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Rural teachers' challenges: The role of the satisfaction of needs in professional development

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Abstract

Rural teachers face distinct challenges that affect their professional and personal lives, often limiting the success of professional development initiatives such as workshops, in-service training, and mentoring. For these initiatives to be effective in rural contexts, it is essential to consider environmental conditions and teachers' specific needs. In this study we investigated how the satisfaction of needs – survival, social contribution, and self-determination – shapes rural teachers' professional development. Data were collected through self-administered questionnaires from 330 teachers from the Raymond Mhlaba municipality in the Eastern Cape province of South Africa. The data were analysed using structural equation modelling. The findings reveal that satisfying survival needs has a significant positive effect on teachers' professional development, whereas social contribution and self-determination showed no significant influence. These results underscore the importance of addressing survival-related needs to enable rural teachers' growth and improve teaching effectiveness. The lack of significant impact from social contribution and self-determination suggests contextual barriers that may warrant further exploration. We conclude with recommendations for policymakers and educational stakeholders to strengthen support structures that prioritise teachers' needs for survival while recognising the role of broader environmental conditions as an avenue for future research.

Keywords: challenges; needs satisfaction; professional development; rural schools; rural teachers

Introduction

It is widely acknowledged that rural teachers face numerous social and institutional challenges, including geographical isolation, limited resources, overcrowded classrooms, and distinct cultural dynamics in the community (Du Plessis, EC & Letshwene, 2020; Hartell & Steyn, 2019; Mpahla & Makena, 2020; Myende & Maifala, 2020; Thobeka, 2024). These obstacles restrict teachers' access to professional development and reduce their ability to serve as agents of change for inclusive education. This results in weakening teaching quality and learners' learning outcomes in rural South African schools (Du Plessis, P & Mestry, 2019; Şahin, Soylu & Jafari, 2024; Themane & Thobejane, 2019). Thaba-Nkadimene, Mzindle, Nkadimeng, Mesuwini, Mashitola and Makwara (2022) highlight an education crisis in South Africa's rural schools, linked to challenging work conditions and the neglect of career development opportunities for teachers. Furthermore, the different challenges that rural teachers experience not only hinder their everyday work but also limit the satisfaction of essential needs. Effective educational reform should be prioritised to satisfy teachers' fundamental needs to enhance their professional development, which in turn will strengthen their knowledge and skills.

Teacher professional development (TPD) is critical for building teaching competency and improving learners' academic performance (Li, Yamaguchi, Sukhbaatar & Takada, 2019; Thannimalai & Raman, 2018). TPD is defined as workplace learning activities aimed at improving professional skills and teaching quality (Njenga, 2023), which should be customised to address teachers' diverse competencies and individual needs (De Vries, Dimosthenous, Schildkamp & Visscher, 2022). Researchers (Darling-Hammond, Hyler & Gardner, 2017; Zhang, Carter, Zhang, Hunt, Emerling, Yang & Xu, 2024) are of the view that personalised TPD programmes are relevant to teachers' practices and that teachers perceive these to be effective.

However, in the literature the importance of recognising teachers' needs and the influence of daily work environments on professional development are often not addressed (Admiraal, Kruiter, Lockhorst, Schenke, Sligte, Smit, Tigelaar & De Wit, 2016; Czerniawski, Guberman & MacPhail, 2017; Harris & Jones, 2017; Mokoena & Hlalele, 2021; Redelinghuys & Rothmann, 2020). To maximise TPD benefits, it is essential to consider environmental factors and how well a job meets teachers' survival, social, and self-determination needs, which directly affect their growth and well-being (Autin, Whelan & Luthans, 2019; Duffy, Blustein, Allan, Diemer & Cinamon, 2020; Duffy, Blustein, Diemer & Autin, 2016; Saleem, 2020; Tack & Vanderlinde, 2019). With this study we examined the extent to which satisfying specific needs such as survival, social contribution, and self-determination needs affects the professional development of teachers in rural schools.

