

Aging, personality, and teaching aptitude in school grade physical education teachers

Bijender^{ABCDE}, Kuldeep Nara^{ABCDE}, Parveen Kumar^{ABCDE}

Department of Physical Education, Chaudhary Ranbir Singh University, India

Authors' Contribution: A – Study design; B – Data collection; C – Statistical analysis; D – Manuscript Preparation; E – Funds Collection

Abstract

Background and Study Aim The primary objectives of the research were to examine the impact of aging on teaching aptitude, explore the association between personality traits and teaching effectiveness, and identify potential interactions between age, personality, and teaching aptitude.

Material and Methods Data were collected through standardized measures assessing teaching aptitude, personality traits, and demographic information. An intentional sampling with a survey group size of 283 physical education teachers (28.6% Female) including Trained Graduate Teachers (26.5%) and Post Graduate Teachers (73.5%) respectively. One-way analysis of variance, Pearson correlation coefficient, Hierarchical Regression, and mediation methods were used to analyze the obtained data.

Results Teaching aptitude was negatively related to chronological age (male, $r = -.296$, female, $r = -.43$), teaching experience (male, $r = -.343$, Female, $r = -.326$), and neuroticism (male, $r = -.408$, female, $r = -.399$). Extraversion, Openness, Agreeableness, and Conscientiousness were positively related to teaching aptitude. Hierarchical Regression shows that gender has not explained significant variation among teaching aptitude after controlling the effects of personality traits and age (R^2 square changes = .004). However, personality has partial mediating effects on the direct relationship between age and teaching aptitude.

Conclusions Teaching aptitude decreases with age in both genders. The decreasing teaching aptitude with age has significant implications on the education system. However, the personality traits of the teachers also changed with age. Teachers gained more neuroticism as aged. It is essential to identify the factors contributing to this phenomenon and develop strategies to mitigate its effects.

Keywords: teaching aptitude, Big-five personality, age, teaching effectiveness.

Introduction

Teaching aptitude refers to a person's natural ability to effectively teach and facilitate learning [1]. It encompasses a range of skills, including communication, organization, patience, empathy, adaptability, and subject matter expertise. A person with a strong teaching aptitude is able to convey information clearly, motivate and engage students, and create a positive learning environment [2]. A teacher is a role model for every student their personality, aptitude, and attitude mold the child as desired [3]. Teachers' aptitude for teaching decides a teacher's success as a professional and learners' development as a whole. Teachers' aptitude for teaching might be innate ability but it can be manifested with appropriate and adequate practices such as behavioral grooming apt for the profession. There are many behavioral issues that make a person unfit for the teaching profession, aggression is one of them [4, 5].

Research suggests that certain personality traits are particularly important for effective teaching. For example, the "Big Five" personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) have been found to be associated with

teaching effectiveness. Specifically, openness to experience, conscientiousness, and agreeableness have been positively correlated with teaching effectiveness, while neuroticism has been negatively correlated [2, 6]. However, it's important to note that personality traits are only one factor that can influence teaching effectiveness and that effective teaching also involves a range of skills, knowledge, and experience. Additionally, a person's teaching style and approach may vary depending on the context, subject matter, and student population they are working with.

Some studies reported a significant relationship between teachers' salaries and teaching aptitude [7]. the relationship between average pay and teacher aptitude was positive [8, 9]. However, the present study does not pertain to teachers' salaries. The salaries of the teachers should not be a factor of generalization and may be affected by different socio and economic aspects. Another important study explored the impact of demographic characteristics such as age, gender, qualifications, experience, and marital status on teaching aptitude [10]. A study conducted in the Gurugram and Mewat districts of Haryana reported average teaching aptitude in teacher trainees, and no significant difference was observed between age and teaching aptitude

[11]. After the covid-19 pandemic, comprehensive variations were revealed in teaching methods and technologies used for online and offline teaching. In this context, teachers' self-innovativeness plays a crucial role in teaching effectiveness [12]. Therefore, the aged teacher may find it difficult to manage with the latest pedagogical technologies.

