

Social Intelligence, Creative Behavior, Decision Making Styles and Productivity of School Administrators

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Abstract: *This study aimed to develop a structural model of social Intelligence, creative behavior, decision making styles on school administrators' productivity. Specifically, this study sought to: describe the level of social intelligence of school administrators in terms of social information processing, social skills and social awareness; determine the level of school administrators' creative behavior in terms of authenticity, fluency, flexibility, sensitivity to problems and risk acceptance; ascertain the administrators' practice of the decision making styles if they use rational, intuitive, dependent, avoidant, spontaneous decision making styles; assess the level of school administrators' productivity in terms of instructional leadership, learning environment, school management and operations, human resource management and development, and parents involvement and community participation; correlate social intelligence, creative behavior and decision making styles, to school administrators' productivity; identify the independent variables that best predict school administrators' productivity; and develop a structural model that best fits school administrators' productivity. The study revealed that the public school administrators were generally of a moderate level of social intelligence especially in terms of social skills and social awareness. They also manifested high creative behavior in terms of authenticity, fluency, flexibility, sensitivity to problems and risk acceptance. School administrators in Northern Mindanao frequently used rational, intuitive, spontaneous and dependent decision making styles. Rarely did they use avoidant decision making style. School administrators were generally highly productive in terms of human resource and management, school management and operations, parents' involvement and community partnership, instructional leadership, and learning environment. There was a significant relationship between creative behavior, decision making styles and school administrators' productivity. The best predictors to school administrators' productivity were creative behavior in terms of flexibility and sensitivity to problems and decision making styles in terms of rational, intuitive, spontaneous and dependent decision making styles. Creative behavior and decision making styles with equal direct effect on school administrators' productivity were found to be the factors that explain the best fit model. Creative behavior in terms of flexibility, authenticity, fluency and risk acceptance and the use of intuitive, spontaneous and dependent decision making styles were the variables reflected in the model. Moreover, the study noted an interrelationship between creative behavior and decision making styles. Thus, the findings suggest that school administrator's productivity is best anchored on the kind of decision making styles they practice and their creative behavior.*

1. Introduction

1.1 Background of the Study

The basic education system underwent a transformation under the K-to-12 program. In this respect, the Department of Education is overhauling the curriculum to establish a "spiral" approach designed to challenge and stimulate learners and develop their critical thinking. In the process, myriad issues confronted the school administrators particularly Region X with both old and new challenges to improve and deliver basic education for all. The abrupt implementation of the K to 12 curriculum actually posed problems like lack of teachers, classrooms, facilities and equipment which then led to the deteriorating performance in the National Achievement Test (NAT). In fact, the Department of Education showed a poor National Achievement Test (NAT) result for both secondary and elementary levels. According to Quismondo (2018), almost two-thirds of the country's high schools fared poorly in the NAT. The Department of Education (DepEd) said that Filipino learners NAT MPS is way below the desired standard of 75 percent. As of SY 2010 – 2011, elementary level NAT result is 68.01 percent, then 68.15 by SY 2011-2012 and down to 66.79 percent in SY 2012 to 2013 (NETRC).

The declining performance in the National Achievement Test can be attributed to educational leader's performance, characteristics and intellectual potential as well. Studies of Leithwood et al. (2004) and Hallinger (2005) found that a school administrator constitutes a key role in student performance and concluded that they tend to impact student learning through their influence on teachers and the entire school system. Cavazos (2012) also reported that effective schools have effective school administrators, and without them the schools will underperform. Montecalbo (2016) added that being an effective leader is not a beautiful poem created by pen and some inspirations. It is a difficult task. The studies above have shown that the school administrator is a linchpin to student and school's achievement, which heightens the importance of selecting the right people for every public school.

In sequel to this, Icuta et. al. (2017) cited that school managers have different roles and functions in the unending educational process. They are strong agents to attain quality education. To merit quality education is to have quality school managers. If a quality leader is to be improved, then special attention should also be focused on their problems and coping mechanisms.

Tobin (2014) confirmed that in today's millennium, school administrators are really confronted with a variety of issues

from how to implement the School Improvement Plan, to handling irate parents and stakeholders, to supporting overwhelmed teachers and in augmenting pupil's achievement. How they react to these issues, to a great extent, determines their success or failure as school administrators.

Hence, the educational leaders being within the interlocked environment of relation and as the frontliner in leading the school might as well possess social intelligence skills to establish positive relationships with individuals and stakeholders within their sphere of influence. According to Bartz (2018), these positive relationships can lead to others supporting the goals for which a school administrator is accountable and work toward their achievement. This implies that as leaders, they should have the ability to inspire members of the school community to work together for the achievement of school goals. Riggio & Reichard (2018) said that there is little doubt that "Social Intelligence" – ability to communicate effectively, to manage social interactions and social relationships are critical for today's successful leaders.

Creativity is also one of the key desired educational outcomes in the 21st century as the world's economic growth is increasingly innovation-driven. Given the demand for the capacity to be creative in the workforce, schools are expected to teach and assess creativity even among school leaders. Besides the economic reasons of promoting creativity, the justifications for re-kindling the fostering of creativity is seen as a social good both at the individual as well as at the school and societal level.

Educational leaders need to possess certain creative behavior, social intelligence and the ability to make valued decisions. Decisions are in part, a fundamental means by which opportunities for change and development are possible. Jacoby (2006) cites that the successes and/or failures of an organization may be directly linked to its leaders' decisions.

Decision-making is the most important aspect of educational management. In fact, some authors in the field of management suggest that management is decision making. Decision-making is considered to be the "heart of management". In the process of planning, organizing, staffing, directing, reporting, and budgeting a manager makes decisions. (McCormick, 2001).

According to Olcum (2015), decisions of administrators can have positive or negative impacts on all components of an organization and the decision-making styles (DMS) of administrators are important. School administrators can make decisions rationally or intuitively, or they can try to avoid them, however, their decisions ultimately affect the entire school. Such research also suggests that understanding an individual's decision style may impact how an individual reflects the way he/she visualizes, thinks, interprets situations, approaches a problem and produces positive results.

To be a school manager requires extraordinary qualities, traits, values, attitudes and behavior to be productive. It is

widely acknowledged that some school managers encountered difficulties and problems which need much attention. As they face the challenge of the administrative position, they make the necessary adjustments to cope up with the demands of the job. There are challenges which require them to make adaptation to the educational environment. There is then a need to assist these school managers so they may be able to effectively respond to the demands of their work and to the educational institutions.

What are needed in the educational setting today are not only competent school administrators with good decision making styles but also those with creative behavior and are socially intelligent. Thus, it is in the light of the above, the researcher deems it fit to conduct a research on the social intelligence, creative behavior and decision making styles and develop a structural model of school administrators performance which shall be used as a basis for improvement geared towards the welfare of the school managers as they go through their administrative and management functions.

2. Conceptual Framework

This study is anchored on various theories and concepts relating to social intelligence, creative behavior, decision making styles, and school administrators' productivity.

Social intelligence was a term initially coined by Thorndike in 1920 in the context of effective interpersonal relationship skills possessed by leaders.

Gardner (1993) introduced the concept of social intelligence which he re-termed it as "interpersonal intelligence" on his Multiple Intelligence Theory. It explains the idea of having the ability to understand other people, their behavior, temperaments, motivations, and intentions.

Goleman (2006) also purports the benefits of leaders effectively utilizing social intelligence to improve relationships between people. He stresses the importance of nourishing relations to enhance human connections to counter "social corrosion".

Goleman (2006) break down the ingredients of social intelligence into the two broad categories of social awareness and social facility. Social awareness refers to what an individual sense about others while social facility refers to what an individual can do behaviorally based from his social awareness.

Similarly, Lievens and Chan (2010) divided social intelligence into two factors. One is cognitive which is the knowledge to understand how to decode verbal and non-verbal behaviors of others. Second, is behavioural which refers to taking actions on a given situation based on the cognitive knowledge.

Bandura's (2001) social cognitive approach to social intelligence and creativity emphasizes understanding is also employed in this study. Rao (2011) said that "a leader has to understand himself, his needs, and his behavior and also has to understand the environment that includes followers, their needs and behaviors". Leadership is coming with plans and

actions that are acceptable to followers and achieve the objectives of the group. The theory would satisfy results on the personal characteristics that need to be manifested by the school administrators.

The aforementioned overarching concept on social intelligence comprises the three dimensions on social information processing, social awareness and social skills.

The social learning theory according to Bandura emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. Bandura (1977) added that most human behavior is learned observationally through modeling, to include observing others on how they performed which may serve as a guide later on for new behavior.

Social learning theory theorized by Albert Bandura posits that humans learn from each other through observation, imitation and modelling. The theory further explains that cognitive learning blends with the behavior because it encompasses the attention, memory and motivation. It also refers to the human behavior in terms of constant mutual interaction between the influences of cognitive, behavioral, and environmental. The component processes involved in this learning theory are: attention, retention, motor reproduction and motivation which includes external, vicarious and self-reinforcement. Bandura's work is related to the theories of Vygotsky and Lave which also emphasize the central role of social learning.

McCormick (2001) further specifies it as the principal's self-perceived capability to perform the cognitive and behavioral functions necessary to control situations or group processes related to achieving the goal. The author explains principals' social intelligence and creativity, as applied to this study. Perceived creative behavior has been found to influence analytic strategies, direction-setting, and subsequent organizational performance of managers (Paglis and Green, 2002; Wood and Bandura, 1989). A high social intelligence is necessary to sustain the productive attentional focus and persistent effort needed to succeed at organizational goals (Wood and Bandura, 1989).

