

Perceived Competence and Autonomy among Teacher Trainees in Ghana

Seidu Sofu¹

Tontie L. Kanton²

Abstract

Drawing on Self-Determination Theory (SDT), this study examined perceived competence and autonomy among teacher trainees (TTs). A purposive sample of 95 TTs (56 males and 39 females) from one College of Education in Ghana participated in the study. Modified forms of the Perceived Competence Scale (PCS) and the Autonomy subscale of the Self-Regulation Questionnaire-Learning (SRQ-L) served as the main data sources. Data were analyzed using descriptive and inferential statistics. Results showed that 95.79% and 98.94% of TTs exhibited medium to high levels of competence and autonomy respectively. Pearson correlation analyses indicated significant positive relationship between PCS and SRQ-L ($r = .40$; $p = .000$). There was no significant correlation between the number of years in training and PCS or SRQ-L. Independent t-Test analyses suggested PCS and SRQ-L mean scores for males were significantly higher than those for females. One-Way ANOVA measures indicated no significant differences in either PCS or SRQ-L mean scores and the program of study. The findings suggest that gender was the main determinant of TTs' PCS and SRQ-L, while marital status, the number of years in training, and the program of study were not. Teacher educators need to identify strategies that would enhance female TTs' competence and autonomy.

Keywords: Perceived competence, self-regulation, teacher trainees, Ghana.

1.0 Introduction

Psychological needs are essential elements for the enhancement of the individual's well-being (Deci & Ryan, 2000; Ryan & Deci, 2000). According to self-determination theory (SDT), three inborn psychological needs that influence human functioning include: competence, autonomy, and relatedness. Competence refers to, "feeling effective in one's ongoing interactions with the social environment and experiencing opportunities to exercise and express one's capacities" (Ryan & Deci, 2002, p. 7). The feeling of competence causes individuals to accept the challenge of more difficult situations and to build more capabilities. Autonomy is the feeling of being the source of one's own behavior (Ryan & Deci, 2002). Relatedness refers to feeling connected to others, a sense of belongingness to other individuals or a group. An individual will naturally tend toward contexts, activities, and relationships that support the satisfaction of these needs (Deci & Ryan, 2000; Vallerand, 1997).

Pertinent to the current study, competence and autonomy are critical for success in any learning context. Thus, perceived competence and autonomy are critical for teacher trainees' (TTs) well-being, achievement, and persistence in college (Levesque, Zuehlke, Stanek, & Ryan, 2004).

¹ Department of HHPR, Southeast Missouri State University, One University Plaza, Cape Girardeau, MO 63701, USA

² Department of Social Studies, Bagabaga College of Education, P. O. Box 35 E/R, Tamale, Ghana

Those who experience greater need satisfaction would more likely be better adjusted in school work and in life and demonstrate enhanced performance than those whose needs are hindered (Ryan & Deci, 2000; Ryan, Stiller, & Lynch, 1994).

Research indicates that the influences of competence and autonomy on psychological well-being are comparable across cultures (Levesque et al, 2004). Sheldon, Elliot, Kim, and Kasser (2001) also reported university students in the United States and South Korea indicated the importance of these psychological needs in their life experiences. Furthermore, Hofstede (2001) found that these psychological needs had positive student outcomes after controlling for students' group orientations.

Classroom interactions in sub-Saharan Africa are predominantly teacher-oriented (Dei, 2004; Kanu, 2002). Often they focus on extreme respect for authority; resulting in limited student engagement (Pryor & Akwesi, 1998). For example, a sample of Ghanaian teachers at the basic education level typically would write materials on the chalkboard for students to copy into their notebooks, followed by question and answer sessions—what Ampiah (2008) termed “chalk and talk.” Rather than viewing students as co-constructors of their own knowledge, this method of teaching renders students passive recipients of information. This may be a reflection of how the teachers were taught during their teacher education preparation, since teachers tend to teach the way they were taught.

