

Digital Content Consumption and Perceived Platform-Based Social Influence Among Tanzanian Teachers Participating in Professional Learning Networks

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Abstract

This cross-sectional correlational study examined the association between Digital Content Consumption (DCC) and Perceived Digital Platform Social Influence (PDPSI) among 251 teachers participating in professional learning networks (PLNs). We assessed DCC and PDPSI using five-item self-report scales developed for this study ($\alpha = .81$ and $.91$, respectively). We used descriptive statistics, reliability estimates, and Pearson correlations to evaluate relationships between digital DCC and PDPSI. Teachers reported relatively high DCC ($M = 4.06$, $SD = 0.74$) and PDPSI ($M = 3.83$, $SD = 0.94$). DCC was positively associated with PDPSI (Pearson $r = .60$, $p < .001$; Spearman $\rho = .58$, $p < .001$), accounting for 36% of the shared variance. The negatively skewed distributions of both variables suggest possible ceiling effects in digital communication behaviour among active PLN participants. This finding suggests that greater digital content consumption is associated with greater perceived influence of social media interactions, which is consistent with theoretical propositions linking digital media to collaborative knowledge creation. The strong association indicates that content consumption and perceived social influence tend to co-occur among participants in these networks. Because the data were cross-sectional, self-reported, and obtained through convenience sampling, the study cannot draw causal or temporal conclusions. The findings provide preliminary evidence that digital content engagement and perceived peer/platform influence are related dimensions of participation in PLNs, and they warrant further longitudinal and construct-validation research.

Keywords: *Digital communication; professional learning networks; digital content consumption; social influence; teacher professional development; correlational study.*

Introduction

Digital technologies have expanded how teachers access professional resources, communicate with colleagues, and participate in continuing professional learning. Video-conferencing tools, social-networking platforms, and online communities can support cross-boundary collaboration, although access and use vary considerably across contexts (García-Martínez et al.,

2020). The coronavirus disease 2019 (COVID-19) pandemic accelerated the adoption of digital technologies, requiring teachers worldwide to use them not only to deliver the curriculum but also to develop their professional skills (Eradze et al., 2023; Kamalodeen, 2024). This transition revealed both opportunities and challenges in using digital learning for professional development, as many teachers relied on informal peer networks to support emergency remote teaching (Yi, 2022).

Research increasingly recognises that digital collaboration among teachers is no longer a crisis measure but a durable tool for continuous professional development and innovation in teaching practice (Trevisan et al., 2024). Professional learning networks (PLNs), communities of practice (CoPs), and other digitally mediated forms of collaboration have also been recognised as essential infrastructures for developing teachers' digital competence (Trust et al., 2016; Antinluoma et al., 2021; Macià & García, 2016). PLNs, communities of practice, and other digitally mediated forms of collaboration can facilitate knowledge exchange, peer scaffolding, and cooperative problem-solving in a variety of professional situations, despite their differences in structure and breadth (Ramos et al., 2021; Wu, 2022).

Modern digital platforms have made it easier for teachers to communicate and collaborate. However, many questions remain about how the various dimensions of digital engagement relate to one another. In particular, the relationship between consuming digital content (e.g., watching instructional videos or reading blog posts) and social influence on digital platforms (e.g., adopting recommended practices or following peers' norms) remains understudied. This question is relevant for several reasons. Clarifying the relationship between content consumption and perceived social influence can improve conceptual understanding of teachers' digital engagement, which can in turn inform the design of future research and professional learning initiatives.

Tanzania provides a particularly pertinent setting for this study, as the country has been working to incorporate ICT into teacher professional development despite infrastructural and resource constraints. Although the Tanzanian government has committed to digital transformation in the education sector through policy frameworks such as the ICT Policy for Basic Education (URT, 2007), disparities remain between urban and rural areas in internet accessibility, device availability, and digital literacy (Mtebe & Raphael, 2018). Despite these limitations, Tanzanian teachers use digital channels, including social media, to exchange teaching materials and discuss professional concerns (Kihwele & Mgata, 2022). This grassroots approach to digital learning suggests that professional learning networks in Tanzania can

operate differently from those in better-equipped environments. Nevertheless, little is known about how Tanzanian teachers engage with digital platforms or about the processes of behavioural or normative change driven by social influence on these platforms. This gap is especially notable given that Tanzania has been developing strategies to improve teacher quality and competence through continuous professional development, as outlined in national education and training policy frameworks (URT, 2014). A clearer understanding of how Tanzanian teachers engage with digital professional networks may help policymakers and professional development providers design initiatives better aligned with local infrastructure, access, and digital literacy conditions.

