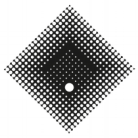
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Satisfaction with youth mental health services: further scale development and findings from headspace – Australia's National Youth Mental Health Foundation

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Original Article

Satisfaction with youth mental health services: further scale development and findings from headspace – Australia's National Youth Mental Health Foundation

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Abstract

Aims: This study aimed to determine the psychometric properties of the headspace youth (mental health) service satisfaction scale (YSSS), a 14-item purpose-designed scale for use with adolescents and young adults attending headspace centres, and to examine the level of satisfaction with headspace centre services and the client characteristics that predict this.

Methods: There were 21 354 eligible headspace clients who had received more than one service over the 12-month data collection period during 2013–2014, and 12 436 (58%) completed a satisfaction scale. headspace clients could optionally self-complete the satisfaction scale at the beginning of visits 2, 5, 10 and 15. Clients' demographic and clinical characteristics were also recorded.

Results: Factor analysis identified a four-factor solution for the scale and internal consistency of the subscales was acceptable to excellent. Satisfaction with headspace was high and increased over time for those who completed the scale multiple times. Several demographic and clinical characteristics predicted the likelihood of completion and level of satisfaction, with younger age shown to be a persistent predictor of lower satisfaction.

Conclusions: Client satisfaction with headspace is high and increases with ongoing engagement. Development of the headspace YSSS contributes a new client satisfaction scale with tested psychometric properties for adolescents and young adults engaged in mental health services, providing an essential tool for youth mental health services to routinely evaluate the experiences of young people accessing their services.

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Key words: adolescent, mental health, psychometrics, satisfaction, young adult.

INTRODUCTION

Client satisfaction is a critical component for evaluation and quality assurance of health services, as low satisfaction has been shown to relate to premature disengagement,[1] poorer treatment outcomes and decreased likelihood of future service use.[2] To optimize service engagement and outcomes, it is essential that mental health services be aware of the level of satisfaction of their clients and respond accordingly to maintain service engagement and promote the best possible clinical outcomes.

Although early intervention for mental health problems during the peak period of onset, adolescence and young adulthood, is essential to improve outcomes in adulthood,[3] the level of access to professional mental health care among young people is the lowest across the lifespan.[4] Maintaining the

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engagement of young people in mental health services once they gain access is therefore particularly important, and assessing and improving levels of client satisfaction in this group is one way of maximizing ongoing engagement.

To promote help seeking for mental health problems among young people and improve access to youth-friendly mental health services across Australia, the Australian Government has supported the development of headspace (http://www.headspace.org.au/)[5]. Detailed information about headspace centres has been provided elsewhere.[6,7] In summary, more than 75 headspace centres are spread across Australia and they are easy-to-access, youth-friendly service hubs for young people aged 12–25 years where they can gain information and services relating to their mental and physical health, educational and vocational needs, and alcohol and other drug use. In conjunction, eheadspace provides nationwide online and telephone support and information for young people experiencing mental health difficulties and for their families (http://www.eheadspace.org.au/).

Although headspace recognizes the importance of assessing satisfaction, measurement of client satisfaction among young people is a relatively limited field.[8] No standardized commonly used measures of satisfaction with mental health services for youth aged 12–25 years exist, and consequently, headspace developed the 14-item* headspace youth (mental health) service satisfaction scale (YSSS). The process of initial development of the YSSS has been described in a brief report.[9] In short, YSSS items were selected from a pool and a pilot study conducted with 213 headspace clients who opted in to test the scale's utility and psychometric properties.[9] Factor analysis identified a one-factor solution, with all items contributing to the measurement of a central 'satisfaction' factor.

The current study involved the subsequent wider implementation of the YSSS in order to retest its psychometric properties with a larger sample and in a matched sample over time. The study also aimed to identify current levels of satisfaction among young people accessing headspace services, as well as some of the client characteristics that affect this.

Specifically, the research aims were to determine:

- The psychometric properties of the satisfaction scale, including its factor structure
- What client characteristics affect whether a young person will or will not complete the satisfaction scale
- The level of satisfaction among young people attending headspace centres, including their relative satisfaction with different aspects of their experience at headspace, and the client characteristics that affect this
- Whether satisfaction changes over time with more visits to headspace, and what client characteristics affect this

*Following additional pilot testing after the original pilot study outlined in the published brief report, the questionnaire was further reduced from the 16 items described in the brief report to 14 items, and this 14-item version is used in the current study.

