



## **The Relationship Between Psychological Capital and the Escalation of Commitment in Capital Project Continuation Decisions: Empirical Evidence from Indonesia**

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### **ABSTRACT**

Although many theoretical explanations have been offered to explain the escalation of commitment, there is still a gap in the literature whereby individual variables, as the determinants of the escalation, indicate inconsistent findings. On the other hand, there is an opportunity to explore the role of a new individual variable, namely, Psychological Capital (PsyCap) which is a second-order construct of self-efficacy, hope, optimism, and resilience. This study aimed to analyze how the four variables, both as individual variables and as a second-order construct, predicted the escalation of commitment. As many as 297 business students completed the requested questionnaire. The results showed that self-efficacy, optimism, and resilience have both a significant and positive correlation toward the escalation of commitment. Furthermore, when compared to each of the constituent variables, as a second-order construct, PsyCap, proved to be more capable of predicting the escalation of commitment than its components. The implications of these findings are that PsyCap is not always associated with positive outcomes and, thus, it is crucial for companies to identify the type of personnel to be placed in positions where they will often be involved in decision making.

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## INTRODUCTION

It is often found that people become 'stuck' in terms of the way they perform an action, even if it results in negative feedback or more serious problems. Several researchers have defined this pattern of behaviour using a variety of terms, such as entrapment (Brockner et al. 1986), sunk cost effect (Arkes and Blumer, 1985), persistence (Schulz and Cheng, 2002) and decision error (Bowen, 1987). Escalation of commitment is defined as the extent to which personnel increase their commitment to previously selected actions, taking them beyond the limit of rational decision-making models.

Escalation of commitment is also found in the business world. In accordance with the economic principle of rational choice, rational decision-making would involve a decision to maximise a company's profit by considering only the relevant aspects, i.e. costs and future benefits. In practice, however, it has been shown that managers tend to make decisions whereby they continue allocating resources to either projects or investments that, in principle, have failed economically, based on fact that the initial goals have not been met (Berg et al., 2009). Such outcomes are seen mostly in decisions pertaining to the continuation of capital projects (Moser et al., 2013). Therefore, escalation of commitment is a tendency found when the decision maker elects to continue unprofitable capital projects.

Escalation of commitment has the following four main features: sunk costs, negative feedback, uncertainty and a phased time span (Moser et al., 2013). A decision to continue with an unprofitable capital project satisfies all four of these main features of escalation of commitment. This research also considers the determinant of responsibility, i.e. the decision maker, who is also the one responsible for initiating the project, to be a principal feature of capital project decisions (Staw, 1976).

In spite of the theory of rational choice, when people in an organisation make decisions, a majority will continue to bring their personalities to the decision-making process, regardless of any external situations that they face (Chong and Eggleton, 2003). Whyte and Saks (2007) argue that the psychological determinant of individual variables is central to the escalation of commitment phenomenon, and individual variables are mentioned as being the strongest discriminator between escalating and non-escalating behaviour (Chong and Syarifuddin, 2009). In fact, a large number of studies have attempted to connect the individual variables, either the individual state variables or the individual trait variables, with the tendency to undertake an escalation of commitment (Sleesman et al., 2012).

Individual trait variables (which tend to be difficult to change and are very stable), such as the locus of control (Korzaan and Morris, 2009; Singer, 2001), rational thinking style (Wong et al., 2008), self-efficacy (Babatunde, 2016; Whyte and Saks, 2007; Whyte et al., 1997), self-esteem (Chong and Syarifuddin, 2010; Sivanathan et al., 2008; Staw and Ross, 1978), overconfidence (Rona et al., 2017; Tine, 2013) and conscientiousness (Moon, 2001), have been shown to affect escalation of commitment. Similar effects occur with individual state variables (characterised as being momentary and very changeable) such as emotional stability (Wong et al., 2006), discrete emotion (Dang et al., 2014), anger and fear (Tsai and Young, 2010) and depression (Levi, 1981).

However, the results of various other studies in relation to the individual variables (both state and trait) have not been overly stable since they found no correlations with the studied variables and even contained inconsistencies in their findings (Whyte et al., 1997). Staw and Ross (1978), for example, found no significant correlation between self-esteem and the tendency to escalate commitment. Levi (1981) found no correlation between the locus of control and depression, and the tendency to escalate commitment. Such inconsistency is also seen in the finding by Sivanathan et al. (2008) and Chong and Syarifuddin (2010) that self-esteem affected the tendency to escalate commitment, despite Staw and Ross (1978) having previously reported no such finding. In addition, Schaubroeck and Williams (1993) found that type A behaviour affected the tendency to escalate commitment, although Korzaa and Morris (2009) did not agree.