Research Gap and Study Purpose

The literature on teacher participation in professional learning networks (PLNs) includes qualitative case studies, mixed-methods research designs, and studies based on specific platforms (Fischer, 2018; Macià & Garcia, 2018; Nelimarkka et al., 2021). These studies offer in-depth insights into content consumption, social interaction, and teachers' sense of being influenced. However, previous research has several limitations. Most studies did not develop digital content consumption and platform-based social influence as separate, measurable constructs using validated scales. Instead, they relied on aggregated platform logs, qualitative interviews, and survey data that did not distinguish between these two aspects (Bates et al., 2018; Mercado & Shin, 2024). Qualitative studies suggest that these two aspects may be associated, but systematic quantitative data are lacking. Effect-size estimation can inform power analyses for future research and establish benchmarks for meta-analysis (Mercado & Shin, 2024). Previous studies have described teachers' online content-seeking, sharing, and social interaction using qualitative interviews, platform logs, mixed-methods, or platform-specific analyses (Aguilar et al., 2021; Eber, 2022). However, fewer studies have examined digital content consumption and perceived platform-based social influence as distinct self-report constructs within the same teacher sample (Le et al., 2024). This study addresses this gap by examining the correlation between Digital Content Consumption (DCC) and Perceived Digital Platform Social Influence (PDPSI) among teachers participating in PLNs. The key research question is therefore: To what extent is digital content consumption related to perceived platform-based social influence among teachers in professional learning networks? Because the study is cross-sectional and correlational, it estimates the magnitude and direction of the association between DCC and PDPSI but cannot establish temporal ordering or causality.

Theoretical Framework

The study draws on three complementary theoretical perspectives on teacher professional development through digital networks.

Social Learning Theory (Bandura, 1977)

Social learning theory proposes that learning occurs in a social context through observation, imitation, and modelling. Participation in digital professional learning networks involves consuming videos, lessons, or reflections prepared by colleagues and being influenced by community members' actions or suggestions. Social learning theory does not, however, specify whether content consumption (observational learning) comes first and then triggers social influence, or vice versa.

Communities of Practice Theory (Lave & Wenger, 1991; Wenger, 1998)

Communities of practice theory conceptualises learning as situated participation in a social context, in which content consumption and social influence are intertwined through engagement with community artefacts. From this perspective, digital professional learning networks can be understood as resources teachers regularly use; the emphasis is therefore less on learning itself than on sharing and participating in community values and expertise. From a communities of practice perspective, teachers learn through participation in shared professional activities, engagement with community resources, and interaction with peers. In digital PLNs, content consumption and perceived social influence may therefore represent related forms of participation in a shared professional practice.

Diffusion of Innovations Theory (Rogers, 2003)

Diffusion of innovations theory describes how innovations are communicated over time within a social system. Digital PLNs could serve as conduits for the diffusion of innovations through content consumption (e.g., instructional videos and lesson plans) or through social influence (e.g., peer recommendations and community endorsements). However, the theory does not specify a causal ordering between these processes.

These theories were considered appropriate for the present study. Taken together, they suggest that teachers who report greater engagement with digital professional content may also report stronger perceived influence from peers and norms within digital PLNs. Accordingly, the study tests the non-directional expectation that DCC and DPSI are positively associated.

Literature Review

Digital Content Consumption in Teacher Professional Learning Networks

Digital content consumption refers to teachers' engagement with online informational sources, including videos, documents, and blog posts distributed peer-to-peer or via organisational websites, as well as lesson plans and other instructional materials. The literature shows that consumption patterns differ across platforms, with social signals such as user ratings and comments shaping resource selection and use (Bates et al., 2018).

Large-scale systematic reviews have identified a range of participation roles in professional learning networks, from the primarily consumptive role of passive participants to content creation and the monetisation of one's content (the 'teacherpreneur' role) (Mercado & Shin, 2024). Research on specific social platforms has shown that Pinterest users tend to collect resources privately rather than share them widely (Lundgren et al., 2021), whereas other studies have described patterns of searching, sharing, and co-creating content on Instagram, Twitter/X, and MOOC platforms (Déchène et al., 2024; Staudt Willet, 2023).

Recent national surveys do not show uniform technology use in professional learning communities; however, teachers who use social networks for professional learning tend to be active users, and their activity depends on context and enabling factors (Le et al., 2024). Time available for participation and information reliability are enabling factors that can affect users' activity levels on social networking sites. However, few studies have measured digital content consumption.

