Self-Paced Virtual Training and Discretionary Work Behaviour: Evidence from Deposit Money Banks in Bayelsa State, Nigeria

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DOI: https://doi.org/10.47772/IJRISS.2026.101000816

Received: 22 October 2026; Accepted: 27 October 2026; Published: 18 November 2026

ABSTRACT

Self-paced online modules let bank employees learn when and how fast they choose, fitting training around the demands of a busy branch. Whether this flexibility is related to discretionary work behaviour has received little attention, particularly in Nigeria. This study examined the relationship between self-paced virtual training and five dimensions of organisational citizenship behaviour (OCB): conscientiousness, civic virtue, courtesy, sportsmanship and altruism. A cross-sectional survey was conducted in the seventeen deposit money banks in Yenagoa, Bayelsa State. From a population of 620 employees, a sample of 238 was drawn with the Krejcie and Morgan table and Bowley's proportional allocation, and 194 usable responses (81.5%) were analysed with Pearson's correlation in SPSS version 26. Self-paced training was positively and significantly related to every dimension ($p < .001$), with zero-order correlations from $r = 0.901$ (civic virtue) to $r = 0.964$ (altruism). Because correlations of this size are rare in organisational research, the data were examined for common method variance and discriminant validity. A single factor accounted for 93.9% of the variance among the six construct scores, full-collinearity variance inflation factors ranged from 12.3 to 42.3, and correlations corrected for unreliability reached or exceeded 1.0. These results indicate substantial shared method variance and limited discrimination between the training and OCB measures. After the conservative Lindell–Whitney marker adjustment, the relationships with altruism ($r = 0.654$), conscientiousness ($r = 0.635$), sportsmanship ($r = 0.452$) and courtesy ($r = 0.404$) remained significant ($p < .001$), but the relationship with civic virtue did not ($r = 0.048$, $p = .507$). Hypotheses H1, H3, H4 and H5 were therefore robustly supported and H2 only at the zero-order level. Altruism and conscientiousness were the dimensions most closely related to self-paced training, and both were significantly more strongly related to it than civic virtue was. The findings suggest that self-paced training is associated mainly with the competence-based and self-regulatory sides of citizenship. They also show why studies reporting correlations above 0.90 should test for common method variance before interpreting them.

Keywords: self-paced learning; virtual training; organisational citizenship behaviour; common method variance; discriminant validity; deposit money banks; Nigeria

INTRODUCTION

Bank work in Nigeria has two sides. One is formal and measurable: transactions processed, accounts opened, targets met, regulations followed. The other is informal and discretionary. It includes the colleague who explains a new procedure to someone who missed the briefing, the officer who double-checks figures although no one will notice, the teller who absorbs a system outage without complaint, and the staff member who keeps up with policy changes because she wants the branch to do well. Organ (1988) called this second side organisational citizenship behaviour (OCB): behaviour that is not formally required or directly rewarded but that, in the aggregate, helps the organisation function. The evidence that it matters is substantial. Meta-analyses link OCB to performance ratings, reward allocation, productivity, efficiency, customer satisfaction and lower turnover (Podsakoff et al., 2000; Podsakoff et al., 2009).

Studies in banking show the same pattern. In Pakistan, altruism, conscientiousness and civic virtue predicted overall OCB among bank employees (Bukhari, 2008), and citizenship behaviour influenced the rewards employees received (Alkahtani, 2015). In Bangladesh, perceived training was the strongest predictor of OCB

among commercial bank staff (Tanchi et al., 2025). In Nigeria, employees went the extra mile when they believed their organisations acted responsibly (Onyishi et al., 2020). Taken together, this work suggests that what banks do for their employees, including how they train them, can shape what employees choose to do for the bank.

Training itself is changing. Alongside live webinars and virtual classrooms, banks increasingly use self-paced virtual training: online modules, videos and assessments that employees complete alone, at a time and speed that suits them. Self-paced training is attractive for organisations because it is scalable and cheap to repeat. It is attractive for employees because it does not require them to leave the counter at a fixed hour. Research on computer-based and web-based training shows that it can be as effective as classroom instruction for knowledge outcomes. The results depend heavily on how much control learners are given and how actively they engage (Brown, 2001; Derouin et al., 2005; Sitzmann et al., 2006). Evidence from workplace programmes shows that self-paced modules can build knowledge, confidence and safer behaviour among employees (Abbott et al., 2022; Mungo, 2024).

Yet two gaps remain. First, most research on self-paced training measures what employees learn, not how they behave towards their colleagues and their organisation afterwards. Kraiger et al. (1993) argued long ago that training outcomes include affective and motivational changes as well as knowledge and skill, but citizenship behaviour has rarely been treated as one of those outcomes. Second, studies linking training to OCB tend to treat training as a single, general activity (Ahmad, 2011; Jehanzeb, 2020; Ting et al., 2024) without asking whether a particular delivery format is related to particular kinds of citizenship. The format matters because self-paced training is distinctive: it removes the instructor and the peer group and places the burden of learning on the individual. If it is related to OCB, the reasons are likely to differ from those that apply to live, interactive formats.

Bayelsa State offers a useful setting in which to examine these questions. Its capital, Yenagoa, hosts branches of most Nigerian deposit money banks, yet the state contends with infrastructure constraints, including unstable electricity and uneven internet access, that complicate online learning across much of Africa (Adeniyi et al., 2024). Self-paced modules are, in principle, well suited to such conditions, because employees can complete them whenever power and connectivity allow. Whether employees in this setting experience self-paced training as an investment in them, and whether that experience is related to their discretionary behaviour, is an open empirical question.

