

Socio-demographic factors associated with knowledge and practice of positive mental health among in-school adolescents in Ibadan Metropolis, Nigeria: A cross-sectional study

James Success Odubia

University of Ibadan <https://orcid.org/0000-0002-0924-6133>

Adeyinka O. Adefolarin

aoadefolarin@com.ui.edu.ng

University of Ibadan <https://orcid.org/0000-0001-7238-2413>

Research Article

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Abstract

Background

Globally, 1 in 7 adolescents experience mental conditions, yet research prioritises illness over positive mental health despite positive mental health intrinsic capacity to reduce mental illness and protect adolescents from developing mental health problems.

Methods

A cross-sectional study conducted among 385 in-school adolescents in seven public secondary schools in Ibadan Metropolis, selected through multistage sampling across, using a self-administered, semi-structured questionnaire incorporating adapted Mental Health Promoting Knowledge Scale (MHPK-10) and Mental Health Continuum Short Form (MHC-SF). Data were analysed using IBM SPSS version 25. Descriptive statistics summarised respondents' characteristics, knowledge, practice, and mental health patterns. Percentile cut-offs classified knowledge and practice levels, while standard continuum criteria classified respondents as flourishing, moderate, or languishing. Chi-square tests, trend tests for ordered variables, and Cramer's V were used at $p < 0.05$.

Results

The mean age was 14.24 $\pm$ 1.60 years. Knowledge was poor among 120/385 (31.2%), moderate among 104/385 (27.0%), and good among 161/385 (41.8%). Practices were poor among 108/385 (28.1%), moderate among 167/385 (43.4%), and good among 110/385 (28.6%). Mental health patterns showed 233/385 (60.5%) flourishing, 120/385 (31.2%) moderate, and 32/385 (8.3%) languishing. Sex, class, and family financial situation were significantly associated with knowledge, while religion and financial circumstances were significantly associated with practice. Knowledge level was also significantly associated with practice level.

Conclusion

Although flourishing was common, moderate practice and persistent knowledge gaps indicate a need for school-based mental health education, practical wellbeing activities, teacher support, and referral pathways.

Introduction

The discourse on adolescent mental health has gained significant attention as awareness grows about its impact on development and quality of life. Globally, one in seven adolescents aged 10–19 years experiences a mental disorder, accounting for a substantial burden in this age group [1]. In Nigeria, adolescent mental health concerns are intensified by under-recognition, untreated symptoms, stigma, and limited access to trained mental health professionals [2, 3]. This systemic deficit is compounded by a research and service emphasis on treatment of clinical mental illness rather than promotion of the positive end of the mental health continuum, which includes resilience, flourishing, social connectedness, and emotional literacy [4, 5].

Mental health is defined as a state of mental well-being that enables people to cope with life stresses, realise their abilities, learn and work well, and contribute to their community [6]. This definition shows that mental health is not simply the absence of mental illness. Instead, it exists along a continuum ranging from flourishing, which reflects high levels of well-being, to languishing, which reflects poor well-being even in the absence of a diagnosed disorder [7]. At the flourishing end of this continuum, positive mental health is characterised by emotional well-being, psychological resilience, and social connectedness, which enable adolescents to overcome adversity and function adaptively [8]. Positive mental health therefore focuses on strengths, coping abilities, and supportive environments that may protect adolescents from psychological distress and promote healthy development [9, 10].

Although positive mental health is increasingly acknowledged globally, research in this area remains concentrated in high-income countries, where structured school-based mental health promotion programmes are more common [11, 12]. In low- and middle-income countries such as Nigeria, studies on adolescent mental health often emphasise illness recognition, depression literacy, help-seeking, or service utilisation rather than positive mental health knowledge, practices, and flourishing patterns. For example, recent Nigerian studies have examined perceived stress, anxiety, and depression among university employees and mental health knowledge and attitudes among community health workers [13, 14]. These studies are useful but do not directly explain how in-school adolescents understand and

practise positive mental health. Positive mental health can buffer against psychopathology and support adaptive emotion regulation [15], but local evidence among adolescents in Ibadan remains limited.