Social Influence Mechanisms in Digital Professional Learning

Social influence in teachers' professional learning communities operates through several documented mechanisms. In this study, DPSI refers specifically to the influence teachers perceive from peers, group norms, recommendations, resource ratings, comments, and recognised opinion leaders within digital professional learning networks (PLNs). For example, evaluations attached to shared resources, including ratings and comments, may shape teachers' judgements about the relevance, credibility, and potential use of those resources (Bates et al., 2018). Similarly, studies on Twitter/X and hashtag-based professional communities identify peer recommendation, professional dialogue, shared content production, and non-hierarchical opinion leadership as important mechanisms through which ideas and practices diffuse among teachers (Fischer, 2018; Déchène et al., 2024). Accordingly, DPSI is conceptualised here as the influence teachers perceive, rather than as their visibility, network reach, leadership position, or capacity

to influence other members. These latter constructs represent influence exerted and would require separate conceptualisation and measurement.

Influence roles on platforms, such as those of teacherpreneurs and educational influencers, are characterised by increased reach and the modelling of practices (Marcelo-Martínez & Mosquera Gende, 2023). Social network analysis of social influence identifies bridging teachers as individuals whose connections across different groups are linked to the spread of information and to participatory classroom practices (Macià & Garcia, 2018). The theoretical concepts used to describe the process include social proof (evaluations), social capital (brokerage or bridging), and community norms (non-hierarchical leadership and dialogue). However, most studies of social influence in teachers' professional learning communities are based on qualitative case studies, social network analyses of specific platforms, or mixed-methods designs. Few studies have developed reliable measures of platform-based social influence experienced by teachers.

Relationships Between Digital Communication and Collaborative Learning

The empirical literature has established connections between specific digital communication behaviours and collaborative learning outcomes, but these studies mainly focus on correlations within particular platforms. A study of Instagram (N = 249) found that searching, sharing, and co-creation behaviours are positively correlated with perceptions of digital social support, with teacher enthusiasm and self-efficacy moderating these connections (Richter et al., 2022). Dialogic conversations and hashtag communities on Twitter/X and WeChat correlate with applying ideas, reducing professional isolation, and creating communities of practice (Fischer, 2018; Xue & Hu, 2021).

Social network analyses have found that teachers who serve as bridges among various groups in their online networks tend to use participatory pedagogies and to be active multi-platform users (Macià & Garcia, 2018). However, like other studies in the field, this research relies on a cross-sectional correlational design.

Positioning of the Current Study

The present study contributes to this literature by presenting quantitative findings on the connection between digital content consumption and platform-based social influence. Whereas previous studies have explored these aspects individually or qualitatively, the present study quantifies the magnitude of the association between the two constructs within a single sample. Bates et al. (2018) conducted a behavioural validation study based on

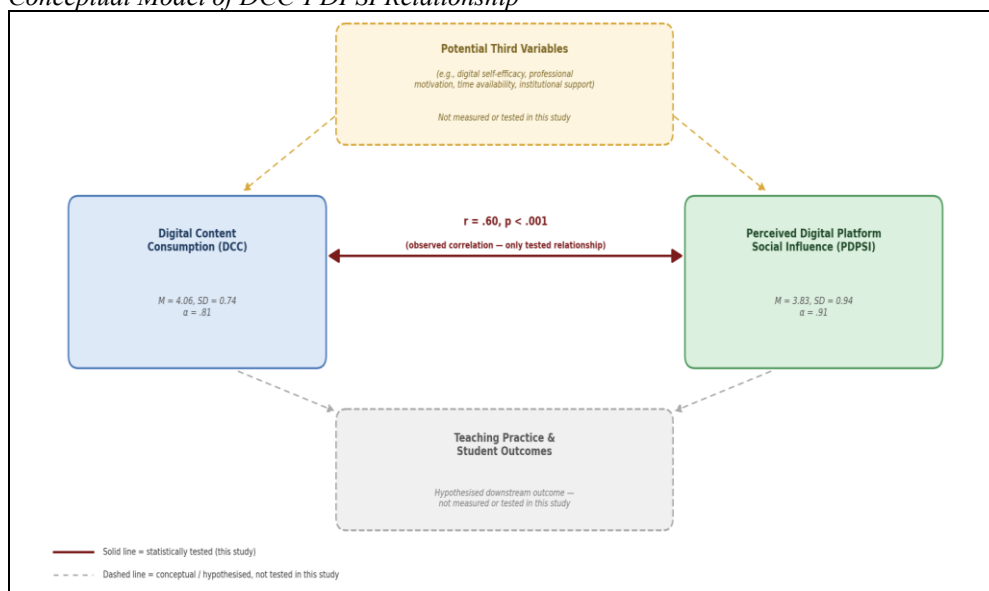
log files and multiple regression analyses to predict resource use in a repository with social cues. Whereas that study used a behavioural validation method and was limited to one platform type, the present study uses a self-report design. Richter et al. (2022) explored Instagram collaboration activities (seeking, sharing, and co-creation) and perceived social support ($n = 251$). The present study used correlation analysis with a sample of 251. Fischer (2018), in turn, applied more sophisticated methods, combining surveys, content analysis, and social network analysis to explore Twitter/X PLN engagement. The present study uses a simpler method but offers preliminary, internally consistent scales that require further validation.