METHOD

Participants

Eligible young people were those who first visited headspace between 1 April 2013 and 31 March 2014 and had received more than one occasion of service, because the satisfaction scale is first offered at the second occasion of service (N = 21 354). Of these, 12 436 voluntarily completed the satisfaction scale (response rate 58.2%). Satisfaction scale scores were included in the analyses if they related to a service provided within the study period (n = 11 940). Of those who completed an initial satisfaction scale, 44% completed a second, 14% a third, and 4% a fourth. As the clients had their first visit to headspace at different times throughout the study period, they would have been offered varying numbers of opportunities for completing the satisfaction scale up to a maximum of four.

Procedure

Data were collected through the headspace Minimum Data Set process.[10] Since 2013, all consenting young people accessing centres enter data into an electronic form prior to each occasion of service. Demographic data are collected at first presentation. The young person's primary reason for attending is self-reported at each visit and psychological distress is self-reported at visits 1, 3, 6, 10 and 15. Service providers complete relevant information for each occasion of service online, including reason for presentation, diagnosis (if applicable) and level of psychosocial functioning. Data are de-identified by encryption and extracted to the headspace national office data warehouse. The client satisfaction scale was introduced in April 2013 and is offered to the young person at visits 2, 5, 10 and 15. Completion is optional. Ethics approval for the satisfaction component was obtained from Melbourne Health prior to implementation.

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Measures

Clients' demographic characteristics

Self-reported demographic characteristics included gender, age, sexual orientation, Aboriginal and Torres Strait Islander (A&TSI) status, culturally and linguistically diverse status, living situation (homelessness), the young person's satisfaction with the waiting time for an appointment, and who influenced them to attend.

Clients' clinical characteristics

The young person's primary reason for attending is self-reported via a list of relevant options and an open text field subsequently coded into appropriate categories (e.g. 'I'm having problems with my family').

Psychological distress is measured using the Kessler-10[11] (K10), a 10-item measure of emotional distress that yields a score from 10 to 50, with higher scores indicating greater distress. Primary and (optional) secondary presenting issues and primary mental disorder (if applicable) are assessed by service providers through a list of options.

Psychosocial functioning is determined via the clinician-rated Social and Occupational Functioning Assessment Scale[12] (SOFAS), a single-item scale from 1 to 100 measuring the young person's level of social and occupational functioning. Scores from 1 to 10 indicate an inability to maintain personal hygiene or to function independently without risk of harm, whereas scores 90–100 suggest superior functioning.

Client satisfaction

The headspace YSSS comprises 14 items[9] that aim to measure satisfaction with the centre (three items), staff (four items), outcomes (five items) and general satisfaction (two items). The client responds to items such as 'I got help for the things I wanted to get help with' on a 5-point Likert-type scale from 'Strongly Agree' to 'Strongly Disagree'. Subscale and total satisfaction scores are calculated by averaging all of the valid item scores. Scores can range from 1 to 5, with higher scores indicating greater satisfaction.

Headspace centre characteristics

Rurality of the headspace centre was determined using the Australian Statistical Geography Standards,[13] comprising metropolitan, inner regional, outer regional, rural, remote and very remote areas.

Data analysis

Data analysis was conducted using IBM SPSS/AMOS V21. Confirmatory factor analysis (CFA) with maximum-likelihood estimation was used to establish the factor structure of the YSSS. A multigroup CFA was conducted to test the invariance of estimated parameters of two nested models (unconstrained model and model with constrained structural weights/factor loadings) across age and gender groups (12–17 female, 18–25 female, 12–17 male, 18–25 male). Differences in chi-square are dependent on sample size, and therefore the change in comparative fit index (CFI), which is independent of both model complexity and sample size, is recommended as the goodness of fit index for evaluating measurement invariance for large samples.[14] Given our large sample size, this was the approach adopted.

The best fitting and most parsimonious model was determined as that which best met the following criteria: chi-square closest to zero; root mean-square error of approximation <0.06; standardized root mean-square residual <0.08; CFI and adjusted goodness of fit >0.90.[15] At each stage of model respecification, the best fitting model was assessed using the indicators of model parsimony, the Akaike Information Criterion (AIC) and more stringent Consistent Akaike Information Criterion (CAIC).[16] Based on the recommendation of Holmes-Smith, Coote and Cunningham,[17] the model with the smallest AIC/CAIC was considered the best fitting model.

To identify the characteristics of young people who did and did not complete the YSSS, a series of preliminary analyses, including chi-square analyses, independent sample *t*-tests and one-way ANOVA, were used to identify variables for entry into a multivariate logistic regression to predict completion.

Paired sample *t*-tests were conducted to assess if YSSS subscale scores were significantly different from each other during the first time. One-way repeated measures ANOVA was used to determine the effect of time on satisfaction for clients who completed the YSSS at all four time points.