Earlier studies have evident the lack of assessment of teaching aptitude in the physical education domain. The relationship between, teaching aptitude, personality traits, and demographical variables such as age, sex, region, etc. is still not clear. Finally, there is a need for more research on how teaching aptitude relates to different psychological and chronological factors. With this point of view, the present study has been designed to explore the potential relationship between teaching aptitude, self-efficacy, personality, and age as a chronological factor.

Material and Methods

Participants

Participants were 283 Physical Education teachers including 202 males (71.4%) and 81 females (28.6%) working in government and private schools located in rural and urban regions of Haryana province. A Total of 150 schools from six administrative divisions of Haryana were selected through cluster random sampling. The mean age of the male teachers was 38.06 years and female teachers was 33.48 years. To identify the protentional factors affecting teaching effectiveness subjects were further categorized into age groups, gender, grade, nature of the job, school type, and school location respectively. The detailed demographic information of the subjects was depicted in Table 1.

Study Design

Teaching effectiveness was assessed through Teaching Aptitude Test (TAT) developed and standardized by S. C.-Gakhar and Rajnish [13]. The following test contains 35 statements in respect of teaching aptitude where four alternative answers have been given for each statement and only one answer was correct. The teaching aptitude test was developed on 400 prospective school teachers and the reliability and validity were found to be 0.78 and 0.68 as well. The normative reference values were provided by the authors in the manual to find out the status of Teaching Aptitude. The obtained score ranged from 0 to 35 and indicated seven categories of Teaching Aptitude i.e., < 12 = very low teaching aptitude, 13 – 16 = low teaching aptitude, 17 – 20 = below average teaching aptitude, 21 – 24 = average teaching aptitude, 28 – 25 = above average teaching aptitude, 29 – 32 = high teaching aptitude, 33 < very high teaching aptitude.

The NEO-FFI (NEO = Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, FFI = Five-factor inventory) consists of 60 items designed to assess the Big Five personality traits. It is the most widely used and robust measure of personality traits with sound psychometric properties established by previous researchers [14]. In the present study, the Cronbach alpha values for each subscale's internal consistency were as follows: .84 (neuroticism), .74 (extraversion), .68 (openness), .74 (agreeableness), and .83 (conscientiousness).

The inventory developed by Schwarzer and Jerusalem in 1995 [15] was used to assess the general self-efficacy of the participants. The inventory consists of 10 statements in the context of general

Table 1. Demographic Profile and mean difference among potential factors affecting teaching aptitude of Physical Education Teachers

Factors	Groups	N	Mean	Df	t/F	Sig. (Two-Tailed)
Age	20 – 29 Y	76	17.24	3 (279)	19.390	.000
	30 – 39 Y	93	13.62			
	40 – 49 Y	98	9.37			
	50 – 59 Y	16	15.75			
Gender	Male	202	12.97	281	.946	.345
	Female	81	13.91			
Grade/Level	TGT*	75	15.92	281	3.646	.000
	PGT*	208	12.27			
Job Status	Regular	139	12.71	281	1.151	.251
	Temporary	144	13.75			
School Type	Govt.	121	11.93	281	2.528	.012
	Private	162	14.22			
School Location	Rural	207	12.89	281	1.288	.199
	Urban	76	14.20			

TGT* - Trained Graduate Teacher; PGT* - Post Graduate Teacher

self-efficacy. General self-efficacy is related to emotion, optimism, and work satisfaction. Negative coefficients were found for depression, stress, health complaints, burnout and anxiety. The statements were scored in a 4-point Likert scale ranging, “Not at all – 1, Hardly true – 2, Moderately True – 3, Exactly True – 4”. The total score was calculated by finding the sum of all items. For the GSE (General Self-efficacy) the total score ranged between 10 to 40. A higher score indicates more self-efficacy.

Statistical analysis

All statistical calculations were carried out using the IBM SPSS 26 (IBM, Armonk, NY, USA) statistical package. The arithmetic mean was used as descriptive statistics. Independent sample t-test and one-way analysis of variance (ANOVA) were used to calculate significant mean differences among the selected groups. Karl Pearson’s correlation coefficient was calculated to find out the relationship between variables. Further, multiple regression was performed to explain the variation in the dependent variable (Teaching Aptitude) by independent variables. Hierarchical regression was used to examine the unique contribution of each predictor variable to the dependent variable, after controlling for the effects of all other predictor variables in the model.