Gareis (2004) also explain that school administrators must facilitate attainment of schools' goals through establishing and maintaining a learning environment favorable to improve school performance.

Zaccaro (2001) stressed that effective leadership is derived from an interwoven set of both cognitive and social capabilities. Distal attributes such as cognitive abilities, and values serve as forerunners for the development of various characteristics like social and problem solving skills, and expertise knowledge. This theory is relevant to the study to establish facts on the characteristics of effective school administrators.

Guilford was the original author of the earliest models of creativity. He hypothesized that there were three separate parts for every mental task. These were operation, content and a product of different types which summed up to a total of one hundred and twenty different mental tasks.

Guilford identified one specific operation known as "divergent production". Coupled with content and product, this divergent production created twenty-four possibilities now labeled collectively as "divergent thinking".

Guilford emphasized that creativity is not one abstract concept. It is not even a single concept but rather a category which researchers need to look at it with a broad and whole new perspective.

Furthermore, Guilford hypothesized the components of creativity. He explained that creativity was a result of having the following characteristics. One is "Sensitivity to Problems" which means having the ability to recognize problems in the group. Second, is "Fluency" which refers to the ability to produce a variety of ideas and are able to organize it. Third, is "Flexibility" which means having the ability to demonstrate adaptive flexibility or having the ability to consider and implement the plan with proficiency. Fourth, is "Originality" which refers to having the ability to produce responses that are novel and high in quality and original.

Decision making is defined as a selection of one course of action from two or more alternative courses of action. It is the act of making up on one's mind about something, or position or opinion or judgment reached after consideration.

Herbert A. Simon at the beginning of 50th century is behind the work of public administration and employ decision-making as part of the process of administration. His renowned work on "Administrative Behavior: A Study of Decision-Making Process in Administrative Organization" was published in 1948. Herbert Simon conceptualized decision-making in two categories. These are process of action and the decisions made. Accordingly, mere making of decision is not easy including its implementation. So, both the process and the implementation are interconnected and important. Herbert Simon (1948) said that in the administration, both processes of actions and decisions are important.

Decision-making is very crucial in an organization. If decisions were not taken properly and timely, it may affect the organization. Hence, it should be kept in mind that organization such as schools should take utmost caution especially in making important decisions.

Scott and Bruce (1995) pointed out that prior theorizing and empirical research was only dealing with the structure of the decision, and not the decision maker's personality. They identified four decision styles from earlier research and defined them in the following behavioral terms: rational, intuitive, dependent, avoidant and spontaneous decision making styles.

Yildiz (2012) stressed that in making decisions rationally, the decision maker use logical methods when gathering information, determining options and evaluations, and acting on the chosen decision. Yaslioglu (2007) emphasized that "in making decisions intuitively, the decision maker take ideas and events together with their relations and interactions. On account of this situation, they may lose their

productivity and find trouble dealing with the system involved in the decision-making process”.

Girgin and Kocabiyik (2003) pointed out in the dependent decision making style, the dependent decision makers avoid taking responsibility and need a lot of social support. They also often require and trust the ideas of others in place of their own.

Colakkadioglu (2013) also mentioned that in the avoidant decision making style, the decision maker at the point of deciding may postpone the task, or sometimes delegate the responsibility of making a choice to someone else. If the risks are very high, and individuals need to make decisions under time pressure, they may display high stress levels.

Sardogan, Karahan, and Kaygusuz (2006) said that there are decision makers who are impatient and indecisive kind of people who avoid exploring alternatives, and might settle on the most immediately immediate choice rather than taking time to think through the logical process of making decisions. They coined a term for this as spontaneous decision making style.

In this study, a hypothesized model is presented to illustrate the relationships among the variables in relation to school administrators’ productivity.

Hypothesized structural model 1 implies that the relationship of social intelligence, creative behavior and decision making styles best predict school administrators’ productivity.

Hypothesized structural model 2 suggests that the reciprocal relationship of social intelligence and creative behavior best influence school administrators’ productivity.

Hypothesized structural model 3 implies that the reciprocal relationship of social intelligence and decision making styles best influence school administrators’ productivity.

Hypothesized structural model 4 illustrates that the relationship of creative behavior and decision making styles best impact school administrators’ productivity.

Finally, the hypothesized structural model 5 illustrates correlations of creative behavior and decision making styles enough to predict school administrators’ productivity.

Table 1: The nature and measure of the variables used in the study

<i>Variables</i>	<i>Code</i>	<i>Nature</i>	<i>Measure</i>
Social Intelligence Social Information Processing	SOCINT SI_SIP	Exogenous	Subscales of Social Intelligence Questionnaire
Social Skills	SI_SOS		
Social Awareness	SI_SOA		
Creative Behavior Authenticity Fluency	CREABE CB_AUT CB_FLU	Exogenous	Domains of Creative Behavior Questionnaire
Flexibility	CB_FLX		
Sensitivity to Problems	CB_SEN		
Risk Acceptance	CB_RIS		
Decision Making Style Rational Decision Making Style	DECMAK DM_RAT	Exogenous	Decision Making Style Questionnaire
Intuitive Decision Making Style	DM_INT		
Dependent Decision Making Style	DM_DEP		
Avoidant Decision Making Style	DM_AVO		
Productivity Instructional Leadership Learning Environment School Management and Operations Human Resource Management and Development	ADPER AP_INS AP-LEA AP_SMO AP_HRM	Endogenous	Office and Commitment Review Form (OPCRF) for School Administrators’ Questionnaire
Parents Involvement and Community Participation	AP_PIC		

Hypothesized Structural Model 1

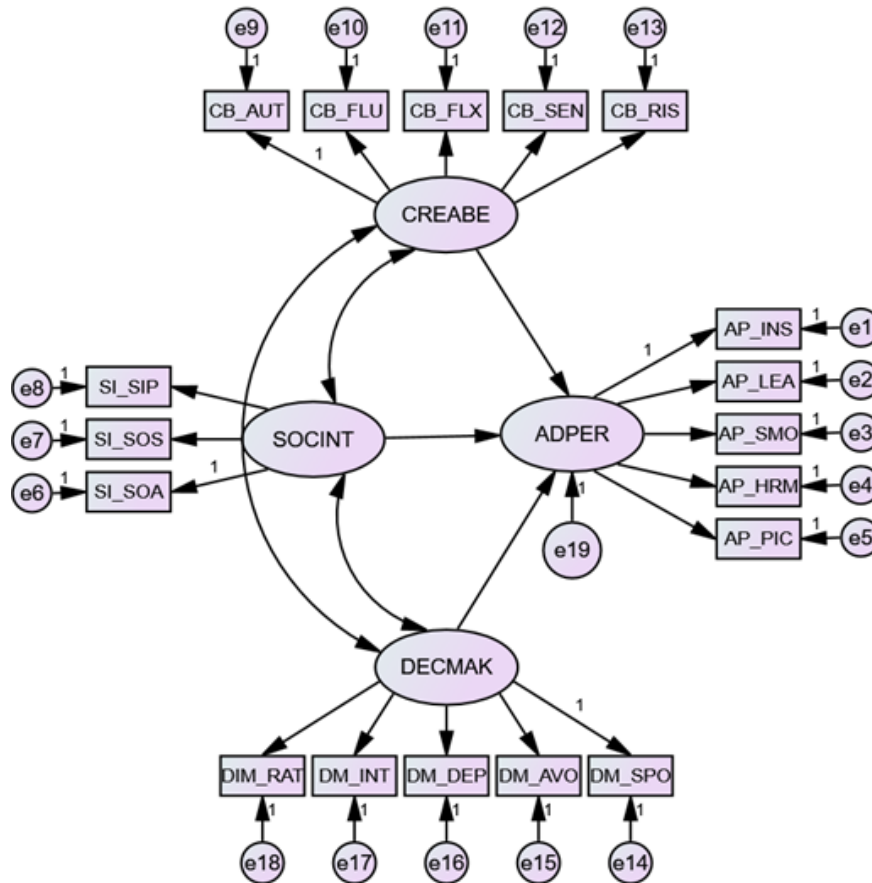


Figure 1: Hypothesized structural model 1 on productivity of school administrators

Legend:

ADPER=School Administrators' Productivity	DM_SPO=Spontaneous Decision Making Style
AP_INS=Instructional Leadership	CREABE=Creative Behavior
AP-LEA=Learning Environment	CB_AUT=Authenticity
AP_SMO=School Management and Operations	CB_FLU=Fluency
AP_HRM=Human Resource Management and Development	CB_FLX=Flexibility
AP_PIC=Parents Involvement and Community Participation	CB_SEN=Sensitivity to Problems
DECMAK=Decision Making Style	CB_RIS=Risk Acceptance
DM_RAT=Rational Decision Making Style	SOCINT=Social Intelligence
DM_INT=Intuitive Decision Making Style	SI_SIP=Social Information Processing
DM_DEP=Dependent Decision Making Style	SI_SOS=Social Skills
DM_AVO=Avoidant Decision Making Style	SI_SOA=Social Awareness