Nelimarkka et al. (2021) analysed eight years of Facebook PLN data, using surveys and platform analytics to obtain longitudinal results. The present study is cross-sectional but offers measurement scales for future longitudinal research. Its primary contribution is the explicit operationalisation of DCC and DPSI and the estimation of their association in one sample ($r = .60$; 36% shared variance), which may serve as a baseline for future research. The measures showed good internal consistency, but their factor structure, convergent validity, discriminant validity, and measurement invariance remain to be established. Moreover, the cross-sectional correlational design and reliance on self-report limit causal inference and the generalisability of the findings, as discussed in detail in the Limitations section.

Methods

The present study employed a cross-sectional correlational survey design to examine the relationship between Digital Content Consumption (DCC) and Perceived Digital Platform Social Influence (PDPSI) among teachers engaged in professional learning networks. This design allowed exploration of the association between the variables but did not establish causal direction or temporal precedence, nor rule out alternative explanations. Data were collected at a single time point using self-report measures.

Figure 1:
Conceptual Model of DCC-PDPSI Relationship



Note: The solid double-headed arrow ($\leftrightarrow$) represents the only relationship examined statistically in this study: the observed bivariate correlation between DCC and PDPSI ($r = .60, p < .001$). The dashed arrows and the boxes for “Potential Third Variables” and “Teaching Practice & Student Outcomes” depict conceptual possibilities for future research; they were not measured, tested, or included in the statistical model reported here. Because the design is cross-sectional, the observed correlation cannot establish causal direction or temporal precedence between DCC and PDPSI.

Source: Field data, 2026

Participants and Sampling

Eligible participants were teachers currently working in Tanzania who reported active participation in at least one online PLN. Researchers recruited participants through non-probability convenience sampling using three large Facebook teacher communities and two hashtag communities. We posted recruitment messages in these communities for four weeks, including information about the digital professional learning study and a link to the online survey.

Platform analytics recorded approximately 1,850 views of the recruitment posts across the selected platforms. These view counts are reported as exposure metrics rather than as the denominator of a formal response rate, because views may not represent unique individuals and not every viewer was necessarily eligible to participate. A total of 298 individuals started the

survey. Of these, 47 were excluded from the analysis because they did not complete all survey questions. The remaining 251 completed the survey and met the eligibility criteria, yielding a final analytic sample of 251 teachers and an 84.2% completion rate among those who started the survey.

The final sample included teachers with 1–35 years of teaching experience working in different school locations: 42% worked in urban schools, 38% in suburban schools, and 20% in rural schools. Given the convenience-based recruitment procedure, the sample should not be considered statistically representative of all teachers in Tanzania or all teachers participating in digital PLNs.

The main platforms used for PLN participation were Facebook groups (68%), Twitter/X (52%), Instagram (38%), Pinterest (31%), YouTube (29%), Telegram (24%), WeChat (12%), and other platforms (8%); participants could select more than one platform. The mean duration of PLN participation was 4.2 years ($SD = 2.9$; range = 0.5–15 years). Participants reported engaging with PLN daily (45%), several times per week (38%), weekly (12%), or less than weekly (5%). Reported PLN roles were mostly lurker/observer (32%), occasional contributor (48%), frequent contributor (15%), and influencer/leader (5%).

Demographic and other relevant information could not be obtained from non-respondents. To examine possible differences associated with survey completion timing, we divided completed surveys into early and late groups, comprising the first and last 50% of completed surveys, respectively. DCC and DPSI scores did not differ significantly between early and late completers (DCC: $t = 0.87$, $p = .39$; DPSI: $t = 1.12$, $p = .26$). This check did not indicate a detectable timing-related difference among respondents, but it cannot rule out nonresponse or self-selection bias because information on non-respondents was unavailable. Furthermore, recruitment was conducted within active PLN communities, and participation was voluntary. Consequently, the sample may over-represent teachers who were highly engaged in PLNs or particularly interested in digital professional learning. Consider these limitations when generalising the findings to the broader population of teachers in Tanzania.