According to Luthans et al. (2007), however, there are other individual variables that sit between the two types (i.e. trait and state), with these being referred to as state-like variables. State-like variables are relatively malleable and open to development but are also relatively stable over time. Based on a number of studies in the area of positive psychology (mainly by Luthans and colleagues), self-efficacy, hope, optimism and resilience were the four variables or scales determined to best meet the criteria of state-like variables. These are highly relevant to the workplace and also meet the conceptual and empirical criteria to be a distinctive construct (Luthans et al., 2007). Those four variables, when combined, form a new second-order construct termed

Psychological Capital or PsyCap (Luthans, 2002). PsyCap, as defined by Luthans et al. (2007), is an individual's positive psychological state of development and is characterised by: (1) having confidence (self-efficacy); (2) making a positive attribution (optimism), persevering towards one's goal in order to succeed (hope), and bouncing back from problems and adversity (resilience). PsyCap is believed, and commonly found empirically, to be the variable that has a positive impact on both attitude and performance in the workplace. The impression has grown lately that PsyCap has a positive correlation with desirable attitudes which, in turn, indicates a negative correlation with undesirable attitudes (Avey et al., 2011). On the other hand, however, the escalation of commitment itself is one example of an undesirable attitude since it involves prolonged bias in decision-making and can frequently result in the company incurring a huge loss. Therefore, it would be interesting to test whether PsyCap has an influence on escalation of commitment, which is the main motivation for this study.

It can be concluded that there is still a gap in the research related to the determinant, in the form of individual psychological variables, with regard to the influence on escalation behaviour, due to the number of inconsistent findings. This is especially true in respect of exploring variables that have not been tested in previous research in the context of escalation of commitment. In light of this opportunity, this study attempts to fill the gap by examining the correlation between the variables of self-efficacy, hope, optimism and resilience, in addition to between these variables when combined into the single variable of PsyCap, and the escalation of commitment.

Although it has been explained that the focus of this study is on the relationship between PsyCap and escalation of commitment, we will still test for the relationship between the four components of PsyCap (self-efficacy, hope, optimism and resilience) and escalation of commitment. The reason is that the empirical evidence regarding the relationship between self-efficacy, hope and optimism is still inconsistent. Furthermore, resilience has never been tested directly on escalation of commitment. Aside from this, Luthans et al. (2007) found PsyCap to have a greater impact than each of the four variables separately. This study's individual investigation of self-efficacy, hope, optimism and resilience, as well as collectively as PsyCap, is expected to provide new and deeper insights regarding the process passed through by the managers of organisations when making decisions and seeking to justify either their behaviour or actions, which may not always yield a positive impact for the organisation. Thus, the research problems are as follows:

- (1) Do self-efficacy, hope, optimism and resilience have a correlation with escalation of commitment?
- (2) Does PsyCap have a stronger correlation with escalation of commitment than the correlation for each of self-efficacy, hope, optimism and resilience?

This article continues with an explanation of the theoretical framework and the development of the research hypotheses, followed by an explanation of the research method. This is followed by the presentation of the results and discussion. Finally, the conclusions, implications and limitations of the research bring the article to a close.

## LITERATURE REVIEW

### The Correlation Between Self-efficacy and Escalation of Commitment

Self-efficacy refers to an individual's belief in what he/she can accomplish in a specific context by relying on his/her expertise. Thus, self-efficacy can be defined as a person's belief in his/her ability to complete a certain task (Venkatesh and Blaskovich, 2012).

Based on the theory of self-efficacy, people with higher levels of self-efficacy display greater levels of persistence in tackling things, since they are confident that their persistence will result in them performing the task successfully (Whyte et al., 1997), and vice versa for people with low self-efficacy. From its inception, Staw and Ross (1987) have suggested that a person's level of self-efficacy may incite them to engage in a certain type of behaviour in the event that a situation escalates. It is stated that managers may often ignore the potential for a short-term 'disaster' and persist with the wrong decision. The groups of managers most susceptible to engaging in this type of behaviour are those whose decisions have been successful in a previous period.