To identify variables to enter into a multiple regression predicting satisfaction scale scores during the first and third times, preliminary one-way ANOVAS, with a Bonferroni adjustment, and independent sample *t*-tests were used to determine group differences on satisfaction scores based on a number of demographic (e.g. age, gender, sexuality,

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TABLE 1. Results of the confirmatory factor analysis

Model	d.f.	χ^2	RMSEA	SRMR	AGFI	CFI	AIC	CAIC
One-factor	77	26 081.36**	0.172	0.061	0.536	0.749	26 137.356	26 371.117
Two-factor	76	8 369.039**	0.097	0.041	0.867	0.920	8 427.039	8 669.149
Three-factor	74	3 554.414**	0.064	0.020	0.936	0.966	3 616.414	3 875.221
Original four-factor	71	4 436.606**	0.073	0.031	0.923	0.958	4 504.606	4 788.459
Modified four-factor (T1)	71	3 051.277**	0.060	0.018	0.942	0.971	3 119.277	3 403.130
Modified four-factor (T3)	71	1 474.681**	0.061	0.016	0.960	0.931	1 542.681	1 800.106
Modified four-factor + total as a second-order factor	73	4 917.114**	0.076	0.032	0.919	0.953	4 981.114	5 248.270

**$P < 0.001$.
AGFI, adjusted goodness of fit index; AIC, Akaike Information Criterion; CAIC, Consistent Akaike Information Criterion; CFI, comparative fit index; RMSEA, root mean-square error of approximation; SRMR, standardized root mean-square residual.

number sessions before YSSS completion, rurality) and clinical client characteristics (e.g. reason for attending and outcome measure scores). Those variables yielding significant group differences were entered into multiple regressions to determine their predictive values for satisfaction relative to other variables. The third time the scale was offered (visit 10) was chosen as the second time point for this analysis because it allows enough sessions to have taken place since the first visit to enable sufficient engagement with headspace and improved clinical outcomes to have occurred, while maintaining a large sample size.

RESULTS

Factor analysis

Confirmatory factor analysis

Results of the CFA are shown in Table 1. These results reveal that the original one-factor solution[9] was not a good fit for the observed first-time data. Consequently, we tested two-, three- and four-factor models to identify the best fit model for the data. Examination of the AIC and CAIC indices shows that the four-factor model was the best fit to the data, although still not a good fit. Examination of modification indices indicated moving the item 'I got help for the things I wanted to get help with' (I8_help) from the satisfaction with outcomes to the general satisfaction factor, so this alternative model was retested. This model proved a good fit for the first-time data, so it was retested with the third-time data. This confirmed that the revised four-factor model was a good fit. Given that it is common practice to use the satisfaction total as a summary score, and that all of the subscales are expected to measure the central construct of 'satisfaction', we then conducted a further CFA using the total satisfaction score as a second-order factor. The fit indices indicate that although adding this second-order factor results in a model with a good fit to the data, it does not improve the fit above that achieved by the modified four-factor model. The final four-factor solution with the total as a second-order factor is shown in Figure 1.

Measurement invariance of the factor structure across age and gender groups was determined by the results of the multiple group analysis comparing the unconstrained and structural weights (factor loadings) model. This yielded a change in CFI of 0.000, indicating measurement invariance (no difference across age and gender groups).

Table 2 presents the descriptive statistics for the four satisfaction subscales and total satisfaction. Cronbach's alpha statistics show high internal consistency for most scales, with acceptable internal reliability for centre satisfaction. All subscale means were well above the scale mid-point, with the lowest score evident for satisfaction with outcomes. All scales except satisfaction with outcomes were negatively skewed, but none had a skewness of greater than 1.0, although satisfaction with staff approached this level, showing the high level of satisfaction in this area. Note that satisfaction with staff was very highly correlated with satisfaction with the centre ($r = 0.92$), further suggesting the importance of satisfaction with staff.

Completers versus non-completers

Table 3 shows the descriptive information for client characteristic variables comparing completers and non-completers. There were eight variables with significant bivariate relationships with completion status which were then entered as predictors into a multivariate regression analysis of completion

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FIGURE 1. Modified four-factor (best fitting) model with total satisfaction as a second-order factor.