This article reports one part of a larger study of virtual training and OCB in Bayelsa State's deposit money banks. It asks how strongly self-paced virtual training is related to each of the five OCB dimensions described by Organ (1988) and measured by Podsakoff et al. (1990). The article makes three contributions. It provides sector-specific evidence from Nigerian banking on a training format that is growing quickly but has rarely been studied in relation to OCB. It shows that self-paced training is related to all five dimensions with remarkable evenness, a pattern that points to a common underlying mechanism. It also tests whether these very strong correlations survive checks for common method variance, and it considers carefully whether the relationship runs from training to behaviour, from behaviour to training, or both.

LITERATURE REVIEW AND HYPOTHESES

Self-Paced Virtual Training

Self-paced virtual training is an asynchronous form of online learning. Employees access structured modules, such as text, video, simulations and quizzes, through a learning platform and work through them on their own schedule. There is no live instructor and no fixed class time. This distinguishes it from webinars and virtual classrooms, in which learners and facilitators meet in real time. In the terms used by Brown (2001), self-paced training gives learners a high degree of control over the pace, sequence and timing of instruction.

Learner control is a double-edged feature. On the positive side, employees can slow down for difficult material, repeat sections, skip what they already know and fit learning around peak hours at the branch. A large meta-analysis found that web-based instruction was slightly more effective than classroom instruction for

declarative knowledge when learners were given control and when the course included practice and feedback (Sitzmann et al., 2006). On the negative side, learner control places heavy demands on self-regulation. Brown (2001) found that employees given control over computer-based training often skipped practice and spent less time on the material, which reduced learning. Studies of self-paced interactive tutorials report the same difficulty: the materials worked well for those who used them fully, but many learners struggled to stay engaged without external structure (DeVore et al., 2016).

Self-regulated learning research explains the difference between learners who thrive and those who struggle. Zimmerman (2002) describes self-regulated learners as people who set goals, plan their time, monitor their progress and reflect on their performance. A systematic review of online higher education found that time management, metacognition, effort regulation and critical thinking were the strategies most strongly associated with achievement (Broadbent & Poon, 2015). Personality plays a part too. Conscientious students perform better in hybrid and online courses and engage more consistently in virtual classes (Abzug, 2015; Audet et al., 2023). Conscientiousness also predicts self-leadership behaviours such as goal setting and self-monitoring at work (Junça-Silva & Camaz, 2023). Self-paced training, in other words, both demands and rewards the qualities that define conscientious employees.

In organisational settings, self-paced modules have produced measurable change. Retail employees who completed self-paced cybersecurity training became better at recognising phishing attacks (Mungo, 2024). Healthcare staff who completed online emotion-focused communication modules gained knowledge and self-efficacy in difficult conversations with patients (Abbott et al., 2022). Final-year medical students who completed a compulsory online compassion module reported improvements in empathy and patient-centred attitudes (Didaskalu et al., 2026). A self-paced coding programme with community support increased confidence and willingness to collaborate (Reyes et al., 2022). Learner satisfaction with e-learning, in turn, depends on the perceived usefulness and ease of the system, the quality of the content and the learner's own computer confidence (Ruiz et al., 2006; Sun et al., 2008). In this study, self-paced virtual training is understood as employees' experience of their bank's asynchronous online modules and their perception that these modules are flexible, relevant, easy to understand and helpful for accuracy, responsibility and discipline at work.

Organisational Citizenship Behaviour

OCB refers to behaviour that goes beyond formal role requirements and supports the social and psychological context in which work is done (Organ, 1997, 2018). This study adopts the five-dimension model of Organ (1988) as measured by Podsakoff et al. (1990). *Conscientiousness* means going well beyond minimum requirements for care, punctuality and effort. *Civic virtue* means responsible involvement in the life of the organisation, such as keeping informed, attending meetings and respecting policies. *Courtesy* means preventing problems for others by sharing information and consulting before acting. *Sportsmanship* means tolerating minor inconveniences without complaint. *Altruism* means helping specific colleagues with work-related problems. Personality traits predict these behaviours only modestly (Chiaburu et al., 2011; Organ & Ryan, 1995). This leaves room for the work environment, including the training an organisation provides, to make a difference.

THEORETICAL FRAMEWORK

Three perspectives help explain why self-paced virtual training might be related to OCB. Each emphasises a different mechanism.

Self-determination theory. Deci and Ryan (2000) argue that people are most fully motivated when three basic needs are met: autonomy, the sense of choosing one's own actions; competence, the sense of being effective; and relatedness, the sense of connection to others. Self-paced training speaks directly to the first two. Employees decide when and how fast to learn, and well-designed modules let them master material at their own level. Behaviour that comes from autonomous motivation tends to be more persistent and more freely extended to others than behaviour driven by external pressure. OCB is, by definition, discretionary behaviour, and it is the kind of behaviour that autonomous motivation should support.

Social exchange and organisational support theory. Social exchange theory holds that benefits received create an obligation to reciprocate (Cropanzano & Mitchell, 2005). Organisational support theory applies this idea to the employment relationship. Employees who believe the organisation values their contribution and cares about their well-being repay it with commitment and extra-role effort (Eisenberger et al., 1986; Kurtessis et al., 2017; Rhoades & Eisenberger, 2002). Making relevant, flexible training available signals that the bank respects employees' time and wants them to grow. Engagement research shows that perceived support raises engagement, and that engagement is related to OCB (Saks, 2006). Trained skills are also more likely to be applied when the learner is motivated and the environment supports their use (Blume et al., 2010).