Mediating effects (indirect relationship) of personality factors were analyzed through path analysis using Analysis of Moment Structures (AMOS) and a model has been prepared including the dependent variable (Teaching aptitude), independent variable (age), and mediator (personality traits). The level of significance was 0.05 respectively.

Results

One-way analysis of variance was used to compare the mean score of teaching aptitude among different age groups (See Table 1). Results revealed significant differences [$F(3, 279) = 19.390, p < 0.05$]

between the age groups in their teaching aptitude. The mean values indicate a high score of teaching aptitude in the 20 – 29 years age group. Teaching aptitude is decreasing with age. In reference to the 20 – 29 year of age group, a higher mean difference (MD = 8.27) was reported in 40 – 49 years of age group.

In the case of different grades of the school teachers i.e., TGT (Trained Graduate Teacher) and PGT (Post Graduate Teacher), a higher mean ($t = 3.346, df = 281, p < 0.05$) was observed in TGT grade teachers. Teachers who were working in private schools reported higher teaching aptitude ($t = 2.528, df = 281, p < 0.05$) than their government schools’ counterparts. No significant difference was observed between male vs. female Teachers, regular vs. temporary teachers, and teachers working in rural and urban school locations.

Table 2 and Table 3 explore the correlation matrix of both genders among teaching aptitude, age, teaching experience, General Self-Efficacy, and Big-five personality factors. Correlation analysis indicates a number of significant relationships. Specifically, consistent with our hypothetical model and predictions, age was negatively correlated (male, $r = -.296$, female, $r = -.431$) with teaching aptitude. Teaching experience is also negatively (male, $r = -.343$, Female, $r = -.326$) correlated with teaching aptitude. Teaching aptitude is positively correlated with Extraversion, openness, agreeableness, and conscientiousness. Neuroticism was negatively (male, $r = -.408$, female, $r = -.399$) correlated with teaching aptitude.

We first examine the extent to which the Big Five personality traits predicted teaching aptitude (Table 4). The Big Five personality traits collectively explained 42.8% of the variance in teaching aptitude. Agreeableness solely explained 30% variance in teaching aptitude. Neuroticism explained 7.4% variance. Conscientiousness and Extraversion explained 4.3% and 1.2% variance as well. Openness was significantly correlated with teaching aptitude

Table 2. Correlation Matrix Male

Variables	TAT	Age	Ex.	GSC	E	N	O	A	C
TAT	1	-.296**	-.343**	.077	.268**	-.408**	.213**	.567**	.479**
Age	-.296**	1	.889**	-.043	-.109	.131	-.007	-.138	-.168*
Ex.	-.343**	.889**	1	-.043	-.136	.148*	.006	-.141*	-.161*
GSC	.077	-.043	-.043	1	.254**	-.081	.142*	-.006	.206**
E	.268**	-.109	-.136	.254**	1	-.117	.268**	.135	.257**
N	-.408**	.131	.148*	-.081	-.117	1	-.147*	-.251**	-.193**
O	.213**	-.007	.006	.142*	.268**	-.147*	1	.252**	.313**
A	.567**	-.138	-.141*	-.006	.135	-.251**	.252**	1	.502**
C	.479**	-.168*	-.161*	.206**	.257**	-.193**	.313**	.502**	1

TAT - Teaching Aptitude Test, Ex. - Teaching Experience, GSC - General Self-Efficacy, E - Extraversion, N - Neuroticism, O - Openness, A - Agreeableness, C - Conscientiousness; * $p < 0.05$; ** $p < 0.01$

(Table 2 and Table 3) but did not predict variance in regression analysis and was removed from the model.

In Table 5 hierarchical regression was used to examine the unique contribution of each predictor variable to the dependent variable, after controlling for the effects of all other predictor variables in the model. After controlling the effects of personality traits, the obtained value of R² was .429 respectively. In the second block, the age explains 2.6% (R² = .454) additional variance (see R square changed in Table 5) and it was significant at 0.05 level of significance. In the 3rd block, variance by gender as a predictor was analyzed. The values of R square change (.004) did not explain significant additional variance in the dependent variable after controlling the other predictors.

