017 May 29;9(1):e1-e6. doi: 10.4102/phcfm.v9i1.1335.
9. Colleges of Medicine of South Africa (CMSA). Available at: <https://www.cmsa.co.za/view_college.aspx?collegeid=20>. Date accessed: 21 March. 2021.
10. Emsley R. Focus on psychiatry in South Africa. *Br J Psychiatry*. 2001 Apr;178:382-6. doi: 10.1192/bjp.178.4.382. PMID: 11282826.
11. Sarwar S, Tarique S. Perception of educational environment: Does it impact academic performance of medical students? *J Pak Med Assoc*. 2016 Oct;66(10):1210-1214.
12. Khursheed I, Baig L. Students' perceptions of educational environment of a private medical school in Pakistan. *J Pak Med Assoc*. 2014 Nov;64(11):1244-9.

13. Mayya S, Roff S. Students' perceptions of educational environment: a comparison of academic achievers and under-achievers at kasturba medical college, India. *Educ Health (Abingdon)*. 2004 Nov;17(3):280-91. doi: 10.1080/13576280400002445.
14. Ahmady S, Khajeali N, Sharifi F, Mirmoghtadaei ZS. Factors related to academic failure in preclinical medical education: A systematic review. *J Adv Med Educ Prof*. 2019 Apr;7(2):74-85. doi: 10.30476/JAMP.2019.44711.
15. Sohail N. Stress and academic performance among medical students. *J Coll Physicians Surg Pak*. 2013;23(1): 67–71
16. Kumar M, Sharma S, Gupta S, Vaish S, Misra R. Effect of stress on academic performance in medical students: a cross sectional study. *Indian J Physiol Pharmacol*. 2014;58(1): 81–6.
17. Bunting I. The Higher Education Landscape Under Apartheid. In: Cloete N., Maassen P., Fehnel R., Moja T., Gibbon T., Perold H. (editors) *Transformation in Higher Education*. Higher Education Dynamics, 2006, vol 10, Chapter 2:35-52. Springer, Dordrecht. https://doi.org/10.1007/1-4020-4006-7_3
18. Odhav K. South African post-apartheid Higher Education policy and its marginalisations: 1994- 2002. *South African Journal of Education*, 2009; 6(1): 33-57
19. Walter G, Rey JM, Giuffrida M. What is it Currently Like Being a Trainee Psychiatrist in Australia? *Australasian Psychiatry*. 2003;11(4):429-434. doi:10.1046/j.1440-1665.2003.02031.x
20. Grover S, Sahoo S, Srinivas B, Tripathi A, Avasthi A. Evaluation of psychiatry training in India: A survey of young psychiatrists under the aegis of research, education, and training foundation of Indian Psychiatric Society. *Indian J Psychiatry*. 2018 Oct-Dec;60(4):445-460. doi: 10.4103/psychiatry.IndianJPsychiatry_334_18.

21. Hadjipavlou G, Ogrodniczuk JS. A national survey of Canadian psychiatry residents' perceptions of psychotherapy training. *Can J Psychiatry*. 2007 Nov;52(11):710-7. doi: 10.1177/070674370705201105.
22. Calabrese C, Sciolla A, Zisook S, Bitner R, Tuttle J, Dunn LB. Psychiatric residents' views of quality of psychotherapy training and psychotherapy competencies: a multisite survey. *Acad Psychiatry*. 2010 Jan-Feb;34(1):13-20. doi: 10.1176/appi.ap.34.1.13.
23. Patel N, Leusink AL, Singh N, Koto MZ, Luvhengo T. Resident perceptions on general surgical training in South Africa: A report by the South African Society of Surgeons in Training (SASSiT). *S Afr J Surg*. 2018 Jun;56(2):10-14.
24. Yaribeygi H, Panahi Y, Sahraei H, Johnston TP, Sahebkar A. The impact of stress on body function: A review. *EXCLI J*. 2017;16:1057-1072. Published 2017 Jul 21. doi:10.17179/excli2017-480
25. Mihailescu M, Neiterman E. A scoping review of the literature on the current mental health status of physicians and physicians-in-training in North America. *BMC Public Health*. 2019 Oct 24;19(1):1363. doi: 10.1186/s12889-019-7661-9.
26. Mari S, Meyen R, Kim B. Resident-led organizational initiatives to reduce burnout and improve wellness. *BMC Med Educ*. 2019 Nov 27;19(1):437. doi: 10.1186/s12909-019-1756-y.
27. Nazione, Pace K, Shugart A, Smith S. (2014). Encouraging Active Stress Management among Graduate Students: Formative Research for a Persuasion through the Stages Approach. *Global Journal Of Medical Research*. Available at: <<https://www.medicalresearchjournal.org/index.php/GJMR/article/view/857>>. Date accessed: 21 March. 2021.

28. Regehr C, Glancy D, Pitts A. Interventions to reduce stress in university students: a review and meta-analysis. *J Affect Disord*. 2013 May 15;148(1):1-11. doi: 10.1016/j.jad.2012.11.026.
29. Zhou AY, Panagioti M, Esmail A, Agius R, Van Tongeren M, Bower P. Factors Associated With Burnout and Stress in Trainee Physicians: A Systematic Review and Meta-analysis. *JAMA Netw Open*. 2020 Aug 3;3(8):e2013761. doi: 10.1001/jamanetworkopen.2020.13761.
30. Crockford D, Holt-Seitz A, Adams B. Preparing psychiatry residents for the certification exam: a survey of residency and exam experiences. *Can J Psychiatry*. 2004 Oct;49(10):690-5. doi: 10.1177/070674370404901007.
31. Van der Merwe L, van Zyl G, Gibson A, Viljoen M, Iputo J, Mammen M, Chitha W, Perez A, Hartman N, Fonn S, Green-Thompson L, Ayo-Ysuf O, Botha G, Manning D, Botha S, Hift R, Retief P, van Heerden B, Volmink J. South African medical schools: Current state of selection criteria and medical students' demographic profile. *South African Medical Journal* 2016;106(1):76-81. DOI:10.7196/SAMJ.2016.v106i1.9913
32. Asaad M, Zayegh O, Badawi J, Hmidi ZS, Alhamid A, Tarzi M, Agha S. Gender differences in specialty preference among medical Students at Aleppo University: a cross-sectional study. *BMC Med Educ*. 2020 Jun 5;20(1):184. doi: 10.1186/s12909-020-02081-w.
33. Davis G & Allison R. White Coats, Black Specialists? Racial Divides in the Medical Profession, *Sociological Spectrum*, 2013;33(6):510-533, DOI: 10.1080/02732173.2013.836143