

ROLE OF SELF-EFFICACY BELIEFS IN GOAL COMMITMENT: A CASE STUDY OF THE 20th NIGERIAN UNIVERSITY GAMES CHESS EVENT

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ABSTRACT

The study examined the role of self-efficacy beliefs in goal commitment among 118 Nigerian University students who represented universities that qualified from a preliminary zonal arrangement in the chess event of the 20th Nigerian University Games. Hierarchical regression analysis results revealed that, in the second step, self-efficacy beliefs account for a significant proportion of the variance ($\beta=.82$, $P<.01$) in goal commitment. The significant positive impact of self-efficacy beliefs on goal commitment implies that chess players who exhibit high levels of self-efficacy beliefs are more committed to reaching a goal than those who exhibit low levels of self-efficacy. When self-efficacy beliefs was entered in the second step, R^2 increased to .87 ($p=.01$) indicative of a significant change in R^2 ($\Delta R^2=.42$, $P<.01$). This finding underscores the need for further research to provide a holistic empirical framework on goal commitment and performance.

Key words: Self-efficacy; Goal Commitment; Nigerian Case Study; Chess.

INTRODUCTION

Individuals who compete in sporting events often aspire to achieve distinguished performance. The goal of chess players in important competitions is, almost always, to win medals in their individual and team events. They either set goals or goals are set for them. Goals are desired ends (Locke, 1996) that regulate behaviour (Bandura, 1988) and clarify the task at hand (Campbell *et al.*, 1970). Goal setting theorists argue that there is a motivational response to goal setting (Schunk, 1982; Mento *et al.*, 1987) that gingers self-determination (Sands & Doll, 2000) and makes it central to motivated behaviour (Austin & Vancouver, 1996; Klein *et al.*, 2001). Studies have shown that goal setting is strongly related to performance (Locke & Latham, 1990; Theodorakis, 1996).

A critical factor that ensures the esteemed link between goal setting and performance is goal commitment (Klein *et al.*, 2001). Defined as an individual's determination to reach a goal (Locke & Latham, 1990), goal commitment is a critical condition to the extent that goals have no motivational effect if commitment is lacking (Locke *et al.*, 1988). It implies an unwillingness to abandon or lower a goal (Campion & Lord, 1982). Thus, when individuals are committed to a goal, they make persistent attempts to attain that goal (Hollenbeck & Klein, 1987). This explains the significant relationship between goal commitment and persistent behaviour (Allen & Nora, 1995) and achievement (Wofford *et al.*, 1992). The reasoned importance of goal commitment in motivated behaviour requires that great empirical attention be paid to it (Klein *et al.*, 1999).

An investigation of the relevance of goal commitment in organized sports is therefore warranted because of its role in distinguished performance. Indeed, any attempt to enhance the performance of Nigerian athletes, as a matter of necessity, will have to start from an empirical database. However, there appears to be little or no research on this key factor in understanding the motivational base for high performance in the African setting. Besides, empirical investigations of goal-related variables are hardly transferred to organized sports in the African setting. Since, proffering solutions based on inspired guesses may not yield desired results; there is a need for an empirically based assistance. This study, therefore, extends research on goal commitment in an African setting, especially in a game that is gradually gaining acceptance. There is a need for empirical assistance for coaches who groom players to challenge veterans in international competitions. By understanding the underlying factors in the goal commitment of chess players, stakeholders will be able to assist them in attaining their goals. Findings from this study will provide empirical assistance to coaches and athletes in the area of motivated goal-directed behaviour.