To obtain a deeper understanding of the intricate relationship between personality traits and age as predictors of teaching aptitude, we investigated the extent to which personality traits mediate the relationship between age and teaching aptitude using Analysis of Moment Structures (AMOS). Results showed that the direct relationship (beta = -.31, p < 0.05) between age and teaching aptitude was statistically significant. In particular, when personality traits were included, the relationship between age and teaching aptitude was significantly reduced from -.31 to -.18 respectively (See Figure 1).

Furthermore, the changes in teaching aptitude with reference to age were illustrated in Figure 2 respectively. It was clearly depicted in Figure 2 that score of teaching aptitude was gradually decreasing with age and the lowest teaching aptitude was

Table 3. Correlation Matrix Female

Variables	TAT	Age	Ex.	GSC	E	N	O	A	C
TAT	1	-.431**	-.326**	.101	.362**	-.399**	.483**	.510**	.410**
Age	-.431**	1	.884**	-.049	-.237*	.223*	-.233*	-.333**	-.312**
Ex.	-.326**	.884**	1	.083	-.175	.238*	-.202	-.221	-.265*
GSC	.101	-.049	.083	1	.319**	-.256*	.202	-.076	.351**
E	.362**	-.237*	-.175	.319**	1	-.379**	.573**	.244*	.526**
N	-.399**	.223*	.238*	-.256*	-.379**	1	-.417**	-.275*	-.427**
O	.483**	-.233*	-.202	.202	.573**	-.417**	1	.411**	.453**
A	.510**	-.333**	-.221	-.076	.244*	-.275*	.411**	1	.248*
C	.410**	-.312**	-.265*	.351**	.526**	-.427**	.453**	.248*	1

TAT - Teaching Aptitude Test, Ex. - Teaching Experience, GSC - General Self-Efficacy, E - Extraversion, N - Neuroticism, O - Openness, A - Agreeableness, C - Conscientiousness; * p < 0.05; ** p < 0.01

Table 4. Multiple regression using the stepwise method

z	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.548 ^a	.300	.297	6.357	.300	120.322	1	281	.000
2	.612 ^b	.374	.370	6.022	.074	33.185	1	280	.000
3	.645 ^c	.417	.410	5.824	.043	20.394	1	279	.000
4	.654 ^d	.428	.420	5.776	.012	5.646	1	278	.018

^a. Predictors: (Constant), Agreeableness; ^b. Predictors: (Constant), Agreeableness, Neuroticism; ^c. Predictors: (Constant), Agreeableness, Neuroticism, Conscientiousness; ^d. Predictors: (Constant), Agreeableness, Neuroticism, Conscientiousness, Extraversion

Table 5. Hierarchical Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.655 ^a	.429	.418	5.784	.429	41.577	5	277	.000
2	.674 ^b	.454	.443	5.663	.026	12.974	1	276	.000
3	.677 ^c	.459	.445	5.650	.004	2.223	1	275	.137

^a. Predictors: (Constant), Conscientiousness, Neuroticism, Extraversion, Agreeableness, Openness; ^b. Predictors: (Constant), Conscientiousness, Neuroticism, Extraversion, Agreeableness, Openness, Age; ^c. Predictors: (Constant), Conscientiousness, Neuroticism, Extraversion, Agreeableness, Openness, Age, Gender