Ghana has implemented several educational reform efforts since the 1980s. The reforms were aimed at improving the competence of TTs who were being prepared to teach at the basic school level. The changes focused on structural and curricular reforms. Unfortunately, many of the reforms have not produced the desired results (Akyeampong & Furlong, 1999). The Ministry of Education (MOE, 1994) attributed the failure to achieve the reform objectives to inefficient teacher education. The MOE argued that teacher training in the country was predominantly academic-oriented— the trainees had limited opportunities to practice in real classrooms. On the contrary, Akyeampong and Stephens (2000) asserted that the reforms did not take into consideration professional teacher development factors such as entry characteristics and beliefs. An understanding of TTs' entry characteristics and beliefs would allow teacher educators to influence their (TTs) perspectives of teaching and learning (O'Sullivan, 2003).

Training sufficient teachers to fill vacancies at all levels of education is critical to the attainment of Ghana's educational reform objectives (Palmer, 2005). For, as Adentwi (2002) rightly noted, the quality of education students receive is inextricably linked to teachers' knowledge, professional skills and competences.

It is not uncommon for many TTs not to possess the requisite grades for teacher training upon first graduating from senior secondary school (Akyeampong & Stephens, 2000). Ankomah (2005), for instance, reported 65% of candidates admitted to initial teacher training institutions had very low entry qualifications in the Senior Secondary School Certificate Examination (SSSCE). Little is known about TTs' levels of competence and autonomy. Research on these two constructs in the Ghanaian context was conducted by Sofo, Kpebu, and Kanton (2013). They reported that grade level was a determinant of secondary physical education students PCS, but not gender, program type or sport participation. Alternatively, program type was the main determinant of the students' autonomy, but not gender, grade level, or sport participation. It is important to examine the competence and autonomy among TTs, since these impact their persistence and achievement in learning (Ryan & Deci, 2000; Ryan, et al., 1994).

1.1 Purpose of the Study

In 2004, the Government of Ghana (GOG) issued a White Paper on the Report presented by the Education Reform Review Committee (GOG, 2004). Government accepted two key features of the Committee's recommendations.

First, two years of Kindergarten was made a part of formal schooling in the country. Second, all 38 Initial Teacher Training Colleges in the country were upgraded to Colleges of Education. With the upgrade to tertiary status, the institutions were charged to award the Diploma in Basic Education to their graduates.

To date, no published research on the competence or autonomy of TTs in the Colleges of Education. Drawing on SDT (Deci & Ryan, 2000), the present study examined perceived competence and autonomy among a group of TTs enrolled in one College of Education in Ghana. An understanding of TTs' perceived competence and autonomy would assist teacher educators identify effective strategies to motivate them (TTs) to stay engaged and achieve academically and professionally.

1.2 Research Questions

The following research questions guided the study:

1. What are Ghanaian teacher trainees' levels of perceived competence and autonomy?
2. What are the correlations between Ghanaian teacher trainees' number of years in training and perceived competence and autonomy?
3. To what extent do gender, marital status, and program type determine Ghanaian teacher trainees' perceived competence and autonomy?

2.0 Method

2.1 Participants and Setting

Participants included a purposive sample of 95 TTs (56 males and 39 females) from one College of Education in Ghana. Of the 95 TTs, 53.7% were in their first year while 31.6% and 14.7% were in their second and third years of training respectively. The institution was one of 38 teacher education colleges in the country that prepared teachers to teach at the basic education levels in the country. The colleges of education award teacher trainees the Diploma in Basic Education after successfully completing their courses of study.

2.2 Data Collection and Analyses

Modified forms of the Perceived Competence Scale (PCS; Williams, Freedman, & Deci, 1998) and the Autonomous subscale of the Self-Regulation Questionnaire-Learning (SRQ-L; Black & Deci, 2000) served as the main data sources. The questionnaire items were worded to pertain to the context of pursuing the Diploma of Basic Education in the College of Education in Ghana.

The PCS is a 4-item questionnaire that assessed TTs' perceived competence about pursuing the Diploma of Basic Education program. A sample item is, "I feel confident in my ability to learn the course materials in the Diploma in Basic Education program." Participants responded to each item on a 7-point Likert scale of 1 (not at all true) to 7 (very true). A participant's score on the PCS is the mean of his or her responses on the four items.