Technology acceptance model. Self-paced modules can only have these effects if employees actually use them. According to the technology acceptance model, use depends on how useful and how easy to use a system is perceived to be (Davis, 1989). Later extensions add facilitating conditions such as reliable access and support (Venkatesh et al., 2012). In Bayelsa State, these facilitating conditions cannot be taken for granted. Self-paced training may therefore be related to OCB mainly among employees who find it useful and accessible enough to complete.

Unlike webinars, self-paced training offers little opportunity for employees to observe and copy colleagues' behaviour during the session. If it is related to OCB, the link is therefore more likely to run through competence, autonomy and the sense of being invested in than through social modelling. This distinction shapes the hypotheses and the interpretation of the results.

Empirical Review and Hypotheses

Evidence linking training to OCB is consistent but general. Among Malaysian employees who worked mainly on computers, support for training, motivation to learn and the perceived benefits of training were correlated with most OCB components (Ahmad, 2011). Among Pakistani bank employees, employee development was strongly related to organisational commitment, which in turn was associated with citizenship behaviour (Jehanzeb, 2020). In a study of employees in the Industry 4.0 era, the transfer of training mediated the effects of psychological capital and engagement on OCB (Ting et al., 2024). Banking-specific evidence from Bangladesh found that perceived training had the strongest effect on OCB of the predictors examined (Tanchi et al., 2025). None of these studies isolated self-paced training, so the hypotheses below build on the general evidence and on the mechanisms set out above.

Self-paced training and conscientiousness. Completing modules without supervision requires the same planning, time management and persistence that define conscientious work (Broadbent & Poon, 2015; Zimmerman, 2002). Modules that clarify procedures also make accurate, careful work easier. The relationship may also run the other way, since conscientious employees are more likely to complete online learning (Abzug, 2015; Audet et al., 2023). Either way, a positive association is expected.

H1: There is a significant relationship between self-paced virtual training and conscientiousness among employees of deposit money banks in Bayelsa State.

Self-paced training and civic virtue. Modules on policies, compliance and products give employees the knowledge they need to follow organisational affairs and to contribute to them. Employees who feel the bank has invested in their development may also feel a stronger stake in its success.

H2: There is a significant relationship between self-paced virtual training and civic virtue among employees of deposit money banks in Bayelsa State.

Self-paced training and courtesy. Employees who understand procedures well make fewer errors that cause problems for colleagues further down the line. Modules that explain how work flows between units may also help employees anticipate how their actions affect others.

H3: There is a significant relationship between self-paced virtual training and courtesy among employees of deposit money banks in Bayelsa State.

Self-paced training and sportsmanship. Flexible training reduces one common source of workplace frustration: being pulled away from urgent work to attend a session at an inconvenient time. Employees who feel competent with new systems are also less likely to be upset by them.

H4: There is a significant relationship between self-paced virtual training and sportsmanship among employees of deposit money banks in Bayelsa State.

Self-paced training and altruism. Helping a colleague with a technical problem requires knowing the answer. Self-paced modules allow employees to build and revisit that knowledge until they are confident enough to share it. Evidence that online modules can strengthen empathy and confidence in difficult interactions suggests a further route to helping behaviour (Abbott et al., 2022; Didaskalu et al., 2026).

H5: There is a significant relationship between self-paced virtual training and altruism among employees of deposit money banks in Bayelsa State.

METHODOLOGY

Research Design

The study adopted a positivist orientation and a cross-sectional survey design (Creswell, 2014). Data were collected at one point in time using a structured questionnaire, and relationships between variables were assessed statistically. The design is appropriate for estimating the strength and direction of associations, but it cannot establish causal order.

Population, sample and sampling

The population consisted of 620 employees of the seventeen deposit money banks operating in Yenagoa, Bayelsa State, as reported by the banks' human resource departments. Employees fell into six job categories: managers (50), supervisors (89), executives (43), tellers (120), customer service officers (110) and marketing officers (208). The Krejcie and Morgan (1970) table gave a sample of 238. Bowley's (1926) proportional allocation then distributed this sample across categories: 19 managers, 34 supervisors, 17 executives, 46 tellers, 42 customer service officers and 80 marketing officers. Individual respondents within each category were chosen by simple random sampling.

Of the 238 questionnaires distributed, 211 were returned. Seventeen were incomplete or improperly completed and were set aside, leaving 194 usable questionnaires, a usable response rate of 81.5%.

Measures

All items used a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). **Self-paced virtual training** was measured with five items developed for the study from the e-learning literature (Ruiz et al., 2006; Sun et al., 2008). The items covered flexibility of pace, accuracy at work, responsibility for skill development, ease and relevance of content, and discipline and punctuality. The full wording appears in Table 3. **OCB** was measured with three items for each of the five dimensions, adapted from Podsakoff et al. (1990). Composite scores for each construct were calculated as the mean of its items.

Validity and Reliability

Face and content validity were established through review by the researcher's supervisor and experts in management sciences, who checked the clarity, wording and coverage of the items (Kimberlin & Winterstein, 2008; Taherdoost, 2016). Internal consistency was first assessed with Cronbach's alpha on a pilot sample of ten bank employees. All scales exceeded the 0.70 threshold recommended by Nunnally and Bernstein (1994) and Hair et al. (2019). A pilot of ten respondents is, however, far too small for stable reliability estimates; Johanson and Brooks (2010) recommend about 30 participants as a minimum for initial scale development. The imprecision is visible in the 95% confidence intervals for the pilot coefficients, calculated with the method of Feldt et al. (1987) and shown in Table 1. For sportsmanship, for example, the interval runs from 0.59 to 0.96.