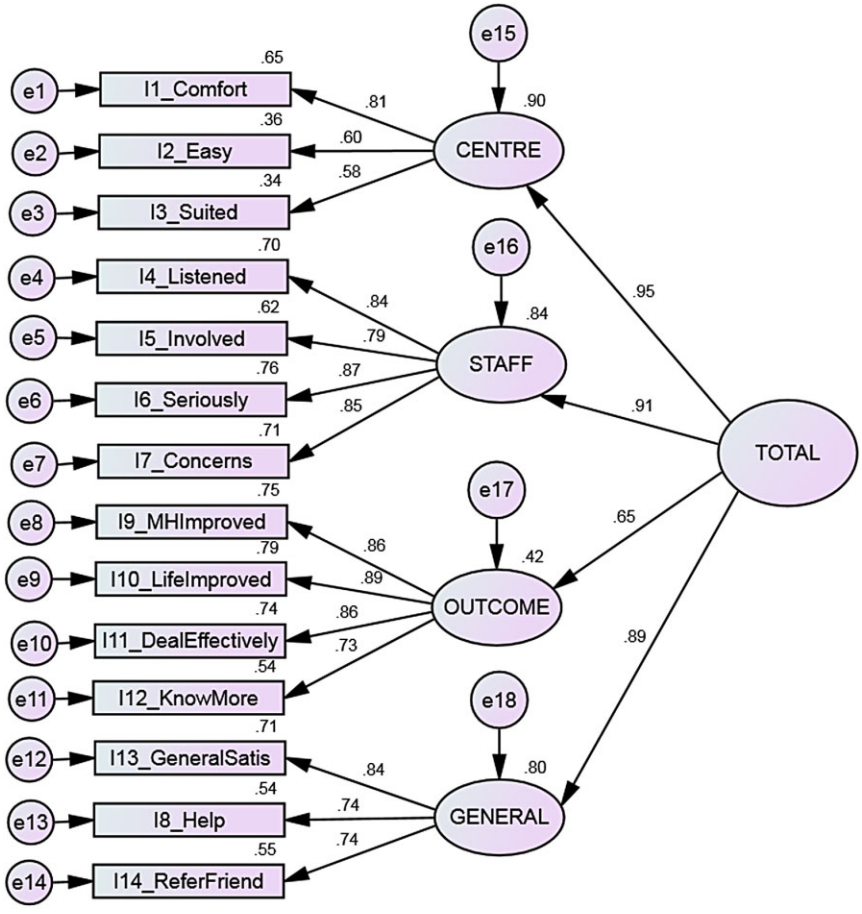

TABLE 2. Descriptive statistics for satisfaction scales at all completion times

Subscale	First time					Second time			Third time			Fourth time		
	n	M	SD	Skew†	Alpha‡	*n*	M	SD	*n*	M	SD	*n*	M	SD
Centre	11 940	4.14	0.61	−0.768	0.71	5257	4.23	0.63	1669	4.26	0.67	497	4.26	0.67
Staff	11 940	4.23	0.63	−0.918	0.90	5257	4.34	0.64	1669	4.37	0.68	497	4.39	0.66
Outcomes	11 073	3.56	0.70	0.161	0.90	5060	3.83	0.69	1623	3.99	0.69	484	4.02	0.69
General	11 880	4.13	0.60	−0.577	0.81	5242	4.28	0.56	1668	4.36	0.56	497	4.37	0.59
Total	11 940	4.01	0.54	−0.335	0.93	5257	4.16	0.54	1669	4.24	0.55	497	4.25	0.57

†Skewness.
‡Cronbach's alpha.

status. To aid the interpretation of the outcomes of the multivariate regression or where cells would contain a small number of cases, some variables with multiple levels were collapsed into binary variables before entry (male/female; heterosexual/LGBTIQ (lesbian, gay, bisexual, transsexual, intersex, questioning), non-A&TSI/A&TSI). The entry of all these variables into the model predicting completion status attained statistical significance, $\chi^2(27) = 1921.81$, $n = 18\,067$, $P < 0.001$, and correctly classified 62% on survey completion status (did not/did complete).

Non-completion of the satisfaction survey was predicted by five client characteristics: gender, with non-completion 1.23 times as likely among men compared with women ($\beta = 0.21$, SE = 0.03, Wald = 39.05, d.f. = 1, $P < 0.001$, CI = 1.15–1.31); living status, with non-completion 1.42 times as

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TABLE 3. Characteristics of young people attending headspace who did and did not complete a client satisfaction scale