Measures

Digital Content Consumption (DCC) Scale

The five-item DCC scale assessed teachers' self-reported engagement with digital professional content within professional learning networks. Responses were recorded on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Item scores were averaged, with higher scores indicating

greater reported engagement with digital professional content. The items covered activities such as watching instructional videos or webinars, reading educational articles and blog posts, searching for lesson plans and teaching materials, spending time exploring peer-recommended content, and using downloadable resources, infographics, and podcasts shared by other teachers. Internal consistency was good in the current sample (Cronbach's $\alpha = .81$); however, this preliminary study did not test unidimensionality. The items were informed by previous literature on digital content engagement in professional learning networks (Bates et al., 2018; Le et al., 2024; Mercado & Shin, 2024) and were piloted with 15 teachers to assess their clarity and relevance.

Perceived Digital Platform Social Influence (DPSI) Scale

The five-item PDPSI scale assessed the extent to which teachers perceived peers, recommendations, norms, and opinion leaders in digital PLNs as influencing their professional decisions and practices. Responses were recorded on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Item scores were averaged, with higher scores indicating greater perceived social influence. The scale items were as follows: "My teaching practices have been influenced by the recommendations from other teachers whom I interact with via digital platforms," "I usually use instructional strategies or methods that are currently in vogue or have high ratings among online teacher communities," "Interaction with influential teachers or opinion leaders in social media affects my professional decisions," "I feel that my interaction with online teacher networks has affected how I view teaching," and "The views and experiences of my peers in the digital communities affect the resources or approaches I use in my teaching practice." The scale demonstrated high internal consistency in the present sample (Cronbach's $\alpha = .91$). Its items were derived from the existing literature on social influence mechanisms in professional learning networks (Bates et al., 2018; Fischer, 2018; Macià & Garcia, 2018) and were piloted with 15 teachers to assess their clarity and relevance. However, this preliminary study did not include factor analysis or formal construct validation.

Procedures

The researchers obtained ethical approval from The Open University of Tanzania before data collection. The survey was conducted online via Qualtrics over four weeks in March 2026, consistent with the four-week recruitment window described in the Participants and Sampling section. We recruited participants through posts with a hyperlink to the survey. The survey was expected to take about ten minutes to complete. The first page of the survey included an informed consent form that described the purpose,

procedures, possible risks, potential benefits, and participants' rights. Participants indicated consent by selecting "participate" before proceeding to the survey items. We enabled Qualtrics anonymisation settings and turned off IP address logging; we collected no personally identifiable information, including names, email addresses, or IP addresses. Participants were informed that we would keep their responses confidential and report only aggregated data. We offered no incentive or compensation.

A total of 298 participants started the survey, and 251 completed all items. We embedded two attention-check questions ("Please click 'Agree'") to identify inattentive responses; 47 participants did not complete all survey questions and were excluded from the analysis, leaving a final analytic sample of 251 participants.

Data Analysis

We calculated means, standard deviations, ranges, skewness, and kurtosis for the DCC and DPSI scores. We estimated Cronbach's alpha for each scale. We further examined distributions using histograms and Q-Q plots. We used the Shapiro-Wilk test to assess whether the DCC and DPSI scores approximated a normal distribution, given the importance of normality for interpreting Pearson correlation coefficients. We used the Pearson product-moment correlation as the primary measure of linear association. Given the violation of the normality assumption, Spearman's rank correlation coefficient was also calculated as a rank-based sensitivity analysis. Two-sided p-values and 95% confidence intervals are reported. We performed statistical analyses in SPSS version 28.0.

Results

Descriptive Statistics

Table 1 presents descriptive statistics for the Digital Content Consumption (DCC) and Perceived Digital Platform Social Influence (PDPSI) scales.

Table 1:
Descriptive Statistics for DCC and PDPSI Scales

Variable	n	M	SD	Min	Max	skewness	Kurtosis	α
DCC	251	4.06	0.74	1.8	5.0	-0.89	0.52	.81
DPSI	251	3.83	0.94	1.2	5.0	-0.76	0.31	.91

Note: DCC = Digital Content Consumption; PDPSI = Perceived Digital Platform Social Influence; M = Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum; α = Cronbach's alpha.