The Impact of the Satisfaction of Needs on Teacher Professional Development

The satisfaction of needs in the workplace refers to how well employment fulfils individuals' needs for survival, social connection, and self-determination (Autin et al., 2019; Duffy et al., 2016, 2020). According to the psychology of working theory (PWT), when contextual constraints limit the ability to meet needs such as inadequate resources or restricted autonomy, employees' well-being and professional growth are negatively

affected (Blustein, 2006; Duffy et al., 2016). In rural South Africa, improving teachers' working conditions has been recommended to enhance learner achievement and meet these basic needs (Duffy, Allan, England, Blustein, Autin, Douglass, Ferreira & Santos, 2017; Du Plessis, P & Mestry, 2019; Huang, Shen, Yuan & Li, 2020).

Survival needs, including stable income, safe housing, and access to health resources, are particularly important for teachers, as their satisfaction with these factors is closely linked to their willingness to participate in professional development activities (Autin et al., 2019; Bernadine, 2019; Kim, SY, Fouad, Maeda, Xie & Nazan, 2018; Nawab & Bissaker, 2021; Tsotetsi & Mahlomaholo, 2015). However, dissatisfaction with remuneration and working conditions remains a significant barrier to professional development in rural schools (Ajani, 2020; Bantwini, 2019; Du Plessis, P & Mestry, 2019; South African Council for Educators [SACE], 2019). While such challenges affect teachers in general, including those in urban settings, we focused on teachers in rural settings because the challenges that they experience are often more acute or have unique implications. For instance, in a study on urban teachers in Zimbabwe it was found that low remuneration hindered teachers' ability to meet basic needs, and negatively impacted their job performance and professional development (Ngwenya, 2021). This underscores the importance of addressing survival needs to enhance rural teachers' professional growth.

In addition to survival, teachers' needs for social contribution and self-determination are essential to their professional development. The need for social contribution is fulfilled through positive workplace relationships and a sense of belonging, which are fostered by collaborative professional development programmes (Admiraal et al., 2016; Akinyemi, Rembe, Shumba & Adewumi, 2019; Bantwini, 2019; Blustein, 2019; Duffy et al., 2016; Evers, Kreijns & Van der Heijden, 2016; Kim, W 2017; Mustafa & Paçariz, 2021). Similarly, self-determination needs – autonomy, competence, and relatedness – strengthened when teachers received support and recognition from school leadership, which motivate them to engage in professional development (Autin et al., 2019; Bantwini, 2019; Deci, Olafsen & Ryan, 2017; Huang et al., 2020; Johns & Sosibo, 2019; Ryan & Deci, 2017; Tack & Vanderlinde, 2019; Wang, Zhu, Dormann, Song & Bakker, 2020). Meeting these interconnected needs is essential for fostering teachers' participation in professional development and supporting their overall well-being.

Contextual Setting of the Study

Existing research highlights the importance of TPD in promoting high-quality instructional practices.

However, there is a notable gap in comprehensive empirical exploration on how teachers' needs affect their professional development outcomes. The South African education system continues to struggle, partly because TPD often fails to result in effective classroom practice (Mpahla, Makena & Mpiti, 2021; Thaba-Nkadimene et al., 2022). Evidence shows that rural teachers frequently view professional development programmes arranged by schools as ineffective and misaligned with their needs, leading to low participation rates (Lushaba & Proches, 2022; Makoa & Segalo, 2021; Thaba-Nkadimene et al., 2022). This calls for education authorities and stakeholders to reassess and implement strategies that better address teachers' needs to improve outcomes.

In response, we examined how satisfying survival, social contribution, and self-determination needs affects the professional development of rural teachers. The following hypotheses were formulated: (H_1) Survival needs satisfaction positively and significantly influences rural teachers' professional development; (H_2) Social contribution needs satisfaction among rural teachers has a positive and significant influence on professional development; and (H_3) Self-determination needs satisfaction among rural teachers positively and significantly influences professional development. Addressing these needs is crucial for creating effective TPD programmes that engage rural teachers and enhance teaching and learning outcomes.

Theoretical Framework

This study is underpinned by the PWT (Duffy et al., 2016), which provides a comprehensive framework to understand the role of work in individuals' lives, especially among marginalised groups such as rural teachers. PWT emphasises the necessity of decent work that satisfies fundamental human needs for survival, social connection, and self-determination, which are critical for well-being and career development. The theory highlights how contextual factors like economic constraints, discrimination, and social marginalisation influence individuals' access to decent work (Blustein, 2006; Duffy et al., 2016). Applying this framework, we focused on how fulfilling survival, social contribution, and self-determination needs impacted rural teachers' professional development, emphasising that unmet fundamental needs can hinder engagement and growth in their careers.

