Panel 15 : Media, Information and Communication

The Indigenous Students of the Nueva Vizcaya State University: Their 21st Century Skills Amidst Challenges of 2015 Asean Integration and Beyond

Carlo F. Vadil, DPA

Professor VI
Nueva Vizcaya State University-Bambang Campus
Heroes Boulevard, Bambang, Nueva Vizcaya, Philippines
E-mail: drvadil888@yahoo.com

Abstract

In most countries around the world today, students are referred to as "digital natives" and today's educators as "digital immigrant". Teachers are working with students whose entire lives have been immersed in the 21st century media culture. The broad idea of 21st-century education/learning revolves around the notion that schooling as we have known it for the last 150 years is a 19th century invention that must change to keep pace with the demands of 2015 ASEAN Integration. Using a descriptive method of research, this study was limited to the identification, description, and analysis of the 21st century skills of indigenous students of the Nueva Vizcaya State University-Bambang Campus. A total of 650 IP students were considered as respondents. Research instruments utilized were Personal Data Sheet (PDS), and 21st Century Skills Questionnaire based from P21 Framework for 21st Century Learning. In describing the data gathered, mean were utilized to determine the 21st century skills of the respondents, while ANOVA I, Independent t-test, and Pearson-r were used for the inferential/ correlational statistical treatment. Results show that the IP (indigenous people) student-respondents have a "very good" level of life and career skills. Moreover, they also manifest "good" level along learning and innovation skills, and information, media, and technology skills. Using a 0.05 level of significance, gender and ethnic origin caused significant variation in their 21st century skills. Moreover, the respondent's learning and innovation skills are significantly correlated with their information, media, and technology skills.

Keywords: 21st century skills, learning and innovation, life and career skills, ICT Skills

Psychopathy And Aggression: The Mediating Role Of Looming Cognitive Styles And BIS/BAS

Kristel Rose C. Alvarico[1], Roline Angel B. Divino[2], Kristine Mae P. Sanoy[3,]
Imelu G. Mordeno[4] , Odessa May D. Escalona[5]

[1,2,3,4,5] Department of Psychology, Mindanao State University – Iligan Institute of Technology,Philippines
[1]E-mail: kristelrose.alvarico@g.msuiit.edu.ph, [2]E-mail: divino174@gmail.com,
[3]E-mail: krystallynne19@gmail.com, [4]E-mail: imelumordeno@gmail.com, [5]E-mail: zeketal@yahoo.com

Abstract

Previous research have pointed out that psychopathy is a constitution of related, distinct factors that exhibit divergent relations including aggression. At present, the construct of psychopathy has been found to be strongly associated with persistent aggressive traits and violent behavior. Incarcerated offenders (N=589) from Davao del Norte District Jail and Compostela Valley Provincial Rehabilitation Center completed measures of psychopathy, aggression, looming cognitive styles and BIS/BAS. Using tests of serial mediation, the specific indirect effect was significant for primary psychopathy which leads to both reactive and proactive aggression due to looming cognitive styles and BAS. Results pertaining the secondary psychopathy also revealed a significant indirect effect to looming cognitive styles that leads to the expression of weak BIS, which in turn, affects reactive and proactive aggression. Contrary to the works of Lykken (1995) and D.C. Fowles (1980) on the relationship between the subtypes of psychopathy to Gray's measures of BIS and BAS, the findings of the study suggest that the degree of the manifestation of primary psychopathy are likely to engender secondary psychopathy, in turn can anticipate a low BIS which may be explained due to overactive BAS in predicting reactive and proactive aggression. The result of the BAS has emphasized the common role that spreads across both psychopathy subtypes. The study suggests the importance of considering increased anxiety when accounting the mechanism behind the psychopathy-aggression link.

Keywords: Psychopathy, aggression, behavioral inhibition system, behavioral activation system, looming cognitive styles

1. Introduction

Background of the Study

Psychopathy has a prevalence rate of 1% in the general population and covers as much as 20% in prison populations and is accountable for 50% of all the violent crimes committed (Hare, 1999; McPherson, 1984). A number of studies have suggested that psychopathy traits are strongly associated with aggression (Falkenbach, Barese, Balash, Reinhard & Hughs, 2015; Debowska & Rios, 2015), particularly in its reactive and proactive forms (Reidy, Zeichner, Miller, & Martinez, 2007; Reidy, Shelley-Tremblay & Lilienfeld, 2011). Although the relationship between psychopathy and aggression has been established, the mechanism accounting for this relationship has yet to be investigated. This study examines the mediating role of looming cognitive style, which contends that the degree of psychopathy are likely to affect one's exaggerated perception of danger which would intercede the expression of the behavioral inhibition and activation systems, in turn, induce reactive and proactive aggression. Assessing the role of looming cognitive style and BIS/BAS/FFFS, which are closely related with anxiety, are relevant as it has recently been found to be influenced by psychopathy (Suguira & Suguira, 2012; Patrick, 2007; Bjornebekk & Gjesme, 2009; Wallace, Malterer & Newman, 2009; Heym & Lawrence, 2012). This study helps clarify and improve the theoretical perspective on the ongoing debate whether psychopathy is associated with anxiety or not (Cleckley, 1941; Karpman, 1941; Lykken, 1957; Widom, 1976; Harpur, et al., 1989; Verona, Patrick, & Joiner, 2001; Skeem, et al., 2011; Visser, Ashton, & Pozzebon, 2011).

Psychopathy is one of the most common constructs used to explain the behaviors of individuals in correctional settings. On Cleckley's accounts, he described that psychopathic individuals are intelligent, verbally shallow, self-centered, incompetent of experiencing anxiety, deficient of remorse and suffers from emotional poverty (Cleckley, 1941; 1976). In his book, *Mask of Sanity* (1941), he also added that psychopaths behave in ways deemed irresponsible, lawbreaking and antisocial. A retainer of Cleckley's views, Robert Hare (2003) defined psychopathy in the basis of four dimensions: interpersonal, affective, behavioral and antisocial characteristics. Individuals who exhibit psychopathy also uses charm to deceive people, uses manipulation and violence to get what they want (Hare, 1996). In lieu of this, Hare created the first assessment tool of the construct, the Psychopathy Checklist (PCL-Revised), which has undergone revisions and labeled as the 'gold standard' for the assessment of psychopathic personality. Hare's Psychopathy Checklist has identified two components: the primary and secondary psychopathy (Hare, Harpur, & Hakstian, 1990). Primary psychopathy has been associated with lower anxiety and points out Facet 1 (interpersonal) and Facet 2 (affective) items while secondary psychopathy shows enhanced anxiety and antisocial behavior and lifestyle and high results in Facet 3 (irresponsibility) and Facet 4 (poor behavioral control) items (Lykken 1995; Hicks & Patrick, 2006).However, there are a few studies giving light to the notion that both factors of psychopathy can be manifested by an individual. In fact, a person can have high levels of primary psychopathy, but low levels of the secondary and vice versa (Levenson et al., 1995; Ridings, 2011).

Although several studies have existed on psychopathy, still it remains controversial as a construct that persist to attract more attention from the research community. After seven decades of development in literature and practice, psychopathy is still not included in the valid classification system of the latest edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-V; American Psychiatric Association, 2013) and even in the International Statistical Classification of Diseases (ICD-10; World Health Organization, 1992). Psychopathy as a construct still has strong ties with the Antisocial Personality Disorder diagnosis. Some traits

found in psychopathy are considered to be represented by the ASPD, such as deviant behaviors, particularly impulsivity and callous aggression (Strickland, Drislane, Lucy, Krueger, Patrick, 2013). Although psychopathy is interchanged with the antisocial personality disorder, the difference between the two labels is that the former is associated with behavior-based symptoms, while the latter is related to interpersonal and personality based symptoms (Sandvik, 2014).

One of the distinguished features of individuals with psychopathic traits is aggression (Hare, 1996). Anderson and Bushman (2002) defined aggression as any behavior aimed to cause harm to another individual in which the perpetrator is positive in his conviction to harm a target, and the target is determined to avoid the conduct. The bimodal forms of aggression, particularly reactive and proactive, has been found in studies to be strongly correlated with psychopathy among violent offenders (Blair, Mitchell, & Blair, 2005; Reidy, Zeichner, & Martinez, 2008). Cornell and colleagues (1996) have recognized reactive and proactive forms of aggression as a basis for the history of violence of criminal offenders recorded in official institutional records. One type of aggression, the reactive component, refers to any behavior in response to emotion-affected stimulus that is designed as an immediate reaction to embarrassment, perceived insult or impending physical danger (Berkowitz, 1993). Proactive aggression, on the other hand, is a goal-driven behavior that is said to be anticipated with an external reward or benefits (Bandura, 1983). Additionally, laboratory studies have documented that psychopathy has a general connection with reactive and proactive types of aggression (Reidy, Zeichner, & Martinez, 2008; Glenn &Raine, 2009). Despite of these results, the psychopathy-aggression link still lack more research particularly on the mediating effect of cognitions.

In terms of its conceptualization, psychopathy has been found to be correlated with Gray's reinforcement sensitivity theory (RST; Gray & Smith, 1969). The theory posits that there are three motivational systems: the Behavioral Activation System (BAS), Behavioral Inhibition System (BIS) and the Fight-Flight-Freeze System (FFFS). Behavioral Activation System (BAS) represents the physiological mechanism believed to operate under conditions of reward, forms of punishment and escape from punishment which increases one's vulnerability to engage in goal-directed behaviors (Gray, 1977). An increased BAS activity is marked with positive feelings (e.g., hope and happiness), strong desire for any conduct or behavior and aggression (Carver, 2004) in which validated in studies to predict secondary psychopathy (Newman, MacCoon, Vaughn & Sadeh, 2005; Wallace, et. al., 2009). On the other hand, the Behavioral Inhibition System (BIS) is associated with sensitivity to signals of nonreward and punishment that is linked with increased anxiety and nervousness that inhibits any behavioral response when placed in a new situation that will yield negative emotions or outcomes. In primary psychopaths, a reduced BIS dominates the BAS as a result of low anxiety levels experienced by them when faced with a threatening situation (Book & Quinsey, 2004). Finally, the third biological system called Fight-Flight-Freeze System (FFFS), is defined as the automatic, built-in system that provides three options of responses (e.g., fight, flight or avoid, and freeze) when exposed to a stimuli that signal threat and danger. When activated, it induces a negative emotional state such as fear. High FFFS was found in secondary psychopathy while a reduced level was observed in primary psychopathy (Heym & Lawrence, 2010, 2012).

The ongoing debate pertaining to the presence or absence of anxiety in the psychopathy construct is still at an impasse (Lykken, 1957; McCord & McCord, 1964; Hale, Goldstein, Abramowitz, Calamari, & Kosson, 2004; Decuyper et al., 2009;Skeem et al., 2011; Rosan, et. al., 2015). This study attempts to clarify theoretically on the relationship of looming cognitive skills closely associated with anxiety (Riskind et al., 2010; Riskind et al., 2013) and BIS/BAS/FFFS in the context of psychopathy-aggression link.

Statement of the Problem

This study will address the huge gap in the literature between the relationship of psychopathy and looming cognitive styles. As we identified that the scopes of the past research have poorly addressed the relationship of psychopathy to cognitive looming styles by considering only the attentional control as its construct. The researchers also recognized that there is a lack of studies that examine the relationship of psychopathy to looming cognitive style and BIS/BAS in predicting aggression.

This study will examine the relationship between psychopathy to aggression as mediated by looming cognitive styles and BIS/BAS. Specifically, it will answer the following sub-corollary questions:

1. Is there a significant intercorrelation among psychopathy (primary and secondary), looming cognitive styles, BIS/BAS and aggression (reactive and proactive)?
2. Are primary and secondary types of psychopathy significant predictors of aggression (reactive and proactive)?
3. Is the relationship between psychopathy and aggression mediated by the association of looming cognitive styles to the behavioral systems significant?

Hypotheses

In this study, the researchers formulated hypotheses as a guide in order to gain a direction in achieving the aims of this study. The following hypotheses are mainly based on the variables involved in the study and were tested at a 0.05 level of significance.

Alternative Hypotheses

H1a: Looming cognitive styles and behavioral activation system, in sequence, are significant mediators of the relationship between primary psychopathy and reactive aggression.

H1b: Looming cognitive styles and behavioral activation system, in sequence, are significant mediators of the relationship between primary psychopathy and proactive aggression.

H1c: Looming cognitive styles and behavioral activation system, in sequence, are significant mediators of the relationship between secondary psychopathy and reactive aggression.

H1d: Looming cognitive styles and behavioral activation system, in sequence, are significant mediators of the relationship between secondary psychopathy and proactive aggression.

H2a: Looming cognitive styles and behavioral inhibition system, in sequence, are significant mediators of the relationship between primary psychopathy and reactive aggression.

H2b: Looming cognitive styles and behavioral inhibition system, in sequence, are significant mediators of the relationship between primary psychopathy and proactive aggression.