Hypothesized Structural Model 2

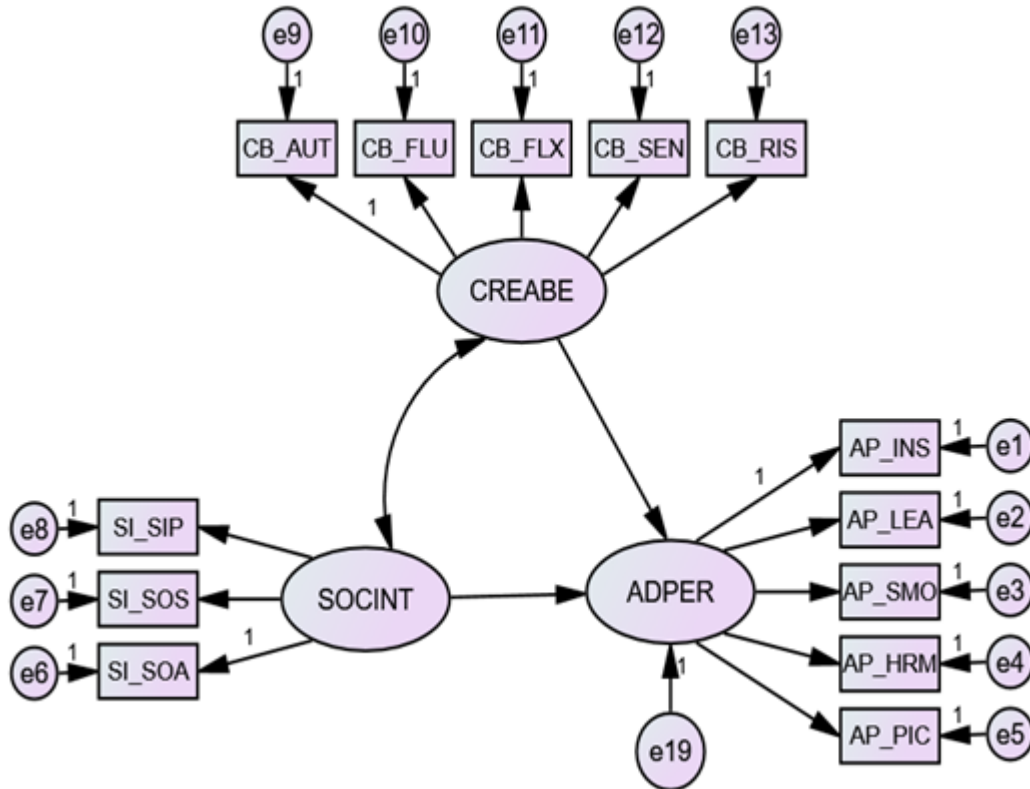


Figure 2: Hypothesized structural model 2 on productivity of school administrators

Legend:

ADPER=School Administrators' Productivity	CB_AUT=Authenticity
AP_INS=Instructional Leadership	CB_FLU=Fluency
AP-LEA=Learning Environment	CB_FLX=Flexibility
AP_SMO=School Management and Operations	CB_SEN=Sensitivity to Problems
AP_HRM=Human Resource Management and Development	CB_RIS=Risk Acceptance
AP_PIC=Parents Involvement and Community Participation	SOCINT=Social Intelligence
CREABE=Creative Behavior	SI_SIP=Social Information Processing
	SI_SOA=Social Awareness

Hypothesized Structural Model 3

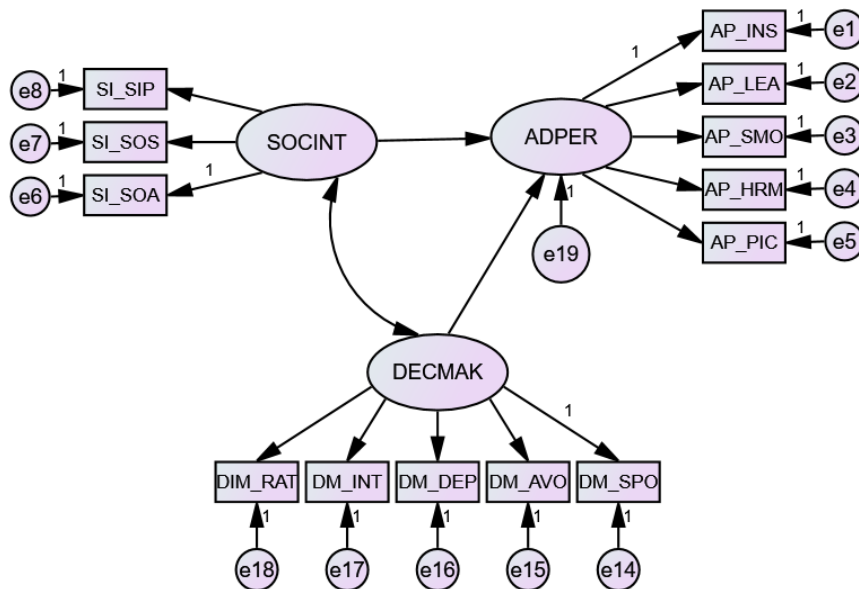


Figure 3: Hypothesized structural model 3 on productivity of school administrators

Legend:

ADPER=School Administrators' Productivity	DM_RAT=Rational Decision Making Style
AP_INS=Instructional Leadership	DM_INT=Intuitive Decision Making Style
AP-LEA=Learning Environment	DM_DEP=Dependent Decision Making Style
AP_SMO=School Management and Operations	DM_AVO=Avoidant Decision Making Style
AP_HRM=Human Resource Management and Development	DM_SPO=Spontaneous Decision Making Style
AP_PIC=Parents Involvement and Community Participation	SOCINT=Social Intelligence
DECMAK=Decision Making Style	SI_SOA=Social Awareness

Hypothesized Structural Model 4

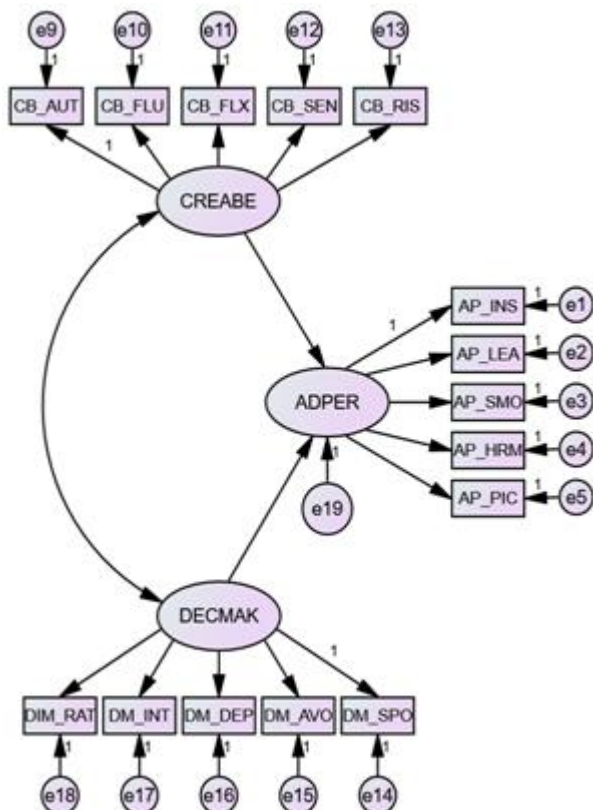


Figure 4: Hypothesized structural model 4 on productivity of school administrators

Legend:

ADPER=School Administrators' Productivity	DM_INT=Intuitive Decision Making Style
AP_INS=Instructional Leadership	DM_DEP=Dependent Decision Making Style
AP-LEA=Learning Environment	DM_AVO=Avoidant Decision Making Style
AP_SMO=School Management and Operations	DM_SPO=Spontaneous Decision Making Style
AP_HRM=Human Resource Management and Development	CREABE=Creative Behavior
AP_PIC=Parents Involvement and Community Participation	CB_AUT=Authenticity
DECMAK=Decision Making Style	CB_FLU=Fluency
DM_RAT=Rational Decision Making Style	CB_FLX=Flexibility
	CB_SEN=Sensitivity to Problems
	CB_RIS=Risk Acceptance

Hypothesized Structural Model 5

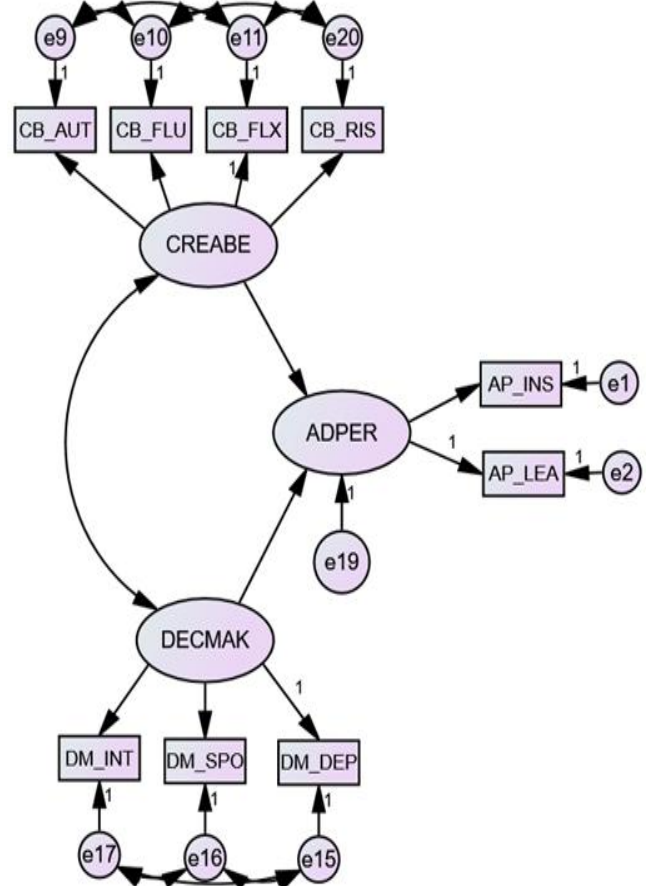


Figure 5: Hypothesized structural model 5 on productivity of school administrators

Legend:

ADPER=School Administrators' Productivity	DM_DEP=Dependent Decision Making Style
AP_INS=Instructional Leadership	CREABE=Creative Behavior
AP-LEA=Learning Environment	CB_AUT=Authenticity
DECMAK=Decision Making Style	CB_FLU=Fluency
DM_INT=Intuitive Decision Making Style	CB_FLX=Flexibility
DM_SPO=Spontaneous Decision Making Style	CB_RIS=Risk Acceptance

Hypothesis of the Study

Based on the aforementioned problems, the following null hypotheses were tested at 0.05 and 0.01 level of significance.