Audia et al. (2000) found that a high perception of one's self-efficacy could lead to strategic persistence. Furthermore, in a longitudinal study, Kisfalvi (2000) found that there was a correlation between self-efficacy and persisting with a decision, whereby a leader with high self-efficacy tends to be more persistent, not overly concerned with any negative aspects and generally more successful. Furthermore, Bragger et al. (2003) found that previous successes in financial decision-making scenarios would lead to greater investment activity in any subsequent failing scenarios. Ronay et al. (2017) found that excessive self-efficacy influenced the escalation

of commitment when the decision was published (in public situations) in comparison to when the decision was not published (in a private situation).

This study predicts that, when estimating a project's success, people with low self-efficacy tend to consistently de-escalate after receiving negative feedback. This happens as they doubt their ability and may be easily discouraged by failure, with the opposite happening for people with high self-efficacy. Thus, the higher a person's self-efficacy, the greater the likelihood of them being involved in an escalation of commitment. Thereby, the first hypothesis is as follows:

*H1: Self-efficacy has a positive correlation with escalation of commitment.*

### **The Correlation Between Hope and Escalation of Commitment**

Hope is a motivational state based on the interaction between the three factors of goal, willpower and waypower (Venkatesh and Blaskovich, 2012). Hope is defined as positive motivation based on the amount of energy applied by a person to a goal (willpower) while also planning to achieve that goal (waypower). Willpower is an important dimension of the theories on hope since it provides the encouragement that maintains people's enthusiasm to reach their targets. Waypower, as the second component, offers an alternative pathway of thinking and acting, despite all the obstacles. It can be concluded that hope is one's ability to identify a goal, develop a strategy to achieve it and strive to excel despite facing hurdles (Snyder et al., 1991).

Venkatesh and Blaskovich (2012) found that hope could improve people's performance in the context of their participation in budget setting. When people participated actively in the setting of a budget, it brought high hopes, meaning they felt committed and passionate in pursuing their goals and plans. Averill et al. (1990) argued that, despite the risks, humans with hopeful anticipation were more willing to take the actions necessary to reach their goal compared to those who were unwilling to do so. Brundin and Gustafsson (2013) found similar results, in that positive emotions, one of which is hope, increased the tendency of entrepreneurs to escalate their commitment.

It was predicted that, when experiencing negative feedback during the completion of a project, humans with high hope tend to have positive anticipation with regard to their expectations of the investment in the project they are working on, since, despite facing obstacles, they always endeavour to develop strategies to achieve their goals. In contrast, humans with little hope tend to have a weary mentality and be incapable of either articulating the main plan well or pursuing alternative paths. Therefore, the second hypothesis is as follows:

*H2: Hope has a positive correlation with escalation of commitment.*

### **The Correlation Between Optimism and Escalation of Commitment**

Generally, it is considered that optimistic humans perceive bad events as being only temporary, while pessimistic humans regard them as being permanent. Optimism is the belief that things will get better, while hope is the ability to continue in one's attempts to excel when faced with obstacles. Yet humans who feel optimistic can also be pessimistic at the same time (Kluemper et al., 2009).

Bird (2005) argues that optimism reflects the degree to which an individual believes in favourable expectations for their future. Optimism relates to how people explain the causes of an event, both positively and negatively. Humans who attribute the causes of a good event to themselves are optimistic. Luthans (2002) argues that optimism is a typical characteristic, whereby humans are motivated to work harder, aim higher and be more satisfied. He argues that optimistic people believe that the failures and obstacles which they face are only temporary. Thus, they are confident in their ability to withstand difficult situations or when experiencing problems. Due to these characteristics, optimism is regarded as a valuable contributor to the work environment.

Nonetheless, unreasonable optimism may lead people to make and engage in poor and unrealistic choices and actions, such as expecting an unsuccessful project to become successful if people continue adding resources in terms of money, time and personnel. Such behaviour, driven by a sense of optimism, leads to futile actions and unrealistic goals that eventually result in negative impacts. Bird (2005) stated that optimism might result in a dysfunctional and unprofitable organisational output. In the field of entrepreneurship, Cooper et al. (1988) found that entrepreneurs who were overly optimistic tended to persist in increasing the amount of investment during a new product's development process, which is actually a form of escalation of commitment. Xu et al. (2015), in

their study, found that participants with a high level of optimism showed a greater tendency to use positive vocabulary. In the context of escalation of commitment, this will also occur when a decision maker seeks to justify his/her previous actions, to demonstrate that he or she is a good decision maker and can thus successfully complete the project and deliver high returns.