H2c: Looming cognitive styles and behavioral inhibition system, in sequence, are significant mediators of the relationship between secondary psychopathy and reactive aggression.

H2d: Looming cognitive styles and behavioral inhibition system, in sequence, are significant mediators of the relationship between secondary psychopathy and proactive aggression.

Null hypotheses

H1a: Looming cognitive styles and behavioral activation system, in sequence, are not significant mediators of the relationship between primary psychopathy and reactive aggression.

H1b: Looming cognitive styles and behavioral activation system, in sequence, are not significant mediators of the relationship between primary psychopathy and proactive aggression.

H1c: Looming cognitive styles and behavioral activation system, in sequence, are not significant mediators of the relationship between secondary psychopathy and reactive aggression.

H1c: Looming cognitive styles and behavioral activation system, in sequence, are not significant mediators of the relationship between secondary psychopathy and proactive aggression.

H2a: Looming cognitive styles and behavioral inhibition system, in sequence, are not significant mediators of the relationship between primary psychopathy and reactive aggression.

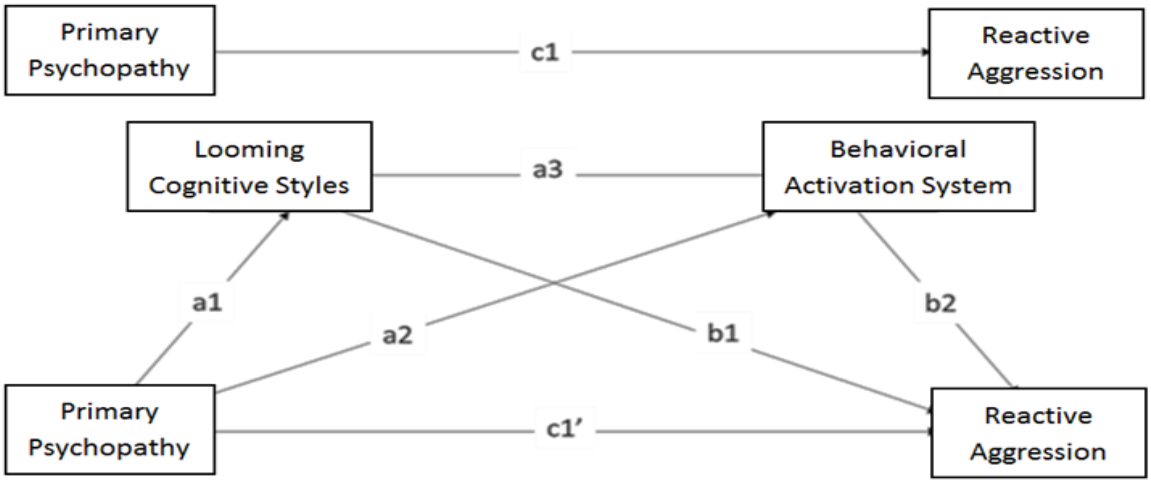
H2b: Looming cognitive styles and behavioral inhibition system, in sequence, are not significant mediators of the relationship between primary psychopathy and proactive aggression.

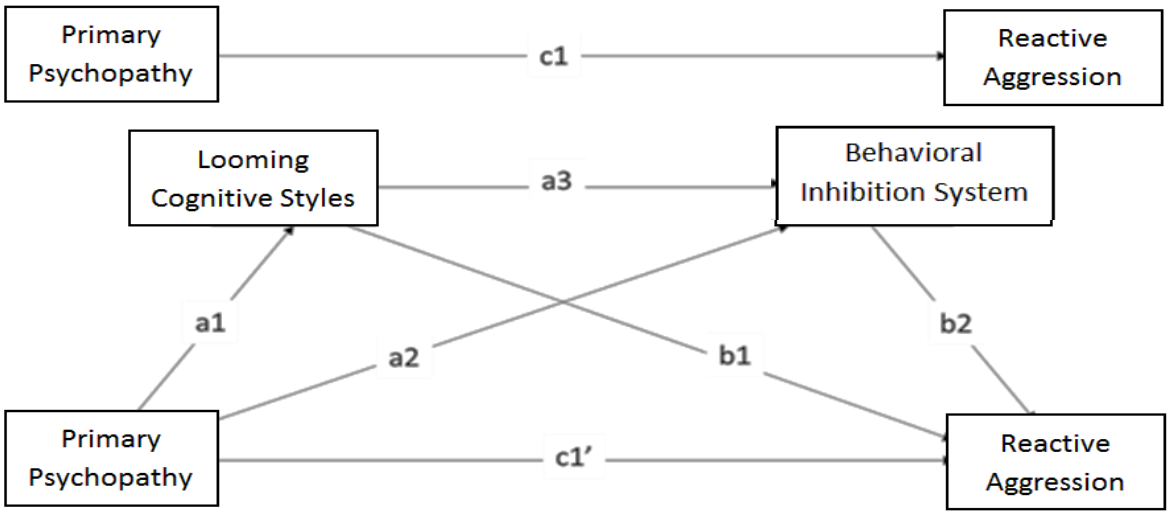
H2c: Looming cognitive styles and behavioral inhibition system, in sequence, are not significant mediators of the relationship between secondary psychopathy and reactive aggression.

H2d: Looming cognitive styles and behavioral inhibition system, in sequence, are not significant mediators of the relationship between secondary psychopathy and proactive aggression.

Schematic Diagram

The schematic diagram of the study is shown in Figure 1.0. This presents the operational framework of the study. The independent variable is psychopathy. The independent variable which is psychopathy has the following domains namely, primary and secondary psychopathy. The arrows indicate that the independent variables affect the dependent variables which are the reactive and proactive aggression mediated by Looming Cognitive Style (LCS) and BIS/BAS.





Scope and Limitation of the Study

This study only explored the variables: aggression of the respondents with elevated primary or secondary psychopathy, as mediated by Looming Cognitive Style (LCS) and Behavioral Activation System (BAS)/Behavioral Inhibition System (BIS). These variables are used because they have received limited research attention regarding their interactions and relationships. The respondents were the incarcerated offenders of the Davao del Norte District Jail and Compostela Valley Provincial Rehabilitation Center.

Significance of the Study

This study will be a significant contribution to the existing body of knowledge pertaining to the psychopathy research. The findings of this investigation are of primary importance to the following:

To the community. Violence in the society has been linked to the increasing cases of criminal behavior. Thus, in return, an experienced violent offender in a correctional setting is more likely to cause an increase in psychopathy. As a risk factor for the increasing cases of the psychopathic behavior, it has also been known that the recidivism of violent attacks can be strongly predicted by psychopathy construct (Dolan & Doyle, 2000). The study aims to address the ongoing issue whether the lack of emotions in psychopathic individuals are rather predominantly cognitive or affective in nature, thus shed some light on the ongoing debate of whether psychopathic individuals can feel anxiety or not.

To the advancement of the literature. Psychopathy is at a higher proportion in correctional settings (Leistico, Salekin, DeCoster, & Rogers, 2008; Spidel et al., 2007: Swogger, Walsh, & Kosson 2007) which suggested by some studies that psychopathic traits are presumed to experience a relapse after being released (Leistico et al., 2008; Neumann & Hare, 2008; Quinsey, Rice & Harris, 1995). Therefore, the further need to add more knowledge to the limited researches conducted on the construct of psychopathy is of greater importance on the accumulating accounts of higher prevalence rate of psychopathy. The inclination of offenders for relapse after being released into the community calls for the formulation of new interventions from the research community. Thus, by looking at how the mediating role of Looming Cognitive Style (LCS) and BIS/BAS/FFFS affect the relationship of psychopathy and aggression, the researchers of this study intends to contribute an understanding as how to device interventions to moderate aggression of its risk for psychopathy.

To the future researchers. By understanding the cognitions of people in the correctional settings, and their data presented may be used as a reference for conducting new research on the same field or in testing the validity of other similar findings. This study will also serve as an overview of the relationship of psychopathy and aggression mediated by looming cognition.

Theoretical Framework

The following section provides theories that support the study's variables: on psychopathy, looming cognitive style, behavioral activation system (BAS) behavioral inhibition system (BIS), fight-flight-freeze system (FFFS) and aggression.

Psychopathy

Hervey Cleckley (1941, 1988), on his classic book *The Mask of Sanity*, traditionally viewed psychopathy with a lack of anxiety. According to Karpman (1941, 1948) psychopathy can be classified into two groups: primary and secondary. Primary psychopaths are labeled handicapped of experiencing emotions and are believed to be devoid of anxiety. On the other hand, secondary psychopaths are distinguished from the primary in their capacity for positive emotions, such as empathy and affection and have greater vulnerability to feel anxiety. In addition, these distinctions led to the development of Hare's Psychopathy Checklist two factor (now PCL-Revised; Hare, 2003) and validated that primary psychopathy is associated with Factor 1 facets on affective and interpersonal and that Factor 2 indicates secondary psychopathy on the aspect of behavioral and socially deviant lifestyle criteria. A number of research has suggested that an individual can manifest both types of psychopathy, however, there is a domination of one factor and a small trace of the other factor in that particular individual, rather than categorizing each psychopaths as belonging to either primary or secondary (Hare, 1991; Levenson, 1995).

Looming Cognitive Style (LCS)

Formulated by Riskind (1957), the *Looming Vulnerability Model (LVM)* states that anxiety is a product of biased cognitive processing of threat as rapidly increasing. It argues that looming cognitive style functions as a faulty and biased cognition that evaluates a person's tendency to exaggerate an incoming threat as tremendously getting worse with time. As a response, a person would show signs of anxiety and vigilance, difficulty adjusting to the incoming threat stimuli and immediate need to formulate behavioral avoidance strategies (Riskind, 1997).

Gray's Reinforcement Sensitivity Theory-Revised and Lykken's Theory on Subtypes of Psychopathy

Gray's theory on reinforcement sensitivity has been used to explain the behaviors of psychopathic individuals (Gray & Smith, 1969). This theory of personality posits that there are three major neuropsychological systems, namely the: behavioral inhibition system, behavioral activation system (BAS) and fight-flight-freeze system (FFFS).

The behavioral inhibition system or BIS, is activated when there is a conflicting stimuli present and inhibits any responses or behavior to resolve goal-related conflicts. It is closely associated with anxiety, sensitivity to punishment and novelty cues.The BAS or behavioral activation system is sensitive to the cues of reward and initiates behavior approach. Lastly, the fight-flight-freeze system (FFFS) serves as a mediating response to any conditioned and unconditioned aversive stimuli. Behavioral Inhibition and Behavioral Activation Systems are reciprocally related implying an inverse relationship. In other words, the domination of the other system in a given situation is the suppression of another but not an absence of the suppressed system. Both systems will not be activated at the same time when stimulated and as to which system is dominant depends on the situation in terms of punishment versus reward (Gray, 1987).

The differentiation of the two systems is thought to occur is explained due to the distinct areas in the brain when activated in response to different stimuli (Nebylitsyn & Gray, 1972).

In relation to the subtypes of psychopathy, Lykken (1995) suggested that Gray's reinforcement sensitivity theory has connection with the construct. He linked primary psychopathy as having hyporeactive BIS but with a normal BAS. Psychopaths belonging to this category are believed to be deprived or low on anxiety, as examined in some studies to be valid (Newman, MacCoon, Vaughn, & Sadeh, 2005; Torrubia, Ávila, Moltó, & Caseras, 2001). Furthermore, he associated a hyperactive BAS and a normal BIS in secondary psychopathy. Lykken also extended that secondary psychopaths are more likely to experience anxiety and positive emotions (e.g. hope and happiness).

Aggression

One of the most famous theories in aggression explaining its reactive form is the Frustration-Aggression Model by Dollard et al., (1939). This theory postulates that aggression is a product of frustration. If goals are hindered by any internal or external factors, hostility and anger may be triggered. The more important the blocked goal, the greater the frustration, and the greater the aggressive impulse (Dollard, Doob, Miller, Mowrer, & Sears, 1939). On the second type of aggression, proactive aggression is rooted on Albert Bandura's Social Learning theory. Hestressed out that cognitive processes play an important role in explaining the different behaviors of individuals in given the same situation by incorporating the past experiences in predicting future behaviors. He further asserted that cognitive processes influences the way how an individual would react to his environment. Aggressive behaviors are learned through operant conditioning and through vicarious learning from models. This is believed to be driven by positive outcome expectancies. Furthermore, the benefits gained from aggression provided a reward for the aggressor to imitate and repeat such behavior (Bandura, 1973).

However, Berkowitz (1989/1993) criticized the works of Dollard that aggression does not only stem from frustration. He believed that aggression may also be the result of a perceived danger, threat or provocation (Berkowitz, 1989/1993). He also supported the notion that there also existed proactive aggression and not reactive aggression only. In support, Buss and Perry (1992) suggested that anger causes aggression as a response to provocation or threat.

