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The Influence of Ghanaian Headteachers' Creative Problem-Solving Attributes on Teachers' Person-Environment Fit Dimensions and Retention Relationship

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The Influence of Ghanaian Head teachers' Creative Problem-Solving Attributes on Teachers' Person-Environment Fit Dimensions and Retention Relationship

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Abstract

Purpose: The study examined three person-environment fit dimensions and retention within the framework of Cho's (2003) dynamic creative problem-solving ability attributes. The purpose was to establish the effect of head teachers' knowledge and skills, divergent thinking, convergent thinking, motivation, and environment on the linkage between teachers' person-environment fit dimensions and their retention intentions.

Methodology: Questionnaires from 279 head teachers were on their creative problem-solving ability attributes. Questionnaires from 558 teachers were on their perceived person-environment fit dimensions and retention intentions. The quantitative oriented correlational cross-sectional research survey design was employed. The correlation test and structural equation modelling techniques were employed to analyze the relationships among the creative problem solving ability attributes, perceived person-environment fit dimensions and retention intentions.

Findings: With the exception of the motivation – knowledge path which was insignificant, findings from the analysis showed that knowledge and skills attribute significantly mediate the relationship between the dynamic creative problem solving ability attributes and the person-brand fitting ability of head teachers. The person-brand fit indirectly predicts teacher retention intention, with the person-job fit and person-organisation fit being significant mediators.

Theory, practice and policy: Theoretically, the study's Dynamic System Model of Creative Fit for Retention casts creative problem-solving ability attributes within the framework of person-environment fit and employee retention. The study's findings that leaders need to continue to creatively fit their followers to the work environment to enhance retention intentions; the associated policy implications and future research directions are discussed.

Keywords: *Creative Problem-Solving, Person-Environment Fit, Retention*

1.0 INTRODUCTION

Teachers have a high rate of turnover, and the rates at which new teachers are quitting the teaching job industry are alarming (Moore, 2012), especially in developing countries. ‘Increasing the number of new recruits into teaching will do little to ameliorate looming teacher shortages unless new and existing teachers stay in the teaching profession’ (Feng, 2006, p.1). There is no single solution for reducing teacher turnover (Blazer, 2006). The Ministry of Education and Ghana Education Service are currently responsible and in charge of the task of teacher recruitment and retention in Ghana’s educational system. These two Ghana government institutions have a formulated policy framework on pre-tertiary teacher professional development and management in Ghana that seeks among other things to decentralise teacher management (recruitment and retention) at district and school level (Ministry of Education and Ghana Education Service, 2012). This makes the roles of head teachers critical although their activities will be supervised by the National Teaching Council which will provide guidelines and regulations for the implementation of the policy in line with the call by Baah, Otoo and Osei-Boateng (2009). The policy is yet to be implemented (Dery, 2016).

1.1 Statement of the Problem

Head teachers need to understand, manage and ‘creatively’ solve problems associated with reasons for teacher attrition and the knowledge gained used to inform the formulation of strategies to improve teacher retention (Ingersoll & Smith, 2003). The need to understand creative management of retention issues makes “the ‘fit’ between individuals’ creative preferences and abilities and creative characteristics and demands of the environment” (Livingstone & Nelson, 1994, p. 244) a potentially useful concept in this study’s aim to establish the effect of a leaders’ creativity on followers person-environment fit and their retention intention.

The head teachers’ ability to creatively fit the preferences, abilities and characteristics of teachers to the demands of the schools’ environment in line with the proposition of Livingstone and Nelson (1994) might be a crucial factor for teacher retention. Creative fit is linked to person-environment fit, a concept that is predominately examined by researchers and managed by practitioners at the attraction, interview and selection phase of employment process. Person-environment fit is broadly defined by Kristof-Brown, Zimmerman and Johnson (2005) as the compatibility between an individual and a work environment that occurs due to their characteristics being well matched. In reaction to the overemphasis placed on person-environment fit at the entry level of the employment cycle, Shipp and Jansen (2009) argued that person-environment fit should be examined by researchers and managed by practitioners in the middle of an employment period since the person and the environment are dynamic and complex. Sekiguchi (2004) had also outlined the need to expand the person-environment fit research domain to include the examination of more than two types of person-environment fit at the same time in the various employment stages. Isaksen and Aerts (2011) did advocate that “future research should include additional relevant variables that would provide deeper insights into the nature of fit and misfit” (p. 29). The problem area examined by this study is delimited to existing teachers’ person-environment fit dimensions within the context of the head teachers’ creative problem-solving abilities and teachers’ retention intentions.

