

The Characteristics of Physical Self of College Students and the Main Demographic Factors

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Abstract

Objective: To explore the characteristics of physical self of college students, and analyze the impact of major demographic factors.

Method: A convenient sampling is used to select 987 undergraduates. They are investigated with Adolescents' Physical-Self Scale (APSS) and a self-compiled personal general information questionnaire.

Result: (1) The total average score of APSS is (4.31 ± 0.89) . (2) Boys score significantly higher than girls in the total average score of APSS and scores of five dimensions ($t=4.88-12.79$, all $P<0.001$). (3) The grade differences in the total average score of APSS and the scores of five dimensions are significant ($F=3.20-13.36$, all $P<0.001$). (4) The major differences in the total average score of APSS and the scores of five dimensions are significant ($F=8.24-40.65$, all $P<0.001$). (5) There are significant differences in the total average score of APSS and the scores of five dimensions among students with various academic performance level ($F=4.85-25.73$, all $P<0.001$). (6) There are significant differences in the total average score of APSS and the scores of five dimensions among college students with different love experiences ($F=5.46-13.69$, all $P<0.001$). (7) There are significant differences in the average scores of appearances and negative characteristics among college students from different regions of origin ($F=2.70, 6.66$, both $P<0.001$). (8) There are significant differences in the total average score of APSS and the scores of five dimensions among college students with different family economic conditions ($F=10.43-20.58$, all $P<0.001$). (9) There is a significant difference in the average score of negative characteristics among students with fathers engaged in different professions ($F=2.68, P=0.020$), while there are significant differences in the total average score of APSS and the scores of 3 dimensions like appearance characteristics, exercise characteristics, and negative characteristics among students with mothers engaged in different professions ($F=2.63-3.24$, all $P<0.05$). **Conclusion:** The physical self of college students is at a medium level, and social trends, family upbringing methods, school education models, the experiences and practices of college students, as well as the level of attention and intervention methods of students are the important influencing factors.

Keywords: college students; physical self; demographic factors

Introduction

Physical self refers to an individual's overall understanding and evaluation of their physical aspects, such as appearance, athletic ability, body shape/health status, as well as the resulting level of physical satisfaction and corresponding behavioral management of their own body [1]. The physical self is the fundamental element of self-concept [2], and it is also the part of an individual's self-awareness that develops earlier than other parts. It plays an important role in the interaction between an individual's own experience and the environment [2]. In short, the physical self directly affects the formation of self-esteem [3] and processes perceived information in an automated manner [4-5], generating corresponding coping strategies [3], thereby affecting the development of individual physical health [6], psychological health [7-8], and personality and sociality [3, 9, 10]. Negative physical self can weaken

the motivation of college students to exercise [11], reduce their participation in sports and physical health [9], lower their self-esteem [3], and exacerbate negative emotions such as depression [7], state anxiety [8], and trait anxiety [8], leading to social avoidance [3], increased risks of eating disorders [6], interpersonal problems [10], and mobile phone addiction [12], ultimately reduces life satisfaction [13]. College students are in a critical period of physical and mental growth, which is a crucial period for self-integration and self-concept shaping. The correct physical self is of great significance for their overall mental health and the formation of perfect personality traits. Therefore, research on the physical self of college students is receiving increasing attention from domestic scholars. However, previous studies have mostly focused on the role of social factors like media guidance [5] or psychological factors such as emotional regulation [12], while insufficient

attention has been paid to the role of demographic factor which have been proven important variables in the psychological and behavioral problems of college students. Therefore, it is necessary to explore in depth the impact of demographic factors on the physical self of college students.

Objects and Methods

Objects

A convenient sampling is used to select 1150 undergraduates from a medical university and a college of science and engineering in Guangdong Province, and the combination of paper and online questionnaires is used for the survey. A Total of 987 valid questionnaires are collected, with an effective rate of 85.83%. Among them, there are 452 males and 535 females; 245 freshmen, 238 sophomores, 258 juniors, and 246 seniors; 262 in humanities, 270 in science, 263 in medicine, and 192 in sports and arts; 84 students have excellent academic performance, 274 have good academic performance, 558 have average academic performance, 55 have poor academic performance, and 15 have very poor academic performance; 531 are from rural areas, 280 from towns, and 176 from cities; 805 only children and 182 non only children; 16 from rich families, 132 from well-off families, 719 from common families, 100 from financially disadvantaged families, and 20 from impoverished families; 308 are currently in love, 283 have been in love before, and 396 have never been in love; 90 fathers are employees in government agencies and public institutions, 145 employees in enterprises; 376 individual entrepreneurs, 219 farmers, 25 unemployed, and 132 freelancers; 60 mothers are employees in government agencies and public institutions, 163 employees in enterprises; 291 individual entrepreneurs, 208 farmers, 113 unemployed, and 152 freelancers.