Social cognitive theory provides a guide to understanding the process of getting committed to a course of behaviour. It suggests that human beings are capable of reflecting on and regulating their behaviour. In doing these, they interpret the outcome of their earlier actions. This cognitive process determines what they choose to do. A core argument of the theory is that unless an individual believes a desired result can be attained, sufficient inspiration to act or persevere will be lacking (Bandura, 2001). Self-efficacy or belief in ones ability to attain a goal determines what individuals think and the actions they take (Bandura, 1997). Indeed, empirical information suggests that self-efficacy beliefs lay the foundation for human functioning (Multon *et al.*, 1991; Stajkovic & Luthans, 1998) even in the face of difficulties. On the basis of self-efficacy beliefs, people choose how much effort to expend in goal-directed behaviour and how long they will be committed in the face of obstacles (Bandura, 2001). Self-efficacy, a belief of being able to control environmental demands (Schwarzer & Scholz, 2000), predicts exercise adherence (Malherbe *et al.*, 2003) and keeps people committed to a course of action especially when it involves failures or obstacles (Bandura, 1986, 1988). A low perception of self-efficacy is equated with a low self-esteem and pessimism about accomplishment (Schwarzer & Scholz, 2000). Self-doubts about one's capacity to accomplish a task hinders the use of previously established skills (Salomon, 1984) while anxiety and self-preoccupation discourages the individual (Bandura & Cervone, 1983) and reduces persistent effort towards the task at hand. It makes them think of failure and obstacles as formidable (Sarason, 1975; Meichenbaum, 1977). Individuals with high self-efficacy perform more challenging tasks (Bandura, 1997) and are more likely to extend their effort towards goal attainment. They persist in the face of setbacks (Schwarzer & Scholz, 2000).

Self-efficacy belief is not necessarily hinged on the actual abilities which individuals possess but on what is believed. Beliefs about one's ability and reality hardly tally (Pajares, 2002). Thus, persons with actual capabilities could express a low self-efficacy belief which in turn determines what they do with their knowledge and skills. For example, a chess player may realize that tactical skills and ability to spot combinations are essential for winning a chess game, but a lack of confidence in these skills which he or she possess would reduce commitment to the task of winning the game. The belief in one's ability to execute successfully a certain course of behaviour (Bandura, 1986) therefore should result in a commitment to that goal since self-efficacy affects the amount of effort invested in an activity

and the length of duration of perseverance if a desired result is not attained (Bandura & Schunk, 1981; Brown *et al.*, 1989; Bouffard-Bouchard, 1990). Since self-efficacy beliefs serve as a motivational base for performance, it should affect goal commitment.

Indeed, research shows that when individuals believe that they have the capability to attain a goal; it results in high goal commitment (Locke & Latham, 1990; Locke, 1996; Wu, 2002), motivation and performance (Taylor *et al.*, 1984; Brown *et al.*, 1989; Bouffard-Bouchard, 1990; Robertson & Sari, 1993; Moritz *et al.*, 2000). This study, therefore, examines goal commitment, an important aspect of goal-setting behaviour. It is hypothesized in this study that self-efficacy beliefs would account for a significant variance of the goal commitment of chess players.

METHOD

Participants

Data for the study was collected in a survey of 118 Nigerian university chess players who represented universities that qualified from a preliminary zonal arrangement in the chess event of the 20th Nigerian University Games. Seventy-eight were males from 13 universities (six players per university) while 40 were females representing 10 universities (four players per university). Sex was coded as 1 for female and 2 for male in statistical analysis. The age of the total sample range from 19 to 31 ($M=22.7$ years, $SD=2.7$) while their average years of experience in competitive chess was 3.8 years, ranging from 1 to 8 years.

MEASURES

Demographic Data: The first section of the questionnaire contained screening questions that tapped demographic information such as age, sex and years of experience in competitive chess. Effects of these variables were controlled for in the regression analysis that examined the role of self-efficacy beliefs in goal commitment.

Self-efficacy Beliefs: This variable was measured by an English version of the perceived self-efficacy belief scale developed by Schwarzer & Jerusalem (2000). The 10-item scale measures the extent to which an individual believes he or she can perform difficult tasks, cope with adversities and come up with favourable results. Responses were made on a 4-point likert scale ranging from not at all true (1) to exactly true (4). A coefficient alpha of between .75 and .90 is typical of the scale in numerous studies (Schwarzer & Jerusalem, 2000). In the present study, items were slightly modified (e.g. (1) 'I can always manage to solve difficult problems in my games in this competition if I try hard enough', (2) 'I have the tactical and combinative moves to subdue my opponents and get the results I want in my games') to make them relevant to the domain of psychological functioning being investigated. Respondents indicated the degree of agreement with scale items on a 4-point scale ranging from 'not at all' to 'exactly true'. In the present study, item-total correlation range from .65 to .80 with a coefficient alpha of .93. The average score of participants on the scale was 27.9 ($SD=8.1$).