It has been predicted that optimistic people have a tendency to feel able to cope with difficult situations and to tackle them more successfully than those who are not so optimistic. In addition, they may be prone to looking for more positive evidence while simultaneously ignoring any evidence that is contrary to their beliefs (Mahlendorf and Wallenburg, 2013). When facing a less than desirable outcome, an optimistic person continues to strive, work hard and never gives up (Kluemper et al., 2009). Thereby, the third hypothesis is as follows:

*H3: Optimism has a positive correlation with escalation of commitment.*

### **The Correlation Between Resilience and Escalation of Commitment**

Resilience is defined as one's ability to adapt effectively to, and bounce back from, negative experiences and difficulties, conflicts and failures (Xing and Sun 2013). Shin and Kelly (2015) argued that resilience is a personal quality that enables an individual to make adjustments to challenging circumstances. Although resilience is a concept developed in the organisational behaviour literature, experts in positive organisational behaviour believe it to be relevant to and relate to behaviour in the workplace (Youssef and Luthans, 2007).

Resilience is activated by stressors that can be either positive or negative and include the processes which employees use in uncertain or risky situations (Venkatesh and Blaskovich, 2012). Thus, resilience can be triggered when humans face a choice involving a high degree of risk.

Although no one has previously examined the role of resilience in the literature on escalation of commitment, Whyte et al. (1997), at the end of their conclusions, posited the potential influence of resilience on escalation of commitment. They stated that a person's conviction in their ability to bounce back from the difficulties they experience can encourage them to continue pursuing failing projects.

Larson and Luthans (2006) found that the resilience of factory workers was related to their job satisfaction. The more resilient the factory workers were, the more job satisfaction they felt, in addition to them tending to successfully promote positive adaptations to adversity. In the context of career decision-making, Shin and Kelly (2015) found that an individual with high resilience has a greater ability to face the problems encountered during the decision-making process.

Xing and Sun (2013) examined how resilience could lead someone to become excited to the extent that they were able to achieve good performance, in spite of them being in a situation that naturally caused high levels of stress. They predicted that resilience was capable of predicting an increase in risk-taking behaviour. It was found that participants who had high resilience dared to choose a higher return on investment, despite these investments being riskier. In their study, resilience was associated with a positive effect that can help to reduce stress, which translated as humans' ability to quickly regain enthusiasm to achieve their objectives.

Bazerman et al. (1984) found that the paradigm of escalation, namely the decision not to escalate, could be viewed as a risk-averse behaviour, while the decision to perform an escalation could be viewed as risk-seeking behaviour. Based on the aforementioned explanation, high resilience may explain people's apparent willingness to take greater behavioural risk by showing an increase in irrational commitments. In addition, resilience is a quality that determines the extent to which an individual is capable of surviving in the face of obstacles and barriers. A person with a resilient self-perception tends to strive and be unaffected by failure. Thereby, the fourth hypothesis is as follows:

*H4: Resilience has a positive correlation with escalation of commitment.*

### **Psychological Capital as a Core Construct**

By considering self-efficacy, hope, optimism and resilience as important aspects of PsyCap, it is expected that the combination of these variables will also have a correlation, which may even be greater and have more of an impact than when the four variables are considered on their own individual bases (Avey et al., 2011). Fitz-En (2000) argued that, aside from intellectual capital, emotional capital and social capital, psychological capital is also part of the human capital. PsyCap is one of the individual's most important subsets when it comes to addressing many of the human issues found in an organisation.

The individual variables of self-efficacy, hope, optimism and resilience make a unique contribution when used as a core construct of PsyCap. As an example, the way the power dimension in hope allows humans with high self-efficacy to develop a path that enables them to achieve previously set objectives. Thus, hope may add the requisite substance to reinforce self-efficacy.

Indeed, in the business world, employees with high self-efficacy are seen as good workers since they always take up the challenge and endeavour to exert their best efforts to achieve the set goals. If these employees also have high levels of hope, not only do they take on the challenge and apply their best efforts, but they also identify relevant backup goals and a way of achieving these objectives too. This enables them to gauge the obstacles that may arise and develop a range of contingency plans to deal with any barriers they face in a variety of ways. Furthermore, it is logical to view that the interaction effect of these four variables has a greater impact on encouraging escalation (Avey et al., 2011).

A similar effect can apply when a highly resilient individual is also a hopeful individual and has high self-efficacy. When such people try to bounce back from problems, they tend to apply more effort than required and are more confident in their ability to cope in the current situation. At the same time, that individual also attempts to find other pathways or solutions as a means of returning them to the original situation. It is in this context that the project manager initially believes that the project will be both successful and profitable in the future (Luthans et al., 2007).