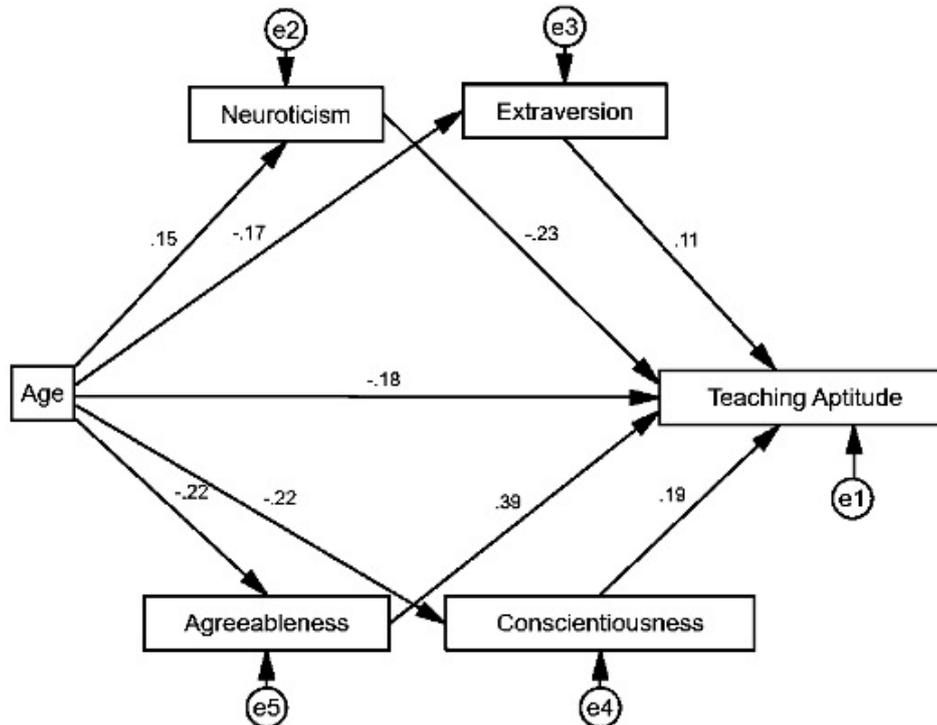


Figure 1. Age and teaching aptitude partially mediated by personality traits

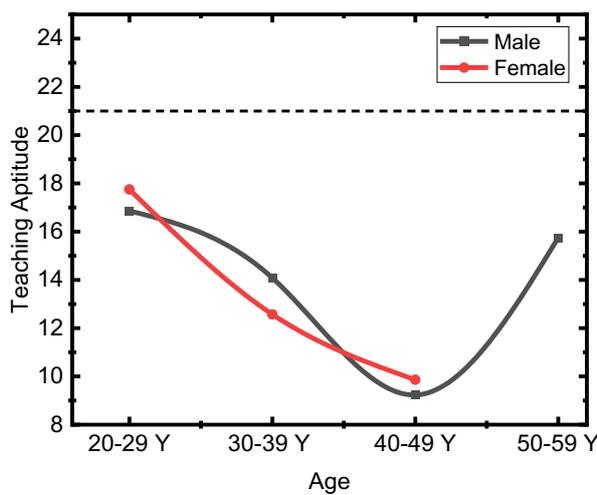


Figure 2. Line graph showing Mean values of Teaching Aptitude in each age group including the reference line (dotted line at 21) which indicates the average score of teaching aptitude given in TAT manual.

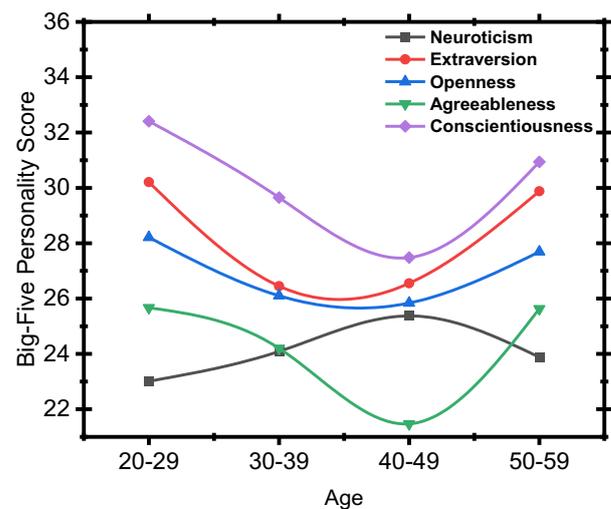


Figure 3. Dynamic changes in personality traits within age

reported at the age of 40 – 49 years, after that a slight uplift was observed at the age of 50 – 59 years as well. A similar pattern was observed in respect of personality traits with reference to the age of the school teachers. Figure 3 revealed the dynamic changes in personality traits.