Definition of Terms

The following terms are given their conceptual and operational definitions:

Psychopathy is a mental disorder marked by affective, interpersonal, and behavioral abnormalities. In particular, people with psychopathy demonstrate an incapacity for empathy and guilt, impulsivity, egocentricity, and chronic violations of social, moral, and legal norms (law.jrank.org., 1884).

*Primary Psychopathy*is believed to be characterized by a lack of fear/anxiety (Lykken, 1995).

*Secondary Psychopathy*is thought to represent a greater vulnerability to experience higher levels of negative affect in general (Vassileva, Kosson, Abramowitz, & Conrad, 2005)

Looming cognitive style (LCS) assesses a person's exaggerated tendency to perceive threats as moving through time and space, rapidly increasing in proximity and rapidly escalating in risk and danger (Riskind, 2015).

Behavioral Activation System is a reward-sensitive system –activation leads to active avoidance behavior and the causal basis of fear. This system is linked to trait impulsivity, the activation leads to goal-oriented approach behavior (Gray & McNaughton, 2000).

*Behavioral Inhibition System*responds to conflicting cues leading to inhibition of the ongoing response, risk assessment and appraisal, this system is linked to anxiety and worry and resolving goal conflict (Gray & McNaughton, 2000).

*Fight-Flight-Freeze System*is a punishment-sensitive system – activation leads to active avoidance behavior, and it is the causal basis of fear

Aggression is a range of behaviors that can result in both physical and psychological harm to oneself, other or objects in the environment. The expression of aggression can occur in a number of ways, including verbally, mentally, and physically (Cherry, 2015).

*Reactive Aggression.*The response to anger, provocation or inescapable threat. It is linked to basic threat circuitry (fight/flight/freeze) and regulatory systems of conflict detection in reinforcement (Blair et al., 2005; Blair & Cipolotti, 2000)

*Proactive Aggression.*A purposeful, instrumental and goal that is a directed motor activity linked to reward and punishment processing. It involves a minimal level of physiological arousal and relates to predatory aggression (Dodge, 1991).

REVIEW OF RELATED LITERATURE

This chapter presents the related empirical studies on aggression and the variables used in the study namely: primary and secondary psychopathy and Looming Cognitive Style (LCS) and BIS/BAS/FFFS.

Psychopathy

Primary and secondary factors of psychopathy have long been discoursed as progenies belonging to the same family. Ben Karpman (1941, 1948) notioned that anxiety is a central characteristic between the two factors of psychopathy and added that primary psychopathy is best distinguished with a prominent lack of anxiety, whereas secondary psychopathy is described as a having a neurotic character that emerged from intense anxiety (Dean et al., 2013). Maintaining the classifications, researchers have differentiated the two factors of psychopathy and supported its distinction by the use of anxiety scores (Widom, 1976; Newman, MacCoon, Vaughn & Sadeh, 2005).Moreover, it is also differentiated in such a way that primary psychopathy (or Factor 1 affective-interpersonal features) is prominently heritable whereas secondary psychopathy (or Factor 2 social deviance) is more environmentally determined (Hicks et. al, 2011).

Hervey Cleckley (1964) recognized this lack of nervousness in psychopathy in which researchers were able to validate the findings in their studies. In the study conducted by Schmitt & Newman (1999), their results ruled out that anxiety as one of the main traits of psychopathy was found out to be unrelated to the primary dimension of the construct. Similar results were observed in other studies (Hale, Goldstein, Abramowitz, Calamari, & Kosson, 2004; Visser, Ashton, & Pozzebon, 2011). On exploring the relationship between psychopathy and low anxiety, Visser, Ashton, & Pozzebon (2011) suggested on their results that low anxiety may not be at all an elemental feature of psychopathy and added that anxiety should be considered as a separate construct from psychopathy.

Studies on the secondary psychopathy have pointed out its association with anxiety (Harpur, Hare & Hakstian, 1989; Spielberger, Gorsuch & Lushene, 1970; Hale et al., 2004). Trait anxiety was also found to be a strong predictor of the secondary psychopathy (Burns, Roberts, Egan, & Kane, 2014).

A fact hitherto remains unclear in establishing consistent empirical support between the connection of the anxiety and psychopathy. A number of studies conducted in forensic population have revealed that low anxiety may even not be related to psychopathy (Hare & Cox, 1978; Schmitt & Newman, 1999; Hale, Goldstein, Abramowitz, Calamari, & Kosson, 2004). Despite the emergence of instruments in psychopathy that includes low anxiety items, the assertion of low anxiety in psychopaths remains controversial (Harpur, et. al., 1989; Schmitt & Newman, 1999; Hare, 2003; Burns, et. al., 2014; Sandvik, et. al., 2015).

Aggression

A peculiar feature of psychopathy is its connection with the bimodal forms of aggression, namely, reactive and proactive or instrumental aggression (Swogger, Walsh, Houston, Cashman-Brown, & Conner, 2010). These two forms of aggression have been linked with the increasing rates of criminal behavior that became an important issue for the criminal justice system to reconsider (Hare, 2003). Psychopaths are oftentimes associated with instrumental or proactive aggression, which is defined as any controlled act that comes with a purposeful desire to achieve an external reward (Bandura, 1983) or benefits (e.g.,obtaining material, money or drugs). Studies have confirmed that most of the psychopathic criminals are presumed to engage in instrumental aggression, particularly in criminal cases concerning serious sexual assault and homicide (Meloy, 1988, 1995; Serin, 1991; Woodworth & Porter, 2002; Tecce, 2014). Furthermore, in a study conducted by Flight and Forth (2007), the number of instrumental violent offences committed by

an individual was found to be positively related to their psychopathy scores. This finding was also validated before by Cornell and colleagues (1996) in their two studies that both conclude that the manifestation of psychopathic traits are more prominent in instrumental offenders than compared to the reactive and nonviolent offenders in male adult forensic patients. However, Setorg (2015) provided contrast findings and concluded that psychopathic individuals display a positive correlation with reactive aggression than proactive aggression. He suggested that future studies on the psychopathy-aggression relationship should account the subtypes of the psychopathy construct to the forms of aggression.

A number of researches have explored the relationship of the subtypes of psychopathy (primary and secondary) and the two forms of aggression (reactive and proactive/instrumental). On the basis of their scores on Factor 1 dimension, primary psychopaths are more inclined to engage in instrumental aggression and less likely tend to respond personally or emotionally when they behave in aggressive ways (Falkenbach, 2004; McCord & McCord, 1964). It was also concluded that secondary psychopaths who possess emotionality, impulsiveness and reactivity are more inclined to reactive aggression (Falkenbach, 2004). In addition, Seah and Ang's (2008) investigation on the Asian adolescents' reactive and proactive aggression, higher rates of anxiety and deficient interpersonal functioning were observed in the reactive aggression context. Research also indicated that prisoners who manifest altitudinal psychopathic traits are also prone to engage both in reactive and proactive aggression (Setorg, 2015). For instance, Falkenbach, Poythress & Crevy (2008) differentiated the primary psychopaths from the secondary group. Results of their study ruled out that the former scored high on both forms of aggression while the latter exhibited elevated levels of reactive aggression but less likely to engage in instrumental aggression (Reidy, Zeichner, Miller & Martinez, 2007 as cited by Rosan et. al, 2015).

Looming Cognitive Style

Anxiety is a central feature of looming cognitive style (LCS) which defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM V; American Psychiatric Association, 2013) as a state of mood anticipating future threats. The perceived threat is oftentimes viewed as antagonistically negative which causes an individual to experience a cognitive distress (Watson & Clark, 1984). In the cognitive model of LCS, the level of anxiety an individual undergoes is believed to be the result of overestimation of a threat as progressively increasing over time (Beck & Emery, 1985). Previous studies have linked LCS to anxiety disorders, particularly the general anxiety disorder, has been found to be associated with elevated levels of anxiety as indicated on their LCS scores (Riskind, 2000; Riskind & Williams, 2005; Riskind, Rector, & Cassin, 2011). In investigating the psychopathy-anxiety relationship, Suguira and Suguira (2011) pioneered the use of LCS on psychopathy and postulated that the link between psychopathy and anxiety can be explained by the presence of changing attentional cues. Results implied that there is a strong link between psychopathy and perception of rapidly increasing threat as being affected by attentional control. Furthermore, they concluded that psychopathic individuals with approach orientation experienced complications on processing forthcoming threats. With the limited literature on the looming cognition and psychopathy, the present study aims to extend its relationship by having it partially mediated by behavioral activation system /behavioral inhibition system/fight-flight-freeze system factors.

BIS/BAS

A number of studies have been making use of the Reinforcement Sensitivity Theory (RST; 1975, 1987; Gray & Smith, 1969) to explain its relationship with the construct of psychopathy for a long time (e.g. Fowles, 1980). However, current studies formulated that RST (Gray & McNaughton, 1980) has three interacting brain systems. The Behavioral Activation

System (BAS) is activated in the presence of both conditioned and unconditioned appetitive stimuli (e.g., rewards). On the other hand, BIS is primarily activated when conflicts occur between concurrent goals. Increased BAS activity is associated with positive emotional states, and appetitive behavior and aggression. While increased BIS activity is linked with negative aversive emotions.

Studies that made use of BIS/BAS to explain the construct of psychopathy provided a clear distinction between the primary and secondary psychopathy (e.g., Blackburn, 1979; Hare, 1970; Skeem, Johansson, Andershed, Kerr, & Louden, 2007). Primary psychopaths are mainly characterized with low levels of anxiety and their maladaptive actions are results of the failure to experience anxiety even if consequences are likely high. While secondary psychopaths experience higher levels of negative emotions than the usual. They are also more likely to possess higher levels of anxiety (Cleckley, 1976). Moreover, Lykken (1995) postulated that primary psychopaths are associated with weak BIS reactivity but with a normal BAS reactivity. In contrast, secondary psychopathy is mostly associated with a strong BAS reactivity (but normal BIS reactivity), as a result, they are more responsive to opportunities that offer rewards. Additional studies were conducted to test Lykken'shypothesis and have found similar results wherein individuals with primary psychopathy have low BIS activity whereas whereas for those with secondary psychopathy have BAS reactivity (Newman, MacCoon, Vaughn, & Sadeh, 2005; Torrubia, Ávila, Moltó, & Caseras, 2001).

However, there were also findings that are found to be inconsistent with the results regarding the relationship of BIS/BAS and the two Factors of psychopathy. In one study, low BAS-drive was positively correlated with secondary psychopathy while primary psychopathy has the same consistent result with other studies (Heym et. al., subm.; Smillie et. al., 2006). Moreover, in another study, results implicated that there still an unclear distinction between the primary and secondary psychopathy. Results stated that both secondary and primary psychopathy is associated with low BIS activity (Hughes et. al., 2011). Another study also showed an unclear cut between primary and secondary psychopathy in relation to BIS/BAS. General result may support Newman, MacCoon, Vaughn and Sadeh's (2005) notion on its clear distinction in psychopathy factors, the positive association of all psychopathy measures with BAS indices emphasized the role of common BAS in psychopathy (Ross et. al., 2007). Furthermore, a study provided a clear support for secondary psychopathy with strong BAS prediction while mixed support on primary psychopathy (Newman et. al., 2005).

The signs and symptoms that characterize psychopathy may be a product of a diverse culture because norms/orientation differs across cultures and that people basically differ across cultures. According to Draguns (1973), psychopathology, in general, may be an "an exaggeration or a caricature of the socially shared and prevalent patterns of adaptation". Moreover, a study conducted by Cooke (2016) provided an empirical support for Hare's (1998) contention that psychopathy may be influenced by cultural processes.

2. Method

METHOD

The purpose of this study is to examine the aggressive behaviors of psychopathic individuals who have primary and secondary psychopathy, as mediated by looming cognitive style (LCS) and by BIS/BAS. This chapter presents the methods and procedures that were used in analyzing the data to safeguard the validity and results of the study. This includes the research design, research environment, the identification of the respondents, research instrument, data collection, and data analysis.

Respondents

In this research, participants were selected through a purposive sampling technique and that all members in the population were all mandated to answer the given set of questions given that they are still capable of responding soundly and that they agreed to the terms and conditions of the study. The participants of the present study were composed of 589 incarcerated inmates of the Bureau of Jail Management and Penology (BJMP) of Davao del Norte and Compostela Valley Provincial Rehabilitation Center, with the youngest age of 18 years old (0.17%; n=1) and the oldest age of 76 years old (0.17%; n=1). The highest age percentage is 28 years old (n=33 which comprises a total of 5.58% of the general population sample.Based on the results rendered, 7.45% (n=44) of the total number of respondents are female and 92.55% (n=547) are male. Based on the respondents' civil status, 55.3% (n=327) of the total number of the incarcerated offenders are single, 39.8% (n=235) are married and 4.9% of the population of the inmates are widowed (n=29).