PWT is particularly relevant for understanding the professional experiences of rural teachers who often face challenging working conditions that impact their well-being and career development. Recent research in South African rural schools highlights how inadequate infrastructure, limited resources, and poor working conditions constrain teachers' ability to perform effectively and engage

in professional development (Nkambule, 2022). Studies also reveal that despite these hardships, rural teachers remain committed, yet face barriers to meeting basic needs crucial for sustained professional growth (Nomthandazo, 2023). Aligning with PWT, we focused on how satisfying these core needs influenced rural teachers' participation in professional development and their overall professional growth. Thus, PWT provides a valuable lens to interpret the barriers to and facilitators of professional development among rural teachers.

Methodology

The impact of needs fulfilment on rural teachers' participation in professional development was investigated using a quantitative research paradigm. Scholars believe that the positivist paradigm is appropriate for obtaining accurate and reliable measurements that allow statistical analysis of generated numerical data (Creswell & Creswell, 2018; Queirós, Faria & Almeida, 2017). This approach allowed us to employ statistical methods to test the hypotheses regarding potential associations between needs satisfaction and TPD. Quantitative research implies once-off data collection and simultaneous measurement of dependent and independent variables (Rahi, 2017), as was done in this study.

Participants

The participants in this study were 330 teachers from rural schools in the Royal Mhlaba local municipality in the Eastern Cape, of which 57.3% ($n = 189$) were female and 42.7% ($n = 141$) male. The participants' ages varied as follows: 18 to 24 years (5.8%, $n = 19$), 25 to 34 years (28.5%, $n = 94$), 35 to 44 years (23.9%, $n = 79$), 45 to 54 years (27.3%, $n = 90$), 55 to 64 years (13.9%, $n = 46$) and only two participants 0.6% ($n = 2$) 65 years or older. Regarding qualifications, 6.7% ($n = 22$) held a Grade 12 certificate, 40.6% ($n = 134$) held diplomas, 40.6% ($n = 134$) held bachelor's degrees, and 13.6% ($n = 45$) held other postgraduate degrees. Most participants were educators (79.7%, $n = 263$); deputy principals and principals represented 9.4% ($n = 31$) and 10.9% ($n = 36$) respectively. The sample was almost evenly split between primary (54.5%, $n = 180$) and secondary school teachers (45.5%, $n = 150$).

Data Collection

Data were collected using a self-administered questionnaire that included sections on demographics, needs satisfaction, and TPD. We secured ethical approval for the study from the university where the authors were employed and the Eastern Cape Department of Education. The ethical clearance certificate was issued by the University Research Ethics Committee with the reference number CHI021SDLA01. Participants were

informed about the purpose of the study and they voluntarily completed the questionnaire. Of the 384 questionnaires distributed, 330 were valid for analysis.

Using the questionnaire we collected demographic information including gender, age, qualifications, and employment status. Needs satisfaction was measured using the 20-item work need fulfilment scale ([WNSS]; Autin et al., 2019), which assesses survival, social contribution, competence, relatedness, and autonomy needs on a 7-point Likert scale. The scale demonstrated high reliability (Cronbach's alpha = 0.908), consistent with prior research. TPD was measured using the 21-item teacher professional development at work survey ([TPDWS]; Evers et al., 2016), which evaluates six dimensions of engagement in professional learning activities on a 4-point frequency scale. The TPDWS also showed strong internal consistency (Cronbach's alpha = 0.891) and has been validated in multiple contexts beyond its original Dutch setting.

Data Analysis

Descriptive and inferential data analyses were conducted using International Business Machines Statistical Package for the Social Sciences Statistics (IBM SPSS) version 29. The mean levels of the variables and Cronbach's alphas were evaluated, and participant profiles were described using descriptive statistics. Confirmatory factor analyses (CFA) were performed to evaluate the structural validity of the WNSS and TPDWS. Inferential statistics was used to explain the conditions or occurrences, allowing us to reject or accept the hypotheses. The structural equation model (SEM) using analysis of moment structures (AMOS) version 22 was examined to draw informed conclusions regarding the support or rejection of the hypotheses.