Goal Commitment: This variable was measured by a 5-item uni-dimensional measure of goal commitment by Klein *et al.* (2001). The items measure an individual's determination to reach a goal and was rated on a 5-point likert scale ranging from strongly agree (5) to strongly

disagree (1). The scale is psychometrically sound, construct relevant and most appropriate measure of goal commitment (Klein *et al.*, 2001). The authors reported an alpha coefficient of .74 for the scale. In the present study, an alpha coefficient of .88 and an item-total correlation ranging from .61 to .83 was obtained. The average score of participants on the scale was 17.7 (SD=4.8).

RESULTS

Result of preliminary statistical analysis presented in Table 1 showed that sex differences do not exist in the scores of male and female participants for self-efficacy beliefs and goal commitment. This provides justification for collapsing female and male scores into one group in analysis.

TABLE 1: SUMMARY OF T-TEST ANALYSIS SHOWING DIFFERENCES BETWEEN MALES AND FEMALES ON SELF-EFFICACY AND GOAL COMMITMENT

Variable	Sex	N	Mean	SD	DF	t	P
Self-efficacy	Female	40	27.2	7.9	116	0.731	>.05
	Male	78	28.3	8.2			
Goal commitment	Female	40	17.1	4.5	116	0.968	>.05
	Male	78	18.0	4.9			

An inter-correlation analysis examined relationships among all the variables used in the study. The result is presented in Table 2. The table indicated that self-efficacy was significantly and positively related to goal commitment ($r=.92$, $p<.01$).

TABLE 2: MEANS, STANDARD DEVIATIONS AND INTER-CORRELATION OF ALL VARIABLES OF STUDY.

Variables		Mean	S.D	Inter-correlation				
				1	2	3	4	5
1	Age	22.7	2.7	-	.21*	.15*	.16*	.14
2	Sex	-	-		-	.15*	.07	.09
3	Experience	3.8	1.6			-	.61**	.67**
4	Self-efficacy	27.9	8.1				-	.92**
5	Goal commitment	17.7	4.8					-

n=118. *P<.05.**P<.01.

This result provides preliminary support for the hypothesis that self-efficacy plays a significant role in goal commitment. Results in Table 2 also showed that years of experience in competitive chess was significantly related to goal commitment ($r=.67$, $p<.01$) while years of experience in competitive chess ($r=.61$, $p<.01$) and age ($r=.16$, $p<.05$) were significantly related to self-efficacy. Further analysis to establish the unique contribution of self-efficacy beliefs to goal commitment was carried out using the hierarchical regression analysis. In this analysis, goal commitment served as dependent variable while self-efficacy beliefs and control variables such as age, sex and years of experience in competitive chess were independent variables. The results of the analysis are presented in Table 3.

TABLE 3: SUMMARY OF HIERARCHICAL REGRESSION ANALYSIS PREDICTING GOAL COMMITMENT

Predictor/step	β		ΔR^2	R^2
	At step	Final		
1. Age	.05	.02		
Sex	.02	.01		
Experience	.66**	.17*		.45**
2. Self-efficacy	.82**	.82**	.42**	.87**

* $P < .05$. ** $P < .01$.

The first step of hierarchical regression analysis examined the effects of demographic factors such as age, sex and years of experience in competitive chess on goal commitment with a view of controlling for them. Results in Table 3 showed that experience is the only control variable which significantly account for part of the variance in goal commitment ($\beta = .66$, $p < .01$). In the first step, control variables jointly account for a significant variance in goal commitment ($R^2 = .45$, $p < .01$). When self-efficacy beliefs was entered in the second step, R^2 increased to .87 ($p = .01$) indicative of a significant change in R^2 ($\Delta R^2 = .42$, $P < .01$). Thus, self-efficacy beliefs account for a significant proportion of variance ($\beta = .82$, $p < .01$) in goal commitment of chess players. The results showed that when self-efficacy was introduced in the second step, the amount of variance accounted for by experience decreased from .66 ($p < .01$) to .17 ($p < .01$).