This study aimed to assess knowledge, practice, and patterns of positive mental health among in-school adolescents in selected public secondary schools in Ibadan Metropolis and to test whether socio-demographic characteristics were associated with knowledge and practice. The study achieved this aim by describing adolescents' positive mental health knowledge, practice levels, and mental health continuum status, and by testing three pre-specified bivariate association hypotheses.

Objectives and hypotheses

The study tested three null hypotheses:

- There is no significant association between socio-demographic characteristics and level of knowledge of positive mental health.
- There is no significant association between knowledge level and practice level of positive mental health.
- There is no significant association between socio-demographic characteristics and level of positive mental health practice.

Materials and Methods

Study design

This study adopted a cross-sectional research design to assess the variables of interest at a single point in time. The manuscript was prepared in line with the reporting principles for observational cross-sectional studies.

Study area

The study was conducted across seven selected public secondary schools within Ibadan Metropolis, Oyo State, Nigeria.

Study population

The target population comprised adolescents aged 10–19 years enrolled in selected secondary schools in Ibadan Metropolis. This age range aligns with the World Health Organization classification of adolescence [16]. Eligible participants were students in the selected schools during the 2025 academic session, within the specified age range, able to read and understand English, and enrolled after appropriate school permission, parental/guardian consent, and adolescent assent. Adolescents who could not comprehend the questionnaire because of language limitations or cognitive impairment were excluded.

Sample size

The sample size was calculated using the Kish formula for single-proportion studies [17], as described by Daniel and Cross [18]:

$$n = Z^2pq / d^2$$

where n is the minimum sample size, Z is the standard normal deviate at 95% confidence (1.96), p is the estimated proportion of the characteristic of interest, $q = 1 - p$, and d is the precision level set at 0.05.

Using $p = 0.372$ from Olowe et al. [19], $q = 0.628$. Therefore, $n = (1.96)^2 \times 0.372 \times 0.628 / (0.05)^2 = 359$. To accommodate potential non-response, 10% of the calculated sample, approximately 37 respondents, was added, giving a target sample size of 396. A total of 385 completed questionnaires were available for analysis, representing 385/396 (97.2%) of the target sample.

Sampling technique

A multistage sampling approach was used. First, ethical approval and permission were obtained from the Oyo State Ministries of Health and Education. Second, public secondary schools were grouped into three educational zones, and school lists were obtained from the Permanent Secretary/Inspector-General of Education in each zone. Third, schools were selected using simple random sampling. Fourth,

students were stratified into junior secondary school (JSS) and senior secondary school (SSS) classes, and classes were selected by balloting. Finally, eligible students were selected proportionately by school population and gender distribution.

Table 1
Planned proportionate distribution of respondents across selected schools in Ibadan

S/N	Selected Schools	Population of School (Ni)	Proportionate Calculation (Ni / 6,766 x 396)	Planned Sample per School (ni)
1	Army Day High School	1,012	$(1,012 / 6,766) \times 396$	59
2	St. Luke's Grammar School	1,050	$(1,050 / 6,766) \times 396$	61
3	Bishop Philips Academy School I	1,100	$(1,100 / 6,766) \times 396$	64
4	Urban Day Grammar School I	600	$(600 / 6,766) \times 396$	35
5	Alarere Community High School	1,200	$(1,200 / 6,766) \times 396$	70
6	Ansarudeen School - Liberty Road	704	$(704 / 6,766) \times 396$	41
7	Oke-Bola Comprehensive High School	1,100	$(1,100 / 6,766) \times 396$	64
Total		6,766		396

Proportionate allocation followed standard sampling procedures [20].

Instrument for data collection

Data were collected using a self-administered, semi-structured questionnaire that incorporated adapted versions of standardised scales. Data collection was conducted from 21st July 2025 to 26th September 2025. Written parental/guardian consent and adolescent assent were obtained before questionnaire administration. Since majority were minors in a structured environment (the school) and the research do not include any form of experiment like taking of saliva, sweat or blood sample), the school management provided consent on-behalf of parent for the research as instructed in the ethical approval before questionnaire administration. During data collection, the school management appointed a teacher per class to supervise the data collection.