Reliability was therefore also examined in the full sample of 194 respondents, using the correlations among the scale scores. The five OCB dimension scores were so closely related (mean inter-dimension r = 0.92) that, taken together as one OCB scale, they gave a standardised alpha of 0.98. This is far above any conventional threshold, but it is high for the wrong reason: it shows that respondents rated the five dimensions almost as if they were one behaviour. The issue is therefore not that the scales were unreliable but that they may not have been distinct, which is examined in Section 4.5. Table 1 summarises the reliability evidence.

Table 1 Reliability of the measurement scales

Construct	Items	Cronbach's α	95% CI for α	Assessment
Self-paced virtual training	5	0.911	0.78–0.98	Acceptable; imprecise
Conscientiousness	3	0.926	0.78–0.98	Acceptable; imprecise
Civic virtue	3	0.911	0.74–0.98	Acceptable; imprecise
Courtesy	3	0.966	0.90–0.99	High
Sportsmanship	3	0.860	0.59–0.96	CI lower bound below 0.70
Altruism	3	0.892	0.68–0.97	CI lower bound below 0.70
OCB composite of five dimensions (n = 194)	5	0.983[a]	–	Very high; dimensions overlap

Note. Coefficients for the six scales come from the pilot study (n = 10; SPSS version 26). Confidence intervals were calculated by the author with the method of Feldt et al. (1987). [a] Standardised alpha, calculated from the dimension correlations in the main survey (n = 194; Table 6). The 0.70 benchmark follows Nunnally and Bernstein (1994).

Data Collection and Analysis

Questionnaires were delivered by hand to employees at their branches with a covering letter explaining the purpose of the study and assuring confidentiality and voluntary participation. Demographic characteristics were summarised with frequencies and percentages, and the study variables with means and standard deviations. Hypotheses H1 to H5 were tested with Pearson's product-moment correlation in SPSS version 26 at the 0.05 significance level (two-tailed). Coefficients of 0.00–0.29 were treated as weak, 0.30–0.49 as moderate and 0.50 or above as strong. For each coefficient, the coefficient of determination (r^2) and a 95% confidence interval based on Fisher's z transformation are reported. Differences between the correlations of self-paced training with different OCB dimensions were tested with Williams' t for dependent correlations that share a variable (Steiger, 1980).

Treatment of Common Method Variance

All variables were measured with the same questionnaire, completed by the same respondents at the same time. This design is vulnerable to common method variance (CMV): variance that is due to the measurement method rather than to the constructs, which can inflate observed correlations (Podsakoff et al., 2003, 2012). Two procedural remedies were used. Respondents were assured of confidentiality, which reduces the pressure to give socially desirable answers, and the predictor and outcome items were placed under separate headings in the questionnaire. Because procedural remedies cannot remove CMV, four statistical checks were applied after data collection. First, Harman's single-factor test was applied to the correlation matrix of the six construct scores: if one unrotated factor accounts for more than half of the variance, CMV is likely to be a serious problem. Second, full-collinearity variance inflation factors (VIFs) were calculated for all six constructs; Kock (2015) treats values above 3.3 as a sign of pathological collinearity, which may arise from CMV. Third, the correlations were corrected for unreliability: a corrected correlation close to or above 1.0 means that two measures cannot be distinguished empirically. Fourth, the correlations were adjusted with the marker-variable technique of Lindell and Whitney (2001). No theoretically unrelated marker variable was included in the questionnaire, so, following their recommendation, the smallest correlation among the study variables (r = 0.896) was used as a conservative estimate of CMV. Harman's test is known to detect only severe CMV (Fuller et al., 2016), so these checks were interpreted together rather than separately.

RESULTS

Profile of Respondents

Table 2 describes the 194 respondents. Men made up 61.9% of the sample and women 38.1%. Almost all respondents were under 40 (92.3%) and held at least a first degree (92.3%), and most had no more than ten years of banking experience (82.0%). Tellers, customer service officers and marketing officers together accounted for 95.4% of respondents. The sample is therefore largely made up of young, well-educated frontline employees. They are the staff most likely to be assigned routine self-paced modules on compliance, products and systems, and also the staff with the least time to spare for fixed training sessions.

Table 2 Demographic profile of respondents (n = 194)

Variable	Category	Frequency	Percent
Gender	Male	120	61.9
	Female	74	38.1
Age (years)	20–29	89	45.9
	30–39	90	46.4
	40–49	9	4.6
	50 and above	6	3.1
Education	ND/Diploma	15	7.7
	B.Sc./B.A.	152	78.4
	M.Sc./MBA	21	10.8
	Ph.D.	6	3.1
Banking experience (years)	Less than 5	82	42.3
	5–10	77	39.7
	11–15	21	10.8
	16–20	9	4.6
	Above 20	5	2.6
Current position	Teller	68	35.1
	Customer service	53	27.3
	Marketing officer	64	33.0
	Supervisor	5	2.6
	Manager	2	1.0
	Executive	2	1.0

Source: Field survey, 2026.