Ho₁: There is no significant relationship between school administrators' productivity and their:

- a. social intelligence,
- b. creative behavior, and
- c. decision making styles

Ho₂: There are no variables, singly or in combination, best predict school administrator's productivity.

Ho₃: There is no structural model that best fits school administrator's productivity.

3. Methodology

This chapter discussed the methods and procedures employed in the study. Research design, locale of the study, respondents of the study and research instrument, data gathering procedure, and statistical treatment of the study are herein discussed in detail.

Research Design

This study employed descriptive-correlational and causal comparative research design. A model will be used as the basis for improving the school administrators' productivity that includes social intelligence, creative behavior and decision making styles.

Correlational research was used in the study since it attempts to explore the degree of relationships that existed between the level of the school administrator's productivity, social intelligence, creative behavior and decision making styles.

The study had two phases: first, the researcher presented the status of the school administrators' social intelligence, creative behavior and decision making styles; thus, a descriptive-correlation design; second, a structural equation model (SEM) was formulated on school administrators' productivity as influenced by the social intelligence, creative behavior and decision making styles making use of causal-comparative research design.

Locale of the Study

The study was conducted in the Northern Mindanao Region X particularly in the fourteen (14) divisions namely; Division of Bukidnon, Division of Malaybalay City, Division of Valencia City, Division of Cagayan De Oro City and Division of El Salvador City, Division of Misamis Oriental, Gingoog City, Division of Camiguin, Iligan City Division, Division of Lanao del Norte, Division of Misamis Occidental, Oroquieta City Division, Tangub City Division and Division of Ozamiz City.

Bukidnon is a rich tableland and landlocked province in the Philippines located in the Northern Mindanao region. Its capital is the city of Malaybalay. It occupies the extensive plateau in Central Mindanao that is bounded on the north and the east by Misamis Oriental; on the east by Agusan Province; on the south and southeast by Davao province; and on the southwest and west by Lanao and Cotabato Provinces.

Malaybalay City, the capital city of Bukidnon, is in the focal part of the territory. It is limited in the east by the region of Cabanglasan and the Pantaron range, which isolates Bukidnon from the areas of Agusan del Sur and Davao del Norte; on the west by the district of Lantapan and Mount Kitanglad; on the north by the region of Impasugong; and on the south by the Valencia City and the region of San Fernando. The entire eastern and southern eastern outskirts bordering Agusan del Sur and Davao del Norte is raised and thickly forested mountains, which is one of only a handful few staying woodland squares of Mindanao. The closest seaports and airplane terminals are in Cagayan de Oro City, which is 91 kilometers away.

Metropolitan Cagayan de Oro also known as Metro Cagayan de Oro, is the fourth largest metropolitan area in the Philippines. It is located on the northern coast of Mindanao, and comprises the two chartered cities of Cagayan de Oro and El Salvador.

El Salvador is a city in the province of Misamis Oriental on the Mindanao island, southern part of the Philippines. The city serves as a pilgrimage site for the Divine Mercy devotees, that is why it is also famous as "The City of Mercy" or direct translation of El Salvador-City of the "Savior". El Salvador was a barrio of the municipality of Cagayan de Oro. On June 15, 1948, Republic Act 268 created El Salvador as a municipality and functioned officially on August 2, 1948. Then, on June 27, 2007, by virtue of Republic Act 9435, otherwise known as the Charter of the City of El Salvador converted the municipality into a component city of the province of Misamis Oriental. From the original 7 barangays, it is now comprised of 15 barangays of which 8 are urban/urbanizing and 7 are rural. The fight on the legal aspect of becoming a city was extended and very challenging. After almost 4 years of heartrending court battle, the finality of the cityhood was entered in the book of judgment on June 26, 2011.

Camiguin is an island province in the Philippines in the Bohol Sea, about 10 kilometers (6.2 mi) of the northern coast of Mindanao. It is politically part of the Northern Mindanao Region of the country and formerly a part of Misamis Oriental province. Camiguin is the second-smallest province in the country in both area and population. The province is famous for its sweetest lanzones to which its annual Lanzones festival is dedicated, the picturesque Sunken Cemetery of Camiguin and its interior forest reserves, collectively known as the Mount Hibok-Hibok Protected Landscape, which has been declared by all Southeast Asian nations as an ASEAN Heritage park. Figure 6 is provided indicating the locale of the study.



Figure 6: Map of the Region X showing the locale of the study.

Participants of the Study

Simple random sampling through lottery technique was employed to determine the number of participants in the study. There were 763 elementary and secondary school

administrators of the fourteen (14) different divisions in Region X as shown below.

School administrators evaluated their social intelligence, creative behavior and decision making styles used. Furthermore, school administrators rated their productivity using the prescribed Office and Commitment Review Form (OPCRF).

Table 2: Participants of the study from different divisions of Northern Mindanao Region

Regional Divisions	Number of School Administrators
1. Division of Bukidnon	183
2. Division of Malaybalay City	27
3. Division of Valencia City	20
4. Cagayan de Oro City Division	32
5. El Salvador City Division	10
6. Division of Misamis Oriental	132
7. Gingoog City Division	29
8. Division of Camiguin	21
9. Iligan City Division	35
10. Division of Lanao del Norte	113
11. Division of Misamis Occidental	104
12. Oroquieta City Division	17
13. Tangub City Division	21
14. Division of Ozamis City	19
TOTAL	763

Research Instruments

The researcher conducted a survey through a structured questionnaire for the participant to answer and elicit useful information for the study. Creswell (2005) said that Pilot Testing is important in establishing constant validity and in improving the question and scale. Hence, the questionnaire was pretested or tried out in Cotabato Division, outside Northern Mindanao to measure its validity using Cronbach Alpha Reliability Test. Upon pilot testing, the questionnaire rendered a Cronbach alpha of 0.917 in the social intelligence questionnaire, 0.921 in the Creative Behavior questionnaire and in decision making styles, it yielded a Cronbach alpha of 0.945 which mean that the questionnaires used are highly reliable.

A Likert scale instrument composed of statements for the social intelligence, creative behavior and decision making styles was used. The respondents selected their extent of agreement by encircling the item which corresponds to their desired responses to the given statements.

Each of the variables has distinct instrument to measure them. The social intelligence of school administrators was measured by the TSIS- Tromso Social Intelligence Scale of Silvera, Martinussen and Dahl (2001) which was adapted and modified. This questionnaire was divided into three subscales to specify three factors namely: SIP – Social Information Processing, SOS- Social Skills and SOA- Social Awareness. The numerical scale, the range, descriptive rating, and qualitative meaning used are shown below.

Social Intelligence

The scale range, qualitative description and interpretation of the school administrators’ social intelligence is shown below:

Scale	Range	Descriptive Rating	Qualitative Interpretation
5	4.51-5.00	Strongly Agree	Very High
4	3.51-4.50	Agree	High
3	2.51-3.50	Uncertain	Moderate
2	1.51-2.50	Disagree	Poor
1	1.00-1.50	Strongly Disagree	Very Poor

The instrument to measure the Creative behavior of school administrators was adapted from Kriemeen and Hajaia (2017) questionnaire which comprised of 22 items and 4 domains: authenticity, fluency, flexibility, sensitivity to problems and risk acceptance. The social intelligence was measured in numerical scale, the range, descriptive rating, and qualitative meaning as shown below.

Creative Behavior

The scale range, qualitative description and interpretation of the school administrators’ creative behavior is shown below.

Scale	Range	Descriptive Rating	Qualitative Interpretation
5	4.51- 5.00	Strongly Agree	Very High
4	3.51-4.50	Agree	High
3	2.51-3.50	Moderately Agree	Moderate
2	1.51-2.50	Disagree	Low
1	1.00-1.50	Strongly Disagree	Very Low

The decision making styles of school administrators was measured by the General Decision Making Styles Questionnaire (GDMSQ) adapted from Jacoby (2006). The decision making styles include rational decision-making style, intuitive decision-making style, dependent decision-making style, avoidant decision-making-style, and spontaneous decision-making style.

Decision Making Styles

The scale range, qualitative description and interpretation of the school administrators’ decision making styles is shown below.

Scale	Range	Descriptive Rating	Qualitative Interpretation
5	4.51- 5.00	Always	The style is used at all times
4	3.51-4.50	Often	The style is used frequently
3	2.51-3.50	Occasionally	The style is used sometimes
2	1.51-2.50	Seldom	The style is used rarely
1	1.00-1.50	Never	The style is used once or not at all

Lastly, the questionnaire to measure the productivity of school administrators was adopted from the prescribed Office Performance Commitment and Review Form (OPCRF) of school administrators in public school (DepEd Order No. 2 s., 2015) which includes instructional leadership, learning environment, school management and operations, human resource management and development and parent’s involvement and community partnership.