Table 1: Descriptive statistics of APSS scores (n=987)

Dimension	Max	Mean	SD	Mean of item	SD of item
AC	66	47.87	10.12	4.30	0.95
MC	60	38.97	8.47	4.33	0.99
BC	41	23.82	6.72	3.97	1.12
SC	32	18.68	4.36	4.67	1.09
NC	26	12.90	3.69	4.30	1.23
APSS	212	142.23	28.56	4.31	0.89

Tools: Adolescents' Physical Self Scale, APSS

Developed by Huang Xiting et al. (2002) [1], this scale consists of 33 items divided into five dimensions like appearance characteristics (AC), motor features (MC), body-shape features (BC), sexual features (SC), and negative features (NC). The Likert 7-point scoring system is used to score from 1-7 points corresponding to "very dissatisfied" to "very satisfied". The higher the score, the higher the physical self. In this study, the Cronbach's α coefficient of the total questionnaire is 0.954, and the Cronbach's α coefficient of each dimension ranges from 0.677 to 0.899.

A self-compiled personal general information questionnaire

It includes 13 items, namely gender, grade, origin, only child or not, school category, major category, class ranking of academic performance, family economic status, father's occupation, father's education level, mother's occupation, mother's education level, and love experience.

Data processing

SPSS 20.0 software is used to analyze the valid data. Descriptive statistics are used to calculate the average score and standard deviation of each scale; independent t test and Single factor analysis of variance (ANOVA) are used to explore the intergroup differences.

Results

General situation of physical self among college students

The overall average score of APSS in this group and the average scores in all dimensions are around the median of 4.2 [1]. Overall, the physical self is average. Among the APSS scores, the average score of sexual characteristics is the highest, followed by motor and negative characteristics, and the average score of body-shape characteristics is the lowest.

Demographic factors of physical self among college students

Gender differences: From Table 2, it can be seen that the total average score of APSS and scores of five

dimensions of boys are higher than those of girls, and the differences are statistically significant ($t=4.875$ to 12.788 , all $P<0.001$).

Table 2: Comparison of APSS scores between male and female students

	Gender	N	Mean	SD	t	P
AC	boys	452	4.62	1.05	8.56	<0.001
	girls	535	4.09	0.81		
MC	boys	452	4.74	1.07	10.44	<0.001
	girls	535	4.07	0.84		
BC	boys	452	4.38	1.17	9.48	<0.001
	girls	535	3.70	1.10		
SC	boys	452	5.19	1.15	12.79	<0.001
	girls	535	4.32	0.89		
NC	boys	452	4.54	1.30	4.88	<0.001
	girls	535	4.15	1.16		
APSS	boys	452	4.69	0.99	10.90	<0.001
	girls	535	4.06	0.71		

Grade differences

According to Table 3, the grade differences in the total average score of APSS and scores of five dimensions are significant ($F=3.20$ to 13.36 , all

$P<0.001$). Post hoc test show that the total average score of APSS and the scores of five dimensions are the highest in the first year, followed by the third year, and then the second year, and the lowest in the fourth year.

Table 3: Grade differences in APSS scores

		N	Mean	SD	F	P	LSD
AC	a	245	4.45	0.97	4.56	0.004	a>b
	b	238	4.22	0.95			a>d
	c	258	4.36	0.99			c>b
	d	246	4.16	0.84			c>d
MC	a	245	4.55	1.04	8.73	<.001	a>b
	b	238	4.24	1.04			a>d
	c	258	4.42	1.00			c>b
	d	246	4.13	0.83			c>d
BC	a	245	4.16	1.16	5.94	<0.001	a>b
	b	238	3.89	1.15			a>d
	c	258	4.04	1.10			c>b
	d	246	3.77	1.04			c>d
SC	a	245	4.93	1.12	13.36	<.001	a>b
	b	238	4.55	1.08			a>d
	c	258	4.80	1.11			c>b
	d	246	4.37	0.96			c>d
NC	a	245	4.45	1.15	3.20	0.023	a>b
	b	238	4.25	1.25			a>d
	c	258	4.38	1.23			c>b
	d	246	4.13	1.29			c>d
APSS	a	245	4.51	0.91	9.76	<0.001	a>b
	b	238	4.23	0.90			a>d
	c	258	4.40	0.91			c>b
	d	246	4.11	0.78			c>d

Notes: a=freshman, b=sophomore, c=junior, d=senior

Major differences

As shown in Table 4, the major differences in the total average score of APSS and the scores of five dimensions are significant ($F=8.24$ to 40.65 , all $P<0.001$). Students majoring in physical arts and

sports have the highest scores, while science students have higher scores in APSS than humanities students. There are no statistically significant differences in APSS scores between science students and medical students, as well as between humanities and medical students.