Characteristic	Did not complete (n = 8918)		Completed (n = 12 436)	
	No.	%†	No.	%†
Age group				
12–14	1574	17.6	2183	17.6
15–17	3078	34.5	4425	35.6
18–20	2221	24.9	3131	25.2
21–25	2036	22.8	2692	21.6
Gender				
Female	4484	50.3	7774	62.5
Male	2998	33.6	4089	32.9
Other (including intersex and transgender)	39	0.4	86	0.7
Sexuality				
Heterosexual	6141	68.9	9545	76.8
Bisexual	486	5.4	924	7.4
Gay	92	1.0	159	1.3
Lesbian	118	1.3	217	1.7
Questioning	218	2.4	486	3.9
Choose not to answer	441	4.9	589	4.7
Aboriginal or Torres Strait Islander				
Non-A&TSI	6902	77.4	11 220	90.2
Aboriginal	573	6.4	731	5.9
Aboriginal and Torres Strait Islander	31	0.3	40	0.3
Torres Strait Islander	34	0.4	38	0.3
Living situation				
Housed	7341	82.3	12 012	96.6
Homeless	248	2.8	231	1.9
Culturally and linguistically diverse				
Yes	668	7.5	1050	8.4
No	6865	77.0	10 976	88.3
Influence to come				
Me	1734	19.4	2675	21.5
Health worker	499	5.6	689	5.5
Other worker (e.g. Aboriginal health worker, police/corrections/justice officer, welfare or community services)	443	5.0	621	5.0
Other	45	0.5	48	0.4
Family	2689	30.2	4373	35.2
Friend	590	6.6	1 000	8.0
Partner	388	4.4	559	4.5
School staff (e.g. teacher, nurse, psychologist, guidance counsellor)	478	5.4	857	6.9
Doctor or nurse	677	7.6	1142	9.2
Main reason for attending				
Problems with how I feel	5418	60.8	9227	74.2
Other	429	4.8	390	3.1
Problems at school or work	498	5.6	854	6.9
Problems with alcohol or other drugs	160	1.8	181	1.5
Problems with my physical health	435	4.9	349	2.8
Problems with relationships	896	10.0	1348	10.8
Vocational assistance – help getting a job or training	81	0.9	87	0.7
Primary disorder				
Mood disorders	710	8.0	1152	9.3
Adjustment disorders	259	2.9	370	3.0
Anxiety disorders	475	5.3	855	6.9
Diagnosis not yet assessed	1077	12.1	1565	12.6
Does not meet criteria for diagnosis	11	0.1	16	0.1
Eating disorders	32	0.4	45	0.4
Not applicable (not required, not qualified to diagnose)	6007	67.4	8066	64.9
Other	96	1.1	120	1.0
Personality disorders	12	0.1	15	0.1
Pervasive developmental disorders	91	1.0	2	0.0
Psychotic disorders	27	0.3	126	1.0
Requires further assessment	26	0.3	31	0.2
Substance disorders	95	1.1	16	0.1

†Missing data are not included in the table, so percentages do not always sum to 100.

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likely among homeless clients compared with housed clients (β = 0.35, SE = 0.10, Wald = 12.15, d.f. = 1, $P < 0.001$, 95% CI = 1.17–1.72); main reason for attending headspace, with non-completion 1.55 times as likely among clients with a physical problem (β = 0.44, SE = 0.08, Wald = 30.40, d.f. = 1, $P < 0.001$, 95% CI = 1.33–1.81), and 1.67 times as likely among those with an 'other' problem (β = 0.52, SE = 0.08, Wald = 42.85, d.f. = 1, $P < 0.001$, 95% CI = 1.43–1.95), compared with those with 'problems with how I feel'; primary disorder, with non-completion 2.05 times as common among clients with a substance use disorder compared with a mood disorder (β = 0.72, SE = 0.20, Wald = 13.06, d.f. = 1, $P = 0.001$, 95% CI = 1.39–3.03); and number of headspace visits, with non-completion reducing as the number of headspace visits increased (β = –0.18, SE = 0.005, Wald = 1200.27, d.f. = 1, $P < 0.001$, OR = 0.84, 95% CI = 0.83–0.84).

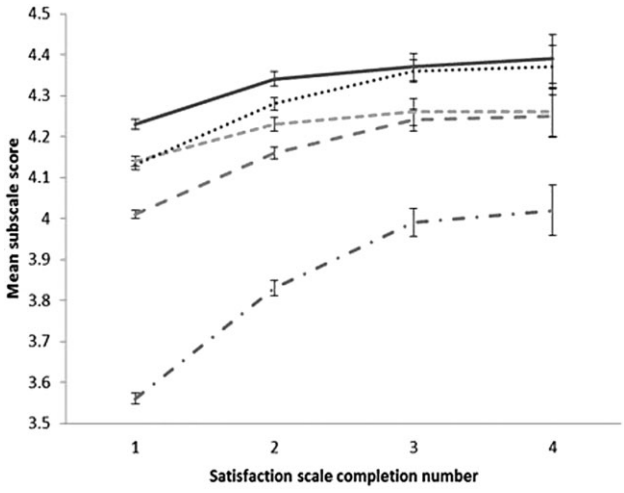
Difference between subscales at first completion

Paired sample *t*-tests indicated that during the first time, except for centre satisfaction and general satisfaction, $t(11\,879) = 2.74$, $P = 0.006$, all subscale means were significantly different ($P < 0.001$) (staff-centre, $t(11\,939) = 21.76$; centre-outcomes, $t(10\,838) = 86.89$; staff-general, $t(11\,879) = 24.22$; outcomes-general, $t(10\,838) = -108.30$; staff-outcomes, $t(10\,838) = 104.39$) (Table 2).