As explained in the previous section, the natural characteristics of the capital project itself actually become the basis for the occurrence of an escalation of commitment. As either a time series or sequential decision, the capital project leads the decision makers to believe that they are able to maintain the result of their decisions to the best of their ability. Whatever hardships they may encounter in the future (in this context the project suffering a great loss after a period of time) will enhance the desire of an individual with high PsyCap to press ahead with their earlier decision. This applies not only to PsyCap as a core construct but also to the four individual variables – self-efficacy, optimism, hope and resilience.

Hence, even if a person has a low level of one of the four variables, it is predicted that PsyCap will have a stronger positive correlation with escalation of commitment. PsyCap therefore continues to contribute more than each of the four individual variables. Thereby, the fifth and sixth hypotheses are as follows:

*H5: PsyCap has a positive correlation with the behavioural escalation of commitment.*

*H6: PsyCap has a stronger positive correlation with escalation of commitment than each individual variable of self-efficacy, hope, optimism and resilience.*

## RESEARCH METHODOLOGY

This research employed a quantitative correlational design. A questionnaire was employed as the data collection method. The respondents in this research study were undergraduate students majoring in management. Almost all of the existing research into escalation of commitment has applied the experimental method. However, a survey was considered to be a more appropriate method for this study since it aimed to explore the earliest evidence of the roles of self-efficacy, hope, optimism and resilience, as well as the combination of the four variables as a second-order construct.

The aforementioned explanation also served as the basis for selecting undergraduate students as the study participants, as opposed to graduate students mastering in either accounting or management who already had direct work experience, especially in terms of their decision-making. A further reason was the newness of the PsyCap construct in the context of escalation of commitment. Hence, the quest for the earliest evidence of the role of these variables was best undertaken at the undergraduate level. Luthans *et al.* (2011) adopted a similar strategy by distributing questionnaires to business students when they sought early evidence of the influence of PsyCap on positive behaviour in the professional world.

Nevertheless, the undergraduate students who became the respondents in this research also had to meet the criterion of having completed a financial management course. This was because escalation of commitment requires a minimum understanding of decision-making and project investment. Ashton and Kramer (1980) argued that, through a deep analysis of many empirical findings, two groups of business students and business practitioners actually displayed no significant difference in terms of their responses to decision-making cases.

Thus, they concluded that, in general terms, factors such as wealth, age and experience are relatively unimportant.

Prior to the data being collected, a pilot test was undertaken with 30 business students. The data collection was carried out over a two-month period, with the questionnaires distributed after each class had ended.

This research study’s dependent variable was an individual’s tendency to perform an escalation of commitment. It was proxied in the form of individual decision preferences as to whether or not to continue with unprofitable projects. This was performed using a ten-point scale, five of the options on which indicated a decision to discontinue the project, with the other five options indicating a decision to continue.

This study’s independent variables were self-efficacy, hope, optimism, resilience and PsyCap, with PsyCap being a combination of the four individual variables. PsyCap is a person’s positive psychological state and comprises the four subscales of positive psychology. The first is self-efficacy, which is one’s belief in his/her ability to pursue goals successfully. The second is hope, which is a person’s ability to seek the paths and means necessary to achieve specific goals. The third is optimism, which is a person’s realistic and flexible attributes, whereby positive events are attributed to internal factors while negative events are attributed to external factors. The fourth is resilience, which is a person’s ability to bounce back from negative events such as failure and uncertainty. The participants’ responses to each subscale were later totalled and the average score was calculated in order to determine the composite score of each subscale. The average scores of the subscales were then added together, with a further average score calculated in order to obtain the PsyCap value from each participant’s average composite score (Venkatesh and Blaskovich, 2012).

We adapted the PsyCap questionnaire from Luthans et al.’s (2007) questionnaire, which consisted of a total of 24 questions with potential responses on a five-point Likert scale. Despite being a self-assessed questionnaire, it is in fact the most widely used questionnaire in many studies due to the relative ease with which data can be collected with this method. This study’s case material for the escalation of commitment was adapted from Arkes and Blumer’s (1985) questionnaire which, in turn, had been modified by Dzurainin (2008). Arkes and Blumer’s (1985) set of case material is regarded as one of the most comprehensive yet simple sets for describing escalation of commitment. The participants read the escalation of commitment scenario after they had completed the PsyCap questionnaire. In terms of the business context, the escalation of commitment scenario concerned the decision-making for a capital project, wherein the participants were put in the situation of having to make a decision about a project they had initiated in the previous year but which was presently registering a loss.