1.2 Objectives and Research Questions of the Study

In line with the positions of Livingstone and Nelson (1994); Ingersoll and Smith (2003); Sekiguchi (2004); Shipp and Jansen (2009) as well as Isaksen and Aerts (2011) the study examined ‘person-environment fit’ dimensions and retention within the framework of Cho’s (2003) dynamic creative problem-solving ability attributes (knowledge and skills, divergent thinking, convergent thinking, motivation, and environment).

The purpose of the study is to establish

- 1: the mediating effect of head teacher’s knowledge on the relationship between the environment, convergent, divergent and motivation attributes and the person-brand fitting ability of head teachers.
- 2: the predictive influence of head teacher’s person-organisation and person-job fitting ability on teacher retention intention when examined in the same model.
- 3: the indirect predictive influence of head teacher’s person-brand fitting ability of teacher retention intention, when person-job fitting ability and person-organisation fitting ability of the head teacher mediate the relationship between person-brand fitting ability and retention intention.

The following research questions were posed:

- 1: ‘What role does the knowledge and skills attribute play in the relationship between the other dynamic creative problem-solving ability attributes (Cho, 2003) on one hand and the dimensions of person-environment fit on the other?’;
- 2: ‘What are the creative problem-solving ability attributes and person-environment fit dimensions’ direct and indirect influences on retention intentions?’

2.0 LITERATURE REVIEW

2.1 Theoretical Review: Dynamic System Model of Creative Fitting Ability Framework

Theories linked to creative problem-solving ability attributes and fitting ability were integrated to examine the research question and hypotheses posed in the present study. As reported in Lin and Cho (2011), “Cho (1999, 2003) synthesized various theories on the multi-faceted and complex nature of creativity ... and suggested a dynamic system model of creative problem-solving ability (CPSA)” (p.255). The present study did integrate Cho’s (2003) dynamic system model of creative problem solving ability; Livingstone and Nelson’s (1994) model of creativity fit that positioned and examined creativity within the person-environment fit framework (supply-value creativity fit and demand-ability creativity fit) as well as Schneider’s (1983; 1987) attraction-selection-attrition model and did suggest a conceptual framework of a dynamic system model of creative fit applied to retention as shown in Figure 1 below.

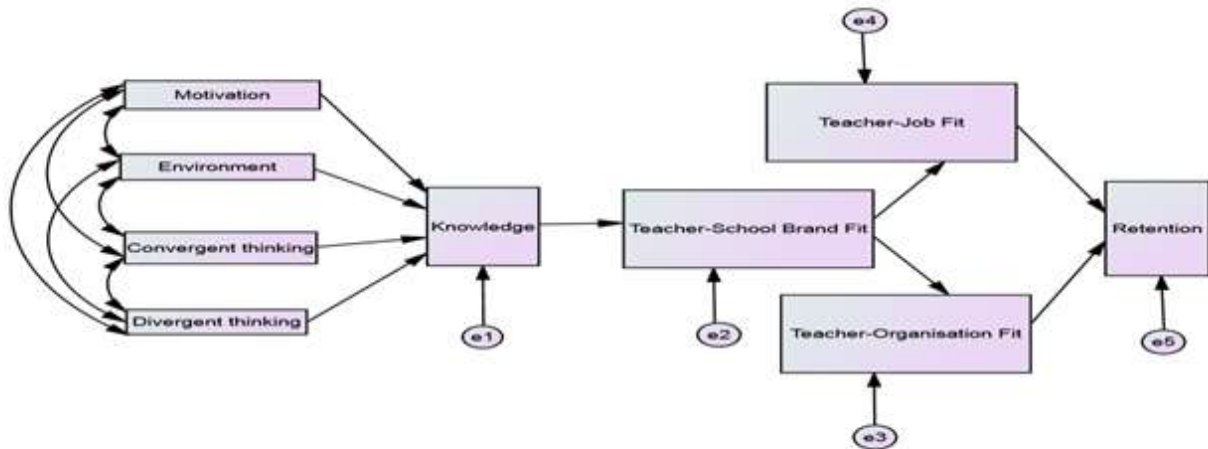


Figure 1. Conceptual Framework: Dynamic System Model of Creative Fit for Retention