The frequency and percentage of the inmates' educational level are as follows: 3.6% (n=21) are uneducated, 22.8% (n=135) has reached elementary education, 12.9% (n=76) of the population has graduated from elementary, 28.6% (n=169) reached high school, 15.9& (n=94) are high school graduates, 11.7% (n=69) are college level and 4.6% (n=27) of the inmates finished and has gotten their degree. Calculating the frequency and percentage of the respondents' economic status, more than half of them came from the lower class with 56.7% (n=335), 42% (n=248) from the middle class and only 1.4% (n=8) came from the upper class. The said participants were detained due to a variety of crimes/complaints that were filed against them including theft, rape, homicide, murder, drug dealing and abuse, etc.

Research Environment

The place intended for test administration was an enclosed portion of the jail right outside their respective cell/dorm. When answering the test, participants were first asked to fill-up the socio-demographics questionnaire. The socio-demographics profile (gender, age, etc) of each inmate was used to moderate such factors to promote proper random assignment. The participants were also briefed before being handed with the questionnaires and were asked to sign the consent if they ought to agree with the terms and conditions that was written on the study. In addition to the consent, they were all given with the same instructions as to how they should answer the questionnaires. The instructions for each questionnaires/scales were repeated twice to make sure that the participants fully understood and had a full comprehension of how each questionnaires/scales should be addressed and answered. Beforehand, the statements from the scales were translated first into Bisayan dialect from English in order for the respondents to understand each statement of the scales. During the translation process, researchers used the forward-backward process in order to secure the reliability of the translated statements.

Research Instrument

Participants completed a socio-demographics questionnaire and four scales in order to assess and examine the possible relationships of each variable in the present study. The said scales were as follows:

Reactive-Proactive Aggression Questionnaire **(Rianne et. al., 2006)**

Items generated in this scale were based from empirical and theoretical literature on reactive and proactive aggression (Raine et. al, 2016). It is composed of 23 items indexing 12 items for Proactive Aggression (e.g., Had fights with others to show who was on top) and 11 items for measuring Reactive Aggression (e.g., Become angry or mad or hit others when teased). Participants were asked to rate each item using a 3-point scale such as 0= never, 1= sometimes and 2= often. Moreover, several studies reported good support on the construct validity and reliability of the scales (Baker et al., 2008; Miller &Lynam, 2003;Raine et al., 2006). For this study, the report on the internal consistencies for the RPQ scale is $\alpha = 0.874$ with its subscale for reactive ($\alpha = 0.735$) and proactive ($\alpha = 0.846$) were found to be satisfying.

Levenson's Self-Report Psychopathy scale **(LSRP; Levenson, Kiehl, & Fitzpatrick, 1995)**

This was used to measure two factors with a total of 26 items: primary psychopathy which consists of 16 items and secondary psychopathy (10 items). The LSRP-Primary subscale is made up of 16 items measuring core affective and interpersonal characteristics of primary psychopathy. On the other hand, LSRP-Secondary subscale consists of 10 items measuring social deviance associated with secondary psychopathy. Participants were asked to rate items in terms of its frequency of occurrence using a 4-point scale. Some studies showed that the reliability and validity of the LSRP are satisfactory in noncriminal (Lynam, Whiteside, & Jones, 1999) and criminal (Brinkley, Schmitt, Smith, & Newman, 2001) populations. As for this study, the scale was used in a criminal population. However, the Cronbach alpha of the current study showed high reliability ($\alpha = 0.758$).

BIS/BAS Scales **(BIS/BAS; Carver & White, 1994)**

BIS/BAS Scales is a 20-item self-report scale based on the Reinforcement Sensitivity Theory (RST; Corr, 2004, 2008; Gray & McNaughton, 2000) which postulates that there are three major brain subsystems and underlies many individual differences observed in personality, psychopathology, and reinforcement sensitivity. Each item is rated on a 4-point scale ranging from 1 (strongly agree) to 4 (strongly disagree). The BIS construct measures conflict, worry and uncertainty that contains 4 items. The items in FFFS were originally associated with BIS prior to its revision to RST. The FFFS construct measures sensitivity to punishment containing 3 items (Heym et. al., 2008). Lastly, BAS construct is measured using three subscales. These subscales are BAS-Reward Responsiveness assesses sensitivity to reward; BAS-Fun Seeking assesses motivation to seek reward and BAS-Drive measures willingness to approach novel stimuli. Altogether, BAS factors contains 13 items (Jorm et al., 1998). Recent researches have been using BIS/BAS scale in a criminal sample specifically with the inmates and reported a good internal consistency (e.g. Wallace et al., 2009). Moreover, recent research with a large offender sample has offered support for the five-factor structure (BIS, FFFS, BAS-RR, BAS-DR, and BAS-FS), rather than the original four-factor structure (with FFFS not separated from BIS) for this measure (Poythress et al., 2008a,b).

Other than the most commonly conducted studies about psychopathy and BIS/BAS Scale—that is to identify if to which type of psychopathy highly correlates with BIS/BAS; this Scale was also used in order to examine the relationship between BIS/BAS and aggression. Hence, this was used as one of the administered questionnaires in order to measure the relationship between psychopathy and aggression with LCS and BIS/BAS as the mediating

variables. The reported cronbach alpha of this study for BAS scale is $\alpha = 0.719$ and BIS with $\alpha = 0.68$. Since FFFS cronbach alpha ($\alpha = 0.037$) is relatively low compared to BIS and BAS in the current study, this measure was not included for further testing (e.g. Neumann &Hoppenbrouwers, 2015).

Looming Maladaptive Style Questionnaire **(LMSQ; Riskind et al., 2000)**

This scale is used to evaluate individual's tendency to cause bias in mental representations by over exaggerating escalating risk and danger as it is advancing toward some dreaded outcome (Riskind et. al., 2000). The measure contains two subscales: Loom-Physical Subscale and Loom-Social Subscale. Participants are asked to rate the six short scenarios that describe potentially stressful and threatening situations. After which, they completed three questions for each vignette using a five-point Likert scale. The total Looming Cognitive Style (LCS) score is calculated by summing the averaged scores of the two subscales. However, in this present study, subscales were not used separately to measure and correlate it to other measures; researchers used only the summed up score of the LMSQ. This scale provided a high cronbach alpha ($\alpha = 0.904$) enough for it to be reliable in predicting relationships with the other measures.

Research Design

This study adopted a serial mediational analysis, where the independent variable affects the dependent variable through the each mediator is postulated to causally affect the other mediators (Pearl, 20001; Imai, Keele and Yamamoto, 2010). We want to determine the extent of the relationship of psychopathy and its subscales to reactive and proactive aggression through looming cognitive styles and BIS/BAS. The respondents were requested to answer an integrated adopted questionnaire which is comprised of the Levenson's Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995), Reactive-Proactive Aggression Survey (Raine et al., 2006), Looming Maladaptive Style Questionnaire (LMSQ; Riskind et al., 2000) and BIS/BAS/FFFS (Carver & White, 1994). The integrated questionnaire was used to measure the domains of its scope.

Data Collection

The feedbacks of the survey are collected from the period between last week of January and second week of February 2016. The data has been recorded and updated after all responses are received. The results have been organized in the Microsoft Excel spreadsheet containing with the raw scores that are scored accordingly. The data is organized into separate rows and columns with the assigned scoring instructions (reverse scoring, coding and summation of total and subscales). The responses of each question have been assigned with numerical values for the data analysis.

Data Analysis

Serial mediation hypotheses were tested using SPSS Macro (PROCESS) for bootstrapping as provided by Preacher and Hayes (2008). The indirect, direct, and total effects of psychopathy (primary and secondary) on aggression (reactive and proactive) were calculated while controlling for age and gender effect. Moreover, according to Preacher and Hayes (2008), bootstrapping offers a great advantage over Sobel test wherein bootstrapping does not assume a normal sampling distribution and provides advanced statistical power.

3. Results

CHAPTER III

RESULTS

Missing data for the respondents who completed more than 80% of the questionnaire were treated as missing at random and were subjected to missing value analysis. The reliability, mean, standard deviation and intercorrelation among all variables are shown in Table 1. Age and gender are treated as covariates for all mediation analyses to control for the shared variance between reactive and proactive aggression.

1. Intercorrelation of Psychopathy (Primary and Secondary), Looming Cognitive Styles, Behavioral Systems (Activation and Inhibition) and Aggression (Reactive and Proactive)

Table 1. Reliability, Means, Standard Deviation, Intercorrelation of Variables

	α	Mean	Std. Deviation	1	2	3	4	5	6	7
1. LSRP_prm	0.604	38.79	7.668							
2. LSRP_sc	0.691	26.70	5.103	.450						
3. LMSQ_tot	0.45	63.04	14.898	.040	.117					
4. BB_bas	0.719	24.6785	6.24186	-.233	-.213	-.066				
5. BB_bis2	0.68	6.69	2.425	-.073	-.078	-.076	.446			
6. BB_fffs2	0.037	7.20	1.835	.047	.012	-.013	-.041	.179		
7. RPQ_pro	0.846	5.34	4.725	.296	.218**	.044	-.047	.071	.118	
8. RPQ_reac	0.735	8.44	3.701	.241	.117**	.004	.028	.181	.164	.644

Note: All correlations are significant at the .05 level (2-tailed); N=591; α=Cronbach Alpha; LSRP=Levensons Self Report Psychopathy Scale; LSRP_prm=Primary Psychopathy; LSRP_sc= Secondary Psychopathy; LMSQ_tot=Looming Maladaptive Styles Questionnaire; BB_bas=Behavioral Activation System; BB_bis2=Behavioral Inhibition System; BB_fffs2=Fight Flight Freeze; RPQ_tot=Reactive Proactive Questionnaire; RPQ_pro=Proactive Aggression; RPQ_reac=Reactive Aggression

589 incarcerated offenders from Davao del Norte District Jail and Compostela Valley Provincial Rehabilitation Center were utilized as a sample for the present study. The means, standard deviations, and correlation coefficients are shown in Table 1. The results show that while primary and secondary psychopathy are positively correlated with looming cognitive styles, it is negatively associated with behavioral activation and behavioral inhibition system. It is also significant to note that the behavioral activation and behavioral inhibition systems are consistently positively associated with reactive and proactive aggression.

2. Controlling for age and gender, Primary and Secondary Psychopathy as predictors of Aggression (Reactive and Proactive)

Table 2. Multiple Regression Predicting Reactive and Proactive Aggression

		Reactive Aggression		Proactive Aggression	
		B	Beta	B	Beta
Primary Psychopathy	Step 1				
	Age	-.032	-.085*	-.031	-.065
	Gender	-.204	-.014	-2.445	-.136
	Step 2				
	Age	-.029	-.076	-.027	-.057
	Gender	-.026	-.002	-2.265	-.126**
	LSRP_prm	.142	.294**	.145	.234**
Secondary Psychopathy	Step 1				
	Age	-.032	-.085*	-.031	-.064
	Gender	-.204	-.014	-2.445	-.136**
	Step 2				
	Age	-.031	-.083*	-.030	-.063
	Gender	-.109	-.008	-2.383	-.133**
	LSRP_sc	.157	.217**	.104	.112**

Note: B=unstandardized beta coefficient; Beta=standardized beta coefficient; *$p<.05$. **$p<.01$; N=591; RPQ_pro=Proactive Aggression; RPQ_reac=Reactive Aggression; LSRP_prm=Primary Psychopathy; LSRP_sc=Secondary Psychopathy

Controlling for age and gender, the result (see Table 2) showed that psychopathy is a significant predictor of aggression (reactive and proactive). The association between primary psychopathy and the subtypes of aggression has an accounted variance of 8.6% with proactive and 5.47% with reactive, consecutively. It has also yielded an accounted variance of 4.71% for the association of secondary psychopathy and proactive aggression and 1.25% for secondary psychopathy and reactive aggression.

3. Controlling for age and gender, there is a significant relationship between Psychopathy (Primary and Secondary) and Aggression (Reactive and Proactive) mediated by the association of Looming Cognitive Styles to the Behavioral Systems (Activation and Inhibition)

This study delved into the looming cognitive styles and the BIS/BAS constructs, and their mediating role in psychopathy and aggression. Serial mediation analyses were tested using SPSS macro (PROCESS) for bootstrapping as provided by Preacher and Hayes (2008). Using looming cognitive styles and BAS as mediators in the first model (process model: primary psychopathy → loomingcognitive styles → behavioral activation system → proactive aggression) and the second model, looming cognitive styles and BIS served as mediators (process model: primary psychopathy → loomingcognitive styles → behavioral inhibition system → proactive aggression).