Content validity was assessed through expert review by the researcher's supervisor and academic professionals in the Department of Health Promotion and Education, University of Ibadan. A pilot study was conducted among 37 in-school adolescents at Muleruwa Grammar School outside the study area. In the analytic sample, internal consistency was acceptable for the practice scale (Cronbach's alpha = 0.80) and the Mental Health Continuum-Short Form (MHC-SF; Cronbach's alpha = 0.89). The dichotomised knowledge items had a low Kuder-Richardson Formula 20 coefficient (0.09), so item-level correct responses were reported alongside the total knowledge classification.

Knowledge of positive mental health was assessed using an adapted Mental Health-Promoting Knowledge Scale based on Nobre et al. [21]. The original five-point response format was simplified to true/false to measure accuracy, and reverse-scoring was applied to items 3, 7, and 9. Each correct response was scored 1 and each incorrect response 0, producing a total score from 0 to 10. Knowledge levels were categorised using percentile cut-offs: scores ≤ 5 indicated poor knowledge, scores > 5 and < 7 indicated moderate knowledge, and scores ≥ 7 indicated good knowledge. Because the knowledge score had a limited range and ties at the percentile boundaries, the final distribution was not expected to follow a strict 25/50/25 split.

Practice of positive mental health was measured across nine domains: connectedness, values, achievement, self-care, mindfulness, relaxation, communication, coping, and physical activity. Items were recoded from 0 to 4, giving a total score from 0 to 36, and percentile cut-offs were used to classify practice levels. Positive mental health patterns were determined using the Mental Health Continuum-Short Form by Keyes [7], measuring emotional, psychological, and social well-being to categorise respondents as flourishing, moderate, or languishing.

Variables

Independent variables included age group, sex, class, class level, religion, family structure, family financial situation, and financial category. Outcome variables were knowledge level and practice level of positive mental health. Positive mental health continuum status was described as a mental health pattern variable.

Data management and statistical analysis

Collected data were entered and analysed using IBM SPSS version 25. Only completed questionnaires were included in the final analysis; 385/396 planned questionnaires were available and valid for analysis. Descriptive statistics included frequencies, percentages, means, standard deviations, medians, and interquartile ranges (IQR). Percentages are presented with denominators in tables and key results. Chi-square tests of independence were used to assess associations between socio-demographic characteristics and knowledge level, between knowledge level and practice level, and between socio-demographic characteristics and practice level. Degrees of freedom (df) were reported with chi-square statistics. Linear-by-linear trend tests were reported for ordered variables where applicable. Cramer's V was used to describe effect size, and statistical significance was set at $p < 0.05$. Exact p-values were reported when $p \geq 0.001$; smaller values were reported as $p < 0.001$. No formal correction for multiple comparisons was applied because the analyses were pre-specified exploratory bivariate association tests; effect sizes and exact p-values were reported to avoid overinterpretation. Sparse expected counts were checked and reported in the association tables. Because the study objectives focused on bivariate associations and the design was cross-sectional, findings were interpreted as associations only and not as causal relationships. No custom programming code was used for the SPSS analysis.

Ethical considerations

Ethical approval

was obtained from the Oyo State Ministry of Health Research Ethics Committee (NHREC/OYOSHRIEC/10/11/22), and administrative permission was obtained from relevant education authorities and selected schools. The study was conducted in accordance with principles for human participant research, including voluntariness, confidentiality, and respect for participants. Since majority were minors in a structured environment (the school) and the research do not include any form of experiment like taking of saliva, sweat or blood sample), the school management provided consent on-behalf of parent for the research as instructed in the ethical approval before questionnaire administration. During data collection, the school management appointed a teacher per class to supervise the data collection. Respondents were informed that they could decline or withdraw without penalty. Questionnaires did not collect identifying names, completed forms were handled confidentially, and data were used only for research purposes. Students who appeared distressed or required support were to be referred through the school guidance counselling structure and appropriate school health personnel.