2.2 Review of Related Studies

2.2.1 Creative Problem Solving Attributes and Person-Brand Fitting Ability

The proposition that “fit on task complexity is improved, or is perceived to be improved by some external agent such as a supervisor or chance” (Caplan, 1987, p. 262) need more examination to understand supervisors’ role in the process. Caplan has urged that researchers explore how fit is accomplished and who (supervisor or target employee) accomplishes the changed person-environment fit as well as the implications. The head teacher may employ “a good body of knowledge ... recalled and demonstrated in terms of concepts’ depth and clarity in both procedure and application” (Tularam & Hulsman, 2013; p. 235) in solving problems. One of such problem is fitting teachers to school environment for retention. Understanding head teachers’ knowledge and skills of person-environment fit procedure and application to teacher retention will provide further insight. The present study explored how the perceived change in teachers’ person-environment fit is managed and accomplished by head teachers in the middle of an employment period (Shipp & Jansen, 2009).

Lin and Cho (2011, p.257) noted that “the role of knowledge and skills has been found to be significant predictor of creativity”. Knowledge relates to attributes such as creative work-environment, convergent, divergent and motivation activities (Lin, 2010; Lin & Cho; Runco, Dow & Smith, 2006; Schepers & van den Berg, 2007; Waine, 2010). Knowledge and skills attribute were also reported by Lin as well as Lin and Cho to significantly mediate between the environment, convergent, divergent and motivation attributes and creative problem-solving ability among mathematics pupils. Although other studies found insignificant relationship between divergent and convergent thinking tasks Claridge and McDonald (2009), no significant impact of environment on intrinsic motivation Paramitha and Indarti (2013) and knowledge-sharing behaviour having insignificant relationship with environment Liang, Liu and Wu (2008); it is worth noting that researchers found the existence of relationship among knowledge and skills, divergent thinking, convergent thinking, motivation, and environment on one hand and creativity on the other (see Lin; Lin & Cho).

Ambrosini and Billsberry (2007, p.4) posited that the “characteristics of tacit knowledge together with the experience of person-organisation fit clearly suggests that where there are high levels of person-organisation fit, tacit knowledge is more likely to be transferred more easily”. Isaksen and Aerts (2011, p. 29) noted that “individual differences in problem-solving style have a clear impact for fit in the work environment and therefore, implications for developing and applying creativity”. Daryono (1995) in an earlier study found employees with expert knowledge to perceive themselves as more ‘fit’ with their work environment than did employees with moderate and novice knowledge.

Livingstone, Nelson and Barr (1997); Puccio, Talbot and Joniak (2000); Choi (2004); and Pai, Lee, and Jung (2010) have examined the dimensions of person-environment fit in relation to employee creative outcomes, without exploring creative problem-solving attributes. Tauer and Harackiewicz (1999) did, however, show that the relationship between achievement motivation type and person-environment fit type influence reported enjoyment of a task. Janssen (2014) found demands-abilities fit to be significantly and positively predictive of intrinsic motivation. From a supply-value fit perspective, Isaksen and Aerts (2011) found that the differences in climate scores between best-case (desired or fit situation) and worst-case (least desired or misfit situation) climates were able to identify and predict, to some extent, different problem-solving styles which “includes both divergent (generating) and convergent (focusing) kinds of problem solving ... to implement novel insight” (p. 9). The problem-solving style dimension as noted by Isaksen and Aerts, did explain a small but significant amount of the total demand-ability fit and misfit climate variability. Isaksen and Aerts study did not take into account all attributes identified by Cho (2003) hence the present study examined whether the attributes do account for the fit variability.

Person-brand congruence was operationalised by Matzler, Pichler, Füller and Mooradian’s (2011) as the perceived fit between the person and the brand, that is, consumers’ perceptions that a brand reflects or communicates who they are. Richards, Foster and Morgan (1998) argued that brand is essentially knowledge. Forster et al. posited that a brand-linked marketer's knowledge, end user's knowledge and the distribution channel's knowledge of the brand, over time, builds into a considerable body of knowledge, which can serve as a critical competitive advantage. The present study deemed it fit to explore the link between head teacher’s knowledge and teachers’ perceptions of the school’s brand and how it reflects or communicates who they are, hence did hypothesised that H1: Knowledge will significantly mediate the relationship between the environment, convergent, divergent and motivation attributes and the person-brand fitting ability of head teachers.