Perceptions of Self-Paced Virtual Training

Table 3 shows that respondents generally viewed self-paced modules favourably. The composite mean was 3.99, and four of the five items scored close to or above 4.0. The highest-rated item was that modules available at any time encouraged employees to take responsibility for improving their skills (M = 4.20, SD = 0.61). Close behind were the ease and job relevance of the content (M = 4.15) and the ability to learn at a comfortable speed (M = 4.07). The lowest-rated item, by a clear margin, was that flexible completion had improved discipline and punctuality at work (M = 3.59, SD = 0.84). This item also had the widest spread of responses. Employees therefore credited self-paced training most with fostering ownership of their own development and least with changing their everyday work habits.

Table 3 Descriptive statistics for self-paced virtual training (n = 194)

Item	Min	Max	Mean	SD
The online training modules that I can complete at my own time allow me to learn at a comfortable speed.	2	5	4.0722	0.65574
I am able to complete my tasks more accurately after using the online	2	5	3.9433	0.78317

modules that can be studied at my own pace.				
Having online modules that I can learn from at any time encourages me to take responsibility for improving my skills.	3	5	4.2010	0.60721
The online modules provided by the organisation are easy to understand and relevant to my job duties.	3	5	4.1495	0.66233
Being able to complete the online modules at a time convenient for me has helped improve my discipline and punctuality at work.	2	5	3.5876	0.84255
Composite (mean of items)			3.9907	

Source: Field survey, 2026 (Table 4.7 of the thesis). Scale: 1 = strongly disagree, 5 = strongly agree.

Levels of organisational citizenship behaviour

Table 4 summarises the five OCB dimensions as composite means of their three items. All five were high, well above the scale midpoint. Sportsmanship scored highest, followed by courtesy and conscientiousness, while civic virtue and altruism were somewhat lower. Within altruism, assisting new employees to settle in had the lowest mean (3.84) and the widest variation (SD = 1.00) of any OCB item. Within civic virtue, attending meetings when required had the lowest mean (3.87).

Table 4 Composite means for the OCB dimensions (n = 194)

Dimension	Item means	Composite mean	Lowest-rated item
Sportsmanship	4.43, 4.10, 4.61	4.38	Positive attitude when things do not go my way (4.10)
Courtesy	4.25, 4.25, 4.25	4.25	All three items equal (4.25)
Conscientiousness	4.28, 4.07, 4.20	4.18	Tasks completed on time (4.07)
Civic virtue	4.12, 4.23, 3.87	4.07	Meetings attended when required (3.87)
Altruism	4.00, 3.84, 4.18	4.01	Assisting new employees to adjust (3.84)

Source: Field survey, 2026 (Tables 4.9–4.13 of the thesis). Composite means were calculated by the author as the average of the three item means.

Correlation Between Self-Paced Training and OCB

Table 5 reports the Pearson correlations between self-paced virtual training and each OCB dimension. All five were positive and significant at the 0.01 level. From strongest to weakest, they were altruism ($r = 0.964$), conscientiousness ($r = 0.962$), sportsmanship ($r = 0.943$), courtesy ($r = 0.938$) and civic virtue ($r = 0.901$). Every coefficient lies well inside the strong range. Equally notable is how close together they are: the difference between the strongest and weakest correlation is only 0.063. Self-paced training is thus associated with the whole OCB profile at a high level. The differences between the correlations were nonetheless meaningful. Williams' tests showed that the correlations with altruism and conscientiousness did not differ from each other ($t(191) = 0.38$, $p = .705$), but both were significantly larger than the correlation with civic virtue (altruism: $t(191) = 8.05$, $p < .001$; conscientiousness: $t(191) = 7.26$, $p < .001$). The correlations with courtesy ($t(191) = 3.67$, $p < .001$) and sportsmanship ($t(191) = 4.62$, $p < .001$) were also significantly larger than that with civic virtue.

Table 5 Correlation between self-paced virtual training and OCB dimensions (n = 194)

OCB dimension	Pearson r	95% CI	r^2	Sig. (2-tailed)
Altruism	0.964**	0.952–0.973	0.929	< .001
Conscientiousness	0.962**	0.950–0.971	0.925	< .001
Sportsmanship	0.943**	0.925–0.957	0.889	< .001
Courtesy	0.938**	0.918–0.953	0.880	< .001
Civic virtue	0.901**	0.871–0.925	0.812	< .001

** Significant at the 0.01 level (two-tailed). Correlations from SPSS output (Table 4.16 of the thesis); confidence intervals (Fisher's z) and r^2 calculated by the author. Dimensions are ordered from the strongest to the weakest correlation.

Common Method Variance and Discriminant Validity

Table 6 shows the full correlation matrix. Two features stand out. The OCB dimensions were very highly correlated with one another (r = 0.896 to 0.952), and for altruism, conscientiousness and sportsmanship the correlation with self-paced training was higher than the correlation with any other OCB dimension. In other words, the training measure was more closely related to these OCB dimensions than the OCB dimensions were to each other. This is a warning sign that the measures may not be capturing distinct constructs.

Table 6 Correlation matrix for self-paced training and the OCB dimensions (n = 194)

	1	**2**	**3**	**4**	**5**	**6**
1. Self-paced training	1					
2. Conscientiousness	.962	1				
3. Civic virtue	.901	.906	1			
4. Courtesy	.938	.952	.911	1		
5. Sportsmanship	.943	.896	.926	.917	1	
6. Altruism	.964	.942	.917	.921	.908	1

Note. All correlations significant at $p < .001$ (two-tailed). Source: SPSS output, Table 4.16 of the thesis.