Looming Cognitive Styles and BAS as significant serial mediators between Psychopathy (Primary and Secondary) and Aggression (Reactive and Proactive)

The full process model of all paths are illustrated in Figure 1, the serial mediation analysis was conducted with bootstrap methods (model 6 in PROCESS). The corresponding coefficients for each hypothesis are provided in Table 3. The total effect (*c*) of primary psychopathy on reactive aggression was significant (β = .1416, t = 7.4570, p = .0000), the total direct effect (*c'*) was also considered as significant (β = .1434, t = 7.329, p = .0000). The total indirect effect, which is the sum of the specific indirect effects, with a point estimate of .0000 with a 95% confidence interval between -.0005 and .0000 was significant. The specific indirect effect through looming cognitive styles was not significant (*a1b1* = 0.0007; *CI* = -.0008 - .0059), and nor was the specific indirect effect through behavioral activation system (*a2b2* = -0.0024; *CI* = -.0123 - .0071). However, when testing for the serial mediation, the specific indirect effect of primary psychopathy to reactive aggression through looming cognitive styles and behavioral activation system (*a1a3b2*)was significant, therefore, supporting H1a, with a point estimate of .0000 and a 95% confidence interval between -.0005 and .0000. Thus, primary psychopathic individuals will experience over-

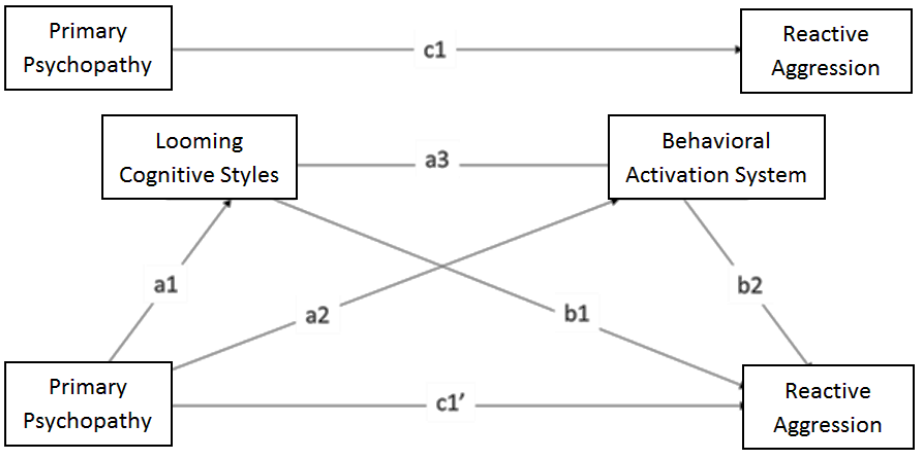


Figure 1. A serial mediation model with Looming Cognitive Styles and Behavioral Activation System as proposed mediators of primary psychopathy and reactive aggression.

exaggeration of perceived threat, which decreases the activation of behavioral responses and, in turn produce reactive aggression.

For H1b, result has indicated a significant specific indirect effect through looming cognitive styles and behavioral activation system (a1a3b2 = -.0001; CI = -.0011 - .0000), a significant total effect (β = .1434, t = 5.8640, p = .0000) and total direct effect (β = .1551, t = 6.1717, p = .0000) after applying bootstrapping methods. Which further supports the hypothesis

Table 3
Path Coefficients from Models Estimated Using PROCESS

	H1a: Primary Psychopathy - LCS - BAS - Reactive Aggression	*H1b: Primary Psychopathy - LCS - BAS - Proactive Aggression*	*H1c: Secondary Psychopathy - LCS - BAS - Reactive Aggression*	*H1d: Secondary Psychopathy - LCS - BAS - Proactive Aggression*
a1	0.0779 (0.802)	0.0779 (0.0802)	0.3403** (0.1195)	0.3403** (0.1195)
a2	-0.1898** (0.0327)	-0.1898 (0.0327)	-0.2547** (0.0496)	-0.2547** (0.0496)
a3	-0.0238** (0.0168)	-0.0238 (0.0168)	-0.0177 (0.0170)	-0.0177 (0.0170)
b1	0.0086 (0.0098)	-0.0004 (0.0126)	0.0047 (0.0101)	-0.0027 (0.0131)
b2	0.0127 (0.0241)	0.0608* (0.0309)	-0.0003 (0.0245)	0.0422 (0.0317)
c1	0.1416** (0.190)	0.1434** (0.0245)	0.1579** (0.0292)	0.1080** (0.0379)
c1'	0.1434** (0.0196)	0.1551** (0.0251)	0.1562 (0.0301)	0.1199** (0.0390)

Note: All coefficients are unstandardized; *p< .05, **p< .01. N=591

that primary psychopathy can positively influence looming cognitive styles, but, reduces the activation of behavioral responses, therefore, increasing their proactive aggression.

H1c and H1d were also tested with the same mediation model. Results of the mediation analysis of H1c on the specific indirect effect was not significant through looming cognitive styles and behavioral activation system (*a1a3b2* = 0.0000; CI = -.0005 - .0006). There is also no significant association through looming cognitive styles (*a1b1* = 0.0016; CI = -.0049 - .0105) as well as the association through behavioral activation system (*a2b2* = -0.0001; CI = -.0129 - .0141). The association of the variables demonstrated in H1d also predicted an insignificant specific indirect through looming cognitive styles (*a1b1* = 0.0009; CI = -.0114 - .0078), through behavioral activation system (*a2b2* = -0.0107; CI = -.0308 - .0069), and through looming cognitive styles and behavioral activation system (*a1a3b2* = 0.0003; CI = -.0019 - .0001) and, therefore, arriving to the conclusion that the mediators for the two hypotheses cannot be accounted for the association of psychopathy and aggression.

Looming Cognitive Styles and BIS as significant serial mediators between Psychopathy (Primary and Secondary) and Aggression (Reactive and Proactive)

Resultsfrom mediation analyses with primary psychopathy as the independent variable (H2a) indicated an insignificant specific indirect effect through looming cognitive styles and behavioral inhibition system (*a1a3b2* = .0000; CI = -.0005 - .0006), but indicated a significant total effect (β = .1416, t = 7.4570, p = .0000). The H2b also yielded an insignificant specific indirect effect (*a1a3b2* = -.0001; CI = -.0011 - .0001). The total, direct or indirect and all-path coefficients of the model were also not significant (see Table 4).

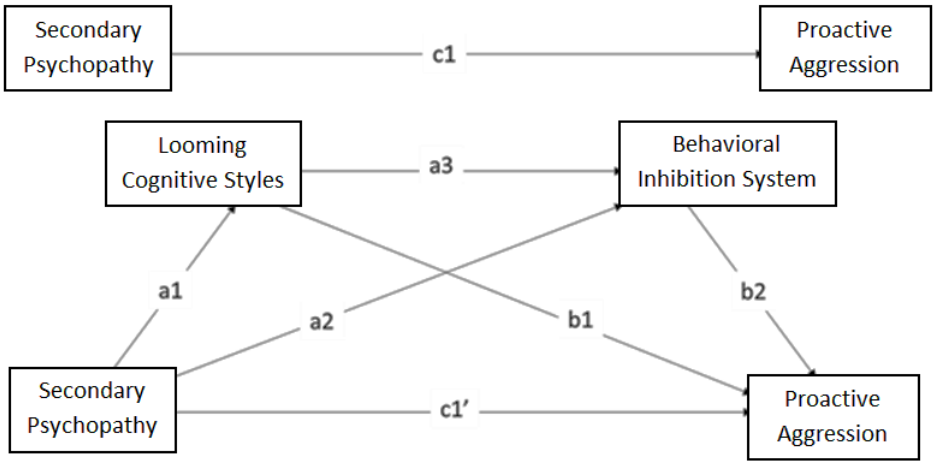


Figure 2. A serial mediation model with Looming Cognitive Styles and Behavioral Inhibition System as proposed mediators of secondary psychopathy and proactive aggression.

Table 4
Path Coefficients from Models Estimated Using PROCESS

	H2a: Primary Psychopathy - LCS - BIS - Reactive Aggression	*H2b: Primary Psychopathy - LCS - BIS - Proactive Aggression*	*H2c: Secondary Psychopathy - LCS - BIS - Reactive Aggression*	*H2d: Secondary Psychopathy - LCS - BIS - Proactive Aggression*
a1	0.0772 (0.0800)	0.0772 (0.0800)	0.3409** (0.1197)	0.3409** (0.1197)
a2	-0.0207 (0.0130)	0.0207 (0.0130)	-0.0338 (0.0196)	-0.0338 (0.0196)
a3	-0.0123 (0.0067)	-0.0123 (0.0067)	-0.0113 (0.0067)	-0.0113 (0.067)
b1	0.0098 (0.0098)	0.0026 (0.0125)	0.0065 (0.0100)	0.0009 (0.0128)
b2	0.1432* (0.0602)	0.3878** (0.0768)	0.1329* (0.0618)	0.3472** (0.0786)
c1	0.1426** (0.0190)	0.1477** (0.0246)	0.1571** (0.0291)	0.1036** (0.0375)
c1'	0.1449** (0.0190)	0.1559** (0.0242)	0.1599** (0.0293)	0.1163** (0.0373)

Note: All coefficients are unstandardized; *p< .05, **p< .01. N=591

In support of H2c, secondary psychopathy was significantly associated with reactive aggression (β = .1571, t = 5.3923, p = .0000) when analyzed with the mediators and both age and gender acting as covariates. Its specific indirect effects through looming cognitive styles and behavioral inhibition styles (*a1a3b2* = -.0005; CI = -.0024 - .0000) yielded a significant association, however, both the specific indirect effects through looming cognitive styles (*a1b1* = .0022; *CI* = -.0039 - .0119) and through behavioral inhibition system (*a2b2* = -.0045; *CI* = -.0166 - .0004) were not significant. Results indicated a significant indirect effect between secondary psychopathy and proactive aggression through looming cognitive styles and behavioral inhibition system in sequence (*a1a3b2* = -.0013; CI = -.0050 - .0000) as evidenced by the 95%bootstrap confidence interval excluding zero. Thus, our hypothesized mediation model (H2d) was

supported. The tests of specific indirect effects through both looming cognitive styles (*a1b1* = .0003; *CI* = -.0089 - .0099) and behavioral inhibition system (*a2b2* = -.0117; *CI* = -.0320 - .0010) individually were not significant, and the results show that there is a direct significant effect between secondary psychopathy and proactive aggression (β = .1163, *t* = 3.1145, *p* = .0019). Therefore, only the associations of secondary psychopathy to both subtypes of aggression (H2c and H2d) through looming cognitive styles and behavioral inhibition system in sequence were considered significant.

4. Discussion and Conclusion

DISCUSSION

1. Intercorrelation of Psychopathy (Primary and Secondary), Looming Cognitive Styles, Behavioral Systems (Activation and Inhibition) and Aggression (Reactive and Proactive)

The results of the present study replicate those of the previous investigations that psychopathic individuals are not low anxious (Patrick, Bradley & Lang, 1993; Lilianfield& Andrews, 1996; Salekin, Leistico, Trobst, Schrum&Lochman, 2005). The looming cognitive styles measured by LMSQ predicted the cognitive vulnerability to anxiety among the psychopathic offenders. These findings show that primary and secondary psychopathy is associated with the tendency to overestimate the perceived threat as rapidly intensifying over time. One possible explanation of the presence of high anxiety in psychopathic individuals is that when processing a threat or danger as unfolding, changing and advancing (Riskind& Williams, 2005), it elicits the expression of negative emotions such as fear, worry and anxiety. High anxiety in psychopaths further indicates their strong sensitivity to punishment cues.

Lykken (1995) once theorized that primary psychopaths may possibly display an elevated BAS but findings of the current study pertaining the primary construct revealed otherwise. Reduced BAS was observed in the primary psychopathic individuals in response to high anxiety brought about by the LCS. Although primary psychopathy is established to have a normal BAS, however, when it is paired with high levels of anxiety, the normal regulating function of BAS is reduced. Suguira and Suguira (2012) have pointed out in their study that psychopathic individuals are more likely to experience difficulty processing forthcoming threats when they make use of the behavioural approach orientation, thus explaining the manifestation of elevated levels of anxiety even when there is only slight activation of the BAS. In effect, primary psychopathic offenders pay less awareness to reward cues when experiencing high levels of anxiety due to their low, but significant BAS scale scores that might be the result of their cognitive reactions (e.g. anxiety) to such cues (Carver & White, 1994). Moreover, they are also more likely to have lesser drive and motivation in pursuing rewards and less to experience positive emotions (e.g. happiness) when such rewards are obtained (Sommerfeldt, 2014). Lowered BAS finding of the study is also validated in other researches (e.g. Heym& Lawrence, 2010) and represent that BAS is a common feature in the subtypes of psychopathy (Ross, et al., 2007; Ross, Benning, Patrick, Thompson & Thurston, 2009; Wallace et al., 2009).

In addition, the positive correlation of primary and secondary psychopathy indicates that the involvement of any behavior of an individual with high levels of the primary psychopathy lowers the manifestation of the secondary construct (Levenson, et al, 1995 as cited in Ashton, 2013). As reflected in the present study, the psychopathic individuals both manifest primary and secondary psychopathy, but with the former displaying higher levels of psychopathic traits than the latter. Karpman (1941) and Porter (1996) hypothesized that the level of psychopathic traits in the two subtypes of psychopathy are not to be taken as different. Biopsychosocial model accounts

that primary psychopathy has a genetic code for affective deficits and low physiological and psychological sensitivity to fear, anxiety and stress. Moreover, secondary psychopathy has been associated with cognitive processing deficits, temperamental vulnerability to engage in antisocial behaviors, environmental influence, (Yildirim&Derksen, 2013, 2015; Newman, Wallace, Schmitt, & Arnett, 1997; Fowles and Kochanska, 2000).