2.2.2 Person-School Brand fit, Person-Job fit, Person-Organisation fit and Retention

Brand awareness is the strength of a brand’s presence in the mind of the consumer (Ross, 2006). Aspects of a company’s brand personality did increase employees’ personal and social identification with a brand (person-brand congruence) (Yi & La, 2006). Images do help the individual to understand the world or to expect future events (Takase, 2005). Jiewanto, Laurens and Nelloh (2012) concurred that behavioural intention of individuals will be positively impacted by brand image. Achouri and Bouslama (2010) proposed that fit between brand personality and the self-image of a consumer has a positive effect on the preference level towards the brand, his or her attitude as well as intention of future behaviour towards this brand. The present study

explored how person-brand fit will impact job fit and organisation fit behaviours; and retention intention.

Employee turnover intention was found by Takase (2005) not to be negatively related to perceived fit in image among nurses. Darnold's (2008) study data provided support for the view that anticipated person-job fit was related to overall organizational brand image. Supplementary fit and complementary fit of person-organisation fit were each found to be significantly related to organizational brand (Darnold). The present study sought to address the issue of whether person-brand fit will predict employee retention intention, with person-job fit and person-organisation fit as mediators, hence, the second hypothesis H2: 'Headteacher's person-brand fitting ability will indirectly predict teacher retention intention, with person-job fitting ability and person-organisation fitting ability of the headteacher mediating the relationship between person-brand fitting ability and retention intention'.

Person-job fit, according to Carless (2005), is the match between a person's knowledge, skills and abilities and the requirements of the job; and according to Edward (1991), it will occur when individuals bring their knowledge, skill, and abilities, sufficient enough to meet the demands of the job; and the supplies offered from the job are compatible to the needs, preferences and desires of the individuals. Mayer and Dale (2010) found no support for the match between the complexity of a task and the person's cognitive complexity relating to turnover intention and other employee attitudes. Pawase and Poonawala (2013) found that the path between person-job fit and turnover intentions was negative but insignificant, a finding that contradicted the findings of Boon, Hartog, Boselie, and Paauwe (2011); Cable and Judge (1996); Caldwell and O'Reilly (1990); Moynihan and Pandey (2008); Saks and Ashforth (1997); and Takase (2005) who found employees' turnover intentions to be significantly predicted by person-job fit. Takase found a stronger turnover intention when a role (person-job) misfit is perceived. Mayer and Dale however showed that groups with lower cognitive complexity were influenced more than higher complexity group by 'task complexity' and 'group structure' mismatch. Studies linking person-job fit to employee turnover or retention intentions have been mixed, hence the present study examined hypothesis;

H3: 'Head teacher's person-job fitting ability will significantly predict teacher retention intention' to provide additional insight when examined with person-organisation fit in the same model.

Person-organisation fit is defined as "the congruence between the norms and values of organizations and the values of persons" (Chatman (1989, p.339). Boon, Den Hartog, Boselie and Paauwe (2011); Caldwell and O'Reilly (1990); Harman, Blum, Stefani and Taho (2009); Jung and Yoon (2013); Moynihan and Pandey (2008); O'Reilly, Chatman and Caldwell (1991); and Saks and Ashforth (1997) found person-organization fit to be negatively related with employees' intention to leave the organization and actual turnover. In contrast Pawase and Poonawala (2013), Takase (2005) and Van Vianen (2000) found person-organization fit not to be significantly related to turnover intentions. Exploring the teacher's person-organisation fit and retention intention, the study hypothesised that H4: 'Headteacher's person-organisation fitting ability will significantly predict teacher retention intention'.

3.0 METHOD

3.1 Research Design

The research design of the study was a correlational cross-sectional research survey. The study was designed to predict teachers' retention intention with teacher's evaluation of head teachers' task-oriented managerial leadership behaviours as predictors. The quantitative nature of the research enabled the researcher to choose appropriate statistical techniques to analyze the relationships among the variables.

3.2 Population and Sample

The Ghanaian head teachers of public schools at pre-tertiary education level under the Ghana Education Service formed the study's target population. Head teacher is the unit of analysis and is operationalised in the study to represent a head of school in the pre-tertiary education sector. The description of the study's target population is based on Ministry of Education and Ghana Education Service (2012) description of the pre-tertiary education sector in the Policy Framework on Pre-Tertiary Teacher Professional Development and Management in Ghana.