Discussion

The results of this study established a number of interesting linkage between age, personality and teaching aptitude. Taken as a whole, these findings yield a number of insights with potential practical

implications on the dynamic interplay between personality and teaching aptitude, as well as on their joint influence on academic development.

First, we examine the potential factors affecting teaching aptitude i.e., age groups, gender, grade\level, job status, school types and school location. Some factors were significantly associated with teaching aptitude. Interestingly, a significant difference was noticed among selected age groups in their teaching aptitude. Teaching aptitude decreased as age increased (Figure 2). Lowest teaching aptitude was reported in 40 to 49 of age

group and a significant increase was reported after age 50 as well. Several studies have been conducted to investigate the relationship between age and teaching aptitude. One such study conducted by Saravanan and Sivasubramanian [16] on a sample of 120 teachers in India revealed that teaching aptitude decreases with age. The study found that older teachers were less enthusiastic about teaching, had lower levels of self-confidence, and showed less creativity in their teaching methods.

Another study conducted [17] on a sample of 150 teachers in India found that older teachers had lower levels of job satisfaction, which was directly linked to their decreasing teaching aptitude. The study found that as teachers aged, they experienced burnout, which negatively affected their teaching aptitude. These findings are supported by other studies conducted in different countries. A study conducted by Sternberg and Williams [18] on a sample of American teachers found that older teachers had lower levels of creativity and innovation in their teaching methods. Similarly, a study conducted by Tamir [19] on a sample of Israeli teachers found that older teachers had less enthusiasm for teaching and were less likely to try new teaching methods.

No significant difference was observed between male and female school teachers in their teaching aptitude. The location of the school (rural or urban), and job status whether regular or temporary have not significant effect on the teaching aptitude of the physical education teachers.

Second, regarding the correlation between teaching aptitude and other parameters, general self-efficacy did not have a significant association with teaching aptitude. As reported earlier, age was negatively correlated with teaching aptitude. personality results have several significant implications for teachers. Perhaps most notably, our results establish that being Neuroticism is critical for teaching performance. Other personality traits such as Extraversion, Openness, Agreeableness and Conscientiousness were positively related to teaching aptitude. Thus, having these personality traits facilitate a variety of effective teaching strategies and may be especially useful traits for attaining high levels of academic achievement.

Research has shown that certain Big Five personality traits are more strongly associated with teaching aptitude than others. Here are some findings:

Openness to experience: This trait is associated with creativity, imagination, and an interest in new ideas. Teachers high in openness to experience are more likely to use innovative teaching methods and adapt to changes in the education system. Studies have found a positive correlation between openness to experience and teaching aptitude [20].

Conscientiousness: This trait is associated with responsibility, attention to detail, and goal-directed

behavior. Teachers high in conscientiousness are more likely to be organized, prepared, and reliable. Studies have found a positive correlation between conscientiousness and teaching aptitude [21].

Extraversion: This trait is associated with sociability, assertiveness, and positive emotions. Teachers high in extraversion are more likely to engage students in classroom discussions, provide feedback, and create a positive classroom environment. Studies have found a positive correlation between extraversion and teaching aptitude [22].

Agreeableness: This trait is associated with cooperation, empathy, and interpersonal harmony. Teachers high in agreeableness are more likely to create a supportive and respectful classroom environment. Studies have found a positive correlation between agreeableness and teaching aptitude [23, 24].

Neuroticism: This trait is associated with emotional instability, anxiety, and vulnerability to stress. Teachers high in neuroticism are more likely to experience burnout and have lower job satisfaction. Studies have found a negative correlation between neuroticism and teaching aptitude [25].

But, when we examined the relationship between age and personality traits, we found that Extraversion, Openness, Agreeableness, and Conscientiousness were negatively related to age, while, Neuroticism was positively related to age. All the personality traits which positively related to teaching aptitude were decreasing as age increased. The dynamic changes in personality traits in reference to the age of the school teachers were illustrated in Figure 3 respectively. Except for neuroticism, the mean score of all personality traits were decreasing lowest at 40 – 49 years of age.