Table 4: Major differences in APSS scores

Major		N	Mean	SD	F	P	LSD
AC	a	262	4.13	0.92	17.19	<.001	d>a b>c
	b	270	4.34	0.89			d>b
	c	263	4.14	0.81			d>c
	d	192	4.69	1.10			b>a
MC	a	262	4.09	0.86	40.65	<0.001	d>a b>c
	b	270	4.36	0.97			d>b
	c	263	4.10	0.87			d>c
	d	192	4.96	1.06			b>a
BC	a	262	3.75	1.05	20.16	<0.001	d>a b>c
	b	270	4.07	1.04			d>b
	c	263	3.74	1.03			d>c
	d	192	4.44	1.27			b>a
SC	a	262	4.38	0.93	39.90	<0.001	d>a b>c
	b	270	4.69	1.09			d>b
	c	263	4.42	0.95			d>c
	d	192	5.35	1.17			b>a
NC	a	262	4.15	1.17	8.24	<0.001	d>a b>c
	b	270	4.37	1.19			d>b
	c	263	4.13	1.25			d>c
	d	192	4.64	1.29			b>a
APSS	a	262	4.10	0.79	33.75	<0.001	d>a b>c
	b	270	4.37	0.85			d>b
	c	263	4.11	0.78			d>c
	d	192	4.82	1.00			b>a

Notes: a=students majoring in humanities, b= students majoring in science students, c= students majoring in medical students, d=students majoring in physical arts and sports.

Differences between students at different academic performance grades

From Table 5, it can be seen that there are significant differences between students at different academic performance grades in the total average score of APSS

and the scores of five dimensions ($F=4.85-25.73$, all $P<0.001$). Post hoc testing shows that, except for the grade "very poor", the total average score of APSS and average scores in various dimensions increase with the improvement of academic performance grades.

Table 5: Comparison of APSS scores among students at different academic performance grades

Performance		N	Mean	SD	F	P	LSD
AC	a	84	4.91	1.34	14.58	<0.001	a>b b>d
	b	274	4.42	0.94			a>c b>e
	c	558	4.18	0.81			a>d
	d	55	4.07	1.03			a>e
	e	16	3.90	1.18			b>c
MC	a	84	5.14	1.21	25.73	<0.001	a>b b>d
	b	274	4.55	0.95			a>c b>e
	c	558	4.15	0.87			a>c
	d	55	4.02	1.08			a>e
	e	16	4.15	1.24			b>c
BC	a	84	4.76	1.36	16.77	<0.001	a>b b>d
	b	274	4.11	1.10			a>c b>e
	c	558	3.81	1.02			a>c
	d	55	3.61	1.14			a>e
	e	16	3.87	1.36			b>c
SC	a	84	5.35	1.27	16.15	<0.001	a>b b>d
	b	274	4.86	1.08			a>c b>e
	c	558	4.49	1.01			a>c
	d	55	4.39	1.09			a>e
	e	16	4.95	1.17			b>c
NC	a	84	4.74	1.54	4.85	<0.001	a>b b>d
	b	274	4.42	1.24			a>c b>e
	c	558	4.20	1.14			a>c
	d	55	4.05	1.30			a>e
	e	16	4.41	1.66			b>c
APSS	a	84	4.98	1.20	20.82	<0.001	a>b b>d
	b	274	4.47	0.86			a>c b>e
	c	558	4.17	0.77			a>c
	d	55	4.03	0.93			a>e
	e	16	4.26	1.18			b>c

Noets: a=excellent, b=good, c=average, d=poor, e=very poor

Differences among students with different love experiences

According to Table 6, there are significant differences in the total average score of APSS and the average scores of the five dimensions among college students with different love experiences ($F=5.46-13.69$, all

$P<0.001$). Post hoc tests show that the above 6 kinds of scores of students who are in love are significantly higher than those of students who have never been in love (all $P<0.05$), and the scores of students who have been in love are significantly higher than those who have never been in love (all $P<0.05$).