Respondents from 38 senior high schools / technical and vocational institutions, 135 junior high schools and 106 primary schools took part in the study. These schools are pre-tertiary schools in the urban and rural settings of five of the ten regions of Ghana: Ashanti, Eastern, Greater Accra, Northern and Western regions. The five regions were randomly selected at the first sampling stage. Three hundred and fifty pre-tertiary schools were subsequently selected randomly from the school categories. Two teachers per a head teacher (first teacher and last teacher from the list of teaching staff generated by the head teacher) of selected pre-tertiary school provided data which were integrated per variable. The multistage sampling design was used. Out of the 350 pre-tertiary schools, only respondents from 336 completed and returned the survey. The review of the questionnaires for appropriateness resulted in 558 usable teacher filled questionnaires which provided information on 279 head teachers. In addition 279 questionnaires filled by head teachers were used. Based on Tabanick and Fidell's (1996) formula ($N > 50 + 8m$: where m = number of independent variables and N = sample size), the sample size of 279 schools (head teacher and two teachers per school) is appropriate to obtain an equation and model.

3.3 Questionnaires:

The Creative Problem-Solving Attribute Questionnaire was used to examine divergent thinking, convergent thinking, motivation and environment attributes and knowledge and skills attribute (Lin, 2010) referred to as knowledge in the present study. The person-brand (teacher-brand) fit, person-job (teacher-job) fit and person-organisation (teacher-organisation) fit dimensions of the person-environment fit of teachers were measured using a modified version of Cable and Derue's (2002) measure and used as an evaluation of head teachers' creative fitting ability. Four items that elicited information on teachers' willingness to either continue or quit teaching (sample item: 'I will stop teaching at the end of the month') were integrated into Allen and Meyer's (1990) normative commitment scale to measure retention intention.

The internal consistency (Cronbach's alpha) showed reasonable internal consistency for all the variables when the questionnaires were piloted on heads and teachers of 47 schools ($\alpha = .85 - .90$). In the main study, the internal consistency (Cronbach's alpha) results for the Creative

Problem-Solving attributes were divergent thinking ($\alpha = .66$); convergent thinking ($\alpha = .77$); motivation ($\alpha = .66$); knowledge ($\alpha = .77$); and environment ($\alpha = .86$). The internal consistency (Cronbach's alpha) for person-brand fit ($\alpha = .86$), person-job fit ($\alpha = .79$), person-organisation fit ($\alpha = .69$) and retention intention ($\alpha = .63$) were significant. The present study employed AMOS confirmatory factor analysis to examine the structural validity of the variables and the results did indicate CFI statistics above .916 and NFI statistics above .91 for the variables under study. Notwithstanding the significant values of the chi-square values and the RMSEA values above .08 for the variables (except Knowledge: $\chi^2 (2, N=279) = .121, p=0.92, CFI = 1.000, NFI = 1.000, RMSEA = .0001$) the hypothesized structural fit of the variables showed a moderate to good fit to the observed data.

3.4 Data Gathering Procedures:

The researcher with the help of research assistants administered and retrieved the questionnaires over a period of six weeks. Out of the 336 pre-tertiary institutions that completed the survey, the present study used completely filled questionnaires from 279 head teachers and 558 teachers in the present analysis. Questionnaires received from 57 schools were incomplete hence not used in the analysis. The present study employed the Pearson – ' r ' statistical test to obtain test scores of the bivariate relationships among the study variables and further performed the structural equation modelling using the SPSS and AMOS 23 respectively.

4.0 RESULTS AND INTERPRETATIONS

A Pearson – ' r ' test scores of the bivariate relationships among creative problem-solving attributes indicate that all the attributes employed in the fitting process were significantly related to each other ($r = 0.157$ to $r = 0.545; p < 0.01$): the strength of the relationship between motivation and knowledge attributes was weak ($r = 0.157, p < 0.01$), with convergent thinking attribute moderately correlated with the environment attribute ($r = 0.545, p < 0.01$). The ' r ' values for other bivariate relationships did fall within these two values, indicating that a significant dynamic relationship exist among the creative problem-solving attributes of head teachers.