Changes in subscale means over time – matched data

There were 497 participants who completed the maximum of four satisfaction scales. Figure 2 shows the mean subscale scores at each time point for this subgroup. There was a significant effect ($P < 0.001$) for completion number on centre satisfaction (Wilks' lambda = 0.96, $F(3, 494) = 7.209$, multivariate partial eta squared = 0.04), which showed a significant linear trend ($F(1) = 12.09$, partial eta squared = 0.16); satisfaction with outcomes ($n = 421$; Wilks' lambda = 0.56, $F(3, 418) = 107.52$, multivariate partial eta squared = 0.44), which showed significant linear ($F(1) = 289.81$, partial eta squared = 0.41) and quadratic ($F(1) = 44.058$, partial eta squared = 0.095) trends; general satisfaction (Wilks' lambda = 0.86, $F(3, 486) = 25.80$, multivariate partial eta squared = 0.14), which showed significant linear ($F(1) = 68.92$, partial eta squared = 0.12) and quadratic ($F(1) = 19.35$, partial eta squared = 0.04) trends; and total satisfaction (Wilks' lambda = 0.81, $F(3, 494) = 39.67$, multivariate partial eta squared = 0.19), which also showed significant linear ($F(1) = 101.05$, partial eta squared = 0.17) and quadratic ($F(1) = 21.17$, partial eta squared = 0.04) trends. There was no effect for completion number on staff satisfaction (Wilks' lambda = 0.97, $F(3, 494) = 4.358$, multivariate partial eta squared = 0.03).

FIGURE 2. Means (with confidence intervals) on satisfaction subscales for cases with matched data for four satisfaction scale completion times. ——, staff; - - - -, centre; – · –, outcomes; ·····, general; – –, total.



Predictors of satisfaction

Preliminary analyses identified ten variables for entry into the multiple regression analyses predicting satisfaction. Categorical variables were recoded into dichotomous variables for entry into the model. The predictive variables were gender (female/male), influence to attend (me/another), sexuality (chose not to answer/indicated), age, perception of waiting time (dissatisfied/satisfied), number of visits to headspace before YSSS completion, reason for attending (physical/psychological, behavioural or situational problem), K10 and SOFAS scores, and headspace centre rurality (remote/non-remote).

First completion

Table 4 shows the results of the regression analyses predicting satisfaction subscale means. In summary, men, younger clients, those influenced by others to attend, those who were dissatisfied with their waiting time for an appointment, those who had a non-physical problem as their primary reason for attending, lower SOFAS scores at visit 2 (indicating poorer functioning) and higher K10 scores (indicating greater distress) at visit 3, and who had fewer

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TABLE 4. Multiple regression analysis summaries using client and centre characteristics to predict satisfaction during the first and third times