Table 6: Comparison of APSS scores among students with different love experiences

Dimension	Love experience	N	Mean	SD	F	P	LSD
AC	a	308	4.46	0.99	8.78	<0.001	a>c
	b	283	4.32	0.91			b>c
	c	396	4.16	0.92			
MC	a	308	4.47	1.02	8.25	<0.001	a>c
	b	283	4.40	0.99			b>c
	c	396	4.18	0.95			
BC	a	308	4.17	1.12	5.46	<0.001	a>c
	b	283	3.99	1.12			b>c
	c	396	3.84	1.11			
SC	a	308	4.82	1.13	13.69	<0.001	a>c
	b	283	4.81	1.12			b>c
	c	396	4.45	1.00			
NC	a	308	4.49	1.24	7.37	<0.001	a>c
	b	283	4.33	1.25			b>c
	c	396	4.14	1.19			
APSS	a	308	4.47	0.91	12.11	<0.001	a>c
	b	283	4.37	0.87			b>c
	c	396	4.15	0.86			

Notes: a= are in love, b=have been in love, c=have never been in love

Differences in physical self of students from different origins

According to Table 6, there are significant differences in the average scores of appearances and negative characteristics among college students from different regions of origin ($F=2.70, 6.66$, both $P<0.001$). Post hoc multiple tests show that city students have

significantly higher scores in appearance characteristics than rural students ($P<0.001$) and town students ($P<0.001$), they also have significantly lower scores in negative characteristics than rural ($P<0.001$) and town students ($P<0.05$). Town students have significantly higher scores in appearance characteristics ($P<0.05$) and lower scores in negative characteristics ($P<0.001$) than rural students.

Table 7: Comparison of APSS scores among students from different origin areas

origin	N	Mean	SD	F	P	LSD	
AC	rural	531	4.21	0.95	2.70	0.068	city>rural
	town	280	4.29	0.91			city>town
	city	176	4.45	0.99			town>rural
MC	rural	531	4.32	1.01	0.083	0.921	No
	town	280	4.34	0.94			
	city	176	4.35	1.02			
BC	rural	531	3.98	1.11	1.01	0.363	No
	town	280	3.89	1.13			
	city	176	4.04	1.16			
SC	rural	531	4.65	1.12	0.12	0.885	No
	town	280	4.69	1.02			
	city	176	4.68	1.12			
NC	rural	531	4.60	1.26	6.66	<0.001	city<rural
	town	280	4.29	1.19			city<town
	city	176	4.21	1.19			town<rural
APSS	rural	531	4.29	0.91	1.67	0.189	No
	town	280	4.30	0.83			
	city	176	4.42	0.90			

Differences in physical self between non only child and only child students

From Table 8, it can be seen that there are no significant differences in the total average score of APSS and scores of 5 dimension between non only child and only child students (all $P>0.05$).

Table 8: Differences in APSS scores between non only child and only child students

	only child or not	N	Mean	SD	t	P
AC	No	182	4.40	1.00	1.68	0.094
	Yes	805	4.27	0.93		
MC	No	182	4.34	1.03	0.05	0.960
	Yes	805	4.33	0.98		
BC	No	182	3.99	1.28	0.33	0.746
	Yes	805	3.96	1.08		
SC	No	182	4.73	1.13	0.92	0.359
	Yes	805	4.65	1.08		
NC	No	182	4.45	1.24	1.83	0.067
	Yes	805	4.27	1.23		
APSS	No	182	4.38	0.94	1.19	0.233
	Yes	805	4.30	0.88		

Differences in physical self of students with different family economic backgrounds

According to Table 9, there are significant differences in the total average score of APSS and the average scores of the five dimensions among college students with different family economic conditions ($F=10.43$

to 20.58, all $P<0.001$). Post hoc multiple tests indicate that, except for students from impoverished families, the total average score of APSS and scores of the five dimensions increase with the increase of family wealth, and the physical satisfaction of college students shows an upward trend with the increase of family wealth (all $P<0.05$).