Results

Sociodemographic characteristics

A total of 385 in-school adolescents participated in the study, with a mean age of 14.24 $\pm$ 1.60 years. More than half were early adolescents aged 11–14 years, 219/385 (56.9%), while 166/385 (43.1%) were aged 15–19 years. Females constituted 238/385 (61.8%) of respondents. Participants were distributed across all school classes, with the highest proportions in JSS3, 102/385 (26.5%), and SSS1, 98/385 (25.5%). The religious composition was nearly equal, comprising 196/385 (50.9%) Christians and 189/385 (49.1%) Muslims. Most respondents came from monogamous families, 327/385 (84.9%). Regarding family financial status, 229/385 (59.5%) reported an average economic situation, and 268/385 (69.6%) were categorised as belonging to low-income households.

Table 2
Sociodemographic characteristics of respondents (N = 385)

Variable	Category	Frequency (N)	Percentage (%)
Age	11–14	219	56.9
	15–19	166	43.1
Sex	Male	147	38.2
	Female	238	61.8
Class	JSS1	18	4.7
	JSS2	32	8.3
	JSS3	102	26.5
	SSS1	98	25.5
	SSS2	74	19.2
	SSS3	61	15.8
Religion	Christian	196	50.9
	Muslim	189	49.1
Family setting	Monogamy	327	84.9
	Polygamous	58	15.1
Family financial situation	Very poor	8	2.1
	Poor	31	8.1
	Average	229	59.5
	Above average	102	26.5
	Wealthy	15	3.9

Knowledge of positive mental health

Respondents demonstrated varying levels of knowledge across the ten positive mental health items. The highest proportions of correct responses were recorded for the statements that doing well in school and feeling proud of progress can improve mental strength, 331/385 (86.0%); feeling accepted by friends and the school community is important for emotional well-being, 310/385 (80.5%); and understanding personal values and self-respect helps protect well-being, 303/385 (78.7%). Lower correct response rates were observed for the reverse-worded statements that a person's worth only depends on achievement, 85/385 (22.1%); allowing negative thoughts to control actions shows emotional strength, 92/385 (23.9%); and sleeping properly is not important for mental alertness, 100/385 (26.0%). Overall, correct response rates ranged from 22.1% to 86.0%.

Table 3
Knowledge item performance

Variables	True N (%)	False N (%)	Correct N (%)
Being able to stay calm and solve problems during difficult situations shows a person can manage stress well.	234 (60.8)	151 (39.2)	234 (60.8)
Having confidence in yourself helps you to face challenges successfully.	283 (73.5)	102 (26.5)	283 (73.5)
Sleeping properly and regularly is not important for mental alertness.	285 (74.0)	100 (26.0)	100 (26.0)
Making your own choices wisely, without being forced by others, is a sign of good decision-making.	277 (71.9)	108 (28.1)	277 (71.9)
Knowing when to stop or control yourself from doing something harmful shows self-control.	248 (64.4)	137 (35.6)	248 (64.4)
Feeling accepted by your friends and school community is important for emotional well-being.	310 (80.5)	75 (19.5)	310 (80.5)
Allowing negative thoughts to control your actions shows emotional strength.	293 (76.1)	92 (23.9)	92 (23.9)
Understanding what is right for you and standing by it helps protect your values and self-respect.	303 (78.7)	82 (21.3)	303 (78.7)
A person's worth only depends on how much they achieve or succeed.	300 (77.9)	85 (22.1)	85 (22.1)
Doing well in school and feeling proud of your progress can improve your overall mental strength.	331 (86.0)	54 (14.0)	331 (86.0)

Practices related to positive mental health

Positive mental health practices were generally common among respondents, with mean item scores ranging from 2.54 +/- 1.28 to 3.19 +/- 1.13 on a 0–4 scale. The most frequently practised behaviour was engaging in activities that foster a sense of achievement (mean = 3.19 +/- 1.13), with 205/385 (53.2%) reporting that they always participated in such activities. This was followed by involvement in value-driven activities (mean = 3.03 +/- 1.05) and regular self-care practices (mean = 2.98 +/- 1.21). Making time to relax and recharge was the least practised behaviour (mean = 2.54 +/- 1.28).