School Administrators Productivity

The scale range, qualitative description and interpretation of the school administrators’ productivity is shown below.

Scale	Range	Descriptive Rating	Qualitative Interpretation
5	4.51- 5.00	Always	Very Highly Productive
4	3.51-4.50	Usually	Highly Productive
3	2.51-3.50	Sometimes	Moderately Productive
2	1.51-2.50	Seldom	Poorly Productive
1	1.00-1.50	Never	Not Productive

Data Gathering Procedure

The data collection was immediately carried out after all the necessary permissions were obtained. The researcher personally requested the school administrators of the pilot tested schools to accomplish the questionnaire. The researcher personally visited the schools to float and retrieve the questionnaires. To hasten the retrieval of the data, the researcher had two research assistants to help her. There were 1000 questionnaires floated for the school administrators but only 763 were retrieved. The questionnaires were then checked, scored and data were organized into tabular form and subjected to statistical treatment for proper analysis and interpretation.

Statistical Treatment

Descriptive statistics was used to determine the levels of social intelligence, creative behavior and decision making styles of school administrators in Region X.

The Pearson product-moment correlation (Pearson r) was used to determine if a significant relationship exists between the variables.

Stepwise multiple linear regression analysis was utilized to ascertain the best predictor of school administrators' productivity.

Finally, structural equation model (SEM) was used to determine the best fit model for the school administrator's performance. In finding the best fit model the following indices will be considered: the Comparative Fit Index (CFI), Normed Fit Index (NFI) and the Tucker Lewis Index (TLI) must be greater than or equal to 0.95; RMSEA or the Root Mean Square Error of Approximation must no less than or equal to 0.05; Chi square/degrees of freedom (CMIN/DF) must be less than 2 and a p -value must be greater than 0.05.

4. Summary, Conclusions and Recommendations

This section features the summary of the significant findings presented in relation to previously identified problem statement in the first chapter. Conclusions and recommendations of the study are further offered by intent to generalize the result of the field investigation.

4.1 Summary

The study attempted to find the best fitting model of interrelationship among school administrators' social intelligence, creative behavior, decision making styles and their causal relationship towards school administrators' productivity. The study was conducted in the fourteen divisions of Region X Department of Education. The public school administrators involving principals, head teachers

and school-in charge were utilized as respondents of the study.

Quantitative analysis of the data used appropriate statistical tools. In describing school administrators' social intelligence, creative behavior, decision making styles and productivity, mean was used. In identifying the relationship between school administrators' social intelligence, creative behavior, decision making styles and their productivity, Pearson product-moment correlation was utilized and test of significance were set at 1% and 5% level. A stepwise multiple-linear regression was used in finding the best prediction of school administrators' productivity. A structural equation modeling, specifically maximum likelihood method was used to examine the best fitting model on productivity. Indices such as scaled Chi-square/degrees of freedom (CMIN/DF), Goodness of Fit Index (GFI), Normed Fit Index (NFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA) were used to examine the model's goodness of fit.

Based on the data, analyzed and interpreted, the findings revealed that public school administrators are moderately socially intelligent with an overall mean of 3.42. Among three indicators, public school administrators have high social intelligence in terms of social information processing with a mean value of 3.69. However, when it comes to social skills and social awareness, public school administrators were only moderate as reflected by the uncertainties of their answers in the indicators and with a weighted mean of 3.36 and 3.16 respectively.

In the same way, creative behavior was claimed by school administrators in Northern Mindanao as having a highly creative behavior. Risk acceptance got the highest mean of 4.08. This is followed by authenticity, sensitivity to problems and flexibility with means of 3.80, 3.77, and 3.74 respectively. On the other hand, fluency got the lowest mean of 3.62.

As to the decision making styles, there were five decision making styles which were analyzed in the study. These were rational, intuitive, dependent, avoidant and spontaneous decision making style. The study found out that the school administrators in Northern Mindanao frequently used rational, intuitive, spontaneous and dependent decision making styles as shown by the highest mean of 4.28, followed by the mean of the intuitive DMS with 3.93, spontaneous DMS with a mean of 3.88 and dependent DMS with a weighted mean of 3.51. However, the decision making style which is occasionally or sometimes used is avoidant decision making style. The results showed that the school administrators in the region are rational, intuitive, spontaneous and dependent decision makers.

There were 266 school administrators who were very highly productive in their work which comprises 34.86% of the total participants. 64.22% or 490 of them were highly productive. However, based on the result, there were also 0.92% or 7 school administrators who admitted that they were moderately productive in their job. It is good to note that in the Northern Mindanao, there were no school

administrators who were less or not productive. So, generally speaking, when it comes to productivity level, school administrators in region X were highly productive as revealed in the overall mean of 4.36.

Moreover, the school administrators agreed that they were very highly productive when it comes to human resource and management and in school management and operations with a weighted mean of 4.67 and 4.54. It can be noted that school administrators are also highly productive in terms of parents' involvement and community partnership with a mean of 4.50. But it is quite alarming to note that second to the lowest mean of school administrators' productivity is the instructional leadership with a mean of 4.24 in which this had the highest cut in the Office Performance Commitment and Review Form (OPCRF) of the school administrators which is 40%. Meanwhile, learning environment got the lowest mean of 3.83. This goes to show that although school administrators are highly productive on this aspect but they still need to improve.

The correlation result indicated that the school administrators' social intelligence was not significantly correlated to school administrators' productivity as shown in these values: $r=.076, (p>0.05)$. This is supported by its measured variables, social skills $r=0.033, (p>0.01)$ and social awareness $r=-0.015, (p>0.05)$ which did not render significant relationship relative to school administrators' productivity. In addition, school administrators' creative behavior likewise revealed significant relationship with their productivity $r=0.165, (p<0.01)$. Its measured variables like authenticity $r=0.165, (p<0.01)$; fluency $r=0.178, (p<0.01)$; flexibility $r=0.189, (p<0.01)$; and risk acceptance $r=0.075, (p<0.05)$ similarly showed the same level of significance. The strength of relationship was low, however, the increase of values of creative behavior leads to the increase of school administrators' productivity at the same time. Finally, decision making styles showed the same strength of significant correlation $r=0.155, (p<0.01)$; towards school administrators' productivity. Its measured variables like rational decision making style $r=0.089, (p<0.05)$; dependent decision making style $r=0.275, (p<0.01)$; and avoidant decision making $r=0.183, (p<0.01)$ showed significant correlative relationship with productivity. However, intuitive decision making style $r=-0.047, (p>0.05)$ and spontaneous decision making style $r=0.183, (p>0.05)$ were found to be not significantly correlated with administrators' productivity.

School administrators' productivity was influenced by creative behavior's flexibility $\beta = 0.103, t (4.058), p<0.01$ and sensitivity to problems $\beta = -0.083, t (-3.304), p<0.01$. The same level of effect demonstrated by rational decision making style $\beta = 0.038, t (2.235), p<0.05$, intuitive decision making style $\beta = -0.053, t (-3.612), p<0.01$, dependent decision making style $\beta = 0.085, t (5.616), p<0.01$ and avoidant decision making style $\beta = 0.030, t (2.183), p<0.05$.

The R^2 , the measure of total variation of the dependent variables consist of 14.2% which reflects the amount of variance explained by flexibility, sensitivity to problems, and decision making styles like rational, intuitive, dependent

and avoidant while 85.8% of the variance can be attributed to other factor variables apart from the regression model.

The investigation conducted to find the best fitting structural model on productivity showed that the structural models 1-4 did not show a good fit to the data.

Model 1, included the interrelationships among the social intelligence, creative behavior and decision making styles and their relationships towards school administrators productivity, had fit indices of chi square value (CMIN/DF=7.102), NFI (0.704), TLI (.0.682), CFI (0.732), GFI (0.873) and the RMSEA (0.089) which shows that it did not satisfy the set criteria for a good fit model. This indicates poor fit thus special considerations tests should be made to correct the model.

Model 2, which included the direct and the indirect effects of creative behavior and social intelligence and their relationships towards school administrator's productivity had fit indices of chi square/degrees of freedom (CMIN/DF=7.174), degrees of freedom, p-value .000, NFI value of 0 .776, TLI of 0.748, CFI value of 0.800 and RMSEA value of 0.090. Based on the standard criterion, Chi-square value is very large, it's NFI, TLI, CFI and GFI are still lesser than .95 and RMSEA is greater than 0.05. Hence, structural model 2 yielded a very poor fit and there is a need to look for another model.

Model 3, which included the direct and the indirect effects of social intelligence and decision making styles and their relationships towards school administrators' productivity had fit indices of chi square/degrees of freedom (CMIN/DF) which is 8.088 with its corresponding p-value of .000 showed lack of fit to the data. Other indices like Norm Fit Index (NFI = 0.694) Tucker-Lewis Index (TLI=0.645), Comparative Fit Index (CFI=0.718) and Goodness Fit Index (GFI= 0.903) also did not satisfy the standard criterion for the indices. The Root Mean Square of Error Approximation (RMSEA) is 0.096 in the model which is relatively higher compared to the standard acceptable measure, thus indicated a poor fit model to the data.

Model 4 indicated the result of a poor fit of the model as reflected by CMIN/DF=7.540. On the other hand indices like NFI=0.736, TLI=0.712, CFI=0.761, GFI=0.891, p-value=0.000 and RMSEA=0.093 likewise did not meet the criteria for good fit in relation to the data.