Table 9: Comparison of APSS scores among students from different family economic backgrounds

Family economic status	N	Mean	SD	F	P	LSD	
AC	a	16	5.70	1.17	15.82	<0.001	a>b b>d
	b	132	4.64	0.9640			a>c b>e
	c	719	4.24	0.86			a>d c>d
	d	100	4.12	1.03			a>e
	e	20	4.08	1.58			b>c
MC	a	16	5.82	1.09	15.70	<0.001	a>b b>d
	b	132	4.64	1.00			a>c c>d
	c	719	4.27	0.93			a>d e>c
	d	100	4.11	1.10			a>e e>d
	e	20	4.68	1.19			b>c
BC	a	16	5.62	1.45	13.38	<0.001	a>b b>d
	b	132	4.30	1.12			a>c b>e
	c	719	3.88	1.04			a>d
	d	100	3.90	1.27			a>e
	e	20	3.86	1.59			b>c
SC	a	16	6.42	0.95	17.37	<0.001	a>b b>c
	b	132	4.99	1.05			a>c b>d
	c	719	4.57	1.04			a>d b<e
	d	100	4.55	1.18			a>e c<e
	e	20	5.21	1.05			
NC	a	16	5.73	1.38	10.43	<0.001	a>b b>c
	b	132	4.65	1.19			a>c b>d
	c	719	4.22	1.19			a>d b>e
	d	100	4.11	1.28			a>e c>d
	e	20	4.76	1.65			c<e d<e
APSS	a	16	5.86	1.09	20.58	<0.001	a>b b>c
	b	132	4.64	0.88			a>c b>d
	c	719	4.24	0.81			a>d b>e
	d	100	4.16	1.02			a>e c>d
	e	20	4.52	1.20			c<e d<e

Notes: a=rich families, b=well-off families, c=common families, d=financially disadvantageded families, e=impoverished families

Differences in physical self of students with fathers engaged in different occupations

As shown in Table 10, there is a significant difference in the average score of negative characteristics among students with fathers engaged in different professions ($F=2.682$, $P=0.020$). Post hoc tests indicate that students whose fathers are employees of government agencies and institutions have lower negative characteristic scores than those whose fathers are employees of enterprises, but higher than those whose fathers are farmers, unemployed, and self-employed.

Students whose fathers are employees of enterprises have higher negative characteristic scores than those whose fathers are individual producers or traders, farmers, unemployed, and self-employed. Students whose fathers are individual producers or traders have higher negative characteristic scores than those whose fathers are farmers, unemployed and freelancers; Students whose fathers are farmers score higher in negative characteristic than those whose fathers are unemployed; Students whose fathers are unemployed have lower scores for negative characteristics than those whose fathers are freelancers (all $P<0.05$).

Table 10: Comparison of APSS scores among students with fathers engaged in different professions

Dimension	Father's profession	N	Mean	SD	F	P	LSD
AC	a	90	4.47	0.96	0.88	0.493	No
	b	145	4.33	0.99			
	c	376	4.29	0.92			
	d	219	4.25	0.95			
	e	25	4.33	0.82			
	f	132	4.23	0.97			
MC	a	90	4.35	0.97	0.59	0.707	No
	b	145	4.28	0.96			
	c	376	4.39	0.98			
	d	219	4.32	1.04			
	e	25	4.36	0.83			
	f	132	4.24	1.02			
BC	a	90	4.17	1.07	1.20	0.305	No
	b	145	3.91	1.13			
	c	376	3.99	1.10			
	d	219	3.98	1.15			
	e	25	3.89	1.15			
	f	132	3.82	1.12			
SC	a	90	4.72	1.12	0.90	0.482	No
	b	145	4.70	1.11			
	c	376	4.69	1.10			
	d	219	4.70	1.05			
	e	25	4.60	1.01			
	f	132	4.48	1.12			
NC	a	90	4.35	1.17	3.68	<0.001	a<b b>e
	b	145	4.56	1.27			a>d b>f
	c	376	4.35	1.17			a>e c>d
	d	219	4.13	1.31			a>f c>e
	e	25	4.06	1.13			b>c c>f
	f	132	4.20	1.25			b>d d>e
APSS	a	90	4.41	0.88	0.98	0.431	No
	b	145	4.36	0.89			
	c	376	4.34	0.87			
	d	219	4.28	0.91			
	e	25	4.25	0.81			
	f	132	4.19	0.92			

Notes: a=employees of government agencies and institutions, b=employees of enterprises, c=individual producers or traders, d=farmers, e=unemployed, f=freelancers

Differences in physical self among students with mothers engaged in different professions

From Table 11, it can be seen that there are significant differences in the total average score of APSS, as well as the scores of appearances, motor, and negative characteristics among students with mothers engaged in different professions ($F=2.63$ to 3.24 , all $P<0.05$). Post hoc tests indicate that students whose mothers

work in government agencies and institutions have the highest scores in appearance, negative characteristics, and total scores of APSS, while the lowest score in motor characteristics; Students whose mothers are unemployed or freelancers have the lowest scores in appearance characteristics, negative characteristics, and total score of APSS, while with the highest score in motor characteristics.