Table 4
Practice item distribution

Variables	Never N (%)	Rarely N (%)	Sometimes N (%)	Often N (%)	Always N (%)
I try to stay connected by finding time to talk or spend time with friends, classmates, or family.	36 (9.4)	31 (8.1)	31 (8.1)	167 (43.4)	120 (31.2)
I take part in activities that reflect my values and things that are important to me.	16 (4.2)	25 (6.5)	37 (9.6)	162 (42.1)	145 (37.7)
I engage in activities that make me feel proud or accomplished.	19 (4.9)	28 (7.3)	17 (4.4)	116 (30.1)	205 (53.2)
I practice self-care by finding time for activities that make me feel relaxed and cared for.	30 (7.8)	26 (6.8)	27 (7.0)	139 (36.1)	163 (42.3)
I try to stay present by paying attention to what is happening around me instead of worrying too much.	19 (4.9)	33 (8.6)	60 (15.6)	143 (37.1)	130 (33.8)
I make time to relax each week and rest my mind and body.	42 (10.9)	46 (11.9)	57 (14.8)	143 (37.1)	97 (25.2)
I talk openly with close friends or family about how I feel and what I am thinking.	37 (9.6)	45 (11.7)	43 (11.2)	130 (33.8)	130 (33.8)
I practice coping skills by learning and using new ways to handle stress or difficult situations.	15 (3.9)	37 (9.6)	61 (15.8)	155 (40.3)	117 (30.4)
I engage in physical activity like exercise, sports, or walking to stay active and improve my mood.	17 (4.4)	58 (15.1)	41 (10.6)	128 (33.2)	141 (36.6)

Positive mental health pattern

Mental Health Continuum-Short Form scoring followed the standard continuum classification. Flourishing required at least one emotional well-being item and at least six positive-functioning items scored almost every day or every day, while languishing required at least one emotional item and at least six positive-functioning items scored never or once/twice. Overall, flourishing was observed in 233/385 (60.5%) respondents, moderate mental health in 120/385 (31.2%), and languishing in 32/385 (8.3%).

Table 5
Pattern of positive mental health items

Variable	Never N (%)	Once or Twice N (%)	About Once a Week N (%)	About 2 or 3 Times a Week N (%)	Almost Every Day N (%)	Every Day N (%)
Happy	21 (5.5)	23 (6.0)	13 (3.4)	47 (12.2)	113 (29.4)	168 (43.6)
Interested in life	22 (5.7)	24 (6.2)	26 (6.8)	38 (9.9)	87 (22.6)	188 (48.8)
Satisfied with life	43 (11.2)	29 (7.5)	37 (9.6)	44 (11.4)	86 (22.3)	146 (37.9)
Had something important to contribute to society	31 (8.1)	55 (14.3)	46 (11.9)	45 (11.7)	86 (22.3)	122 (31.7)
Belonged to a community	66 (17.1)	31 (8.1)	42 (10.9)	41 (10.6)	73 (19.0)	132 (34.3)
Society is a good/better place for all people	40 (10.4)	49 (12.7)	42 (10.9)	44 (11.4)	87 (22.6)	123 (31.9)
People are basically good	54 (14.0)	44 (11.4)	32 (8.3)	44 (11.4)	99 (25.7)	112 (29.1)
Society makes sense to you	55 (14.3)	40 (10.4)	44 (11.4)	51 (13.2)	73 (19.0)	122 (31.7)
Liked most parts of your personality	26 (6.8)	28 (7.3)	27 (7.0)	31 (8.1)	101 (26.2)	172 (44.7)
Good at managing daily responsibilities	25 (6.5)	26 (6.8)	33 (8.6)	36 (9.4)	72 (18.7)	193 (50.1)
Had warm and trusting relationships	69 (17.9)	46 (11.9)	42 (10.9)	18 (4.7)	82 (21.3)	128 (33.2)
Had experiences that helped you grow	30 (7.8)	28 (7.3)	34 (8.8)	35 (9.1)	77 (20.0)	181 (47.0)
Confident to express your ideas/opinions	29 (7.5)	46 (11.9)	44 (11.4)	32 (8.3)	84 (21.8)	150 (39.0)
Life has direction or meaning	43 (11.2)	23 (6.0)	28 (7.3)	37 (9.6)	71 (18.4)	183 (47.5)