Table 1: Descriptive Statistics, Correlation Coefficients and Reliabilities (α) among Head teachers' Creative Fitting Attributes, Teachers' Person-Environment Fit Dimensions and Retention

No	*Variables	M	S.D	1	2	3	4	5	6	7	8	9	10	11
1	R	3.04	0.49	(.63)										
2	P-E Fit	3.39	0.62	.26**										
3	TJF	3.56	0.72	.26**	.82**	(.79)								
4	TOF	3.44	0.64	.23**	.83**	.54**	(.69)							
5	TSBF	3.16	0.85	.18**	.87**	.53**	.62**	(.86)						
6	CFA	3.54	0.53	.04	.21**	.18**	.20**	.16**						
7	DT	3.54	0.68	.04	.13*	.11	.16**	.08	.76**	(.66)				
8	CT	3.75	0.67	-.02	.13*	.14*	.13*	.06	.78**	.51**	(.77)			
9	M	3.68	0.76	.13*	.15*	.18**	.10	.10	.68**	.41**	.49**	(.66)		
10	E	3.57	0.79	.04	.14*	.13*	.17**	.07	.78**	.51**	.55**	.39**	(.86)	
11	K	3.17	0.77	-.04	.20**	.09	.15*	.26**	.61**	.36**	.33**	.16**	.33**	(.77)

** . $p < 0.01$; * $p < 0.05$; $n = 279$.

*. DT: Divergent thinking; M: Motivation; CT: Convergent thinking; E: Environment; K: Knowledge; TSBF: Teacher-School Brand Fit; TOF: Teacher-Organisation Fit; TJF: Teacher-Job Fit; R: Retention; CFA: Creative Fitting Attributes; P-E Fit: Person-Environment Fit

4.2 The Dynamic System Model of Creative Fit for Retention

The AMOS path analysis showed that the overall hypothesized model (Figure 2 below) fit the data in support of the proposition that head teacher's creative problem-solving ability attributes plays a significant role in managing teachers' person-brand fit, person-organisation fit and person-job fit for teacher-retention. Although the chi-square statistic $\chi^2_{21} = 62.401$, ($p < .0001$) was significant, the ratio of chi-square to degrees of freedom, that is, CMIN = 2.971, was less than five and in the range of 2 to 1 or 3 to 1, indicating good and satisfactory model fit (Carmines & McIver, 1981; Hughes, Price & Marrs, 1986; Wheaton, Muthén, Alwin & Summers, 1977 cited in Arbuckle 2010). In line with positions of other researchers cited by Arbuckle, the other indicators of fit indicated good fit of the hypothesised model to the data (CFI=.936: Bentler, 1990; NFI=.909: Bentler & Bonett, 1980; RMSEA=.084: Browne & Cudeck, 1993) in support of a dynamic system model of creative fit. As shown in Figure 2, below except for motivation - knowledge attributes path coefficients ($\beta = -.08$, $p = ns$) all the direct effects (path coefficients) were significant, with the attributes significantly and dynamically related: associated p-values less than .05 ($p < .05$).