Results

The CFA analysis for the WNSS and TPDWS revealed the following. For the WNSS, 20 items across five factors were tested, with the most parsimonious model retaining four items per factor, all with standardised loadings above 0.60. Average variance extracted (AVE) values exceeded 0.50 for all constructs (survival = 0.668; social contribution = 0.592; competence = 0.627; relatedness = 0.578; autonomy = 0.591), confirming convergent validity. Reliability was strong, with Cronbach's alpha values above 0.80 (overall $\alpha = 0.908$) and composite reliability (CR) values above 0.80.

For the TPDWS, CFA retained 16 of 21 items across six factors, all with loadings above 0.60. AVE values met or exceeded the 0.50 threshold (e.g., experimenting = 0.516; work-related training = 0.547; reading = 0.506), indicating adequate convergent validity. Cronbach's alpha values were

≥ 0.60 , supported by CR values above 0.60, demonstrating satisfactory reliability. Overall, both scales exhibited acceptable model fit, reliability, and validity.

Table 1 demonstrates the results of the descriptive analyses, which indicate that the reported mean level of survival needs satisfaction was generally moderate ($M = 4.3129$; $SD = 1.31828$). This differed from the other constructs of needs satisfaction, which showed higher moderate

levels within the sample: social contribution needs satisfaction ($M = 4.9530$; $SD = 1.12602$) and self-determination needs satisfaction ($M = 4.8624$; $SD = 0.89188$). Professional development and all its respective constructs had moderate ratings. The skewness and kurtosis coefficients, along with the Shapiro-Wilk test, indicate that the respective variables and theoretical constructs were inconsistent with a normal distribution.

Table 1 Summary of descriptive statistics of main variables

Variable	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	Shapiro-Wilk (S-W) Sig
Needs satisfaction					
1) Survival needs	4.3129	1.31828	-0.482	0.190	< 0.0001
2) Social contribution needs	4.9530	1.12602	-0.404	0.954	< 0.0001
3) Self-determination needs	4.8624	0.89188	-0.245	1.092	< 0.0001
Professional development	2.6835	0.54818	0.346	0.379	< 0.0001
1) Experimenting	2.6960	0.74160	0.255	-0.734	< 0.0001
2) Collaborating school	2.5808	0.72424	0.177	-0.176	< 0.0001
3) Work-related training	2.7000	0.78705	-0.078	-0.331	< 0.0001
4) Reflecting and feedback	2.7434	0.68330	0.138	-0.373	< 0.0001
5) Reading	2.7758	0.76275	0.010	-0.579	< 0.0001
6) Collaborating lessons	2.6414	0.71721	0.123	-0.182	< 0.0001

Structural Model

The relationships between professional development and the fulfilment of needs were examined using SEM techniques. Prior to constructing the structural model, a comprehensive measurement model was established. Table 2 displays the goodness-of-fit indices for this measurement model, which are essential to assess before evaluating the significance of predictive effects. The results reveal a Chi-square minimum discrepancy divided by degrees of freedom (CMIN/*df*) value of 2.467, which is below the threshold of 3, indicating a good model fit. The

SRMR value of 0.089 falls within the acceptable range of 0.05 to 0.09, suggesting an adequate fit. Moreover, the RMSEA was 0.067 with a 90% confidence interval of (0.062, 0.072), further supporting an acceptable fit. The comparative fit index (CFI) was 0.877, surpassing the 0.80 benchmark for incremental fit, and the normed fit index (NFI) was 0.811, also above the minimum acceptable level of 0.80. Overall, the model met all criteria for a good fit. Consequently, the fitness indices confirm that the structural model was appropriate. The following sections detail the testing of the hypotheses for the proposed framework.