The SRQ-L is a 12-item questionnaire consisting of two subscales: the autonomy subscale and the controlled subscale. The questionnaire asks three questions about why people engage in learning-related behaviors. It measures the reasons why people learn in specific contexts such as a college (Black & Deci, 2000). In the present study, the scale examined the reasons why TTs participated in the Diploma in Basic Education program at their Colleges of Education. The present study utilized the autonomy subscale. The three items were: "I will participate actively in the Diploma in Basic Education program," "I am likely to follow my lecturers' suggestions for studying in the program," and "The reason that I will work to expand my knowledge of teaching is."

A sample response on the autonomy subscale for the first item is “Because I feel like it is a good way to improve my understanding of the course materials.” The autonomy subscale consisted of seven response items. The questionnaire used a 7-point Likert scale of 1 (not at all true) to 7 (very true). A participant’s score on the scale is determined by calculating the mean of the participant’s responses on the seven autonomy response items.

Data were analyzed using descriptive and inferential statistics. Cut-off points for both questionnaires (on 7-point scale) were: 1-3.49 (low), 3.50-5.49 (medium), and 5.50-7.00 (high). Specifically, the authors utilized means, percentages, Pearson correlation, t-Test analyses, and One-Way Analysis of Variance.

The authors received formal approval for the study from the first author’s university prior to data collection. In addition, participants provided written consent before completing the questionnaires. The second author administered the questionnaires. TTs completed the questionnaires in class. Instructions indicated that there were no right or wrong answers, and also encouraged participants to be truthful about their responses.

3.0 Results

3.1 Teacher trainees’ Levels of Perceived Competence and Autonomy

Table 1 presents data on trainees’ levels of perceived competence and autonomy. The data show that 69.47% and 65.26% of the TTs had high scores in perceived competence and autonomy respectively. That is, 95.79% of TTs exhibited medium to high levels of competence. Furthermore, 98.94% of this group of TTs had medium to high levels of autonomy.

Table 1: Teacher trainees’ levels of perceived competence and autonomy

Category	Low		Medium		High	
		%		%		%
Perceived Competence	4	4.21	5	26.32	6	69.47
Autonomy	1	.06	2	33.68	2	65.26

Correlation among Perceived Competence, Autonomy, and Number of Years in Training

Pearson correlation analyses indicated significant positive relationship between PCS and the SRQ-L ($r = .400$; $p = .000$). However, there was no significant correlation between number of years in training and perceived competence or autonomy.

Table 2: Correlation matrix for perceived competence, autonomy, and years in training

Category		2	3		
1. Perceived Competence		400**	140		
2. Autonomy			160		
3. Year in Training					

** $p < .001$

3.2 Perceived Competence, Autonomy, and Gender

Table 3 presents data on PCS and SRQ-L among male and female TTs. Independent t-Test analyses indicated the PCS mean scores for male (5.98) and female (5.22) TTs differed significantly ($t = 3.03$; $p = .003$). Similarly, the SRQ-L mean scores for males (5.99) and females (5.39) differed significantly ($t = 3.31$; $p = .001$). That is, males scored significantly higher than females in both competence and autonomy.

Table 3: t-Tests Analyses for perceived competence, autonomy support, and gender

Category	Males		Females		t-value	
	M	SD	M	SD	t	p
Perceived Competence	5.89	.99	5.22	1.15	3.03	.003*
Autonomy	5.99	.83	5.39	.93	3.31	.001*

* $p < .01$

3.3 Perceived Competence, Autonomy, and Marital Status

Table 4 presents data on PCS and SRQ-L and TTs' marital status. The independent t-Test analyses showed that PCS and SRQ-L mean scores for single and married TTs did not differ significantly. The PCS mean scores for single and married TTs were 5.76 and 5.53 respectively. The SRQ-L mean scores for single and married TTs were 5.81 and 5.55 respectively.

Table 4: t-Tests Analyses for perceived competence, autonomy support, and marital status

Category	Single		Married		t-value	
	M	SD	M	SD	t	p
Perceived Competence	5.76	1.38	5.53	1.36	.60	.553
Autonomy	5.81	.80	5.55	1.29	1.03	.305

3.4 Perceived Competence, Autonomy, and Program Types

Table 5 shows data for competence, autonomy, and program types. TTs in the French program had the highest mean score for competence (5.97), while those in the Technical program had the lowest mean score (5.60). Similarly, TTs in the Arts program had the highest (5.91) mean score for autonomy, while those in the Science program had the lowest (5.53). However, the differences for both competence ($F = .29$; $p = .830$) and autonomy ($F = .74$; $p = .529$) were not statistically significant.