Variable categorisation

Knowledge was assessed using a 10-item scale (maximum score = 10), yielding a mean score of 5.88 +/- 1.42 and a median score of 6.0 (IQR: 5.0–7.0). Using percentile-based classification, 120/385 (31.2%) respondents had poor knowledge, 104/385 (27.0%) had moderate knowledge, and 161/385 (41.8%) demonstrated good knowledge. Positive mental health practices were measured on a 36-point scale, with a mean score of 25.76 +/- 6.60 and a median score of 27.0 (IQR: 23.0–30.0). Overall, 108/385 (28.1%) respondents exhibited poor practices, 167/385 (43.4%) moderate practices, and 110/385 (28.6%) good practices. Based on mental health continuum classification, 233/385 (60.5%) respondents were flourishing, 120/385 (31.2%) had moderate mental health, and 32/385 (8.3%) were classified as languishing.

Table 6
Distribution and classification of knowledge, practices, and positive mental health among in-school adolescents (N = 385)

Variable	Mean +/- SD	Median (IQR)	Category	n (%)
Knowledge of Positive Mental Health (0–10)	5.88 +/- 1.42	6.0 (5.0–7.0)	Poor Knowledge	120 (31.2)
			Moderate Knowledge	104 (27.0)
			Good Knowledge	161 (41.8)
Positive Mental Health Practices (0–36)	25.76 +/- 6.60	27.0 (23.0–30.0)	Poor Practice	108 (28.1)
			Moderate Practice	167 (43.4)
			Good Practice	110 (28.6)
Positive Mental Health Status (MHC-SF)	-	-	Flourishing	233 (60.5)
			Moderate Mental Health	120 (31.2)
			Languishing	32 (8.3)

Sociodemographic factors associated with knowledge level

The chi-square test of independence showed statistically significant associations between knowledge level and sex (chi-square = 8.93, df = 2, p = 0.012), class (chi-square = 47.15, df = 10, p < 0.001), and family financial situation (chi-square = 19.57, df = 8, p = 0.012). The corresponding effect sizes were small to small-to-moderate, with Cramer's V values of 0.152, 0.247, and 0.159, respectively.

Table 7
Association between sociodemographic characteristics and knowledge level among in-school adolescents (N = 385)

Characteristic	Chi-square	df	p-value	Sig.	Cramer's V	Trend chi-square	Trend p-value	Min expected	Cells exp < 5
Age group	0.20	2	0.907		0.023	0.01	0.934	44.84	0
Sex	8.93	2	0.012	*	0.152			39.71	0
Class	47.15	10	< 0.001	*	0.247	0.54	0.464	4.86	1
Class level	2.08	2	0.353		0.074	0.12	0.730	41.06	0
Religion	0.18	2	0.915		0.021			51.05	0
Family structure	0.21	2	0.900		0.023			15.67	0
Family financial situation	19.57	8	0.012	*	0.159	1.50	0.220	2.16	5
Financial category	1.33	2	0.513		0.059	0.04	0.841	31.61	0

Note. * Significant at p < 0.05. Trend tests were applied to ordered variables where applicable.