However, Model 5, the last model of the data which includes the interrelationships of creative behavior and decision making styles as the two latent variables have shown 26% equal influence on the school administrators' productivity. The model fitting was calculated as being highly acceptable as reflected by the standard indices. The chi square/degrees of freedom is 1.268 with probability level of 0.000. Other standard indices such as NFI (0.983), TLI (0.992), CFI (0.996), and GFI (0.994) and RMSEA index which is 0.019 were found to be consistently as a very good fit model as their values satisfy the required criteria. Therefore, structural model 5 was considered to be the most parsimonious structural model affecting school administrator's

productivity and is now renamed as Geared Administrators' Productivity Paradigm (GAPP).

4.2 Conclusions

The findings of this study led to the conclusions:

The school administrators' social intelligence in terms of social information processing, social skills and social awareness was moderate. It implies that they are moderately socially intelligent and needs to improve. Among the three components, school administrators have high social information processing which reflects their ability in regulating distressing emotions like anxiety or nervousness and managing such situations.

The school administrators manifest a highly creative behavior. This comprises the authenticity, fluency, flexibility, sensitivity to problems and risk acceptance. This implies that school administrators acknowledged that they need to continually adapt, redesign and reinvent themselves to increase their productivity. Among the components of creative behavior, risk acceptance is found to be prevailing. This indicates that school administrators in Northern Mindanao have the ability to take risks and are not afraid of failures. They have unusual ideas and high ability to cope with crises and to think in success more than failure.

School administrators in Northern Mindanao frequently used rational, intuitive, spontaneous and dependent decision making styles. Rarely do they use avoidant dependent decision making style. This signifies that they use logical methods when gathering information, determining alternatives and evaluations, and acting on the chosen decision. They are also intuitive decision makers in a way that they take ideas and events together with their relations and interactions. On account of this situation, they may lose their productivity and find trouble dealing with the system involved in the decision-making. It also goes to show that school administrators in Region X are dependent decision makers. They need a lot of support from their teachers and stakeholders when making decisions.

School administrators are generally highly productive in terms, human resource and management and in school management and operations, in parents' involvement and community partnership, instructional leadership and learning environment. However, they need to intensify their efforts in instructional leadership and learning environment for these are found to be with the lowest mean.

School administrators' productivity are significantly correlated to creative behavior and decision making styles. Thus, the null hypothesis of the study which states that there is no significant relationship exists between school administrators' social intelligence, creative behavior and decision making styles is rejected.

Creative behavior in terms of flexibility and sensitivity to problems and rational, intuitive, spontaneous and dependent decision making styles were best predictor to school administrators' productivity. Therefore, the hypothesis that states that there are no variables that best predict school administrators' productivity is rejected. This means that

when these variables tend to increase, so does administrators' productivity in school.

Creative behavior and decision making styles best captures school administrators' productivity. This implies that once school administrators practiced to be intuitive, spontaneous and dependent decision makers and also possess creative behaviors like being authentic, fluent, flexible and has risk acceptance, this influence productivity among school administrators in their workplace. Hence, the hypothesis which states that there is no structural model that best fits school administrators' productivity is rejected. This model on administrators' productivity is anchored on creative behavior such as authenticity, fluency, flexibility and risk acceptance and decision making styles in terms of intuitive, dependent and spontaneous.

4.3 Recommendations

Primary recommendations arising from the conclusions for further research of the study are hereby offered. To the different divisions in the Department of Education, Region X, capacity building may be conducted on enhancing social intelligence among the school administrators to improve their social skills and social awareness especially the newly promoted school heads to prepare themselves for the leadership role ahead for competent management and productive leadership.

The school administrators may take into consideration on maintaining a highly creative behavior specifically on being a risk taker, authentic, flexible and fluent to continually adapt, redesign and reinvent themselves to adhere to the changing demands of the 21st century education.

It is clear that effective decision making is fundamental to achieving goals and generating results needed to succeed in all educational goals. Thus, the school administrators are encouraged to learn how to explore and use properly their decision making styles to learn their strengths and weaknesses and be able to make valued decisions effectively and efficiently that best suits the situation.

There is a need for school administrators to consider and accomplish goals and objectives that they have been charged to carry out regardless of instinctive motivations for them to improve productivity.

A comprehensive appraisal system should also be established to evaluate school administrators' productivity in order to properly address those components with productivity related problems.

A highly creative behavior and effective decision making styles promise to yield better school administrators' productivity. Hence, higher DepEd officials may plan and implement a sustaining program and possible trainings that enhance creative behavior and effective decision making among school leaders.

A blend of creative behavior and effective use of decision making styles captures school administrators' productivity. Along this line, school administrators may consider the

result of this model adopting the Geared Administrators Productivity Paradigm (GAPP) to improve their productivity in their workplace as they are the key leaders for school success.

Another study may be replicated to validate the results with respect to various population and methods of investigation.

References

- [1] Albrecht, K. (2006). *Social intelligence: The new science of success*. San Francisco, CA: Jossey-Bass.
- [2] Aligsao, G. (2016). *Instructional leadership, negotiation competence, and productivity on school administrator's performance: A structural model*. Unpublished doctoral dissertation. Central Mindanao University, Musuan, Maramag, Bukidnon
- [3] Al-Omyan M 2002. *Organizational behavior in business organizations*. Amman: Dar Wael Publication.
- [4] Al-Qataweh I 2000. *Change and its Impact on Creative Behavior: A field study of supervisors of managers in the ministries of Jordan*.
- [5] Al-Taweel A. 2006. *Educational administration*. 3rd Edition. Amman: Dar Wael for publication.
- [6] Alumpong, S (2018). *Personal lifestyle, school health and nutrition practices, decision making competence on performance of school administrators*. Unpublished doctoral dissertation. Central Mindanao University, Musuan, Maramag, Bukidnon
- [7] Avolio, B. J. & Bass, B., 2008. *Transforming leadership charisma*. Emerging leadership Vista, Hunt, J. et al. (ed.), Lexington Books.
- [8] Avolio, B., J., & Gardner, W. (2005). *Authentic leadership development: Getting to the root of positive forms of leadership*. *The Leadership Quarterly*, 16(3), 315-338.
- [9] Aydin, A., Sarier, Y. & Uysal, S. (2013). *The effect of the school managers' leadership styles on teachers' organizational loyalty and job satisfaction*. *Educational Sciences: Theory & Practice*, 13(2), 795-811.
- [10] Aydin, M. (2010). *Education Management*. (9th Edition). Ankara: Hatiboglu Printing
- [11] Balwani, N. (2008). *The role of school management in developing creativity in governmental schools in northern region of Palestine and the obstacles from principal's point of views*. Master thesis. Alnajah University.
- [12] Bandura, A. (1991). *Social cognitive theory of self-regulation*. *Organizational and behavior and human decision processes*, 50, 248-287
- [13] Barnes, M.L., & Sternberg, R.J. (1989). *Social intelligence and decoding of nonverbal cues*. *Intelligence*, 13(3), 263-287. Retrieved from
- [14] Bartz, D. E. (2017a, September). *Applying positive psychology to school administrators*. *International Journal of Education and Social Science*, 4(8), 1-11.
- [15] Bartz, D., Thompson, K., & Rice, P. (2017). *Principals managing and developing their human capital*. *National Forum of Educational Administration and Supervision Journal*, 34(4), 1-9.
- [16] Besong, J.B. (2001). *Personal background and administrative effectiveness of primary school headteachers in cross river state*, unpublished MED Thesis, University of Calabar, Calabar
- [17] Campbell, C., Gold, A., & Lunt, I. (2003). *Articulating leadership values in action: Conversations with school leaders*. *International Journal of Educational Reform*, 6(3), 203-221.
- [18] Campbell, J., & McCord, D. (1996). *The WAIS-R comprehension and picture arrangement subtests as measures of social intelligence: Testing traditional interpretations*. *Journal of Psychoeducational Assessment*, 14(3), 240-249. doi:10.1177/073428299601400305
- [19] Campbell-Evans, G. (1988). *The nature and influence of values in principal decision making*.
- [20] Cantones, J. (2018). *School innovation, organizational learning, management competencies and performance of school administrators*. Unpublished doctoral dissertation. Central Mindanao University, Musuan, Maramag, Bukidnon
- [21] Cavazos, Arturo J. (2005). *Effective Competencies for the Selection of Effective School Leaders: Principals' Perceptions*. The University of Texas
- [22] Chand, Smiriti. (2017). *Decision making in management: Definition and features explained!*
- [23] Chapman Judith. (1990). *School Based Decision Making and Management*. London: The Falmer Press.
- [24] Campbell, J.P., McHenry, J.J., and Wise, L.L. (1990). *Modelling job performance in a population of jobs*. *Personnel Psychology*, 43, 313-333.
- [25] Cianciolo & R. J. Sternberg (Eds.), *The nature of leadership* (pp. 101-124). Thousand Oaks, CA: Sage.
- [26] Ciubal, N. R., (2018). *Fiscal transparency, managerial accountability, and organizational commitment and performance of school administrators*. Unpublished doctoral dissertation. Central Mindanao University, Musuan, Maramag, Bukidnon
- [27] Cohen B 1999. *Fostering innovation in a large human service*. *Administration in Social Work*, 23(2): 47- 59.
- [28] Colakkadioglu, O. (2013). *The reliability and validity study of adolescent*
- [29] Conley, S. C. (1991). *Review of research on teacher participation in school decisionmaking*, *Review of Research in Education*, vol. 17, pp. 225-266.
- [30] Cooper, C. (2006). *Social intelligence*. In *Encyclopedic dictionary of psychology*. Retrieved from http://search.credorereference.com.ezproxy.library.unlv.edu/content/entry/hodderdpsyc/social_intelligence/0
- [31] Corona, L.M. (2010). *Determinants of productivity of faculty in selected state and private universities and colleges in region x*. Unpublished Doctoral dissertation. Central Mindanao University, Musuan, maramag, Bukidnon
- [32] Covey, S. (1996). *Unstoppable teams*. *Executive Excellence*, 13(7), 7-8. Retrieved from <http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/204628056?accountid=3611>
- [33] Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and*