Table 2 Summary of goodness-of-fit indicators for the structural model

Name of index	Index value	Cut-off points	Comments
CMIN/ <i>df</i>	2.467	< 3	Good fit
SRMR	0.089	0.05 < SRMR ≤ 0.09	Acceptable fit
RMSEA (90%)[CI]	0.067 (0.062; 0.072)	0.05 < RMSEA ≤ 0.10	Acceptable fit
CFI	0.877	> 0.80	Mediocre
NFI	0.811	> 0.80	Mediocre

Note. CMIN/*df* refers to the ratio of the chi-square statistic to the degrees of freedom. SRMR stands for the standardised root mean square residual. RMSEA denotes the root mean square error of approximation. CFI is the comparative fit index, and NFI represents the normed fit index (also known as the non-normed fit index).

Testing of Hypotheses for the Direct Predictive Effects

Hypothesis 1: Survival needs as part of needs satisfaction positively and significantly influence rural teachers' professional development

Table 3 indicates that the factor loadings for all items related to survival needs satisfaction and professional development are high (all loadings > 0.60) and statistically significant. The analysis of standardised estimates and bootstrapped 95% bias-corrected confidence intervals for the

regression weights shows that the path coefficient representing the effect of satisfying survival needs on professional development is statistically significant. This means that the impact of survival needs satisfaction on professional growth is both positive and significant ($\beta = 0.210$; $SE = 0.093$; 95% CI = [0.033, 0.386]; $p = 0.026$). Consequently, the hypothesis is supported, indicating that fulfilling survival needs positively and significantly influences the professional development of rural teachers.

Table 3 Structural equation estimates and bootstrapped 95% bias-corrected confidence intervals for the regression weights for the influence of survival needs satisfaction on professional development

Path effects for structural model	Standardised beta estimates		Bias-corrected 95% CI [LL; UL]	p
	Estimate (SE)			
Professional development ← Survival needs	0.210 (0.093)		[0.033; 0.386]	0.026*
Experimenting ← Professional development	0.724 (0.057)		[0.612; 0.831]	0.002*
Collaborating school ← Professional development	0.832 (0.067)		[0.695; 0.955]	0.002*
Work-related training ← Professional development	0.854 (0.051)		[0.744; 0.953]	0.002*
Work-related reading ← Professional development	0.759 (0.063)		[0.633; 0.876]	0.002*
Collaborating lessons ← Professional development	0.687 (0.054)		[0.576; 0.789]	0.002*
NS1 ← Survival needs	0.762 (0.041)		[0.658; 0.824]	0.004*
NS2 ← Survival needs	0.815 (0.031)		[0.742; 0.866]	0.003*
NS3 ← Survival needs	0.867 (0.023)		[0.821; 0.911]	0.001*
NS4 ← Survival needs	0.821 (0.030)		[0.758; 0.875]	0.002*

Note. SE denotes the standard error of the structural regression estimations. The LL and UL represent the lower and upper limits of the bias-corrected confidence intervals using 1,000 replications.

Hypothesis 2: Social contribution as part of needs satisfaction amongst rural teachers positively and significantly influences professional development

Table 4 displays the structural equation estimates along with bootstrapped 95% bias-corrected confidence intervals for the regression weights assessing the effect of social contribution needs satisfaction on professional development. The path beta for this relationship is negative and not statistically significant ($\beta = -0.083$; $SE = 0.517$; 95%

CI = [-0.924, 0.201]; $p = 0.778$), indicating that the regression weight did not differ significantly from zero at the 5% significance level. As a result, the lack of significance in the beta coefficient means that the hypothesis is not supported. There is sufficient statistical evidence to reject the hypothesis, concluding that fulfilling social contribution needs among rural teachers does not positively or significantly influence their professional development.

Table 4 Structural equation estimates and bootstrapped 95% bias-corrected confidence intervals for the regression weights for the influence of social contribution needs satisfaction on professional development

Path effects for structural model	Standardised beta estimates		Bias-corrected 95% CI [LL; UL]	p
	Estimate (SE)			
Professional development ← Social contribution	-0.083 (0.517)		[-0.924; 0.201]	0.778
Experimenting ← Professional development	0.724 (0.057)		[0.612; 0.831]	0.002*
Collaborating school ← Professional development	0.832 (0.067)		[0.695; 0.955]	0.002*
Work-related training ← Professional development	0.854 (0.051)		[0.744; 0.953]	0.002*
Work-related reading ← Professional development	0.759 (0.063)		[0.633; 0.876]	0.002*
Collaborating lessons ← Professional development	0.687 (0.054)		[0.576; 0.789]	0.002*
SC1 ← Social contribution	0.655 (0.050)		[0.534; 0.741]	0.003*
SC2 ← Social contribution	0.815 (0.033)		[0.734; 0.872]	0.003*
SC3 ← Social contribution	0.824 (0.028)		[0.767; 0.874]	0.001*
SC4 ← Social contribution	0.773 (0.035)		[0.687; 0.827]	0.004*