We employed multiple regression in respect of the data analysis techniques used in this study in order to test the hypotheses. We used multiple linear regression to test the study’s first five hypotheses, and a hierarchical linear regression to test the sixth hypothesis.

## RESULTS AND DISCUSSION

### Respondents’ Demographics and Descriptive Statistics

Table 1 Respondents’ Demographics

Remarks	n	%	Remarks	n	%
			2.00 – 2.50	15	5.0%
			>2.50 – 3.00	62	20.8%
			>3.00 – 3.50	113	38.1%
			>3.50 – 4.00	95	32.0%
<b>Sex</b>	Male	127	42.7%	<b>Grade Point Average (GPA)</b>	n/a
	Female	166	55.8%		<u>12</u>
	n/a	<u>4</u>	<u>1.5%</u>		<u>4.1%</u>
		297	100%		297
			<i>Mean</i>	<i>Range</i>	<i>Std. Dev</i>
			3.26	2.00 – 3.96	0.45

We distributed a total of 312 questionnaires to undergraduate students at the Airlangga University Management Department; however, only 297 of those returned could be processed further. Table 1 summarises the demographic data of the respondents in this study. Table 2 shows the validity and reliability tests, and Table 3 shows the intercorrelation results between the variables.

Table 2 Validity and Reliability Test Results

Variables	Number of Items	Cronbach's Alpha	Sampling Adequacy	Variance Explained
Self-efficacy	6	0.693	0.775 (0.00)	40.3%
Hope	6	0.669	0.737 (0.00)	43.3%
Optimism	6	0.640	0.751 (0.00)	41.2%
Resilience	6	0.625	0.716 (0.00)	44.3%

It can be seen that each variable had a significant correlation with escalation of commitment, with self-efficacy attaining  $r = 0.340$ ;  $p < 0.01$ ; hope  $r = 0.259$  with  $p < 0.01$ ; optimism had  $r = 0.339$  and  $p < 0.01$ ; and resilience had  $r = 0.357$  and  $p < 0.01$ . Finally, the combination of these variables as PsyCap, as the second-order construct, recorded  $r = 0.431$  and  $p < 0.01$ . It can thus be seen that, when compared to each individual variable, PsyCap had the greatest correlation with escalation of commitment.

The correlation test results therefore provide initial support for this study's overall hypothesis. Furthermore, the dependent variable of the escalation of commitment decision was found to have an average value of 6.82. Hence, this indicates that by being provided with information about the high level of responsibility and significant sunk cost, the respondents in this research experienced an escalation of commitment.

Table 3 Average, Standard Deviation and Correlation between Variables

Variables	M (SD)	SE	H	O	R	PC	EOC
Self-efficacy (SE)	3.830 (0.421)	1					
Hope (H)	4.083 (0.481)	0.477 **	1				
Optimism (O)	3.774 (0.492)	0.444 **	0.508 **	1			
Resilience (R)	3.781 (0.542)	0.340 **	0.423 **	0.336 **	1		
PsyCap (PC)	3.867 (0.360)	0.726 **	0.800 **	0.762 **	0.718 **	1	
Escalation of Commitment (EOC)	6.820 (1.749)	0.340 **	0.259 **	0.339 **	0.357 **	0.431 **	1

Note: \*\* Pearson correlation is significant at 1%

## Hypotheses Test Results

Table 4 summarises the results of the multiple regression testing for hypotheses H1, H2, H3 and H4. The regression results in Table 4 indicate that the model's goodness of fit was significant ( $p < 0.00$ ,  $F: 18.990$ ). In addition, there was no serious threat of multicollinearity evident in the test results. Based on the collinearity statistic, the VIF values for self-efficacy, hope, optimism and resilience are 1.421, 1.616, 1.470 and 1.272, respectively. Furthermore, based on the collinearity diagnostics, all of the variables have a condition index value below 30.

The results indicate the following figures: H1 for the self-efficacy variable with  $t = 3.01$  and  $p < 0.01$ ; H3 for the optimism variable with  $t = 2.98$  and  $p < 0.01$ ; and, finally, H4 for the variable resilience with  $t = 4.10$  and  $p < 0.01$ . Thus, Hypotheses 1, 3 and 4 were supported. However, Hypothesis H2, for the hope variable, with  $t = -0.422$  and  $p > 0.10$ , was not supported.