The CMV diagnostics are summarised in Table 7. In Harman's test, a principal component analysis of the six-variable correlation matrix gave a first eigenvalue of 5.64, accounting for 93.9% of the variance, with a second eigenvalue of only 0.14 (2.3%). All six constructs loaded between 0.96 and 0.98 on the first component. Full-collinearity VIFs ranged from 12.3 (civic virtue) to 42.3 (self-paced training), far above Kock's (2015) threshold of 3.3. When the correlations were corrected for unreliability with the pilot alphas, the corrected correlations between self-paced training and the OCB dimensions ranged from 0.99 to 1.07. Taken together, these results show that a large general factor runs through the responses and that the self-paced training and OCB measures could not be distinguished empirically in this sample.

Table 7 Common method variance and discriminant validity diagnostics (n = 194)

Diagnostic	**Value**	**Benchmark**	**Interpretation**
Harman's single-factor test: variance explained by the first component	93.9%	Below 50%	Common method variance likely
First eigenvalue (second eigenvalue)	5.64 (0.14)	–	One dominant factor
Loadings on the first component	0.96 to 0.98	–	All constructs load equally
Full-collinearity VIF: self-paced training	42.3	3.3 or less	Severe collinearity
Full-collinearity VIF: OCB dimensions	12.3 to 23.7	3.3 or less	Severe collinearity
Correlation of training with OCB, corrected for unreliability	0.99 to 1.07	Below 0.85	Constructs not distinct

Note. All values calculated by the author from the correlation matrix in Table 6. VIF = diagonal element of the inverse correlation matrix (Kock, 2015). Corrected $r = r / \sqrt{(\alpha_1 \times \alpha_2)}$, using the alphas in Table 1; values above 1.0 occur when measures overlap or reliability is underestimated.

Table 8 shows the correlations after the Lindell and Whitney (2001) adjustment. Because the smallest correlation in the matrix (0.896) is itself between two self-reported OCB dimensions, it is likely to contain substantive as well as method variance, which makes this adjustment deliberately conservative. Even so, four of the five relationships remained positive and significant. The adjusted correlations were 0.654 for altruism,

0.635 for conscientiousness, 0.452 for sportsmanship and 0.404 for courtesy (all $p < .001$). The adjusted correlation for civic virtue fell to 0.048 and was not significant ($p = .507$).

Table 8 Zero-order and CMV-adjusted correlations between self-paced training and OCB

OCB dimension	Zero-order r	Adjusted r	t (df = 191)	p	Corrected for unreliability
Altruism	0.964	0.654	11.94	< .001	1.069
Conscientiousness	0.962	0.635	11.35	< .001	1.047
Sportsmanship	0.943	0.452	7.00	< .001	1.065
Courtesy	0.938	0.404	6.10	< .001	1.000
Civic virtue	0.901	0.048	0.67	.507	0.989

Note. Adjusted $r = (r - r_M) / (1 - r_M)$, with $r_M = 0.896$, the smallest correlation in Table 6 (Lindell & Whitney, 2001). Calculated by the author.

Test of Hypotheses

Table 9 summarises the decisions. At the zero-order level, every p-value was below 0.001, so each null hypothesis of no relationship was rejected. After the CMV adjustment, H1, H3, H4 and H5 remained supported, while H2 (civic virtue) was supported only at the zero-order level. The zero-order shared variance (r^2) should not be read as the proportion of OCB explained by training, because a large part of it reflects method variance.

Table 9 Summary of hypothesis tests

H	Relationship	r	p	CMV-adjusted r	Decision
H1	Self-paced training and conscientiousness	0.962	< .001	0.635	Supported
H2	Self-paced training and civic virtue	0.901	< .001	0.048 (n.s.)	Partly supported
H3	Self-paced training and courtesy	0.938	< .001	0.404	Supported
H4	Self-paced training and sportsmanship	0.943	< .001	0.452	Supported
H5	Self-paced training and altruism	0.964	< .001	0.654	Supported

Note. $n = 194$; two-tailed tests at $\alpha = 0.05$. Supported = significant at zero order and after CMV adjustment; partly supported = significant at zero order only.

H1 (conscientiousness). The relationship was very strong ($r = 0.962$, $p < .001$) and remained substantial after CMV adjustment ($r = 0.635$). Employees who rated self-paced modules more favourably also reported more careful work, timelier completion of tasks and greater willingness to put in extra effort.

H2 (civic virtue). The zero-order relationship was very strong ($r = 0.901$, $p < .001$), although it was the weakest of the five, and it did not survive the CMV adjustment ($r = 0.048$, $p = .507$). More favourable views of self-paced training went together with attention to organisational issues, respect for policies and attendance at meetings.

H3 (courtesy). The relationship was very strong ($r = 0.938$, $p < .001$) and moderate after CMV adjustment ($r = 0.404$). Favourable views of self-paced modules were associated with efforts to prevent misunderstandings, to share information that helps colleagues avoid mistakes and to remain polite.

H4 (sportsmanship). The relationship was very strong ($r = 0.943$, $p < .001$) and moderate after CMV adjustment ($r = 0.452$). Employees who valued self-paced training more also reported tolerating minor inconveniences, staying positive and avoiding a focus on small problems.

H5 (altruism). The relationship was the strongest observed ($r = 0.964$, $p < .001$) and remained the strongest after CMV adjustment ($r = 0.654$). Favourable perceptions of self-paced modules went hand in hand with helping overloaded colleagues, supporting new employees and assisting coworkers in difficulty.