Note. *Statistically significant effects. SE represents the standard error for the estimates of the structural regression. LL and UL represent the lower and upper limits of the bias-corrected confidence intervals using 1,000 replications.

Hypothesis 3: Self-determination as part of needs satisfaction among rural teachers positively and significantly influences professional development

Table 5 shows the analysis of the structural equation estimates and bootstrapped 95% bias-corrected confidence intervals. The results indicate that the loading for self-determination needs satisfaction and professional development are satisfactory and statistically significant. Notably, the path assessing the predictive influence of self-determination needs

satisfaction on professional development is positive but not statistically significant ($\beta = 0.051$; $SE = 0.363$; 95% CI = [-0.735, 0.385]; $p = 0.622$). Consequently, since the beta parameter for the self-determination needs satisfaction in the professional development path is not statistically significant, the hypothesis is rejected. This suggests that self-determination needs satisfaction among rural teachers does not have a positive and significant influence on professional development.

Table 5 Structural equation estimates and bootstrapped 95% bias-corrected confidence intervals for the regression weights for the influence of self-determination needs satisfaction on professional development

Path effects for structural model			Standardised Beta estimates	Bias-corrected 95% CI	<i>p</i>
			Estimate (<i>SE</i>)	[LL; UL]	
Professional development	←	Self-determination needs	0.051 (0.363)	[-0.735; 0.385]	0.622
Experimenting	←	Professional development	0.724 (0.057)	[0.612; 0.831]	0.002*
Collaborating school	←	Professional development	0.832 (0.067)	[0.695; 0.955]	0.002*
Work-related training	←	Professional development	0.854 (0.051)	[0.744; 0.953]	0.002*
Work-related reading	←	Professional development	0.759 (0.063)	[0.633; 0.876]	0.002*
Collaborating lessons	←	Professional development	0.687 (0.054)	[0.576; 0.789]	0.002*
Competence needs	←	Self-determination needs	0.891 (0.066)	[0.707; 0.986]	0.009*
Relatedness needs	←	Self-determination needs	0.898 (0.058)	[0.798; 1.035]	0.001*

Note. *Statistically significant effects. *SE* stands for the standard error of the estimates in the structural regression. LL and UL represent the lower and upper limits of the bias-corrected confidence intervals using 1,000 replications.

Table 6 provides a summary of the testing of the hypotheses regarding the predictive effects of survival, social contribution, and self-determination

needs satisfaction on the professional development of rural teachers in the Eastern Cape.

Table 6 Summary results for the testing of hypotheses for the direct predictive effects

Description (Hypothesis)	Test statistic	<i>p</i>	Decision
<i>H</i> ₁ Survival needs satisfaction positively and significantly influences rural teachers' professional development.	$\beta = 0.210$	0.026*	Accept
<i>H</i> ₂ Social contribution needs satisfaction among rural teachers has a positive and significant influence on professional development.	$\beta = -0.083$	0.778	Reject
<i>H</i> ₃ Self-determination needs satisfaction among rural teachers positively and significantly influences professional development.	$\beta = 0.051$	0.622	Reject

Note. *Statistically significant effects. The beta coefficients are standardised estimates of the structural default model.