Model	Centre				Staff				Outcomes				General				Total			
	First completion																			
	B	SE	Beta	*P*	B	SE	Beta	*P*	B	SE	Beta	*P*	B	SE	Beta	*P*	B	SE	Beta	*P*
Gender	**−0.07**	**0.01**	**−0.05**	**0.000**	**−0.07**	**0.01**	**−0.06**	**0.000**	0.01	0.01	0.01	0.474	**−0.09**	**0.01**	**−0.07**	**0.000**	**−0.06**	**0.02**	**−0.05**	**0.017**
Influence	**−0.06**	**0.01**	**−0.04**	**0.000**	**−0.06**	**0.02**	**−0.04**	**0.000**	**−0.09**	**0.02**	**−0.05**	**0.000**	**−0.06**	**0.01**	**−0.04**	**0.000**	**−0.07**	**0.03**	**−0.05**	**0.014**
Sexuality	**0.08**	**0.04**	**0.02**	**0.031**	**0.10**	**0.04**	**0.03**	**0.000**	−0.02	0.04	−0.01	0.580	**0.10**	**0.04**	**0.03**	**0.000**	0.07	0.07	0.02	0.303
Age	**0.02**	**0.00**	**0.10**	**0.000**	**0.02**	**0.00**	**0.08**	**0.000**	**0.01**	**0.00**	**0.06**	**0.000**	**0.01**	**0.00**	**0.06**	**0.000**	**0.02**	**0.00**	**0.09**	**0.000**
Dissatisfied with waiting time	**−0.18**	**0.02**	**−0.09**	**0.000**	**−0.09**	**0.02**	**−0.05**	**0.000**	**−0.11**	**0.02**	**−0.05**	**0.000**	**−0.13**	**0.02**	**−0.07**	**0.000**	**−0.13**	**0.04**	**−0.07**	**0.000**
No. of visits	**0.02**	**0.00**	**0.05**	**0.000**	**0.03**	**0.00**	**0.06**	**0.000**	**0.08**	**0.00**	**0.17**	**0.000**	**0.04**	**0.00**	**0.10**	**0.000**	**0.04**	**0.01**	**0.11**	**0.000**
Physical problem	**−0.12**	**0.03**	**−0.03**	**0.001**	**−0.09**	**0.04**	**−0.03**	**0.009**	**−0.13**	**0.04**	**−0.03**	**0.001**	**−0.17**	**0.03**	**−0.05**	**0.000**	**−0.15**	**0.07**	**−0.05**	**0.028**
K10	**−0.00**	**0.00**	**−0.05**	**0.000**	−0.00	0.00	−0.01	0.176	**−0.01**	**0.00**	**−0.15**	**0.000**	**−0.00**	**0.00**	**−0.04**	**0.000**	**−0.01**	**0.00**	**−0.09**	**0.000**
SOFAS	**0.00**	**0.00**	**0.06**	**0.000**	**0.00**	**0.00**	**0.08**	**0.000**	**0.01**	**0.00**	**0.10**	**0.000**	**0.01**	**0.00**	**0.11**	**0.000**	**0.00**	**0.00**	**0.06**	**0.006**
Rurality	**0.16**	**0.06**	**0.03**	**0.005**	0.09	0.06	0.02	0.107	0.09	0.06	0.01	0.178	0.07	0.06	0.01	0.184	0.12	0.10	0.02	0.262
	Third completion																			
Gender	−0.10	0.06	−0.07	0.110	−0.11	0.06	−0.08	0.058	−0.00	0.06	−0.00	0.950	−0.07	0.05	−0.06	0.150	−0.07	0.05	−0.06	0.149
Influence	0.01	0.07	0.00	0.923	−0.02	0.07	−0.01	0.790	−0.02	0.07	−0.01	0.786	−0.03	0.06	−0.02	0.647	−0.02	0.06	−0.01	0.778
Sexuality	0.11	0.17	0.03	0.520	0.00	0.17	0.00	0.988	0.08	0.17	0.02	0.625	−0.00	0.14	0.00	0.992	0.05	0.14	0.01	0.729
Age	**0.02**	**0.01**	**0.10**	**0.019**	**0.02**	**0.01**	**0.09**	**0.040**	**0.02**	**0.01**	**0.11**	**0.013**	**0.02**	**0.01**	**0.11**	**0.009**	**0.02**	**0.01**	**0.12**	**0.004**
Dissatisfied with waiting time	−0.15	0.09	−0.10	0.080	−0.12	0.09	−0.06	0.164	−0.14	0.09	−0.06	0.108	−0.14	0.07	−0.08	0.056	**−0.14**	**0.07**	**−0.08**	**0.048**
No. of visits	−0.00	0.01	−0.01	0.908	0.00	0.01	0.01	0.790	0.00	0.01	0.01	0.737	0.00	0.01	−0.02	0.642	0.00	0.01	0.00	0.915
Physical problem	0.04	0.16	0.01	0.819	0.02	0.15	0.01	0.874	−0.02	0.16	0.00	0.928	−0.04	0.13	−0.01	0.790	0.03	0.13	0.01	0.830
K10	−0.00	0.00	−0.08	0.054	−0.01	0.00	−0.08	0.051	**−0.02**	**0.00**	**−0.23**	**0.000**	**−0.01**	**0.00**	**−0.13**	**0.002**	**−0.01**	**0.00**	**−0.16**	**0.000**
SOFAS	0.00	0.00	0.07	0.089	0.00	0.00	0.05	0.241	0.00	0.00	0.07	0.111	0.00	0.00	0.06	0.127	0.00	0.00	0.08	0.072
Rurality	−0.18	0.27	−0.03	0.488	−0.25	0.26	−0.04	0.346	−0.09	0.27	−0.01	0.747	−0.04	0.22	−0.01	0.862	−0.11	0.21	−0.02	0.622

B, unstandardized beta; Beta, standardized beta.
Bold text represents significance.

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headspace visits had generally lower satisfaction scores at the first completion of the YSSS.

Third completion

For the regression with the third completion data (Table 4), the K10 and SOFAS collected at visit 10 were used as predictors in place of those collected at visits 3 and 2, respectively. Only the young person's perception of the waiting time for an appointment, which predicted total satisfaction; age, which predicted all subscale scores and total satisfaction; and K10 scores at session 10, which predicted satisfaction with outcomes, general and total satisfaction, remained as significant predictors of satisfaction by the third time of completing the YSSS. Satisfaction increased with age, and satisfaction with outcomes and total satisfaction decreased with increasing K10 scores (greater distress).