Table 11: Comparison of APSS scores among students with mothers engaged in different professions

Dimension	Father's profession	N	Mean	SD	F	P	LSD
AC	a	60	4.39	1.11	2.84	0.009	a>b b>f
	b	163	4.33	0.94			a>d c>d
	c	291	4.38	0.95			a>e c>e
	d	208	4.28	0.94			a>f c>f
	e	113	4.15	0.87			b>d d>e
	f	152	4.21	0.93			b>e d>f
MC	a	60	4.38	1.00	2.63	0.023	a<c b>e
	b	163	4.36	0.97			a<d b>f
	c	291	4.45	1.01			a>e c>e
	d	208	4.53	1.04			a>f c>f
	e	113	4.08	0.87			b<c d<e
	f	152	4.26	0.97			b<d d>f e<f
BC	a	60	4.04	1.19	1.10	0.361	
	b	163	3.95	1.18			
	c	291	4.06	1.10			
	d	208	3.97	1.16			
	e	113	3.85	1.00			
	f	152	3.84	1.11			
SC	a	60	4.80	1.22	1.57	0.167	
	b	163	4.76	1.16			
	c	291	4.71	1.11			
	d	208	4.69	1.08			
	e	113	4.49	0.94			
	f	152	4.67	1.04			
NC	a	60	4.58	1.24	2.64	0.022	a>d
	b	163	4.42	1.26			a>e
	c	291	4.41	1.17			a>f
	d	208	4.14	1.29			b>d
	e	113	4.15	1.20			c>d
	f	152	4.19	1.23			
APSS	a	60	4.44	1.00	3.24	0.004	a>b b>f
	b	163	4.36	0.88			a>d c>d
	c	291	4.40	0.90			a>e c>e
	d	208	4.28	0.93			a>f c>f
	e	113	4.14	0.76			b>d d>e
	f	152	4.21	0.83			b>e d>f e<f

Notes: a=employees of government agencies and institutions, b=employees of enterprises, c=individual producers or traders, d=farmers, e=unemployed, f=freelancers

Discussion

The total average score and average scores of various dimensions of APSS in this group are around the median of 4.2, and the level of physical self is average, which is consistent with the results of previous studies [14-16]. It is suggested that college students are generally dissatisfied with their physical characteristics, which may be related to social and cultural factors.

The total average score of APSS and scores of the five dimensions of boys in this group are higher than

those of girls, consistent with previous studies [14-18], suggesting the role of gender roles in shaping the physical self of college students. For a long time, society has put forward more detailed and strict requirements for women's physical characteristics than men, forming a kind of concept "thinness as beauty". The requirements for women are too thin, even bony beauty, and strict requirements are also put forward for their height, the appearance of various organs, including body proportions, facial features, hair thickness, straight and color, skin color, thickness, and elasticity, etc. These requirements have

a profound impact on all aspects of women's lives, such as education, employment, and mate selection, and even social evaluation. Women with unattractive appearances carry the stigma of being foolish, lazy, and despicable, and are subjected to various unfair treatments. On the other hand, the above requirements are difficult or even unattainable for most women, such as perfect body proportions, too low BMI, etc., which makes most women dissatisfied with their physical characteristics [19-20]. Previous studies have shown that the vast majority of women are gradually exposed to these so-called ideal standards in the early developmental stages of physical self. Dolls, such as Barbie dolls, are already influenced by these "ideal body shapes" before school age, and at the age of 5-7, they exhibit low self-esteem and hope to achieve a slimmer body due to seeing Barbie doll images [19]. At the same time, the increasingly developing media has promoted this ideal standard more widely and deeply in people's hearts through magazines, television, and the internet, leading to women's increasingly low physical self [19]. However, the requirement for men is "strong as beauty", which means having a muscular balance and a strong and powerful physique [1]. Relatively speaking, this requirement is more concise and can be approached through individual efforts. Therefore, men's physical self is higher.