Discussion

The main aim with this study was to examine how survival, social contribution, and self-determination needs affected the professional development of teachers in rural schools in the Eastern Cape province. The findings reveal that meeting survival needs positively and significantly influences the professional development of these teachers. Conversely, satisfying social contribution needs show a negative and non-significant impact on TPD. Self-determination needs satisfaction demonstrate a positive but not statistically significant effect on the TPD. The results in this study align with those of earlier research in which the influence of needs satisfaction on different outcomes (Duffy, Kim, Gensmer, Raque-Bogdan, Douglass, England & Buyukgoze-Kavas, 2019; Duffy, Prieto, Kim, Raque-Bogdan & Duffy, 2021) were examined. For instance, only the satisfaction of survival needs significantly and directly predicted physical health and health behaviour, while in other studies, the satisfaction of social contribution and self-determination needs positively and significantly influenced employee well-being (Duffy et al., 2019, 2021; Wan & Cao, 2022). The literature indicates that teachers experience professional growth through the satisfaction of social contribution and self-determination needs (Akinyemi et al., 2019; Bantwini, 2019; Mustafa & Paçariz, 2021; Tack &

Vanderlinde, 2019). However, this does not apply to the sample of rural teachers involved in this study. Based on the studies mentioned above and the findings of this research, it is evident that different sets of needs satisfaction can have varying impacts on outcomes, with some being more predictive than others.

Therefore, considering the unique set of challenges that rural teachers face in their workplace, as outlined in the literature, it is not surprising that in this study, rural teachers considered the satisfaction of survival needs as beneficial and, in turn, may influence how much they engage in professional development activities. This finding supports previous research in which it was found that the satisfaction of survival necessities such as housing, transportation, and financial incentives were linked to teachers' willingness to participate in professional development activities (Bernadine, 2019; Nawab & Bissaker, 2021; Tsotetsi & Mahlomaholo, 2015). The dissatisfaction thereof (including remuneration) hinders rural teachers' participation in professional development (Ajani, 2020; SACE, 2019). Based on these findings, a notable positive and significant correlation was indicated between TPD and these sets of needs. This study supports previous research, alluding that teachers' opportunities for professional growth are significantly related to the satisfaction of

their needs at work (Tack & Vanderlinde, 2020). Moreover, we strongly suggest that fulfilling the survival needs of rural teachers will enhance their participation in TPD.

This study provides valuable insight into the challenges faced by rural teachers and how these shape their participation in professional development. Findings show that survival needs significantly predict TPD, while social contribution and self-determination needs, although showing negative and positive effects respectively, were not statistically significant. These results highlight the importance of designing TPD programmes that directly address rural teachers' working conditions and needs. Although South Africa has progressive policies supporting continuous teacher development, poor working conditions in rural schools continue to hinder effective implementation. Policymakers should, therefore, develop targeted interventions that acknowledge rural teachers' unique challenges and tailor TPD activities accordingly. Beyond policy, this study contributes to research on career development and work psychology practice by emphasising the need for assessment tools and interventions for content-specific need. Such efforts may enhance rural teachers' professional growth, improve teaching quality, and motivate stakeholders to support educators in boosting productivity and educational outcomes.

This study had several limitations that may inform future research. The use of a self-administered questionnaire may have restricted participants' understanding of how needs satisfaction influences their professional development, suggesting the value of a mixed-methods approach to capture deeper insight into rural teachers' challenges. The finding that survival needs were the only significant predictors of TPD should be interpreted cautiously, as these needs are likely paramount in disadvantaged rural South African contexts characterised by poverty, unemployment, and poor infrastructure (Zulu & Mukeredzi, 2021). The focus on teachers in the Raymond Mhlaba municipality further limits generalisability, indicating the need to extend research across other regions of the Eastern Cape. Furthermore, we did not explicitly account for contextual challenges such as resource constraints, geographic isolation, and limited institutional support, which may moderate or mediate the relationship between needs satisfaction and professional development. Future studies could examine these dynamics to provide a more nuanced understanding of how environmental conditions interact with individual needs in shaping rural teachers' growth. Despite these limitations, the findings enhance knowledge of factors influencing participation in professional development and

highlight the importance of tailored interventions to address teachers' specific needs.

Conclusion

This study shows that addressing rural teachers' survival needs is necessary to enhance their professional development. In addition, we recommend that it would be beneficial to consider the work challenges experienced by rural teachers when implementing TPD programmes. The role of TPD is to improve teaching and learning, thereby boosting learners' academic performance. To accomplish this, TPD programmes need to be focused more on teachers' needs. The quality of education in rural schools will eventually improve because of rural teachers participating in ongoing professional development.

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Authors' Contributions

ZD wrote the manuscript and administered a survey with teachers, while WC supervised and reviewed the writing.

Notes

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