Table 5: One-Way ANOVA for competence, autonomy, and program types (n = 95)

Category	Arts (n=32)		Science (n=23)		Technical (n=21)		French (n=19)		F-value	
	M	SD	M	SD	M	SD	M	SD	F	p
Competence	5.66	.85	5.67	2.19	5.60	1.22	5.97	1.04	.29	.830
Autonomy	5.91	.79	5.53	.87	5.74	.98	5.76	1.11	.74	.529

4.0 Discussion and Conclusions

Findings from this study provided the first attempt to gain knowledge of Ghanaian College of Education TTs' competence and autonomy in learning to teach. The first research question examined TTs' levels of perceived competence and autonomy. On a positive note, data indicated that most TTs perceived themselves to have medium to high levels of competence and autonomy. It is important that teacher educators create the necessary conditions for TTs' to develop and maintain high levels of competence and self-regulations, since these constructs influence academic performance and adjustment (Kornell & Metcalfe, 2006). Moreover, research shows that self-regulation is a better predictor of students' academic performance than their intelligence (Duckworth & Seligman, 2005).

The second research question investigated the correlations among Ghanaian teacher trainees' number of years in training, perceived competence, and autonomy. Results indicated a significant positive correlation between competence and autonomy. Surprisingly, the number of years in training had no significant association with competence or autonomy. The authors expected TTs in their third year of study to exhibit higher levels of competence and autonomy than those in their second or first year (Sofu et al., 2013).

The third research questions examined the extent to which gender, marital status, and program type determined Ghanaian TTs' perceived competence and autonomy. An important finding was that gender was the only determinant of TTs' competence and autonomy, while marital status and program type were not. Males exhibited significantly higher perceived competence and autonomy mean scores than females. This finding is contrary to that of Sofu et al. (2013), which indicated that the perceived competence and autonomy of male and female students in a secondary physical education program in Ghana did not differ. Female TTs need to perceive themselves as equal to the males in terms of competence and autonomy. Sutherland-Addy (2008) noted that lack of female teachers and gender awareness were major institutional issues that affected gender disparities in education, especially basic education. The author argued that female teachers acted as role models to girls; as such their persistence and successful completion of their teacher education programs would serve as a source of motivation to young girls, especially those in basic schools.

In conclusion, TTs perceived themselves to have medium to high levels of perceived competence and autonomy. There was a significant positive correlation between competence and autonomy; but not number of years in training and competence or autonomy. Furthermore, gender was the only determinant of TTs' competence or autonomy—marital status and program type did not.

One limitation of this study is that it examined TTs from one institution. Future research should utilize a larger sample from multiple colleges of education in the country. Second, the TTs in the present study were enrolled in a regular (traditional) teacher education program. Future researchers would do well to investigate the competence and autonomy among TTs enrolled in the Untrained Teachers Diploma in Basic Education (alternative) programs in the various colleges of education in Ghana. Yet still, future research could include prospective teachers pursuing Bachelor's degrees from the country's teacher education universities. Another dimension worth investigating is to compare the competence and autonomy of TTs in colleges of education with those in the universities.

The present study used forced-choice close-ended questionnaires as the main data sources. As Sofu and Curtner-Smith (2010) observed, the forced-choice questionnaire introduced concepts and ideas that the TTs may not have thought about seriously. Therefore, the use of qualitative data collection instruments such as open-ended questionnaires, interviews, or focus group interviews would provide TTs the opportunity to effectively express their perspectives.

Future research on the development of TTs' competence and autonomy over time would help teacher educators and policy makers identify effective instructional and curricular strategies that would enhance TTs' professional growth. Thus, the need for a longitudinal research on how and why their competence and autonomy develop and/or change the way they do.