The grade differences of this group in the total average score of APSS and the scores of the five dimensions are significant. Post hoc testing shows that the total average score and five dimensions of APSS in the freshman year are the highest, followed by the third year, and then the second year, and the lowest in the fourth year. Different from the research results of Lu Zujing et al. [18], it may be due to different sample compositions. The study by Lu Zujing et al. [18] sampled college students from military medical colleges in 2013. This group had similar learning and lifestyle patterns to college students from other colleges and universities when they enrolled in college, and therefore their physical selves were comparable to those of college students from other colleges and universities. From the first day of enrollment, high-intensity continuous military physical training and systematic medical education will be provided. After a year of exercise and learning, physical fitness has significantly improved, and understanding of body shape and appearance has also tended to stabilize, resulting in a higher evaluation of the body. During the third and fourth year of college, the focus is mainly on studying professional courses,

and the requirements for physical training are relatively relaxed, so there will be a decline in physical self-year by year. This study was conducted in Guangdong Province in 2022, with medical students in the sample, but mainly students from various other majors. For our group, due to the requirements of the college entrance physical examination, they must engage in a certain amount of physical exercise for a certain amount of time and intensity every day during high school stage. After the college entrance examination and before entering university, there is a three-month summer vacation for them to rest and recuperate, which makes our group of freshman students energetic and radiant. In addition, high school students use academic performance as the criterion for evaluation, which makes them pay less attention to things beyond academic performance. The experience of the importance of physical characteristics, especially appearance, is not very profound, and passing the college entrance examination makes them feel better about themselves. Affected by this, freshmen did not compare and evaluate their physical characteristics extensively with others. Guided by a good sense of self, they gave the highest evaluation of their physical self in four years of college. Because most first-year college students have a relatively light academic burden, and a large portion of their time is spent on socializing with classmates, cultural and sports activities, and club work. In frequent extracurricular activities, students have the opportunity to interact with numerous classmates and consciously or unconsciously compare their various characteristics, including physical characteristics, with other classmates. Due to the immaturity of dialectical logical thinking and inappropriate media promotion, lower grade college students are prone to exaggerating their own shortcomings and the strengths of others. After a year of extensive but not objective observation and comparison, the physical self of sophomores has significantly decreased [20]. The physical selves of third year students have improved compared to second year students. The reasons are as following. The first is due to their stronger dialectical and logical thinking abilities compared to the first and second-year students. The third-year students are able to evaluate their physical characteristics more rationally [21]. The second is due to the significantly increased academic burden on third year students, and their focus is on learning and their attention to physical characteristics is not as strong as those of first and second-year students. Senior students are facing

unprecedented employment stress, influenced by the trend of "judging people based on their appearance" of recruitment units [22-23]. In order to gain an advantage in job applications, they once again attach importance to their physical characteristics, such as appearance and physical fitness, and always worry that their physical characteristics will not be recognized by the recruitment units. This mentality leads to a significant decline in their physical self.

This study found significant major differences in the total average score of APSS and scores of the five dimensions. Students majoring in sports and arts have the highest level of physical self, while science students have a higher level of physical self than medical students. Science students have a higher level of physical self than humanities students, and there is no significant difference in physical self between humanities and medical students. Art students, due to undergoing specialized interviews at the time of enrollment, have strict screening criteria for appearance and physique. So their physical conditions are better than those of students in other majors. In addition, they also need to receive a long-term and systematic training after enrollment, which can improve their physical characteristics and enhance their physical self. The results of this study are consistent with the research findings of Xie Qin [24] and Du Xiaohong [25] regarding the physical self of sports students, and opposite to the research findings of Xie Yuan [26], suggesting the influence of sports and local sports concepts on the physical self of college students. In this study and the aforementioned three studies, sports college students scored significantly higher than non-sports students in terms of physical activity, physical exercise ability, physical strength, and physical endurance, reflecting the role of physical exercise in enhancing "exercise self". At that time, the regions where Xie Yuan's research was sampled may not have given enough importance to the value of sports. So, students majoring in sports had a low status among many majors in universities, and even carried the stigma of being a "second rate", resulting in lower self-esteem and evaluations of other dimensions of physical self. The other three studies were sampled from areas that promote sports, and college students idolized "sports masters", which led to an unprecedented increase in the status of sports majors among majors in universities, and the confidence of sports students is greatly increasing, with high evaluations of all dimensions of physical self. Students from other majors, due to their less participation in physical

exercise and more sedentary behavior, experience a decline in their physical health, leading to a noticeable sub-health and a lower level of physical fitness compared to sports and art students [27]. Among them, science students have less academic stress compared to medical students, and have more time for sports and leisure activities, resulting in a higher level of physical self. Medical students, due to their extensive knowledge of anatomy and physiology, have a profound understanding of the ideal physical standard. They often compare their own physical characteristics with this standard, resulting in lower levels of physical self. Similarly, humanities students often compare their physical characteristics with the image of beautiful and handsome men in literary works, also resulting in lower physical self.