Elevated primary psychopathy is also associated with secondary psychopathy's tendency to manifest the BIS and anxiety. The psychopathic offenders displayed high levels of anxiety in response to LCS which suggests that they may have experienced difficulty detecting threats when constructing mental scenarios of dynamic danger. While secondary psychopathy is related to negative affect, it is possible the primary psychopathic offender`s tendency to perceived threat as dynamically intensifying over time is further enhanced their disposition to negative emotional states (e.g. fear, worry), and in turn, can also induce cognitive-related anxiety. This outcome indicates the possibility that secondary psychopathy has strong behavioral approach (BAS activation) to rewards that might have interfered with the normal function of BIS, thus resulting to the reduced behavioral resistance among inmates (Baskin-Sommers, Wallace, MacCoon, Curtin & Newman, 2010). In support, BIS has been associated with processing of unpleasant information (Gomez, Gomez & Cooper, 2002) which explains the presence of heightened anxiety on offenders. Other studies have also accounted that high-anxious inmates had reduced inhibition (BIS) in the presence of punishment-related cues (Newman, Wallace, Schmitt & Arnett, 1997; Molto, Poy, Segarra, Pastor &Montanes, 2007). Individuals with low BIS sensitivity are less likely to allocate their attention to punishment and nonreward cues, thus impair their ability to assess any potential risk or danger (Zeir& Newman, 2013; Newman &Kosson, 1986; Sommerfeldt, 2014; Newman, 1987; Baskin-Sommers, Wallace, MacCoon, Curtin & Newman, 2010).

Furthermore, additional findings of the study also suggest high levels of reactive and proactive aggression was strongly mediated by high anxiety and a reduced BAS and BIS in primary and secondary psychopathy (Reidy, et. al, 2007; Falkenbach, et. al, 2008). This outcome also validates the notion that both the types of aggression can co-exist in an individual (Polman et al., 2007). Aggressive characteristics such as unemotional, impulsivity, hostility, anger and easily provoked is also represented by the psychopathy traits (e.g. callousness, lack of remorse and guilt, recklessness). In relation to aggression, according to a study (Fite et. al., 2009), reactive aggression is associated with indicators of negative emotionality.

2. **Controlling for age and gender, Primary and Secondary Psychopathy as predictors of Aggression (Reactive and Proactive)**

The association of psychopathy to the constructs of aggression has gained a lot of audience in the research sector and was first scrutinized by Cornell and his colleagues (1996). The current study has treated age and gender as covariates and has found that incarcerated offenders with psychopathic traits were more likely to experience aggression. Findings from past studies have indicated that primary psychopathy is strongly associated with proactive aggression (Reidy et al., 2007; Cima&Raine, 2009; da Silva, Rijo&Salekin, 2013) and that secondary psychopathy is linked with reactive aggression (Reidy et al., 2007; Setorg, 2015).

Contrary to previous studies, our findings have shown that both an elevated primary and secondary psychopathy is strongly associated with reactive aggression. Anelevated primary psychopathy can be a predictor of reactive aggressionwhich can be attributed to their high anxiety and impulsivity as supported by the findings of Riskind (1997) and Kimonis, Frick, et al. (2012). Since there is still a presence of secondary psychopathy within individuals with elevated primary psychopathy, they are vulnerable to provocations. While the association of secondary

psychopathy and reactive aggression may be due to the fact that these individuals are often impulsive, reckless and have poor behavioral control which makes them more susceptible to provocations and impetuously angered, they tend to react spontaneously when the need for self-preservation arises as validated by the studies of Reidy et al. (2007) and Falkenbach(2004).

3. **Controlling for age and gender, there is a significant relationship between Psychopathy (Primary and Secondary) and Aggression (Reactive and Proactive) mediated by the association of Looming Cognitive Styles to the Behavioral Systems (Activation and Inhibition)**

Looming Cognitive Styles and BAS as significant serial mediators between Psychopathy (Primary and Secondary) and Aggression (Reactive and Proactive)

The model of LCS does not only limit its effect to an individual's cognition. Reactions that are generated from exaggerating a certain threat reverberate throughout the different aspects of an individual brought about by the anxiety as a manifestation of LCS. This begins with the processed LCS, which influences cognition, followed by self-protective behaviors and emotional manifestations (Riskind et. al., 2006). In the current study, negative indirect effect in LCS and BAS was found suggesting that it both mediators are significant predictors of primary and secondary psychopathy and aggression (reactive and proactive).

Findings from H1a and H1b suggested that the capacity of primary psychopaths to loom is due to the fact that both subtypes of psychopathy could coexist in an individual. Since primary psychopaths are largely genotypic in nature and that secondary psychopathy is more environmentally determined (Hicks et. al., 2011), the interplay of biopsychosocial model (Santrock, 2007) should be taken into account in this phenomenon. This suggest that the interplay of the three factors which are the biological factors (genetic, biochemical, etc), psychological factors (mood, personality, behavior, etc), and social factors (cultural, familial, socioeconomic, medical, etc) contribute to the possible coexistence of both types of psychopathy in an individual. Therefore, the capacity of primary psychopaths to loom is influenced by the subservient presence of secondary psychopathy traits in an individual and is not because primary psychopaths have the capacity to loom. Moreover, their capacity to loom to an anticipated threat is enough to cause an anxiety and result in the expression of a weakened BAS in primary psychopathy. Lowered BAS finding of the study is also validated in other researches (e.g. Bjornebekk, &Gjesme, 2009). Lastly, the co-occurence of both subtypes makes it more vulnerable for an individual to engage in both forms of aggression postulating on the notions that primary are more susceptible to proactive aggression and secondary to reactive aggression.

Looming Cognitive Styles and BIS as significant serial mediators between Psychopathy (Primary and Secondary) and Aggression (Reactive and Proactive)

Results concerning the secondary psychopathy revealed a negative yet significant association between the BIS and anxiety. The secondary psychopathic offenders displayed high levels of anxiety in response to LCS which suggests that they may have experienced difficulty detecting threats when constructing mental scenarios of dynamic danger. While secondary psychopathy is related to negative affect, it is possible that their tendency to perceived threat as dynamically intensifying over time further enhanced their disposition to negative emotional states (e.g. fear, worry), and in turn, can also induce cognitive-related anxiety. This outcome indicates the possibility that secondary psychopathy has strong behavioural approach (BAS activation) to rewards that might have interfered with the normal function of BIS, thus resulting to the reduced behavioural resistance among inmates (Baskin-Sommers, Wallace, MacCoon, Curtin & Newman, 2010). In support, BIS has been associated with processing of unpleasant information (Gomez, Gomez & Cooper, 2002) which explains the presence of heightened anxiety on offenders. Other

studies have also accounted that high-anxious inmates had reduced inhibition (BIS) in the presence of punishment-related cues (Newman, Wallace, Schmitt & Arnett, 1997; Molto, Poy, Segarra, Pastor &Montanes, 2007). Individuals with low BIS sensitivity are less likely to allocate their attention to punishment and nonreward cues, thus impair their ability to assess any potential risk or danger (Zeir& Newman, 2013; Newman &Kosson, 1986; Sommerfeldt, 2014; Newman, 1987; Baskin-Sommers, Wallace, MacCoon, Curtin & Newman, 2010). Findings of the present study contradicts the previous investigations that secondary psychopathy is associated with a normal BIS functioning (Lykken, 1995; Newman, MacCoon, Vaughn &Sadeh, 2005; Newman &Malterer, 2009).

STRENGTHS AND LIMITATIONS

The current study benefited from several key strengths. First is that the theoretical predictions were tested using a sample of criminal offenders from Asia between the subtypes of psychopathy and BIS/BAS. The current research has found that primary psychopaths has a hypoactive BAS and that secondary psychopathic individuals manifest a hypoactive BIS. Thus, it is important to consider the cultural setting of the participants of the study in accounting the relationship of the variables as stated by Hare (1998) and Cook (2016). Currently, this study is the second one accounting the relationship of looming cognitive styles and psychopathy and also the first one who examined the association of the looming cognitive styles and BIS/BAS, making this research essential for future researchers to use as a reference. Finally, in contrast to other studies where only one form of aggression can be predicted by psychopathy (e.g. Meloy, 1988, 1995; Cornell, et al, 1996; Falkenbach, 2004), the interplay of looming cognitive styles and BIS/BAS has shown an association of both constructs of psychopathy and the subtypes of aggression.

The results validate the notion based on the hypothesis that not all primary psychopathic individuals display no or less anxiety than secondary psychopaths do. Their anxiety are manifested in the positive correlation of primary psychopathy from LSRP to LMSQ (a scale for LCS). However, the unusual linkage between secondary psychopathy to low BAS may be explained with the mediating role of LCS in between, thus, in turn, led them to have an hypoactive approach to threatening situations.

The classic theoretical conceptualization of psychopathy manifesting an absence or low levels of anxiety remains unclear.Although the present study was able to nullify the accounts of Lykken (1995) on primary psychopathy, further research should explore other factors

The limitations of the study include the utilization of LSRP alone to measure primary and secondary psychopathy among the offenders may not be reliable enough to generalize results. This may be because of the reason that self-reported psychopathy scales like LSRP tap different aspects of psychopathy (Gaughan et. al., 2009). Future researches should use multiple measures of the construct in order to assess the diverse dimensions of psychopathy that one measure may not suffice. And, to be able to examine the different relationships of the its different traits/construct. As with the respondents, it would be better to use the population of the convicted inmates since higher rates of criminality are found in that kind of setting. It is also important to note that LCS is a new construct that attempts to examine the link between psychopathy and aggression. Therefore, the scope of discovering theories that better explains and supports this study is limited. Another limitation for this current study is on gender. Future researchers are advised to counterbalance the number of male and female participants so as to avoid bias in gender.

CONCLUSION

Although traditional conceptualizations of psychopathy predicted the expression of primary and secondary subtypes through levels of anxiety, the results of the present study showed no consistency on Lykken's view to subtypes of psychopathy. The findings presented by the study suggest that anxiety is common factor in the construct of psychopathy as a result of the psychopaths' tendency to exaggerated threatening situations as rapidly increasing over time. It is also speculated that the expression of a hypoactive BAS in primary psychopathy and hypoactive BIS in secondary psychopathy is due to the mediating effect of looming cognitive style which played a role in the prediction of reactive and proactive forms of aggression. Future researchers should further examine the mediating role of looming cognitive style to psychopathy; there may be other factors accounting to the relationship between psychopathy and aggression.

5. References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*(5 ed.). Washington, DC: American Psychiatric Publishing.

Anderson, C.A, & Bushman, B.J. (2002).Human Aggression.Annual Reviews. Psychology, 53, 27-51.

Ashton, M., Pozzebon, J., &Visser, B. (2011). Is Low Anxiety Part of the Psychopathy Construct? Journal of Personality, http://DOI: 10.1111/j.1467-6494.2011.00745

Bandura, A. (1983). Psychological mechanisms of aggression.In R. G. Green & E. I. Donnerstein (Eds.). Aggression: Theoretical and empirical views (Vol. 1, pp. 1–40). New York: Academic Press.

Baskin-Sommers, A. R., Brazil, I. A., Ryan, J., Kohlenberg, N. J., Neumann, C. S., & Newman, J. P. (2015). Mapping the Association of Global Executive Functioning Onto Diverse Measures of Psychopathic Traits. Personality Disorders: Theory, Research, and Treatment. http://doi.org/10.1037/per0000125

Berkowitz, L. (1993). Aggression: Its causes, consequences, and control. New York: McGraw-Hill.

Bjørnebekk, G. &Gjesme, T. (2009). Future Time Orientation and Temperament: Exploration of Their Relationship to Primary and Secondary Psychopathy. *Psychological Reports,* 2009, 105, 275-292.

Blair, R. J. R., Mitchell, D. G. V., & Blair, K. (2005). The psychopath: Emotion and the brain. Malden: Blackwell

Book, A. S., &Quinsey, V. L. (2004) Psychopaths: cheaters or warrior-hawks? *Personality and Individual Differences,* 36, 33-45.

Brinkley, C. A., Newman, J. P., Widiger, T. A., &Lynam, D. R. (2004). Two approaches to parsing the heterogeneity of psychopathy. Clinical Psychology: Science and Practice, 11, 69–94.

Burns, S., Roberts, L., Egan, S., & Kane, R. (2014). Evaluating emotion processing and trait anxiety as predictors of non-criminal psychopathy. Personality and Individual Differences 81 (2015) 148–154. http// DOI: 10.1016/j.paid.2014.08.044

Buzina, N. (2012). Psychopathy - Historical controversies and new diagnostic approach. *PsychiatriaDanubina,* 24(2), 134–142. Retrieved from http://www.scopus.com/inward/record.url?eid=2-s2.0-84864872246&partnerID=40&md5=1fd04061c2901560bc5ab74cfebe6ecc

Cherry, K. (2015). What is Aggression? Retrieved from http://psychology.about.com/od/aindex/g/aggression.htm on December 18, 2015

Clark, L. A., & Watson, D. (1991). Tripartite Model of Anxiety and Depression: Psychometric Evidence and Taxonomic Implications.*Journal of Abnormal Psychology*, *100*(3), 316-336.