DISCUSSION

To ensure ongoing engagement with young people and the best possible clinical outcomes, youth services like headspace must assess young people's satisfaction with their services and act accordingly to improve satisfaction. This study shows that satisfaction among headspace clients is high and increases with ongoing engagement. Young people are particularly satisfied with headspace staff, a finding that was highlighted in a recent study of best practice in headspace centres, where 'friendly and welcoming staff' was reported as important by most headspace clients.[18]

To have confidence in findings about young people's satisfaction, headspace must use a valid and reliable client satisfaction scale that also provides useful information for centres. The current study was able to further differentiate the factor structure reported in the small pilot study.[9] It revealed a four-component structure consistent with the originally conceptualized satisfaction subscales (with a minor amendment). The scale's psychometric properties were improved by moving a single item to an alternate factor, and this new structure will be adopted in future data collection and analyses. The factor analysis also determined that whereas using the four subscale scores rather than the total satisfaction score conforms with the best fit for the observed data, using a total summary score, as is common practice, is also a good fit to the data and psychometrically defensible.

Biased sample selection from exclusion of clients who drop out of services is a central methodological limitation of client satisfaction research.[19] The current study shows that scale completion at headspace is predicted by a greater number of headspace visits, perhaps the result of greater opportunity for completion and/or increased engagement. Conversely, completion was less likely if the client was male, homeless, or presenting for problems with substance use or for a physical health problem compared with those presenting for mental health, behavioural or vocational issues. Literature on why certain subgroups are less likely to participate in research and more likely to drop out is scant, perhaps due to the inherent difficulties in following up these groups. However, in relation to headspace clients, the observed completion biases may indicate lesser engagement of these subgroups and reflect a number of population groups known to be more difficult to engage in health services.[20] These characteristics are likely to be consistent with young people who are less likely to want to fill in questionnaires more generally. Nevertheless, equivalent representation of subgroups is essential to generalizability of the results, and headspace might seek, through qualitative means, to further understand reasons for non-completion among these groups and their levels of satisfaction with services.

Reported satisfaction with headspace was initially high and increased over time. Lowest satisfaction was for satisfaction with outcomes of services, which might be expected after just a few sessions, and this increased with a greater number of visits, indicating positive perceived outcomes from ongoing headspace engagement.

While the satisfaction data suggests that young people perceive the quality of headspace services as high, negatively skewed data from high levels of satisfaction with little variability are a known limitation of client satisfaction research.[19] In these data, measures were somewhat skewed and may have been affected by ceiling effects, but variability was certainly evident and the skew was not pronounced. Nevertheless, such limitations of quantitative measures reinforce the need for periodic qualitative data collection to yield richer understanding of young people's service experiences.

After 10 or more visits with headspace, only the clients' age, level of psychological distress and whether they were dissatisfied with the waiting time for an appointment remained as predictors of satisfaction, suggesting that ongoing engagement largely overcomes the effects of client and centre characteristics to produce uniformly high levels of satisfaction. Those young people continuing to experience high levels of distress after 10 visits were less satisfied with headspace than those with lower levels of

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distress, which could be expected given their experience of less 'reward' for their ongoing commitment to engagement with headspace services.

Younger headspace clients were less satisfied with all aspects of headspace measured by the YSSS. Previous research investigating the age–satisfaction relationship has yielded mixed results.[8,19,21] Lower satisfaction among younger clients may well result from services that cater less effectively for younger adolescents. Accordingly, Biering[8] posits that younger children and adolescents might have different service needs to their older counterparts. However, Biering[8] also suggests that as children enter their teenage years, they become 'more critical of grown-ups' (p. 69), and this may account for their lower reported satisfaction. If this explanation were correct, then it is likely that lower satisfaction would persist among younger people regardless of the quality of services provided, and innovative ways to better engage early adolescents are needed.

Standardized collection of client satisfaction data from young people attending headspace services not only provides important feedback for service improvement, but also makes a significant contribution to the currently limited literature in the field.[8] In addition to developing a new client satisfaction scale for adolescents and young adults and investigating its psychometric properties, this research also proposes some client and service characteristics that might affect satisfaction with youth-focused mental health services. A useful next step for evaluation of satisfaction with headspace services would be collection of qualitative data to gain a greater understanding of why less satisfied clients feel this way and why non-completers do not complete the client satisfaction scale at all. In particular, an investigation of what affects the satisfaction of the younger client group at headspace could be particularly enlightening and could assist with promoting greater satisfaction among this group.

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