References

- Adentwi, K. L. (2002). *Principles and issues in teacher education*. Kumasi: Skies Printing Press.
- Akyeampong, A. K., & Furlong, D. (1999). 'Ghana: A baseline study of the teacher education system'. *MUSTER Discussion Paper 10*. Sussex: Centre for International Education, University of Sussex.
- Akyeampong, A. K., & Stephen, D. (2000). "On the Threshold": The identity of student teachers in Ghana. *MUSTER Discussion Paper 4*. Sussex: Centre for International Education, University of Sussex.
- Ampiah, J. G. (2008). An Investigation of provision of quality basic education in Ghana: A case study of selected schools in the Central Region. *Journal of International Cooperation in Education*, Vol.11 No.3 (2008) pp.19-37.
- Ankomah, Y. A. (2005). 'Quest for teacher quantities and quality in Ghanaian basic schools: pursuit of a mirage?' Paper presented at the International Conference on Teacher Education, University of Cape Coast August 17 – 20, 2005
- Black, A. E., & Deci, E. L. (2000). The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective. *Science Education*, 84, 740-756.
- Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- Deci, E. L., & Ryan, R. M. (2002). *Handbook of Self-determination Research*. New York: University of Rochester.
- Dei, G. J. S. (2004). *Schooling and education in Africa: The case of Ghana*. Trenton, NJ: Africa World Press.
- Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science*, 16, 939-944.
- Government of Ghana (2004) *White Paper on The Report of The Education Reform Review Committee*. Government of Ghana: Accra.
- Hofstede, G. (2001). *Cultures consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage.
- Levesque, C., Zuehlke, N. A., Stanek, L. R., & Ryan, R. M. (2004). Autonomy and competence in German and American university students: A comparative study based on self-determination theory. *Journal of Educational Psychology*, 96(1), 68-84.
- Kanu, Y. (2002). Understanding curriculum and pedagogy as attunement to difference: Teacher preparation for the 21st century. *Journal of Professional Studies*, 9(2), 50-60.
- Kornell, N., & Metcalfe, J. (2006). Study efficacy and the region of proximal learning framework. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 32, 609-622.
- Ministry of Education, Ghana, (1994) *Towards learning for all: Basic Education in Ghana to the Year 2000*.
- O'Sullivan, M. (2003). Learning to teach physical education. In S. Silverman and C. Ennis (2nd Ed.), *Student learning in physical education: Applying research to enhance instruction* (pp. 275-294). Champaign, IL: Human Kinetics.
- Palmer, R. (2005) *Beyond the Basics: Post-basic Education and Training and Poverty Reduction in Ghana*, Post-Basic Education and Training Working Paper Series No 4, Edinburgh: Centre of African Studies, University of Edinburgh. Retrieved on December 9, 2013 from http://www.cas.ed.ac.uk/__data/assets/pdf_file/0017/28322/Palmer_Ghana_PBET_WP4.pdf.

- Pryor, J. & Akwesi, C. (1998). Assessment in Ghana and England: Putting reforms to the test of practice. *Compare*, 28(3), 263-275.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78.
- Ryan, R. M., & Deci, E. L. (2002). An overview of self-determination theory. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: University of Rochester Press.
- Ryan, R. M., Stiller, J., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *Journal of Early Adolescence*, 14, 226–249.
- Sheldon, K.M., Elliot, A.J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, 80, 325–339.
- Sofu, S., & Curtner-Smith, M. D. (2010). Development of preservice teachers' value orientations during a secondary methods course and early field experience. *Sport, Education and Society*, 15(3), 347-365.
- Sofu, S., Kpebu, D., & Kanton, T. L. (2013). Determinants of competence and self-regulation among Ghanaian physical education students. Paper presented at the American Alliance of Health, Physical Education, Recreation and Dance Annual Convention in Charlotte., NC on April 24, 2013.
- Sutherland-Addy, E. (2008). Gender equity in junior and senior secondary education in Ghana. World Bank Working Paper No. 140. Washington, D.C.
- Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 29, pp. 271–360). San Diego, CA: Academic Press.
- Williams, G. C., Freedman, Z.R., & Deci, E. L. (1998). Supporting autonomy to motivate patients with diabetes for glucose control. *Diabetes Care*, 21, 1644-1651.