Association between knowledge level and practice level

The chi-square test of independence revealed a statistically significant association between knowledge level and practice level (chi-square = 50.74, df = 4, p < 0.001). The magnitude of the association was small-to-moderate (Cramer's V = 0.257). Respondents with poor knowledge were more frequently classified as having poor practices, 61/120 (50.8%), whereas respondents with good knowledge were more frequently classified as having moderate, 71/161 (44.1%), or good, 62/161 (38.5%), practices. Therefore, the null hypothesis was rejected. Given the cross-sectional nature of the study, this result indicates association only and does not establish causation.

Table 8
Association between knowledge level and practice level among in-school adolescents (N = 385)

Knowledge Level	Total n (%)	Poor Practice n (%)	Moderate Practice n (%)	Good Practice n (%)	chi-square (df)	p-value	Cramer's V
Poor Knowledge	120 (31.2)	61 (50.8)	43 (35.8)	16 (13.3)			
Moderate Knowledge	104 (27.0)	19 (18.3)	53 (51.0)	32 (30.8)			
Good Knowledge	161 (41.8)	28 (17.4)	71 (44.1)	62 (38.5)			
Test statistic					50.74 (4)	< 0.001*	0.257
Note. * Significant at p < 0.05.							

Sociodemographic factors associated with practice level

The chi-square test of independence revealed statistically significant associations between practice level and religion (chi-square = 7.57, df = 2, p = 0.023), family financial situation (chi-square = 22.80, df = 8, p = 0.004), and financial category (chi-square = 11.25, df = 2, p = 0.004). The corresponding effect sizes were small, with Cramer's V values of 0.140, 0.172, and 0.171, respectively. A significant linear trend was also observed for family financial situation (trend chi-square = 4.35, p = 0.037) and financial category (trend chi-square = 6.54, p = 0.011), suggesting systematic variation across ordered financial categories. The null hypothesis was rejected for religion, family financial situation, and financial category, but was not rejected for age group, sex, class, class level, and family structure. Sparse expected counts in the family financial situation analysis require cautious interpretation.

Table 9
Association between sociodemographic characteristics and practice level among in-school adolescents (N = 385)

Characteristic	Chi-square	df	p-value	Sig.	Cramer's V	Trend chi-square	Trend p-value	Min expected	Cells exp < 5
Age group	0.45	2	0.799		0.034	0.06	0.799	46.57	0
Sex	2.71	2	0.258		0.084			41.24	0
Class	13.85	10	0.180		0.134	0.06	0.808	5.05	0
Class level	1.19	2	0.551		0.056	1.00	0.318	42.64	0
Religion	7.57	2	0.023	*	0.140			53.02	0
Family structure	0.72	2	0.698		0.043			16.27	0
Family financial situation	22.80	8	0.004	*	0.172	4.35	0.037	2.24	5
Financial category	11.25	2	0.004	*	0.171	6.54	0.011	32.82	0
Note. * Significant at p < 0.05. Trend tests were applied to ordered variables where applicable.									

Discussion

This study assessed knowledge, practice, and patterns of positive mental health among in-school adolescents and examined selected socio-demographic factors associated with knowledge and practice. The findings show that most respondents were flourishing, while about four in ten had either moderate mental health or were languishing. Knowledge of positive mental health was generally favourable after correcting the reverse-scored items, but important item-level gaps remained, particularly around reverse-worded ideas on self-worth, sleep, and emotional control. Practice was mostly moderate, suggesting that knowledge and everyday wellbeing behaviour may not develop at the same pace among adolescents.

The high proportion of flourishing respondents is encouraging and suggests that many adolescents in the selected schools reported positive emotional, psychological, and social functioning. This finding supports the continuum view that positive mental health can be assessed separately from mental illness [7]. It also aligns with emphasis on adolescent environments that build coping skills,

connectedness, and healthy development [16, 1]. However, the presence of languishing among 32/385 (8.3%) respondents remains important because languishing may reflect low wellbeing even when a clinical disorder has not been diagnosed. School systems therefore need both universal wellbeing promotion and clear support pathways for students who show signs of distress.