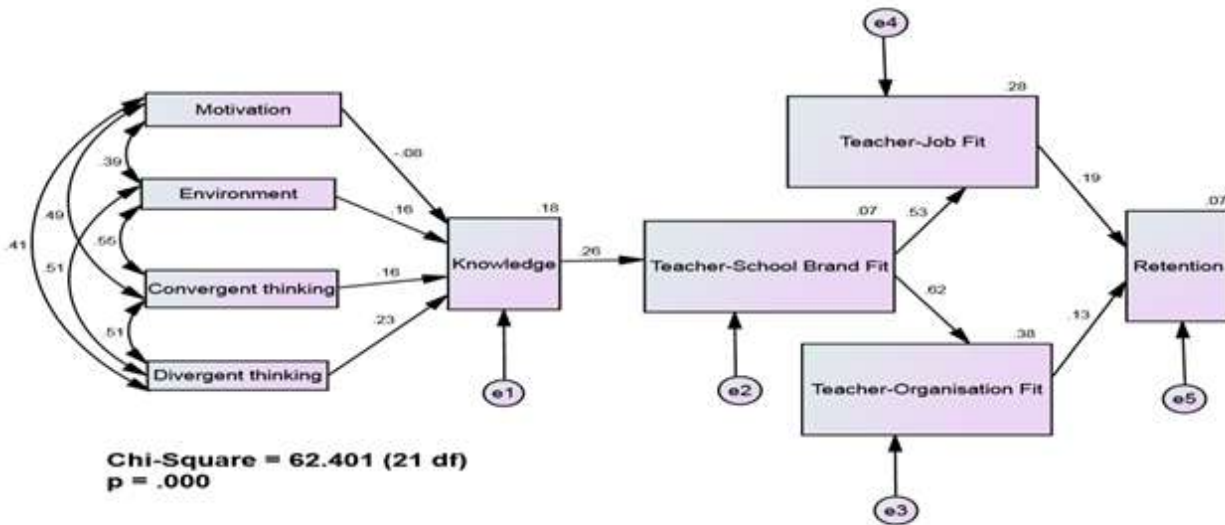


Figure 2. Dynamic System Model of Creative Fit for Retention

4.3 The Posterior Distribution Estimates of the Indirect Effects: Bayesian Analysis

Except for motivation [95% lower boundary of -.058 to -.011 and 95% upper boundary of .002 to .012; which include zero (0)] significant indirect effects of divergent thinking, convergent thinking, environment, knowledge and person-brand fit on retention did exist (see Table 2 below). Similarly, except for the motivation – knowledge path which was insignificant, knowledge significantly mediated the relationship between the dynamic creative problem solving ability attributes and the person-brand fitting ability of head teachers in support of hypothesis H1: ‘Knowledge will significantly mediate the relationship between the dynamic creative problem solving ability attributes and the person-brand fitting ability of head teachers’ (see Figure 2 above and Table 2 below). As indicated in Table 2, the result did support hypothesis H2: ‘Head teacher’s person-brand fitting ability will indirectly predict teacher retention intention, with person-job fitting ability and person-organisation fitting ability of the head teacher mediating the relationship between person-brand fitting ability and retention intention’. Hypothesis H3: ‘Head teacher’s person-job fitting ability will significantly predict teacher retention intention’ and hypothesis H4: ‘Head teacher’s person-organisation fitting ability will significantly predict teacher retention intention’ were all supported by the data (refer to Figure 2 above).

These results showed that knowledge attribute mediate the relationship between the dynamic creative problem-solving ability attributes, on one hand and the person-brand fit dimension of person-environment fit on the other and that the variables do have cumulative influence on retention intentions.

Table 2 Standardised Indirect Effects of Creative Problem-Solving Attributes and Person-Environment fit Dimensions on Retention

*Variables	DT	M	CT	E	K	TSBF	TOF	TJF
K	0	0	0	0	0	0	0	0
TSBF	0.06	-0.02	0.041	0.041	0	0	0	0
TOF	0.037	-0.013	0.026	0.026	0.16	0	0	0
TJF	0.032	-0.011	0.022	0.022	0.138	0	0	0
R	0.011	-0.004	0.007	0.007	0.046	0.178	0	0

*. DT: Divergent thinking; M: Motivation; CT: Convergent thinking; E: Environment; K: Knowledge; TSBF: Teacher-School Brand Fit; TOF: Teacher-Organisation Fit; TJF: Teacher-Job Fit; R: Retention

5.0 FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings and Discussion

The present study's finding of a significant dynamic relationship among the creative problem-solving attributes of head teachers tasked to fit teachers to their schools did concur with the findings of Lin (2010); Lin and Cho (2011); Paramitha and Indarti (2013); Runco et al. (2006); and Waine (2010) who found relationship between two or more of Cho's (2003) creative problem-solving ability attributes. The present study's finding that a significant dynamic relationship did exist among the creative problem-solving attributes of leaders did however contradict the findings of insignificant relationship between divergent and convergent thinking tasks (Claridge & McDonald, 2009); no significant impact of environment on intrinsic motivation (Paramitha & Indarti, 2013) and knowledge-sharing behaviour (Liang et al., 2008).

Apart from the motivation attribute, knowledge was found by the present study to significantly mediate the relationship between the remaining creative problem solving ability attributes and the person-brand fitting ability of head teachers. This finding of divergent thinking, convergent thinking and environment significantly predicting knowledge is in line with Lin (2010), Lin and Cho (2011), Runco *et al.* (2006), Schepers and van den Berg (2007), as well as Waine (2010). The motivation attribute did not significantly predict knowledge, contradicting the findings reported by Lin as well as Lin and Cho. The differential predictive power quality of the different types of motivation logic argued by Gerhart and Fang (2015) may account for the differences in findings with reference to motivation one of Cho's (2003) attributes. This calls for future researches to examine the linkages between compensation, motivation, performance, and creativity (Gerhart & Fang); where future studies can explore the different levels and combinations of the creative problem-solving attributes and their linkages to performance and creativity.