Table 4 Multiple Linear Test Results for Self-efficacy, Hope, Optimism and Resilience

Variables	Coefficient	Std. Error	T-value	Significance
Self-Efficacy	0.777	0.258	3.010	0.003**
Hope	-0.102	0.241	-0.422	0.673
Optimism	0.671	0.225	2.988	0.003**
Resilience	0.806	0.196	4.108	0.000**

Note: \*\* Significant at 1%,  $F: 18.990$  (0.000),  $R^2: 0.21$

Furthermore, in order to test Hypotheses H5 and H6, we conducted a simple linear regression test by putting PsyCap as an independent variable. We conducted a separation of regression test in order to avoid endogeneity problems and to observe each model's t-value.



Table 5 Results of Simple Linear Regression Test for Psychological Capital

Variable	Coefficient	Std. Error	t-value	Significance
PsyCap	2.090	0.255	8.202	0.000**

Note: \*\*Significant on 1%; F: 62.277 (0.000), R<sup>2</sup>: 0.19

The regression results in Table 5 show that the model’s goodness of fit was significant (p <0.00, F: 62.277). The result (t = 8.202; p <0.01) supports Hypothesis H5. The t-value of PsyCap, as a higher-order construct, had a greater value than each of the PsyCap individual variables. This therefore provides initial support for Hypothesis H6.

We followed the approaches taken by Judge et al. (2003) and Luthans et al. (2007) to test Hypothesis H6. Given the importance of demonstrating the incremental validity of the new scale (PsyCap) over the existing component variables, usefulness analysis provides evidence of the utilities related to each component in predicting the composite index.

We undertook the analysis by running a hierarchical regression analysis. We then compared the utility of the PsyCap composite with each of the individual components in order to determine whether or not the PsyCap composite was indeed more ‘useful’ than each of the constituent components. Judge et al. (2003) performed a similar process or test when assessing the composite core-self evaluations and comparing them to each of the constituent components.

Table 6 Usefulness Analysis of Overall PsyCap Compared to Individual Constituent Components

		Escalation of Commitment
1.	Self-efficacy	0.340**
2.	PsyCap	0.093**
1.	PsyCap	0.431**
2.	Self-efficacy	0.002
1.	Hope	0.259**
2.	PsyCap	0.195**
1.	PsyCap	0.431**
2.	Hope	0.023**
1.	Optimism	0.339**
2.	PsyCap	0.092**
1.	PsyCap	0.431**
2.	Optimism	0.000
1.	Resilience	0.357**
2.	PsyCap	0.079**
1.	PsyCap	0.431**
2.	Resilience	0.005

Note: The figures displayed for the first phase (denoted by a number 1) are the scores of the multiple correlations (Multiple R). The figures displayed for the second phase (denoted by a number 2) are the changes in the multiple correlations (ΔR).

In this hierarchical regression analysis, each of the four individual component variables was incorporated in the regression, followed by the insertion into the model of the overall PsyCap. Next, we observed the increase of the multiple correlations (ΔR). We then compared the result of the increases in the multiple correlations with the result obtained if the previous process was carried out in reverse, whereby the overall PsyCap was entered first into the new regression model, followed by each of the constituent variables.

As shown in Table 6, the results of the usefulness analysis indicate that, overall, PsyCap was associated more consistently with commitment than each component individually. Overall, PsyCap increased the value of multiple correlations beyond the figures of the individual components. In addition, none of the individual components had higher values of multiple correlation changes (ΔR) than the overall PsyCap. Therefore, these results supported Hypothesis H6.

## DISCUSSION

The validation of this study’s Hypothesis H1 is consistent with the findings of Whyte et al. (1997), Whyte and Saks (2007), Babatunde (2016), Audia et al. (2000), Kisfalvi (2000) and Bragger et al. (2000). The high self-efficacy respondents tended to believe they had the ability to complete projects successfully despite any difficult situation they encountered therein. In other words, they were confident that they could improve things. In contrast, the low self-efficacy people tended to doubt their own ability and, consequently, preferred to respond to

the negative feedback that emerged and withdraw themselves from the escalation. The current impression is that high self-efficacy is a desirable characteristic since it commonly leads to the expected outcomes, despite, in some circumstances, its effects being dysfunctional (Whyte et al., 1997).

The validation of Hypothesis H3 was in accordance with the findings by Bird (2005) and Cooper et al. (1988). The highly optimistic respondents tended to have positive expectations regarding future outcomes, with a belief that the outcomes would benefit their future (Babatunde, 2016). When confronted with negative feedback, they were motivated to work harder and felt challenged by it. Consequently, even if a project was attracting some negative feedback, they tended to strive more resiliently since they had positive expectations of the project. Thus, their optimism may result in better outcomes for unfavourable and dysfunctional organisations (Bird, 2005).