This study found that city students scored highest in physical appearance characteristics followed by town students, and then rural students; city students scored lowest in negative characteristics, followed by town students, and then rural students; except for students with impoverished families, the total average score of APSS and scores of the five dimensions increase with the increase of family wealth; except for students with very poor academic grades, the total average score of APSS and the scores of various dimensions increase with the improvement of academic grades. The results of this study suggest that meta-stereotypes have a broad and significant impact on the physical self of college students. The so-called meta-stereotype refers to an individual's belief in the stereotypes held by members of external groups about the group they belong to [28]. Research has shown that members of vulnerable groups are more susceptible to the influence of stereotypes, as they pay more attention to how members of external groups perceive themselves [29]. In our country, college students are the winners of the college entrance examination when they enter university, with high self-esteem and self-evaluation. When town and rural students enter universities, they often find themselves in a relatively disadvantaged position in the city, leading to issues such as discrimination and the threat of stereotypes in school [30]. The same problem can also occur in college students with poor family economic conditions [31] and poor academic performance [32]. Discrimination has severely undermined the self-esteem of town and rural college students, as well as those from disadvantaged families and those with poor academic performance. Therefore, their self-evaluation has greatly declined, and the physical self, as the foundation and outer content of self-evaluation, has

been the first to be impacted and is gradually declining. On the contrary, college students from cities, those from affluent families, and those with good academic performance are highly respected and their self-esteem is increasing, leading to an increase in self-evaluation and physical self. Further research is needed to confirm why students from impoverished families and those with very poor academic performance actually have higher levels of physical self.

This study also found that students whose fathers engage in group work, such as employees in government agencies and enterprises, have higher scores in negative characteristics than those whose fathers engaged in individual work, such as individual business, farmers, unemployed, and freelancers. Students whose mothers engaged in group work, such as government and enterprise employees, score higher in physical appearance, negative characteristics, and overall physical self, and score lower in motor characteristics than those whose mothers engage in individual jobs, such as self-employed businesses, farmers, unemployed individuals, and freelancers. It is suggested that both parents' professions can influence the physical self of college students, while mothers' professions have a broader impact. The reason is that different professionals have different levels of attachment to their physical selves. Parents who work in groups need to interact with numerous colleagues and engage in intentional or unintentional interpersonal comparisons, and the physical characteristics become their "personal labels", restricting their interpersonal influence and affecting their performance level and career development process. Therefore, such parents are highly concerned about their physical characteristics and are very sensitive to negative physical characteristics, making every effort to maintain a good physical self. Their approach can affect their children in two ways, implicit and explicit: from an implicit perspective, by paying attention to their own physical characteristics, children can improve their attention and maintenance of physical characteristics, indirectly cultivating their physical self; From an explicit perspective, constantly paying attention to various physical characteristics of children, carefully observing, discovering, pointing out, and correcting negative features as much as possible, can directly improve children's physical self. Relatively speaking, parents who engage in individual work have limited contact with colleagues, and their physical characteristics have little impact on their careers.

Therefore, these parents have a lower level of attention and maintenance towards physical characteristics, and their impact on their children's physical self is also smaller. As for why mothers' occupations can affect the overall level and scores of multiple dimensions of children's physical self, while fathers' occupations only affect the negative physical characteristics of children, it is mainly because mothers have more contact with children and care about all aspects of children's physical characteristics. However, most fathers who are busy working do not pay enough attention to their children's affairs, and the negative characteristics that attract their attention are most obvious and noticeable.

Finally, we found that love experiences, including being in love and having been in love, can enhance the physical self of college students. The possible reason is that love leads to an increase in the attention of physical self among college students: Love experiences can enhance their physical self-awareness, because physical characteristics are the primary condition for generating sexual attraction and the foundation of love. Through love, college students can better understand the importance of physical characteristics, strive to maintain and improve physical characteristics, and enhance their physical self.

Conclusion

This study provides a preliminary understanding of the current status of physical self among college students, and analyzes the role of its main demographic factors. The results of this study suggest that the physical self of college students is not high due to both subjective and objective reasons. From a subjective perspective, the degree of attention and intervention methods of college students towards their physical self are the main reasons; From an objective perspective, social norms, family upbringing methods, school education models, and the experiences and practices of college students themselves play a crucial role.

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