Finally, the mediation analysis was performed using personality traits as mediator between age and teaching aptitude. As shown in Figure 1 the beta coefficient between age (independent variable) and teaching aptitude (dependent variables) was reduced -.31 to -.18 after mediating by personality traits. Therefore, a partially mediating effects of personality traits were observed on age and teaching aptitude. In addition, age was positively correlated to Neuroticism. While Neuroticism has a negative impact on teaching aptitude. therefore, teaching aptitude is decreasing with age.

Implications

The decreasing teaching aptitude with age has significant implications on the education system. Older teachers are often assigned to teach senior classes, which require a higher level of creativity and innovation. If these teachers lack the necessary teaching aptitude, students may become disinterested in their lessons, leading to a decline in academic performance.

Furthermore, older teachers may struggle to adapt to new teaching methods and technologies, which are essential in today's education system. As a result, they may become less effective in their teaching and fail to meet the evolving needs of their students.

Conclusion

In conclusion, teaching aptitude decreases with age, which has significant implications on the education system. It is essential to identify the factors contributing to this phenomenon and

develop strategies to mitigate its effects. This could include providing professional development opportunities for older teachers, mentoring programs, and encouraging them to incorporate new teaching methods and technologies in their lessons. By doing so, we can ensure that teachers of all ages are equipped with the necessary skills and aptitude to provide high-quality education to their students.

Conflict of Interest

No Conflict of Interest was declared among the authors.

References

- Chan S, Maneewan S, Koul R. An examination of the relationship between the perceived instructional behaviors of teacher educators and pre-service teachers' learning motivation and teaching self-efficacy. *Educ Rev (Birm)*. 2023;75(2):264–86. <https://doi.org/10.1080/00131911.2021.1916440>
- Gilpin GA. Teacher salaries and teacher aptitude: An analysis using quantile regressions. *Economics of Education Review*, 2012;31(3):15–29. <https://doi.org/10.1016/j.econedurev.2012.01.003>
- Stronge JH. *Qualities of effective teachers*. Ascd; 2018.
- Kandwal V, Muddgal A, Shukla NK. Demystifying the Relationship between Teaching Aptitude and Aggressive Behavior among Pre-Service Teachers for Quality Education. *Journal for Reattach Therapy and Developmental Diversities*, 2023;6(1s):114–24. <https://doi.org/10.52783/jrtdd.v6i1s.235>
- Yu X, Wang P, Zhai X, Dai H, Yang Q. The effect of work stress on job burnout among teachers: The mediating role of self-efficacy. *Soc Indic Res*. 2015; 122:701–8. <https://doi.org/10.1007/s11205-014-0716-5>
- Bertills K, Granlund M, Dahlström Ö, Augustine L. Relationships between physical education (PE) teaching and student self-efficacy, aptitude to participate in PE and functional skills: with a special focus on students with disabilities. *Physical Education and Sport Pedagogy*, 2018;23(4):387–401. <https://doi.org/10.1080/17408989.2018.1441394>
- Hoxby CM, Leigh A. Pulled away or pushed out? Explaining the decline of teacher aptitude in the United States. *American Economic Review*, 2004; 94:236–40. <https://doi.org/10.1257/0002828041302073>
- Leigh A. Teacher pay and teacher aptitude. *Econ Educ Rev*, 2012;31:41–53. <https://doi.org/10.1016/j.econedurev.2012.02.001>
- Gilpin G, Kaganovich M. The quantity and quality of teachers: Dynamics of the trade-off. *J Public Econ*, 2012;96:417–29. <https://doi.org/10.1016/j.jpubeco.2011.10.003>
- Mishra P, Adholiya A. *Impact of Demographic Characteristics on Teaching Aptitude and Effectiveness in the Primary Level Teachers of Government and Private Schools of Udaipur and Pratapgarh District of Rajasthan*. UNNATI n.d.:10; 2016.
- Chugh D. Do the future teachers of Haryana have the aptitude to teach? *Researching Reality Internship*, 2012:1–38. <https://doi.org/10.2139/ssrn.2116613>
- Vidergor HE. The effect of teachers' self-innovativeness on accountability, distance learning self-efficacy, and teaching practices. *Comput Educ*, 2023;199:104777. <https://doi.org/10.1016/j.compedu.2023.104777>
- Gakhar SC, Rajnish. *Teaching Aptitude Test. National Psychological Corporation* [Internet]; 2022 [cited 2023 May 6]. Available from: <https://www.npcindia.com/about>
- Costa PT, McCrae RR. *NEO five-factor inventory (NEO-FFI)*. Odessa, FL: Psychological Assessment Resources; 1989.
- Schwarzer R, Jerusalem M. *General Self-Efficacy Scale*. 2012. <https://doi.org/10.1037/t00393-000>
- Sivasubramanian R, Sridharan R, Saravanan SS. Indian higher education: A students' perspective. In: *2013 IEEE International Conference in MOOC, Innovation and Technology in Education (MITE)*. IEEE; 2013. P. 357–61. <https://doi.org/10.1109/mite.2013.6756367>
- Rajput JS, Walia K. Assessing teacher effectiveness in India: overview and critical appraisal. *Prospects*, 1998;28(1): 135–150. <https://doi.org/10.1007/bf02737785>
- Sternberg RJ. Raising the achievement of all students: Teaching for successful intelligence. *Educ Psychol Rev*. 2002;14:383–93. <https://doi.org/10.1023/A:1020601027773>
- Tamir E. Teacher education in a new age of accountability: how can programs develop responsible and valuable self-assessment. *The New Educator*, 2021;17(2):119–40. <https://doi.org/10.1080/1547688x.2020.1779889>
- Kim LE, Jörg V, Klassen RM. A meta-analysis of the effects of teacher personality on teacher effectiveness and burnout. *Educ Psychol Rev*. 2019;31:163–95. <https://doi.org/10.1007/s10648-018-9458-2>
- Kim S. Investigation of various reliability indices of pre-service mathematics teachers' teaching aptitude and personality test based on setting cut scores. *The Mathematical Education*, 2018;57(1):55–74.
- Kim LE, Dar-Nimrod I, MacCann C. Teacher