Cleckley, H. (1941). *The mask of sanity: An attempt to clarify some issues about the so calledpsychopathic personality*. St. Louis, MO: Mosby.

Cleckley, H. (1976). The mask of sanity (5th ed.). St. Louis, MO: Mosby.

Clemente, J., Gleeson, J. F., & Lim, M. H. (2013). Cognitive processes in worry and paranoia: Investigation of the looming cognitive style. Journal of Experimental Psychopathology, 4(4), 303–314. http://doi.org/10.5127/jep.028612

Cornell, D. G., Warren, J., Hawk, G., Stafford, E., Oram, G., & Pine, D. (1996). Psychopathy in instrumental and reactive violent offenders. Journal of Consulting and Clinical Psychology, 64 (4), 783–790.

Corr, P. J. (2002) J. A. Gray's reinforcement sensitivity theory: tests of the joint subsystems hypothesis of anxiety and impulsivity. *Personality and Individual Differences*, 33, 511-532.

Coyne, S. M., Nelson, D. a., Graham-Kevan, N., Keister, E., & Grant, D. M. (2010). Mean on the screen: Psychopathy, relationship aggression, and aggression in the media. Personality and Individual Differences, 48(3), 288–293. http://doi.org/10.1016/j.paid.2009.10.018

Debowska, A., & Rios, E. (2015). Running head : PSYCHOPATHY AND AGGRESSION IN PRISONERS: The role of psychopathy factors in reactive aggression within a sample of prisoners. (2015), (November). http://doi.org/10.1108/JCP-10-2014-0014

Decety, J., Skelly, L. R., &Kiehl, K. A. (2013).*Brain response to empathy-eliciting scenarios involving pain in incarcerated individuals with psychopathy*. JAMA Psychiatry, 70(6), 638–645. http://doi.org/10.1001/jamapsychiatry.2013.27

Decuyper, M., De Pauw, S., De Fruyt, F., De Bolle, M., & De Clercq, B. J. (2009). A meta-analysis of psychopathy-, antisocial PD-, and FFM associations.*European Journal of Personality*, 23, 531–565.

Dodge KA. The structure and function of reactive and proactive aggression. In: Pepler DJ, Rubin KH (eds). The Development and Treatment of Childhood Aggression. Hillsdale, NJ: Lawrence Erlbaum, 1991:210–8.

Dolan M, Doyle M: Violence risk prediction: Clinical and actuarial measures and the role of the Psychopathy Checklist. British Journal of Psychiatry 2000; 177:303- 311.

Engel, G (1980). The clinical appplication of the biopsychosocial model. Am J Psychiatry.137:535–544

Falkenbach, D. M. (2004).The subtypes of psychopathy and their relationship to hostile and instrumental aggression, (November).

Falkenbach, D., Barese, T., Balash, J., Reinhard, E., &Hughs, C., (2015).The exploration of subclinical psychopathic subtypes and the relationship with types of aggression in female college students. Personality and Individual Differences, 44(4), 821–832. http://doi.org/10.1016/j.paid.2015.04.018

Flight, J. I.,& Forth, A. E. (2007). Instrumentally violent youths: The roles of psychopathic traits. empathy, and attachment. *Criminal justice and Behavior*.34, 739-751.

Gaughan, E. T., Miller, J. D., Pryor, L. R., &Lynam, D. R. (2009).Comparing two alternative measures of general personality in the assessment of psychopathy: A test of the NEO PI–R and the MPQ. Journal of Personality, 77, 965–996.

Glenn, A. L., &Raine, A. (2009). Psychopathy and instrumental aggression: Evolutionary, neurobiological, and legal perspectives. International Journal of Law & Psychiatry, 32, 253–258.

Gray, J. A., & Smith, P. T. (1969).An arousal-decision model for partial reinforcement and discrimination learning.In R. Gilbert & N. S. Sutherland (Eds.), Animal discrimination learning (pp. 243–272). New York: Academic Press.

Gretton, H. M., Hare, R. D., & Catchpole, R. (2004). Psychopathy and offending from adolescence to adulthood: a 10-year follow-up. Journal of Consulting and Clinical Psychology, 72, 636–645

Gonsalves, V. M., McLawsen, J. E., Huss, M. T., &Scalora, M. J. (2013). Factor structure and construct validity of the psychopathic personality inventory in a forensic sample. International Journal of Law and Psychiatry, 36(2), 176–84. http://doi.org/10.1016/j.ijlp.2013.01.010

Hale, L. R., Goldstein, D. S., Abramowitz, C. S., Calamari, J. E., &Kosson, D. S. (2004). Psychopathy is related to negative affectivity but not to anxiety sensitivity. *Behaviour Research and Therapy*, 42, 697–710.

Hare, R. D., & Cox, D. N. (1978).Clinical and empirical conceptions of psychopathy and the selection of subjects for research. In R. D. Hare,& D. Schalling (Eds.), Psychopathic behaviour: approaches to research (pp. 1–21). Chichester: Wiley.

Hare, R. D., & McPherson, L. M. (1984).Violent and aggressive behavior in criminal psychopaths. International Journal of Law & Psychiatry, 7, 35–50.

Hare, R. D. (1991).*The Hare Psychopathy Checklist-Revised*.Torronto: Multi-Health Systems.

Hare, R. D., Hart, S. D., Harpur, T. J. (1991).Psychopathy and the DSM—IV criteria for antisocial personality disorder. Journal of Abnormal Psychology, 100(3), 391-398. doi:10.1037/0021-843X.100.3.391

Hare, R. D. (1996). Psychopathy: A clinical construct whose time has come. Criminal Justice and Behavior, 23, 25–54

Hare, R. D. (2003). Manual for the Hare psychopathy checklist-revised (2nd ed.). Toronto, Canada: Multi-Health Systems.

Harpur, T. J., Hare, R. D., &Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment, 1*(1), 6-17.

Heym, N., & Lawrence, C. (2010). The role of Gray's revised RST in the P-psychopathy continuum: The relationships of Psychoticism with a lack of fear and anxiety, and increased impulsivity. Personality and Individual Differences, 49(8), 874–879. http://doi.org/10.1016/j.paid.2010.07.021

Hicks, B. M., & Patrick, C.J. (2006). Psychopathy and negative affectivity: Analyses of suppressor effects reveal distinct relations with trait anxiety, depression, fearfulness, and anger-hostility. Journal of Abnormal Psychology, 115, 276-287.

Hughes, K. A., Moore, R. A., Morris, P. H., &Corr, P. J. (2012).Throwing light on the dark side of personality: Reinforcement sensitivity theory and primary/secondary psychopathy in a student population. Personality and Individual Differences, 52(4), 532–536. http://doi.org/10.1016/j.paid.2011.11.010

Ingram, R.E. & Scott, W.D. (1990).'Cognitive behaviour therapy'.In A.S. Bellack, M. Hersen, and A.E. Kazdin.International Handbook of Behavior Modification and Thearpy.Second Edition. New York: Plenum Press

Johnson, A. K., Sellbom, M., & Phillips, T. R. (2014).Elucidating the associations between psychopathy, Gray's Reinforcement Sensitivity Theory constructs, and externalizing behavior. Personality and Individual Differences, 71, 1–8. http://doi.org/10.1016/j.paid.2014.06.026

Jonason, P. K., Duineveld, J. J., & Middleton, J. P. (2015).Pathology, pseudopathology, and the Dark Triad of personality. Personality and Individual Differences, 78, 43–47. http://doi.org/10.1016/j.paid.2015.01.028

Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: The symptomatic and the idiopathic. Journal of Criminal Psychopathology, 3, 112–137.

Karpman, B. (1948). The myth of the psychopathic personality. American Journal of Psychiatry, 104, 523–534.

Kosson, D. S., Smith, S., & Newman, J. P. (1990). Evaluation of the construct validity of psychopathy in Black and White male inmates: three preliminary studies. Journal of Abnormal Psychology, 99, 250–259.

LaLiberte, B. V., &Grekin, E. R. (2015).Direct and indirect relationships between factor 2 psychopathy, behavioral activation, positive alcohol expectancies, and alcohol use. Personality and Individual Difference, *87*, 261-266. http://doi.org/10.1016/j.paid.2015.08.023

Levenson, M., Kiehl, K., & Fitzpatrick, C. (1995).Assessing psychopathic attributes in a non-institutionalized population. Journal of Personality and Social Psychology, 68, 151–158. http://dx.doi.org/10.1037/0022-3514.68.1.151.

Lilienfeld, S. O., Patrick, C. J., Benning, S. D., Berg, J., Sellbom, M., &Edens, J. F. (2012). The role of fearless dominance in psychopathy: Confusions, controversies, and clarifications. *Personality Disorders: Theory, Research, and Treatment*, *3*, 327–340. doi:10.1037/a0026987

Liu, J. (n.d.). Childhood Externalizing Behavior: Theory and Implications. Retrieved November 5, 2015

Lykken, D. T. (1957).A study of anxiety in the sociopathic personality.*Journal of Abnormal and Social Psychology*, *55*, 6-10. doi:10.1037/H0047232

Lykken, D. T. (1995).The antisocial personalities. Mahwah, NJ: Erlbaum

McCord, W., & McCord, J. (1964).*The psychopath: An essay on the criminal mind.* Princeton, NJ: Van Nostrand.

Meloy.J. R. (1988). *The psychopathic mind:* Origins, *dynamics. and treatment.* Northvale: Aronson.

Meloy, J. R, (1995). Antisocial personality disorder.In G. Gabbard (Ed.).*Treatments of psychiatric disorders* (pp. 2273-2290). (2nd ed.). Washington. DC: American Psychiatric.

Meloy, J. R., & Shiva, A. A. (2012).A Psychoanalytical View of the Psychopath.In *International Handbook of Psychopathic Disorders and the Law* (pp. 1–28).

McCord, W., & McCord, J. (1964).*The psychopath: An essay on the criminal mind.* Princeton, NJ: Van Nostrand.

Newman, J. P., MacCoon, D. G., Vaughn, L. J., &Sadeh, N. (2005). Validating a distinction between primary and secondary psychopathy with measures of Gray's BIS and BAS constructs. Journal of Abnormal Behavior, 114, 319–323.

Patrick, J. (2005). Handbook of Psychopathy. Retrieved from https://books.google.com.ph/books?id=OuNdrmHcJlgC&printsec=frontcover#v=onepage&q&f=false

Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology, 21*, 913–938. doi:10.1017/ S0954579409000492

Patrick, C. (2015). *Psychopathy*. Retrieved on November 6, 2015 from http://nobaproject.com/modules/psychopathy

Pechorro, P. S., Vieira, D. N., Poiares, C. A., Vieira, R. X., Marôco, J., Neves, S., &Nunes, C. (2013). Psychopathy and behavior problems: a comparison of incarcerated male and female juvenile delinquents. International Journal of Law and Psychiatry, 36(1), 18–22. http://doi.org/10.1016/j.ijlp.2012.11.003

Prado, C. E., Treeby, M. S., & Crowe, S. F. (2015).Examining relationships between facial emotion recognition, self-control, and psychopathic traits in a non-clinical sample. Personality and Individual Differences, 80, 22–27. http://doi.org/10.1016/j.paid.2015.02.013

Reidy, D.E., Zeichner, A. & Martinez, M.A. (2008).Effects of psychopathy traits on unprovoked aggression. Aggressive Behavior, 34, 319-328

Reidy, D. E., Shelley-Tremblay, J. F., &Lilienfeld, S. O. (2011). Psychopathy, reactive aggression, and precarious proclamations: A review of behavioral, cognitive, and biological research. Aggression and Violent Behavior, 16(6), 512–524. http://doi.org/10.1016/j.avb.2011.06.002

Riskind, J. H., Tzur, D., Williams, N. L, Mann, B., &Shahar, G. (2007). Short-term predictive effects of the looming cognitive style on anxiety disorder symptoms under restrictive methodological conditions. *Behaviour Research and Therapy, 45*, 1765–1777.

Riskind, J. H., Williams, N. L., Gessner, T., Chrosniak, L., & Cortina, J. (2000). A pattern of mental organization and danger schema related to anxiety: The Looming maladaptive style. Journal of Personality and Social Psychology, 79, 837-852. 1251. http://doi.org/10.1016/j.jrp.2007.03.001

Reidy, D. E., Zeichner, A., Miller, J. D., & Martinez, M. a. (2007). Psychopathy and aggression: Examining the role of psychopathy factors in predicting laboratory aggression under hostile and instrumental conditions. Journal of Research in Personality, 41(6)

Riskind, J. H., Rector, N. A., & Cassin, S. E. (2011).Examination of the convergent validity of looming vulnerability in the anxiety disorders. Journal of Anxiety Disorders, 25, 989–993.