Both mean scores were above the scale midpoint (DCC: M = 4.06, SD = 0.74; DPSI: M = 3.83, SD = 0.94), indicating relatively high self-reported

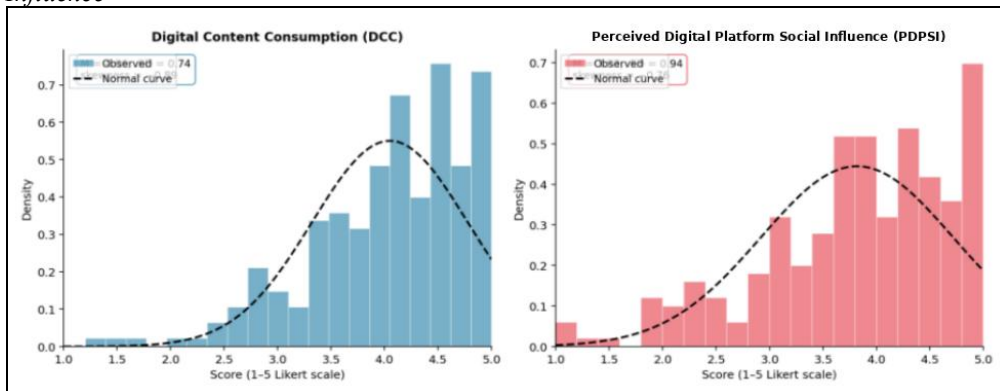
engagement and perceived platform influence in this convenience sample. Both distributions were negatively skewed. The concentration of scores near the upper end of the scales suggests a possible ceiling effect, which should be confirmed by examining the proportion of respondents at or near the maximum score.

Normality Testing

Shapiro-Wilk tests were statistically significant for both scales, and visual inspection of histograms and Q-Q plots indicated negative skew. These distributional features, together with the convenience sample of active PLN participants, should be considered when interpreting the correlation and the external generalisability of the findings.

Figure 2:

Distributions of Digital Content Consumption and Perceived Digital Platform Social Influence



Note: The distributions are negatively skewed, with scores concentrated towards the upper end of the scales, suggesting a possible ceiling effect.

Correlation Analysis

Table 2 presents the correlation between Digital Content Consumption and Perceived Digital Platform Social Influence.

Table 2:

Correlation Between DCC and PDPSI

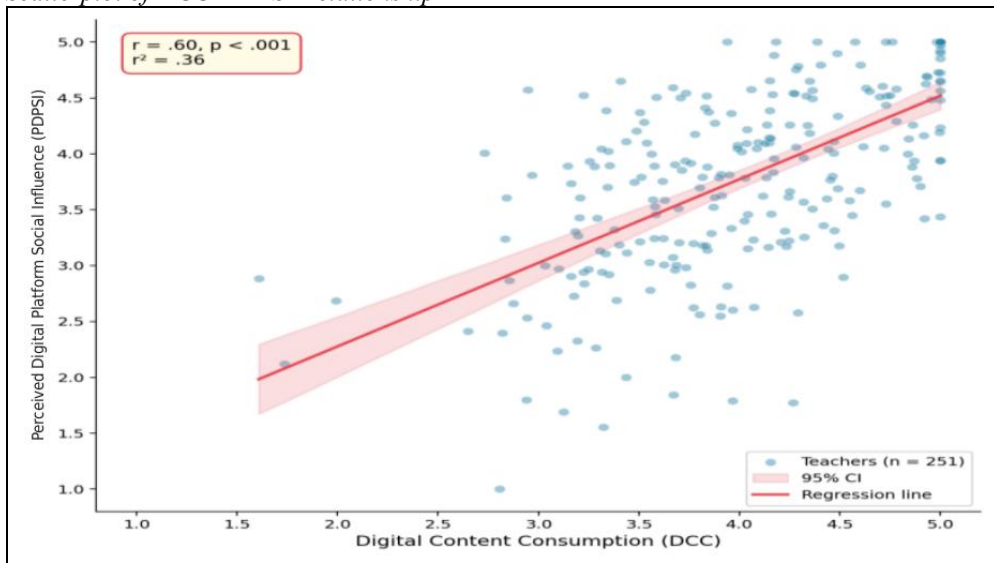
Variable	1	2
1. DCC —		
2. PDPSI	.60	

Note: DCC = Digital Content Consumption; PDPSI = Perceived Digital Platform Social Influence. $p < .001$ (two-tailed).