- personality and teacher effectiveness in secondary school: Personality predicts teacher support and student self-efficacy but not academic achievement. *J Educ Psychol.* 2018;110(3):309. <https://doi.org/10.1037/edu0000217>
23. MacIntyre PD, Ross J, Talbot K, Mercer S, Gregersen T, Banga CA. Stressors, personality and wellbeing among language teachers. *System*, 2019;82:26–38. <https://doi.org/10.1016/j.system.2019.02.013>
24. Perera HN, Granziera H, McIlveen P. Profiles of teacher personality and relations with teacher self-efficacy, work engagement, and job satisfaction. *Pers Individ Dif.* 2018;120:171–8. <https://doi.org/10.1016/j.paid.2017.08.034>
25. Cuartero N, Tur AM. Emotional intelligence, resilience and personality traits neuroticism and extraversion: predictive capacity in perceived academic efficacy. *Nurse Educ Today.* 2021;102:104933. <https://doi.org/10.1016/j.nedt.2021.104933>
-

Information about the authors:

Bijender; Research Scholar; <https://orcid.org/0009-0000-7902-3675>; Bhooda1982@gmail.com; Department of Physical Education, Chaudhary Ranbir Singh University; Jind, Haryana, India.

Kuldeep Nara; (Corresponding Author); <https://orcid.org/0000-0002-2722-8350>; kuldeepnara@crsu.ac.in; Department of Physical Education, Chaudhary Ranbir Singh University; Jind, Haryana, India.

Parveen Kumar; <https://orcid.org/0000-0002-3580-7854>; parveenkumar@crsu.ac.in; Department of Physical Education, Chaudhary Ranbir Singh University; Jind, Haryana, India.

Cite this article as:

Bijender, Nara K, Kuma P. Aging, personality, and teaching aptitude in school grade physical education teachers. *Pedagogy of Physical Culture and Sports*, 2023;27(4):297–304. <https://doi.org/10.15561/26649837.2023.0405>

This is an Open Access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited (<http://creativecommons.org/licenses/by/4.0/deed.en>).

Received: 24.05.2023

Accepted: 26.06.2023; Published: 30.08.2023