DISCUSSION

The present study examined the role of self-efficacy beliefs in the goal commitment of chess players at the 20th Nigerian University Games. Results of the regression analysis supported the hypothesized relationship between self-efficacy beliefs and goal commitment. Results also showed that years of experience in competitive chess accounted for a significant variance in goal commitment when self-efficacy belief was excluded. The finding that self-efficacy belief is linked to goal commitment lends credence to previous empirical results (e.g. Locke & Latham, 1990; Locke, 1996; Wu, 2002). The significant positive impact of self-efficacy beliefs on goal commitment implies that chess players who exhibit high levels of self-efficacy beliefs are likely to be more determined to reach a goal than those who exhibit low levels of self-efficacy. A probable explanation for the link between these variables can be found in the argument that high self-efficacy persons are more resilient when they are faced with difficult and complex tasks (Ford *et al.*, 1998).

The finding supports the need to examine self-efficacy as a factor for distinguished performance among chess players. The practical implication of the finding is that the self-efficacy beliefs of chess players can predict their being committed to set goals in important competitions. In the same vein, an intervention can be floated to help players increase their commitment to set goals for distinguished performance. This principle should be effective because social cognitive theory argues that when individuals believe in their capabilities, they are committed to a course of action even in the face of obstacles. Similarly, goal-setting theory states that when individuals are committed to a goal, distinguished performance results. Indeed, the postulations of these theories have found robust empirical support (Taylor *et al.*, 1984; Brown *et al.*, 1989; Bouffard-Bouchard, 1990; Locke & Latham, 1990; Robertson &

Sari, 1993; Locke, 1996; Moritz *et al.*, 2000; Wu, 2002). Thus, in addition to other forms of high performance-training, intervention programmes should be designed to boost self-efficacy beliefs among chess players. An argument is being made for an intervention programme because, though training in tactics and practice could enhance the skills of chess players; such skills hardly match their perception of self-efficacy (Pajares, 2002). Training and practice alone may therefore not be enough. Specific self-efficacy enhancement and management events should be introduced by trainers and coaches for players to remain committed to set goals in competitive chess even in the face of real or imagined difficulties. Self-efficacy beliefs can be enhanced by improving the physical and emotional well-being of the players and by reducing their negative emotional states (Pajares, 2002).

Stakeholders would need to pay some attention to the finding that years of experience in competitive chess plays a significant role in goal commitment when the influence of self-efficacy belief is excluded. A probable explanation for this is that experience provides a reasonably proficient chess player skill to deal with particular situations and an idea about possible outcomes. This is particularly true of players who had successful experiences in previous competitions. Past experience prepares an individual for even more complex tasks in competitive chess. When faced with difficulties experienced in previous competitions, such individuals are likely to remain committed to set goals. Experience makes it possible for them to easily recognize what is to be done in a given situation within a game of chess. Since experience counts in goal commitment of chess players, it is recommended that chess players are made to go through practice trials and enough competitive chess before attending important games. However, this should not be a replacement of specific programmes to enhance self-efficacy. This is because the benefits of experience could become insignificant if not complimented by a high level of self-efficacy belief. For instance, when a successful experience is discounted or its re-enactment doubted, there will be a low self-efficacy belief and a subsequent decrease in goal commitment. Since chess players have different experiences and background, self-efficacy interventions should be tailored to meet their specific needs.

The present study is not without its limitations. The study examined the role of self-efficacy beliefs in the goal commitment of chess players at the 20th Nigerian University Games and controlled for age, sex and years of experience in competitive chess. It does not suggest that the variance in goal commitment has been exhaustively accounted for. Indeed, all the variables examined in the study accounted for .87 of the variance in goal commitment, indicating that .13 is yet to be ascertained. Besides, there might be interacting effects of variables examined on goal commitment. Further study which incorporates other relevant individual differences variables that could predict or interact to affect goal commitment is, therefore, recommended. Also the present study examined the impact of self-efficacy beliefs on goal commitment but did not relate these measures to the actual performance of participants at the games. Future studies should address this shortcoming. This will provide a holistic empirical framework on the goal setting process and its impact on goal commitment and performance. The foregoing limitations, however, does not obliterate the empirical contributions and the practical relevance of the findings for goal commitment enhancement and subsequent distinguished performance by chess players in Nigeria.

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