Furthermore, this study is the first to find empirical evidence that resilience has both a significant and positive relationship with escalation of commitment. Resilience deals with a person's ability to adapt effectively and be able to bounce back from negative experiences (Xing and Sun, 2013). When faced with negative feedback on a project, a resilient individual is able to cope with the stress he/she experiences by acting more boldly and taking risks (Giuliano and Appleman, 1984). This study's findings accord with Whyte et al.'s (1997) predictions about resilience. They argued that resilience can be defined as the rate at which an individual is able to recover from the difficulties they experience. Highly resilient people tend to be unaffected by their failures and, accordingly, prefer to persist in the face of existing obstacles.

Unlike the hypothesised notions, this study found no significant evidence of a correlation between hope and escalation of commitment. As shown in Table 4, hope has a negative t-value, which means that people with high expectations tend to terminate unprofitable projects. Although the p-value showed insignificant results, it can nonetheless provide clues to explain why there was no significant and positive relationship between hope and escalation of commitment.

Wong et al. (2006) divided hope into two types: the positive anticipation associated with the continuation of a project, and the positive anticipation associated with the cessation of a project. There is a possibility that the hope felt by the respondents in this study was related to the positive anticipation associated with ending the project. In other words, the respondents in this study might have been more aware of other 'ways' that could be adopted, for example, options to invest in other projects.

Finally, this study has succeeded in providing empirical evidence that PsyCap has a stronger positive relationship with escalation of commitment than with each individual variable of self-efficacy, hope, optimism and resilience. This was proven by using a type of hierarchical linear regression known as usefulness analysis. This finding was consistent with that of Luthans et al. (2007), who determined that, as a composite factor, PsyCap is a better predictor of employees' performance and job satisfaction. Ultimately, this finding supported the validity of PsyCap itself, which exerted a stronger influence than when each of the components of self-efficacy, hope, optimism and resilience were used separately.

## CONCLUSIONS

This study is the first to find empirical evidence of self-efficacy, optimism, resilience and PsyCap having both a significant and positive correlation with escalation of commitment. No significant positive correlation was predicted between hope and escalation of commitment because an individual's hope is not found in the project itself but may instead refer more to other solutions, such as the possibility of other, more profitable projects that could be considered when facing unprofitable projects. Finally, using usefulness analysis, this study has succeeded in finding empirical evidence that PsyCap has a stronger positive relationship with escalation of commitment than with each of its four constituent components.

In terms of the theoretical perspective, from the exploration of the impact of PsyCap, which has not been previously tested on decision-making involving escalation, this study has added empirical evidence to the literature on both escalation of commitment and PsyCap. However, the determinants of escalation of commitment, as related to individual variables, continue to show inconsistent evidence. In addition, PsyCap has been associated with outcomes that are desired in the workplace, even when in practice this may not always be the case. This study has been successful in providing empirical evidence that there is a positive association between PsyCap and the tendency to undertake an escalation of commitment. Clearly, this is not a positive outcome to be expected by the professional world.

Furthermore, from a practical point of view, this study provides an overview of the importance of identifying individual variables in the context of organisational decision-making and, more specifically, for either capital budgeting or capital project continuation decisions. This is important because capital project continuation decisions involve a series of time periods; as such, inaccurate decisions taken in the previous period have an impact on the current conditions. In other words, erroneous decisions can be made sequentially as, frequently, decisions made earlier will be upheld, despite such decisions being wrong.

This study's results support the association between individual variables and escalation of commitment in cases where the individual variables have direct implications for decision-making and unwanted commitments. It is important that the organisation is able to identify the type of individuals to be placed in positions that frequently involve decision-making, given the fact that a high PsyCap, which has been associated with positive outcomes, is not always the case in practice.

This research study nonetheless has some limitations. Firstly, it was impossible to clearly capture the causal relationship between the studied variables. Therefore, further research should try to use the experimental method by manipulating the level of PsyCap. Secondly, caution should be taken when seeking to generalise the results of this study. This is due to the use of business students as its respondents who had never worked or been involved directly in a real escalation of commitment. However, this study provides preliminary evidence of the relationship between the individual variables and escalation of commitment despite the relatively low number of respondents used and the acknowledgement that it would have been preferable to include a greater number of respondents. Consequently, future research may seek to use more appropriate surrogates in the form of project managers, such as Master of Accounting or Master of Management students, or actual managers who are confronted with the escalation of commitment condition.

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