DCC was positively and statistically significantly associated with PDPSI (Pearson $r = .60$, 95% CI [.51, .67], $p < .001$), representing a large

association. Teachers who reported greater digital content consumption also tended to report greater perceived influence from peers and interactions within digital PLNs. The squared correlation ($r^2 = .36$) indicates that approximately 36% of the variance is shared between the two measures. Because the distributions were skewed, Spearman's rank correlation was also estimated and yielded a similar association ($\rho = .58, p < .001$).

Figure 3:
Scatterplot of DCC-PDPSI Relationship



Note: Figure 3 shows a scatterplot of the relationship between Digital Content Consumption (DCC) on the x-axis and Perceived Digital Platform Social Influence (PDPSI) on the y-axis for a sample of $n = 251$ teachers. Each dot represents one teacher. The red solid line represents the OLS regression line, and the shaded band represents the 95% bootstrap confidence interval. The two variables are significantly and positively correlated ($r = .60, p < .001; r^2 = .36$).

Summary of Results

This study examined the relationship between Digital Content Consumption (DCC) and Perceived Digital Platform Social Influence (PDPSI) among teachers participating in professional learning networks. The main finding is a significant positive correlation ($r = .60, p < .001$), indicating that teachers who reported more frequent digital content consumption also reported greater perceived social influence on digital platforms. This strong positive correlation shows that teachers who engaged more with digital content also perceived greater influence of social interaction on digital platforms. The squared correlation indicates approximately 36% shared variance between the

two constructs. However, these results should be read in light of the limitations discussed in the Study Limitations section.

Discussion

The observed positive association is consistent with the theoretical perspectives that conceptualise content engagement and social influence as related aspects of participation in professional learning communities (Lave & Wenger, 1991; Rogers, 2003; Wenger, 1998). The correlation between DCC and PDPSI ($r = .60$) is comparable to findings in other empirical research on similar variables; however, because constructs and methods differ across studies, interpret direct comparisons of effect sizes cautiously. For instance, Richter et al. (2022) found that Instagram collaboration activities (seeking, sharing, and co-creation) were positively correlated with digital social support ($r = .35$ to $r = .52$). Similarly, Bates et al. (2018) showed that the presence of social cues (ratings and comments) predicted resource use in a digital repository. However, their results cannot be compared directly with the present findings because of methodological differences. In the present study, the shared variance (36%) indicates a strong link between these two dimensions of PLN participation.

The results are broadly consistent with studies of teachers' participation in online professional learning communities for knowledge sharing, collaboration, and professional development (Carpenter & Krutka, 2014; Trust et al., 2016). Several studies have documented the importance of social interaction for accessing resources and implementing innovative teaching techniques (Greenhow et al., 2020; Carpenter et al., 2023). This study contributes by operationalising two constructs, Digital Content Consumption and Perceived Digital Platform Social Influence, and identifying a statistically significant positive correlation between them ($r = .60$).

Theoretical Explanations for the Association

Several theoretical frameworks can help to explain the connection between DCC and PDPSI. Social learning theory and communities of practice theory posit that content consumption and social influence are related elements of community engagement (Lave & Wenger, 1991; Bandura, 1977). One possible interpretation is that greater exposure to professional content provides more opportunities to encounter peer norms and recommendations. Conversely, teachers who perceive stronger peer influence may be more motivated to seek professional content (Rogers, 2003). Both constructs may also reflect common antecedents, such as digital self-efficacy, professional motivation, available time, or institutional support. The present cross-sectional data cannot distinguish between these alternatives.

Ceiling Effects and Measurement Issues

The high means and negative skew suggest possible upper-end compression. This pattern is consistent with possible ceiling effects in the sample, with a strong concentration of respondents at the upper end of the scales. Only a few teachers reported low consumption or social influence in the PLN context. If range restriction is present, the observed correlation may differ in a more heterogeneous sample, but the present data cannot indicate the direction or magnitude of any such difference. Future scale-development work should examine item difficulty and endorsement distributions and include participants with a wider range of PLN engagement. For example, ceiling effects may obscure the difference between teachers who scored 4.5 and 5.0 on the DCC scale. Such upper-end concentration may partly reflect the researcher's recruitment strategy, which oversampled highly engaged teachers and under-represented lurkers or less active PLN users.