- qualitative research. Upper Saddle River, N.J: Pearson/Merrill Prentice Hall.
- [33] Creswell, J.W. (2009). *Research Design: qualitative, quantitative and mixed methods approaches*. Upper Saddle River, N.J: Pearson/Merrill Prentice Hall.
- [34] Davis, S., Darling-Hammond, L., LaPointe, M., & Meyerson, D. (2005). *School leadership study: Developing successful principals*. Stanford Educational Leadership Institute. Retrieved from: seli.stanford.edu/research/documents/SELI_sls_research_review.pdf
- [35] DepEd Order # 83, series 2012. *Implementing guidelines on the revised school-based management (SBM) framework, assessment process and tool (APAT)*.
- [36] Dess, G. D., et al. (2007). *Strategic management: text and cases*. McGraw Hill Irwin. McGraw Hill Companies, Inc. 1221 Avenue of Americas, New York NY 10020 *Development*, 26(2), 38-40.
- [37] Euldan, C.G. (2014). *Structural model on leadership capacity of secondary school administrators*. Unpublished master's thesis. Central Mindanao University. Musuan, Maramag, Bukidnon
- [38] Forman, A., & Selly, M.A. (2002). *Decision by objectives: How to convince others that you are right*. (Second Edition). Singapore: WorldScientific Publishing. Retrieved from <http://professorforman.com/DecisionByObjectives/D-BO.pdf>.
- [39] Furman, P. Gronn, J. MacBeath, B. Mulford, and K. Riley. (eds). *Second international handbook of educational leadership and administration*. Norwell, MA: Kluwer. Pp. 849-880.
- [40] Gardner, H. (2000). *Intelligence reframed: Multiple intelligences for the 21st century*. New York, NY: Basic Books
- [41] Gardner, H. (2008a). *Multiple intelligences: New horizons*. New York, NY: Basic Books.
- [42] Gardner, H. (2008b). *Who owns intelligence?* In Jossey-Bass (Ed.), *The Jossey-Bass reader on the brain and learning* (pp. 120-132). San Francisco, CA: Jossey-Bass.
- [43] Gaziel, H. (1998) *School based management as a factor in school effectiveness*.
- [44] Gertler, P., Patrinos, H. A. & Rubio-Codina, M. (2007). *Methodological issues in the evaluation of school-based management reforms*. Washington D.C.: The World Bank.
- [45] Getzels, J.W.; Cziksentsmihalyi, M. *The Creative Vision: A Longitudinal Study of Problem-solving in Art*; Wiley: New York, NY, USA, 1976.
- [46] Goleman, D. (2006). *Social intelligence: The new science of human relationships*. New York New York: Bantam Dell.
- [47] Goleman, D., & Boyatzis, R. (2009). *Social intelligence and the biology of leadership*. *Infonomics*, 23(1), 28-32. Retrieved from <http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/751528029?accountid=3611>
- [48] Goleman, D. (2006). *The socially intelligent leader*. *Educational Leadership*, 64(1) 76-81.
- [49] Greenberger, E., Campbell, P., Sorensen, A. B., & O'Connor, J. (1971). *Toward the measurement of psychosocial maturity*. Baltimore: Johns Hopkins University, Center for Social Organization of Schools.
- [50] Gualdaquever, E. (2011). *A causal model of professional characteristics, job satisfaction, emotional intelligence, and leadership competencies on administrators performance in private higher education institutions*
- [51] Guilford, J.P. (1967). *The nature of intelligence*. New York: McGraw-Hill.
- [52] Hajaia, Sulaiman & Kriemeen, Hani (2017). *Social Intelligence of Principals and Its Relationship with Creative Behavior*. *World Journal of Education*. Retrieved from <http://wje.sciedupress.com>
- [53] Hallinger P, Heck RH. *Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-1995*. *Educational Administration Quarterly*. 1996;32(1): 5-44.
- [54] Hallinger, P (2006). *School context, principal leadership, and student reading achievement*. *Elementary School Journal*, 96 (5), 527-549
- [55] Hallinger, P. (2003) 'School leadership development', in J.P. Keeves and R. Watanabe (eds.), *International Handbook of Educational Research in the Asia-Pacific Region*. Dordrecht: Kluwer Academic Publishes.
- [56] Hallinger, P., & Heck, R. (2003). *Understanding the contribution of leadership to school improvement*. In M. Wallace & L. Poulson (Eds.), *Learning to read critically in educational leadership and management* (pp. 215-235). London: SGE Publications.
- [57] Hallinger, S. (2005). *Linking Leadership to Student Learning*. San Francisco, CA: Jossey-Bass, 2012.
- [58] Hawamdih A 2003. *The systematic climate in educational directorates and its relation with administrative creativity of educational leadership in Jordan*.
- [59] Hayes, D., Milles, M., & Lingard, B, (2000). *Development in school-based management: the specific case of Queensland, Australia*. *Journal of Educational Administration*, vol. 40, no. 1, pp. 6-30.
- [60] Henderson, J. G., & Hawthorne, R. D. (2000). *Transformative curriculum leadership* (2nd ed.). Upper Saddle River, NJ: Merrill.
- [61] Hodge, B.J., et al. (1996). *Organization Theory - a Strategic Approach*. Prentice Hall, Inc. Upper Saddle River, New Jersey 07458.
- [62] Hopkins, D. (2001). *School improvement for real*. London: Falmer Press.
- [63] Hopkins, G. (1998). *Help wanted: Qualified principals*. Education World.
- [64] Hoy, W.K. & Mishel, C. (2012). *Theory and research in educational administration*. Vol.1. Ohio State University and University of Michigan. Information Age Publishing, 80 Mason St., Greenwich, Connecticut 06830.
- [65] Kasim, I. (2009). *Social intelligence and its relationship with problem solving among university students*. *Journal of psychological and educational research*, 21, 66-91.
- [66] Kaufman, J. c., & Beghetto, R. A. (2009). *Beyond big and little: The four C model of creativity*. *Review of General Psychology*, 13, 1-12.

- [67] Keung, C.C. (2008). The effect of shared decision-making on the improvement in teachers' job development. HongKong Institute of Education. *New Horizons in Education*. Vol. 56, No.3.
- [68] Kouzes, J.M. & Posner, B.Z. (2007). The leadership challenge. 4th ed.. San Francisco: Jossey-Bass Leadership. Retrieved from <http://www.edweek.org/ew/issues/leadership>
- [69] Kratzer L, Ogerth J, EngelenJom Van 2004. Stimulating the potential: Creative performance and communication in innovation teams. *Creativity and Innovation Management Quarterly*, (March) 13:63-71.
- [70] Lambert, L. (2005, Spring). Leadership at the school level. *Journal of Staff*
- [71] Learning from Leadership Project. University of Minnesota, University of Toronto, & Wallace Foundation.
- [72] Leithwood, C. Chapman, D. Corson, P. Hallinger & A. Hart (Eds.), *International handbook of educational leadership and administration* (Vol. 1, pp. 447-476).
- [73] Leithwood, K. (2001). Educational accountability and school leadership. National College for School Leadership, University of Toronto. Retrieved from the NCSL Web site: <http://www.nationalcollege.org.Uk/media/415/CA/educationalaccountability-and-school-leadership.pdf>
- [74] Leithwood, K., & Hallinger, P. (Eds.). (2003). *International Handbook of Educational Leadership (2nd ed.)*. Dordrecht, The Netherlands: Kluwer.
- [75] Leithwood, K., & Jantzi, D. (2000). The effects of transformational leadership on organisational conditions and student engagement with school. *Journal of Educational Administration*. 38(2), 112-129.
- [76] Leithwood, K., & Menzies, T. (1998). A review of research concerning the implementation of site-based management. *School Effectiveness and School Improvement*, 9(3), 233-286.
- [77] Leithwood, K., Louis, K.S., Anderson, S., Wahlstrom, K. (2004). How leadership influences learning.
- [78] Leithwood, K.A., & Riehl, C. (2003). What we know about successful school leadership. Philadelphia: Laboratory for Student Success, Temple University.
- [79] Lin, Yao Jung. (2017). Macrothink. *Institute Journal of Studies in Education ISSN 21626952 2014, Vol. 4*,
- [80] Lunenburg, F. & Ornstein A. C. (2000). *Educational administration. Concepts and practices*. New York: Wadsworth Thomson Learning
- [81] Lunenburg, F. C. (2000). *The management functions of principals*. *National Forum on Educational and Supervisory Journal*, Vol. 25. Retrieved from <http://www.nymlforum.com/electronics%>
- [82] Lunenburg, F. C., (2011). Leadership versus management: A key distinction – at least in theory. *International Journal of Management, Business, and Administration*. 14(1).
- [83] Luthans, F., Welsh, D.H.B., and Taylor III, L.A. (1988). A Descriptive Model of Managerial Effectiveness. *Group & Organization Studies*, 13(2), 148-162
- [84] Maccoby, M. (2000). Understanding the difference between management and leadership. *Research Technology Management*, 43(1), 57-59.
- [85] Marlowe, H. (1986). Social intelligence: Evidence for multidimensionality and construct independence. *Journal of Educational Psychology*, 78(1), 52-58. doi:10.1037/0022-0663.78.1.52
- [86] Marshall, C., Patterson, J. A., Rogers, D., & Steele, J. (1996). Caring as career: An alternative perspective for educational administration. *Educational Administration Quarterly*, 32(2), 271-294.
- [87] Marshall, K. (2008). The big rocks: Priority management for principals. *Principal Leadership*. 8(7), 16-22.
- [88] McCormick, M. J. (2000). The influence of goal-orientation and sex-role identity on the development of leadership self-efficacy during a training intervention. Texas A&M University, College Station, TX.
- [89] Mo'taman I 2003. Preparation of the School Principal to Lead Change. Amman: Center for the Educational Authors
- [90] Mohammad Z. 2006. The Practicing Degree of Information Technology and its Relation with Administrative Innovation for the Managers of the Private Secondary Schools in Jordan.
- [91] Montecalvo (2016). School Based Management Practices, Organizational Culture, and Adversity Quotient of Administrators and Structural Model on Productivity
- [92] Mowday, R. T., Porter, L. W., & Dubin, R. (1974). Unit performance, situational factors, and employee attitudes in spatially separated work units. *Organizational Behavior and Human Performance*, 12(2), 231-248. [http://dx.doi.org/10.1016/0030-5073\(74\)90048-8](http://dx.doi.org/10.1016/0030-5073(74)90048-8)
- [93] Nas, S. (2006). Analysis of ship masters' individual decision making process for the management of ship operations and application of an integrated model. Unpublished doctoral dissertation. Dokuz Eylul University Social Sciences Institute, İzmir.
- [94] Ogundele (Ph.D), (2015) Principals' Administrative Skills for Secondary Schools in Plateau State, Nigeria Michael Olarewaju Ogundele (Ph.D), Anpe Maria Sambo & Gambo Maurice Bwoi Department of Educational Foundations, Faculty of Education, University of Jos, Jos, Nigeria
- [95] Okorie, A.N. (2001). Leadership in school. In D.O. Durosaro and S. Ogunsaju (Eds.), *The Craft of Educational Management*. Ilorin: Haytee press and publishing company.
- [96] Okumbe, J. A. (2001). *Human resource management: An educational perspective*. Nairobi: Educational Development and Research Bureau.
- [97] Orodho, J. A. (2009a). *Elements of education and social science research methods*. Maseno: Kanezja publishers
- [98] Owens, R. G. (2004). *Organizational behavior in education: Adaptive leadership and school reform (8th ed.)*. Boston: Pearson Education, Inc.
- [99] Parent, family, community involvement in education (2008). Retrieved from:

- http://www.nea.org/assets/docs/PB11_ParentInvolve ment08.pdf
- [100] Pellini, A. (2007). Decentralization policy in Cambodia: Exploring community participation in the education sector (Doctoral dissertation, University of
- [101] Quillo, V. (2015). Creativity, Innovation, Negotiation Management of Public Secondary School Administrators: A Structural Model on Performance
- [102] Reeves, D. B. (2007, February). The principal and proficiency: The essential leadership role in improving student achievement. *Leadership Compass*, 4(3)
- [103] Reeves, J. (2000). Tracking the links between pupil attainment and development planning. *School Leadership and Management*, 20(3), 315-332.
- [104] Riggio, R. E., & Reichard, R. J. (2018). The emotional and social intelligence of effective leadership: An emotional and social skill approach. Retrieved from www.emeraldinsight.com/0268-3946.htm
- [105] Riggio, R.E., Messamer, J., & Throckmorton, B. (1991). Social and academic intelligence: Conceptually distinct but overlapping constructs. *Personality and Individual Differences*, 12(7), 695-702. Retrieved from <http://www.sciencedirect.com/science/article/pii/019188699190225Z>
- [106] Roa, C.T. (2014). Organizational leadership and productivity of school administrators and teachers: A structural Model on school performance. Unpublished doctoral dissertation. Central Mindanao University, Musuan, Maramag, Bukidnon
- [107] Sardogan, M. E., Karahan, T. F. & Kaygusuz, C. (2006). An investigation of university students' indecisiveness strategies in level of the problem solving skill, gender, level of class, and kind of the faculty. *Mersin University Journal of the Faculty of Education*, 2(1), 78-97.
- [108] Scott S, Reoinaid A, (1994). Determinates of innovation in the work place, *Academy of Management Journal*, 37(3): 580-607. Scott, S. G., ve Bruce, R. A. (1995). Decision-making style: the development and assessment of a new measure. *Educational and Psychological Measurement*, 55(5), 818-831.
- [109] Sergiovanni, T. (2001). Leadership: What's in it for schools? London: RoutledgeFalmer.
- [110] Sergiovanni, T. J. (2009). The principalship: A reflective practice approach. Boston, MA: Pearson. Seven secrets of success used by managers. Retrieved from <http://patrickokafor.com/EDU5571.html>
- [111] Sevilla, C. G., Ochave J.A., Punzalan T. G., Regala B. P. & Uriate G. (2009). Research Methods. Quezon City: Rex Printing
- [112] Silvera, D., Martinussen, M., & Dahal, T. (2001). The tromso social intelligence Scale, a self-report measure of social intelligence. *Scandinavian Journal of Psychology*, 42, 313-319. <https://doi.org/10.1111/1467-9450.00242>
- [113] Sindhvad, S. (2009). School principals as instructional leaders: An investigation of school leader capacity in the Philippines. Doctoral Dissertation. University of Minnesota. Retrieved from <http://conservancy.umn.edu/bitstream/56986>
- [114] Spencer, L.M. (2003). The Talent Management Handbook. McGraw-Hill, New York.
- [115] Tafila Directorate of Education 2008/2009. Statistical Brochure. Tafila-Jordan: Department of Educational Planning.
- [116] Tagaytay, G.B. (2015). Adversity Quotient, Emotional Intelligence, Instructional Leadership Traits of Principals and School's Performance. Unpublished Doctoral Dissertation. Central Mindanao University, Musuan, Maramag, Bukidnon.
- [117] The Principals' Partnership <http://www.principalspartnership.com/> A program of union
- [118] Thorndike, R., & Stein, S. (1937). An evaluation of the attempts to measure social intelligence. *Psychological Bulletin*, 34(5), 275-285. doi: 10.1037/h0053850
- [119] Thunholm, P. (2004). Decision-making style: Habit, style or both? *Personality and Individual Differences*, 36(4), 931-944.
- [120] Tobin (2014). Retrieved from <https://files.eric.ed.gov/fulltext/EJ1024110.pdf>
- [121] Torrance, E.P. Encouraging Creativity in the Classroom; William C. Brown Company: Dubuque, IA, USA, 1970.
- [122] Torrance, E.P.; Gupta, R.K. Programmed Experiences in Creativity Thinking; University of Minnesota, Bureau of Educational Research: Minneapolis, MI, USA, 1964
- [123] Tschannen-Moran, M., & Hoy, W. K. (2000). A multidisciplinary analysis of the nature, meaning and measurement of trust. *Review of Educational Research*, 70(4), 547-593.
- [124] Tsui, K. T., & Cheng, Y. C. (2002). School organizational health and teacher commitment: A contingency study with multi-level analysis. *Educational Research and Evaluation*, 5(3), 249-268.
- [125] Ubben C. 2000. The Principal: Creative Leadership for Effective Schools. USA: Allyn and Bacon
- [126] UNESCO, Cambodia, De La Salle University, Philippines. The Asian Conference on Education 2012. Osaka, Japan.
- [127] Vecchio C 1991. Organizational Behavior. 2nd Edition. New York: Dryden Press.
- [128] Vengrasalam, Ramachandran S.O. (2000). A survey of teacher's participation in decision-making process in BatuPahat District Schools. Universiti Malaysia Sarawak.
- [129] Wagner, R. K., & Carter, R. L. (1996). Chapter 15: Research outside the field of education. In K.
- [130] Wallace Foundation. (2013). The school principal as leader: Guiding schools to better teaching and learning. The Wallace Foundation. Retrieved from www.wallacefoundation.org
- [131] Wong, K. C. (2005) 'Conditions and practices of successful principalship in Shanghai', *Journal of Educational Administration*, 43(6): 552-62.
- [132] Wong, K.C. (2006) 'Contextual impact on educational management and leadership: a case of Chinese education', *Journal of Educational Change*, 7: 77-89.
- [133] Woods, P. A. (2004). Democratic leadership: Drawing distinctions with distributed leadership.

International Journal of Leadership in Education,
7(1), 3-26.

- [134] Yaslioglu, M.M. (2007). Biases in decision making process and a research. Unpublished master thesis. İstanbul University Social Sciences Institute, İstanbul.
- [135] Yildiz, K. (2012). Primary school principal's decision making styles. *Sakarya University Journal of Educational Faculty*, 24(1-7), 104-133.
- [136] Yilmaz, M., & Talas, M. (2010). Decision-making process in information center. *Zeitschrift fur die Welt der Turken*, 2 (1), 197-216.
- [137] Yuki, J. (1998). *Leadership in organizations*. (4th Ed). Upper Saddle River, NJ: Prentice Hall
- [138] Zaccaro, S. J., Kemp, C., & Bader, P. (2004). Leader traits and attributes. In J. Antonakis, A. T.