Knowledge level was significantly associated with sex, class, and perceived family financial situation, although the effect sizes were small to small-to-moderate. These findings suggest that knowledge of positive mental health was not evenly distributed across demographic groups. The association with class may reflect differences in age, school exposure, curriculum experience, peer interaction, or cognitive maturity. The association with family financial situation suggests that adolescents' home resources and perceived economic security may shape access to information, supportive relationships, and opportunities for mental health learning. Similar concerns have been raised in Nigerian and international literature showing that mental health literacy, school context, and socio-economic conditions influence adolescent mental health awareness and support needs [10, 12, 5].

Practice of positive mental health was moderate for the largest proportion of respondents. Activities linked with achievement, values, and self-care were more common, whereas relaxation was least practised. This may reflect the academic and social demands placed on adolescents, where achievement-related activities are emphasised more than rest, emotional recovery, and deliberate relaxation. The significant associations between practice and religion, family financial situation, and financial category suggest that adolescents' everyday wellbeing behaviours are shaped by social and economic context. Religion may provide social support, moral structure, or coping resources, while financial circumstances may affect opportunities for recreation, safe spaces, self-care, and access to supportive adults. These interpretations remain cautious because the study tested association only.

Knowledge level was significantly associated with practice level. In the corrected scoring direction, respondents with good knowledge were more likely to report moderate or good practices, while poor knowledge was more common among those with poor practice. This supports the idea that mental health knowledge can contribute to healthier behaviour, although the relationship was not strong enough to suggest that information alone is sufficient. School-based mental health promotion therefore needs to combine knowledge with practical skills, peer support, teacher involvement, and routines that make positive practices easier to perform. This is consistent with school-based promotion literature, which emphasises universal programmes that build social-emotional competence and resilience rather than relying only on awareness messages [11, 8].

In light of the Nigerian mental health context, prior Nigerian studies have focused strongly on mental illness symptoms, depression literacy, service utilisation, or health worker knowledge [13, 2, 14]. The present study extends this discussion by focusing on positive mental health among in-school adolescents. This is useful because prevention and promotion are especially important in settings with limited specialist mental health services [3, 9]. Schools are strategic platforms for early mental health promotion because they reach adolescents before more severe distress emerges and can provide structured opportunities for connectedness, coping, help-seeking, relaxation, physical activity, and self-care.

Strengths and limitations

A strength of this study is its focus on positive mental health rather than only mental illness, which helps shift attention from treatment to promotion and prevention. The study also included adolescents across seven public secondary schools and used multistage sampling with proportional allocation. The Mental Health Continuum-Short Form provided a recognised framework for classifying flourishing, moderate mental health, and languishing. However, been a cross-sectional design prevents causal interpretation of the associations observed. Also, self-reported responses may be affected by recall error and social desirability bias. Third, the study was limited to selected public secondary schools in Ibadan Metropolis, so findings may not generalise to all adolescents, private schools, or out-of-school adolescents.

Implications and recommendations

The findings suggest the need for structured, age-appropriate mental health education in secondary schools, with emphasis on practical positive mental health skills rather than information alone. School programmes should include activities that promote emotional expression, relaxation, coping skills, connectedness, self-care, physical activity, and help-seeking. Teachers, guidance counsellors, and school health personnel should be trained to recognise students who may be languishing or distressed and to provide first-line support and referral. Interventions should pay attention to students from financially vulnerable families, since economic circumstances were associated with knowledge and practice. Future studies should use longitudinal or mixed-method designs, validate adapted knowledge measures more fully, and consider multivariable analysis to clarify independent associations.

Conclusion

This study showed that many in-school adolescents in selected public secondary schools in Ibadan Metropolis were flourishing, but knowledge gaps, moderate practice levels, and a small proportion of languishing respondents remained evident. Socio-demographic characteristics were associated with knowledge and practice, and knowledge was associated with practice, although the effect sizes were generally small. Positive mental health promotion in schools should therefore combine accurate knowledge, practical wellbeing routines, supportive teacher and counselling structures, and targeted attention to adolescents facing financial vulnerability.

Declarations

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Data availability statement: All relevant data are available based on reasonable request from the corresponding author

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