The finding of a linkage between head teacher's knowledge; and ability to fit the teacher to the school's brand resonate the views of Matzler *et al.* (2011) on person-brand congruence and

Richards et al.'s (1998) brand knowledge views which serves as a critical competitive advantage. The finding is in line with the fact that fit is impacted by individual differences in knowledge level (Daryono, 1995) and problem-solving style (Isaksen & Aerts, 2011). The indirect link between headteacher's knowledge on one hand and person-organisation fit reported by teachers on the other partly explain Ambrosini and Billsberry's (2007) suggestion that tacit knowledge has linkages with levels of person-organisation fit, hence the need for further studies. The present study's finding of direct and indirect linkages between Cho's (2003) dynamic creative problem-solving attributes and the dimensions of person-environment fit fills the knowledge gap left by Livingstone *et al.* (1997); Puccio *et al.* (2000); Choi (2004); and Pai *et al.* (2010) who did not explore the creative problem-solving attributes and dimensions of person-environment fit relationships in their studies. The non-significant indirect influence of motivation on the person-environment fitting ability of head teachers contradicts Tauer and Harackiewicz (1999); Lee *et al.* (2010) and Janssen (2014) findings that some relationship between fit dimensions and motivation did exist.

The finding that head teacher's person-brand fitting ability indirectly predicts teacher retention intention positively explains the mediating role of the person-job fit and person-organisation fit concepts as possible reason why Takase (2005) found insignificant relationship between perceived image fit and turnover intention. The findings did concur with the person-brand fit and intention positions of Jiewanto *et al.* (2012), Achouri and Bouslama (2010) and Yi and La (2006). Darnold's (2008) finding of organisational brand having relationship with person-job fit and person-organisation fit is partly explained by the present study's finding of head teacher's person-job fitting ability and person-organisation fitting ability mediating the relationship between person-brand fitting ability and retention intention.

The finding that head teacher's person-job fitting ability significantly predicted teacher retention intention lends support to Boon et al. (2011); Cable and Judge (1996); Caldwell and O'Reilly (1990); Moynihan and Pandey (2008); Saks and Ashforth (1997) and Takase (2005) position but contradicted the findings of Pawase and Poonawala (2013) and Mayer and Dale (2010). The present study showed that head teacher's person-organisation fitting ability did significantly predict teacher retention intention, a finding in support of the findings of Boon et al.; Caldwell and O'Reilly; Harman *et al.* (2009); Jung and Yoon (2013); Moynihan and Pandey; O'Reilly *et al.* (1991); and Saks and Ashforth which indicated that employees' intention to leave the organization and actual turnover was negatively related to their person-organization fit but contradicted the findings of Pawase and Poonawala (2013); Takase; and Van Vianen (2000).

Unlike Livingstone *et al.* (1997); Puccio *et al.* (2000); Choi (2004); and Pai *et al.* (2010) who explored the impact of person-environment fit on creativity, the present study in line with Caplan's (1987) call, extends the understanding of creativity from the perspective of person-environment fit by exploring and outlining how leaders' creative problem-solving ability attributes influence person-environment fit dimensions of subordinates. Theoretically the study has introduced the creative problem-solving ability attributes concepts into the creativity fit concept by integrating Cho's (2003) dynamic system model of creative problem solving ability; Livingstone and Nelson's (1994) model of creativity fit. In other words the study's Dynamic System Model of Creative Fit for Retention casts creative problem-solving ability attributes within the framework of person-environment fit and employee retention. The study reinforces

Shipp and Jansen's (2009) argument that person-environment fit should be examined by researchers and managed by practitioners in the middle of the employment period.

This study's findings are critical for the educational system of Ghana since the nation's policy direction seeks to decentralise teacher management (recruitment and retention) at district and school level (Ministry of Education and Ghana Education Service, 2012). The findings of the present study will provide the Ministry of Education, Ghana Education Service, universities and school leadership preparation programmes with insight to improve their leadership programs to help prepare school leaders with the creative problem solving practices or skills necessary to be successful at managing person-environment fitting issues to enhance teacher retention.

5.2 Conclusions and Recommendations

In conclusion, the present study's findings offers support for researchers who believe that creativity can be understood from the person-environment fit perspective, with employee fitting being managed by the supervisor throughout the employment relationship. Although significant results were obtained, the beta coefficients were not large. Since the knowledge attribute accounted for a small amount of the person-brand fit variability, future studies should explore the integration of some independent variables to allow more refined analysis of the direct and indirect effects. The present study cannot prove causality and care must be taken when generalising the findings outside the schooling system. Future studies may examine the suggested dynamic system model of creative fitting ability in other sectors. The influence of the dynamic system model of creative fitting ability on reformation within educational institutions and academic achievement need attention.

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