DISCUSSION

The study asked how self-paced virtual training is related to the five dimensions of OCB among deposit money bank employees in Bayelsa State. All five hypotheses were supported at the zero-order level, with every correlation above 0.90. Three features of the result deserve attention: what the very high correlations can and cannot tell us, the prominence of altruism and conscientiousness, and the weakness of civic virtue once method variance is taken into account.

A Strong General Pattern

In the same survey, live webinar training showed a much wider spread of correlations with the OCB dimensions, from 0.711 for civic virtue to 0.950 for altruism. Self-paced training, by contrast, was related to every dimension at almost the same level (0.901 to 0.964). Part of this evenness is a product of the method. The CMV diagnostics show that a single factor accounted for almost all the variance in the construct scores, so the zero-order correlations largely reflect one general tendency to rate the training and one's own conduct favourably. Once that tendency is partly removed, the pattern is far less even (Table 8). Still, it is plausible that a substantive general mechanism also operates on citizenship behaviour as a whole. Self-determination theory points to a plausible common thread (Deci & Ryan, 2000). Self-paced modules give employees control over their learning, and well-designed content lets them master it. Autonomy and competence are general resources. An employee who feels capable and in charge of her own development has more to offer in every direction: more care in her own work, more knowledge to share, more patience with change and more confidence to take part in organisational life.

The descriptive data support this interpretation. The item respondents rated most highly was not about convenience but about responsibility: modules available at any time encouraged them to take ownership of their skills ($M = 4.20$). Social exchange and organisational support theory add a complementary explanation (Cropanzano & Mitchell, 2005; Kurtessis et al., 2017). Training that respects employees' time and helps them grow is a visible sign of investment, and employees may repay it with discretionary effort across the board rather than in one targeted area.

Altruism and conscientiousness: the robust core

Altruism ($r = 0.964$) and conscientiousness ($r = 0.962$) were the dimensions most closely related to self-paced training. They were also the two that remained strongest after the CMV adjustment (0.654 and 0.635), so this result is the most robust in the study. The altruism result is striking because self-paced training involves no colleagues: there is no group, no discussion and no one to model helping behaviour. If self-paced learning is related to helping, the mechanism is more likely to be competence than imitation. Employees who have worked through a module on a new product or procedure, at their own pace and as many times as they needed, are in a position to answer a colleague's question. Helping depends on having something to give. This interpretation is consistent with evidence that training builds the capacity that employees then use in citizenship behaviour (Ahmad, 2011; Ting et al., 2024). It also fits findings that online modules can strengthen empathy and confidence in interpersonal situations (Abbott et al., 2022; Didaskalu et al., 2026).

The conscientiousness result is open to two readings, and both deserve attention. On the first, self-paced training builds conscientious habits: planning time to complete modules, monitoring one's own progress and persisting without supervision are exactly the self-regulatory skills described in the literature (Broadbent & Poon, 2015; Zimmerman, 2002). On the second, the arrow points the other way. Conscientious employees are

more likely to complete self-paced modules, to engage with them fully and therefore to rate them favourably (Abzug, 2015; Audet et al., 2023; Junça-Silva & Camaz, 2023). Brown (2001) showed that, given control, many learners do not use training well; those who do are likely to be the more disciplined ones.

The data offer a hint about which reading carries more weight. Respondents gave their lowest rating to the claim that self-paced training had improved their discipline and punctuality (M = 3.59). In other words, employees did not feel that the training had made them more disciplined, even though their ratings of it were very closely related to their conscientiousness. This is more consistent with the second reading, in which conscientious employees get more out of self-paced training, than with the first. In practice, both processes probably operate together, and a cross-sectional design cannot separate them.

Courtesy, Sportsmanship and the Fragility oCivic virtue

The strong correlations with courtesy (r = 0.938) and sportsmanship (r = 0.943) fit the practical character of bank modules. Employees who understand a procedure thoroughly are less likely to cause problems for colleagues further along the process. They are also less likely to be frustrated when that procedure changes. Flexibility itself may contribute to sportsmanship by removing a familiar irritation, the need to abandon a queue of customers to attend a session at a fixed hour. Civic virtue (r = 0.901) was the least strongly related dimension, as it was for webinars, and it was the only relationship that disappeared after the CMV adjustment (r = 0.048). This does not prove that the relationship is zero, because the adjustment is conservative. It does mean that the evidence for a link between self-paced training and civic virtue rests entirely on variance that the two measures may share through the method. Modules can tell employees about policies and strategy, but taking part in organisational affairs also requires opportunities to participate. Frontline staff, who made up nearly all of this sample, often lack such opportunities.

Reading the size of the Correlations

Correlations of 0.90 and above are rare in behavioural research, and the diagnostics in Section 4.5 confirm that they cannot be taken at face value here. Three sources of inflation are likely. The first is common method variance: the same respondents rated training and their own behaviour on one questionnaire at one time, which encourages consistency and socially desirable responding (Podsakoff et al., 2003, 2012). The second is item overlap. Two self-paced training items refer to completing tasks accurately and to discipline and punctuality, which are close in content to the conscientiousness items on careful work and timely task completion. Some OCB items were also worded about the workplace in general ("Work is done carefully at my work place") rather than about the respondent's own behaviour, which may have invited a global positive judgement. The third is restricted variance. Responses clustered between 4 and 5, so a few respondents who answered differently on every scale could have a large effect on the correlations.