Platform Differences and Contextual Factors

This study examined digital professional learning networks generally, without distinguishing between specific platforms. Previous studies, however, suggest that teachers' patterns of content consumption and social influence vary by platform: social media platforms (e.g., Facebook, Twitter/X, and Instagram) tend to enable interaction, networking, and collaborative knowledge exchange, whereas content repositories and e-learning environments are more oriented towards resource provision (Carpenter & Krutka, 2014; Trust et al., 2016). Platform affordances may moderate the association between content engagement and perceived peer and platform influence rather than directly explain it (Greenhow et al., 2020; Carpenter et al., 2023). The DCC–PDPSI relationship observed here reflects teachers' exposure to, and perception of, influence within these environments, not their own influence over others. Future research should compare platform types and examine how platform affordances shape professional learning behaviours and the diffusion of innovation among teachers.

Beyond platform type, other variables not included in the present analysis may act as plausible third factors in the relationship identified here. Digital self-efficacy and technology competence, professional motivation, time and access constraints, and institutional support have each been documented as factors influencing engagement in online professional learning communities (Tondeur et al., 2023). Future research should treat these as plausible moderators or control variables, rather than as established explanations for the correlation observed in this study.

Study Limitations

Several limitations of the current study warrant acknowledgement. First, the

cross-sectional, correlational design precludes causal conclusions about the relationship between DCC and PDPSI; the association may be bidirectional or confounded by a third variable, such as digital self-efficacy, work motivation, or instructional support. Second, all data came from self-report questionnaires collected at a single point in time, introducing potential threats from common-method bias, social desirability bias, and inaccurate recall of past behaviour; because no objective behavioural measure was used, responses may have been inflated to some degree. Third, the sample was recruited through convenience sampling from active PLNs and may therefore not represent the broader teacher population. Fourth, the study aggregated experiences across different platforms into a single measure, even though teachers' experiences may differ substantially depending on whether they use Facebook, YouTube, Telegram, or Twitter/X. Fifth, the study examined only the relationship between DCC and PDPSI and did not consider downstream educational outcomes such as instructional innovation, teaching efficiency, or student learning. Sixth, although the DCC and PDPSI measures developed for this study showed good internal consistency, the study did not evaluate their factor structure, convergent validity, discriminant validity, or measurement invariance. Consequently, the findings should be interpreted as preliminary evidence based on these operationalisations rather than as validation of established scales.

Despite these limitations, the study makes several contributions by:

- i) conceptualising Digital Content Consumption (DCC) and Digital Platform Social Influence (PDPSI) as measurable variables with adequate reliability;
- ii) quantifying the strength of their association ($r = .60$; approximately 36% shared variance);
- iii) providing preliminary, internally consistent self-report measures that require further psychometric and construct validation;
- iv) providing an initial effect-size estimate that may inform the planning and comparison of future studies; and
- v) formulating testable hypotheses for longitudinal and experimental follow-up.

This research constitutes a foundational descriptive study that can help to guide future work on how teachers learn within digital professional learning networks. Despite its limitations, identifying a strong relationship between content consumption and social influence among active PLN users provides a basis for understanding the integrative nature of digital professional learning and for planning future research.

The study provides preliminary evidence of a strong positive association between digital content engagement and perceived platform-based social influence among active PLN participants. However, the study's methodological weaknesses (its cross-sectional design, self-report measures, convenience sample, and lack of outcome measures) mean the results should be treated as hypotheses to be confirmed or refuted by further research.

Designers of professional development may therefore consider providing both access to high-quality content and opportunities for constructive peer interaction, while recognising that the present study does not establish that either component causes the other.

Future research should use designs better suited to temporal and causal questions, including longitudinal, experimental, and mixed-methods approaches, to:

- i) examine temporal ordering and, where appropriate, causal effects;
- ii) validate self-report measures against behavioural measures;
- iii) examine underlying mechanisms and possible moderators;
- iv) investigate platform-specific effects; and
- v) establish links between digital content consumption, platform-based social influence, teaching practice, and learner outcomes.

Conclusion

This cross-sectional correlational study examined the association between DCC and PDPSI among 251 Tanzanian teachers participating in PLNs. DCC and PDPSI were positively associated ($r = .60$, $p < .001$), corresponding to approximately 36% shared variance. The finding is consistent with theoretical perspectives that view content engagement and social interaction as related dimensions of participation in professional learning communities (Lave & Wenger, 1991; Rogers, 2003; Vygotsky, 1978; Wenger, 1998), and is broadly in line with existing literature documenting associations between content consumption and social behaviour in digital communities of teachers (Fischer, 2018; Macià & Garcia, 2018; Nelimarkka et al., 2021). However, the convenience sample, self-report design, cross-sectional data, and preliminary status of the measures limit causal and generalisable conclusions. Further psychometric, longitudinal, and platform-specific research is needed to clarify the direction, mechanisms, and practical implications of this association.

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