Two conclusions follow. First, the absolute size of the zero-order correlations should not be interpreted, and statements that self-paced training "explains" 81% to 93% of the variance in OCB would be wrong. Second, the relative pattern is more trustworthy. Both the Williams tests and the marker-adjusted correlations point the same way: altruism and conscientiousness are most closely related to self-paced training, courtesy and sportsmanship somewhat less, and civic virtue least or not at all. CMV tends to inflate all correlations in a matrix, so it is less likely to produce a consistent ordering of this kind on its own.

Theoretical Implications

The findings extend the training–OCB literature in two ways. First, they show that a training format with no social interaction can still be closely associated with interpersonal citizenship behaviours such as altruism and courtesy. This suggests that social learning is not the only route from training to OCB. Self-determination theory, through autonomy and competence, offers a better account of why asynchronous learning might be related to helping. Second, once method variance is partly controlled, self-paced training appears to be related mainly to the competence-based and self-regulatory dimensions of OCB (altruism and conscientiousness), and hardly at all to civic virtue, which depends on opportunities for participation that self-paced modules do not provide. Third, the study shows methodologically why single-source studies of training and OCB should report

CMV diagnostics as a matter of routine. Together with the likely two-way relationship with conscientiousness, the findings invite a reciprocal model in which conscientious employees benefit more from self-paced training and that training, in turn, reinforces their sense of competence and their willingness to contribute.

Practical Implications

For bank management, three lessons follow. First, self-paced modules are worth expanding. They are associated with the full range of citizenship behaviours and are well suited to busy branches and unreliable connectivity, because employees can complete them whenever conditions allow. Second, banks should not assume that every employee will use self-paced training well. If the most conscientious employees benefit most, the less self-directed will need structure: realistic deadlines, short modules, reminders, progress tracking and supervisor follow-up (Blume et al., 2010; Brown, 2001). Third, banks can turn individual learning into collective benefit. Employees who complete modules can be invited to brief or mentor colleagues, and discussion forums can be attached to the platform, so that the competence built alone is shared with others.

CONCLUSION AND RECOMMENDATIONS

This study found that self-paced virtual training is positively and significantly related to all five dimensions of OCB among deposit money bank employees in Bayelsa State. The zero-order correlations ranged from 0.901 for civic virtue to 0.964 for altruism, but diagnostic tests showed substantial common method variance. After a conservative adjustment, the relationships with altruism, conscientiousness, sportsmanship and courtesy remained significant ($r = 0.404$ to 0.654), and H1, H3, H4 and H5 were supported. The relationship with civic virtue did not survive the adjustment, so H2 was supported only at the zero-order level. Self-paced training is therefore most robustly associated with helping and with careful, diligent work. The descriptive results suggest that its value to employees lies in fostering responsibility for their own development, and the theory suggests that this sense of autonomy and competence may be the common thread. The likelihood that conscientious employees also make better use of self-paced learning means that the relationship is probably reciprocal.

The following recommendations are made:

- **Conscientiousness:** Banks should expand self-paced modules on procedures and compliance, and add structure, such as clear deadlines, short units and progress dashboards, so that less self-directed employees also complete them.
- **Civic virtue:** Modules should include organisational case studies and policy updates, and they should end with a channel for employees to submit questions or suggestions that management acknowledges.
- **Courtesy:** Platforms should include discussion boards or knowledge-sharing forums where employees can flag common errors and share tips, extending individual learning to colleagues.
- **Sportsmanship:** Modules introducing new systems should explain the reasons for change and what employees can expect, reducing frustration when the change arrives.
- **Altruism:** Employees who complete modules should be encouraged, and recognised, for mentoring colleagues and helping new staff settle in, which is the item on which respondents rated themselves lowest.
- **Enabling conditions:** Banks should support completion with data allowances, offline-capable modules and protected time, given the power and connectivity challenges in Bayelsa State.

7. Limitations and Directions for Future Research

Several limitations qualify these findings. The cross-sectional design captures association at one moment and cannot establish the direction of influence. As discussed, it is plausible that conscientious, helpful employees engage more with self-paced training rather than, or as well as, being shaped by it. All data were self-reported by the same respondents on a single instrument. The diagnostics show that common method variance was

substantial, and the marker adjustment used the smallest observed correlation because no dedicated marker variable had been included in the questionnaire. The self-paced training scale was developed for the study, overlaps in content with the conscientiousness items and was piloted on only ten respondents. The scale-level alphas reported here come from that pilot, and the full-sample evidence is limited to the composite level, so the internal consistency of each scale in the main sample should be confirmed in future work. The constructs were not examined with confirmatory factor analysis, and the correlations corrected for unreliability indicate that they were not empirically distinct in this sample. The sample came from one city and was dominated by young frontline employees, which limits generalisation. Finally, the analysis was bivariate. It did not control for factors such as job position, tenure, leadership or perceived organisational support, or for participation in other forms of virtual training, any of which could account for part of the observed relationships.

Future research could address these limitations in several ways. Longitudinal designs could measure OCB before and after the introduction of a self-paced programme, and module completion records could be linked to supervisor ratings of OCB. Conscientiousness measured as a personality trait could be included as a control or moderator to separate selection from training effects. Future surveys should include a theoretically unrelated marker variable, separate the measurement of training and OCB in time, obtain OCB ratings from supervisors or peers, revise the training items to remove overlap with conscientiousness, and test discriminant validity with confirmatory factor analysis and the heterotrait–monotrait ratio. Comparative studies could examine self-paced, webinar and classroom formats together in a multivariate model to estimate their unique contributions. Studies across Nigerian states with different levels of digital infrastructure could also test whether facilitating conditions shape the strength of these relationships, as the technology acceptance perspective suggests.

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