Riskind, J. H., &Kleiman, E. M. (2012). Looming Cognitive Style, Emotion Schemas, and Fears of Loss of Emotional Control: Two Studies. International Journal of Cognitive Therapy, 5(4), 392–405. http://doi.org/10.1521/ijct.2012.5.4.392

Rogstad, J. E., & Rogers, R. (2008).Gender differences in contributions of emotion to psychopathy and antisocial personality disorder. Clinical Psychology Review, 28(8), 1472–1484. http://doi.org/10.1016/j.cpr.2008.09.004

Rosan, A., Frick, P., Gottlieb, K.,Faşicaru, L.(2015). CALLOUS-UNEMOTIONAL TRAITS AND ANXIETY IN A SAMPLE OF DETAINED ADOLESCENTS IN ROMANIA. Journal of Evidence-Based Psychotherapies, Vol. 15, No. 1, March 2015, 79-95.

Ross, S., Moltó, J., Poy, R ,.Segarra, P., Pastor, M., & Montañés, S. (2007). Gray's model and psychopathy: BIS but not BAS differentiates primary from secondary psychopathy in noninstitutionalized young adults. Personality and Individual Differences 43 (2007) 1644–1655. DOI: 10.1016/j.paid.2007.04.020

Salekin, R. T., Chen, D. R., Sellbom, M., Lester, W. S., & MacDougall, E. (2014). Examining the factor structure and convergent and discriminant validity of the Levenson Self-Report

Psychopathy Scale: Is the two-factor model the best fitting model? Personality Disorders: Theory, Research, and Treatment, 5(3), 289–304. http://doi.org/10.1037/per0000073
Sandvik, A. M., Hansen, A. L., Hystad, S. W., Johnsen, B. H., &Bartone, P. T. (2015). Psychopathy, anxiety, and resiliency – Psychological hardiness as a mediator of the psychopathy–anxiety relationship in a prison setting. Personality and Individual Differences, 72, 30–34. http://doi.org/10.1016/j.paid.2014.08.009
Santrock, J. W. (2007). *A Topical Approach to Human Life-span Development*, 3rd edn. St. Louis, MO: McGraw-Hill.
Schmitt, W. A., & Newman, J. P. (1999).Are all psychopathic individuals low anxious? Journal of Abnormal Psychology, 108, 353–358. http://dx.doi.org/ 10.1037/0021-843X.108.2.353.
Seah, S. L., &Ang, R. P. (2008). Differential correlates of reactive and proactive aggression in asian adolescents: Relations to narcissism, anxiety, schizotypal traits, and peer relations. Aggressive Behavior, 34(5), 553–562
Seifert, C. (2012). *Causes Of Aggression And Instinct Theory*. Retrieved on November 6, 2015 from https://prezi.com/mabkeuaskh63/causes-of-aggression-and-instinct-theory/
Serino R. C (1991). Psychopathy and violence in criminals.*journal of Interpersonal Violence,* 6. 423-431.
Setorg, S. (2015).Aggressive behavior among incarcerated Psychopaths in a Dutch Sample.School of Psychology. Master in Psychology and Mental Health, track Forensic Psychology
Skeem, J. L., Polaschek, D. L. L., Patrick, C. J., &Lilienfeld, S. O. (2011). Psychopathic personality: Bridging the gap between scientific evidence and public policy. *Psychological Science in the Public Interest, 12*, 95-162. doi:10.1177/1529100611426706
Smits, D., &Kuppens, P. (2005).The relations between anger, coping with anger, and aggression, and the BIS/BAS system.Personality and Individual Differences 39(4):783-793. DOI: 10.1016/j.paid.2005.02.023
Strickland, C., Drislane, L., Lucy1, M., Krueger, R., & Patrick, C. (2013). Characterizing Psychopathy Using DSM-5 Personality Traits. Assessment, 20(3) 327–338. DOI: 10.1177/1073191113486691 asm.sagepub.com
Sugiura, Y., &Sugiura, T. (2012). Psychopathy and looming cognitive style: Moderation by attentional control. Personality and Individual Differences, 52(3), 317–322. http://doi.org/10.1016/j.paid.2011.10.026
Swogger, M. T., Walsh, Z., Houston, R. J., Cashman-Brown, S., & Conner, K. R. (2010). Psychopathy and Axis I psychiatric disorders among criminal offenders: relationships to impulsive and proactive aggression. *Aggressive Behavior, 36*(1), 45-53. doi: 10.1002/ab.20330
Taylor, J., & Lang, A. R. (2006). Psychopathy and substance use disorders. In C. J. Patrick (Ed.), Handbook of psychopathy (pp. 495–511). New York: Guilford Press.
Teece, M. (2014).Juvenile Psychopathy: Instrumental versus Reactive Aggression in Male and Female Juvenile Offenders" (2014).*Dissertations & Theses.*Paper 92. http://aura.antioch.edu/etds/92
Verona, E., Patrick, C. J., & Joiner, T. E. (2001). Psychopathy, antisocial personality, and suicide risk. *Journal of Abnormal Psychology, 110*, 462-470. doi:10.1037//0021-843x.110.3.462
Visser, B., Ashton, M., &Pozzebon, J. (2012). Is Low Anxiety Part of the Psychopathy Construct? Journal of Personality, 80(3), 725–747. http://doi.org/10.1111/j.1467-6494.2011.00745.x

Wallace, J., Malterer, M., & Newman, J. (2009). Mapping Gray's BIS and BAS constructs onto Factor 1 and Factor 2 of Hare's Psychopathy Checklist-Revised. Personality and Individual Differences, 47, 812-816. DOI: 10.1016/j.paid.2009.06.019

Walsh, Z., Allen, L., &Kosson, D. S. (2007). Beyond social deviance: substance-specific relationships with PCL-R facets. Journal of Personality Disorders, 21, 273–289.

Widom, C. S. (1976). Interpersonal conflict and cooperation in psychopaths. Journal of Abnormal Psychology, 85, 330–334.

Williamson, S., Hare. R. D.,& Wong, S. (1987). Violence: Criminal psychopaths and their victims. *Canadian journal of Behavioral Science,* 19,454-462.

Woodworth, M., & Porter, S. (2002). In cold blood: Characteristics of criminal homicides as a function of psychopathy. *Journal of Abnormal Psychology, 111*(3), 436-445. doi: 10.1037/0021-843x.111.3.436

World Health Organization. (1992). *ICD-10: International statistical classification of diseases and related health problems (10th rev.)*. Geneva, Switzerland: World Health Organization.

Parent-Child Relationship on Internet Gaming Addiction: The Mediating Role of Mental Health

Guadel Mae J. Eder[1], Geraldine G. Moquiala[2],Aprelle Lyn G. Pagal[3], Imelu G. Mordeno[4], Erik C. de la Seña[5]

[1,2,3,4,5] Department of Psychology, Mindanao State University – Iligan Institute of Technology, Philippines
[1]E-mail: guadel.eder@gmail.com, [2]E-mail: geemoquiala7@gmail.com, [3]E-mail: prelgerona@gmail.com, [4]E-mail: imelumordeno@gmail.com, [5]E-mail: erikdelasena@gmail.com

Abstract

Internet addiction, as an increasingly recognized disorder (Laconi et al., 2014), has been known to be significantly associated with poor family situations at home, particularly in the relationship between parents and children (Zarnaghash et al., 2013; Ge et al., 2015; Xiuqin et al., 2010). Despite the studies indicating the influence of family in the development of internet gaming addiction, the mechanisms accounting for this relationship has yet to be investigated. This study asserts that mental health mediates the effect of parent-child relationship to internet gaming addiction. The findings from a sample of 412 college internet gamer students confirmed that the quality of parent-child relationship influences the intensity of the internet gaming addiction through affecting the mental health of the individuals specifically in the domains of sleep problems, repetitive thoughts and behaviors and substance use. These results are relevant in the awareness of the parents to the importance of their roles in contributing to the evolution and maintenance of the internet gaming addiction of their children and also significant to the mental health practitioners in developing specific methodologies targeting the family and mental health of the affected individuals to create an effective alleviation of the maladaptive behavior.

Keywords: internet gaming addiction, parent-child relationship, mental health, mediation

Monograph in Enhancing Render Image using Photoshop

Edmilao, Beverly Dawn Alexis[1], Pabelonio V, Lorimer M.[2], Pantoja, Jhonavelle L.[3]
Michael Art R. Napoles[4]

[1,2,3,4] Department of Technology Teacher Education, College of Education,
MSU-Iligan Institute of Technology, Philippines
[4]E-mail: mikeart_rage@yahoo.com

Abstract

This study aimed to establish students' experience, competence, creating and knowledgeable in monograph in enhancing render image using Photoshop. This study was conducted at MSU- Iligan Institute of Technology, College of Education utilizing descriptive research.

The respondents agreed that the monograph can really be an aid for enhancing render image, it implies that the students gained ideas and knowledge and learning by reading the toolkit and performing it. The monograph can catch the attention of the students because of its graphics, clear and simplified instructions. The monograph helps the students to put in their minds that Photoshop is interesting. The monograph helps the students gain their basic learning in Photoshop in easiest way.

The correlation shows that gender is not significant on their level of concern on the monograph in enhance render image in Photoshop. The correlation shows that age and background in Photoshop is significant on their level of concern on the toolkit in enhance render image in Photoshop.

Based on the conclusions gathered, the following are recommended: (1) the developed monograph should be utilized as main tool or instructional material in Teaching and Learning in the course of DT 221 especially to all Drafting technology students. (2) The monograph could be validated further, by researchers, to improve the worth of the material. Constant revision could be done to keep the monograph updated. (3) The researchers would like to recommend the students who are enrolled in the course DT 221 to use the monograph in enhancing render image in Photoshop on their future subjects, the instructional developer to use the monograph as the basis in developing their instructional materials, the College Book Committee to include this toolkit as an additional resource material of the college, the administrator curriculum planner of DTTE to introduce the monograph in the curriculum. (4) The future researchers may refer to this study towards developing a learning material on a higher level of Photoshop.

Keywords: Monograph enhancing, render image, enhancing learning

Introduction

Nowadays, we've all said that "Technology is the wave of the future." There's no denying that. It's actually the wave of the present. Every teacher today has heard that the need to use technology in the classroom is imperative now. Engaging students in the class discussions and the lectures should be needed to be doing this engagement with the technologies they are familiar with Backwell (2014). Burmark (2000) noted that this modern world is becoming increasingly more dependent upon the use of visual images to communicate, so helping students become visually literate must be a priority. "It's no longer enough to read and write," she noted."

Moreover, when technology is used as a tool to support students in performing authentic tasks, the students are in the position of defining their goals, making design decisions, and evaluating progress Degaldo (2012). Teachers and students are sometimes surprised at the level of technology-based accomplishment displayed by students who have shown much less initiative or facility with more conventional academic tasks (Gonzales 2002).

Enhancing render image is one of the most important and difficult techniques in image research. Improving the visual appearance of an image, or to provide a "better transform representation for future automated image processing which is the aim of image enhancement. (Seymour 2012). Some techniques which improve the quality (clarity) of images for human viewing, removing blurring and noise, increasing contrast, and revealing details are examples of enhancement operations.

Gumhold (2002) found that enhancement technique differs from one field to another according to its objective. In computer graphics, the process of improving the quality of a digitally stored image by manipulating the image with software. It is quite easy, for example, to make an image lighter or darker, or to increase or decrease contrast (Murthy 2003). Advanced image enhancement software also supports many filters for altering images in various ways. Programs specialized for image enhancements are sometimes called image editors (Bedi 2014).

The importance of enhancing image are specifically altered for the purpose of making the subject of the photo and the photo itself look better than the camera and lighting by itself was able to capture (Caselles 2002). The main purpose of image enhancement is to bring out detail that is hidden in an image or to increase contrast in a low contrast image (Dhaliwal 2011). Enhancing image process image to bring out specific of an image and highlights certain characters of an image.

Generally, image enhancement enlarges the intensity differences among objects and background. There are many image enhancement techniques have been proposed and developed. One of the most popular image enhancement software which is the Photoshop (Moughamian 2013). The aim of image enhancement is to improve the interpretability or perception of information in images for human viewers, or to provide 'better' input for other automated image processing techniques (Owens 2000).

In this relation, the researchers are determined and interested to research about enhancing render image which is one of the useful things for students. It can make use of these programs to have a better practical insight of some techniques. Learners may also create and enhance their own rendered image easily and for them to be knowledgeable with their creativeness.

Conceptual framework

Figure 1 show the second schematic diagram of the study. This study aimed to determine if there is a significance between the level of concern in the monograph in enhancing render image using Photoshop and the respondents age, gender, and background. Two variables has been assess and evaluated in these study the dependent variable which refer to the level of concern in the monograph in enhancing render image using Photoshop and the independent variable which refer to the age, gender, and background of the respondents.

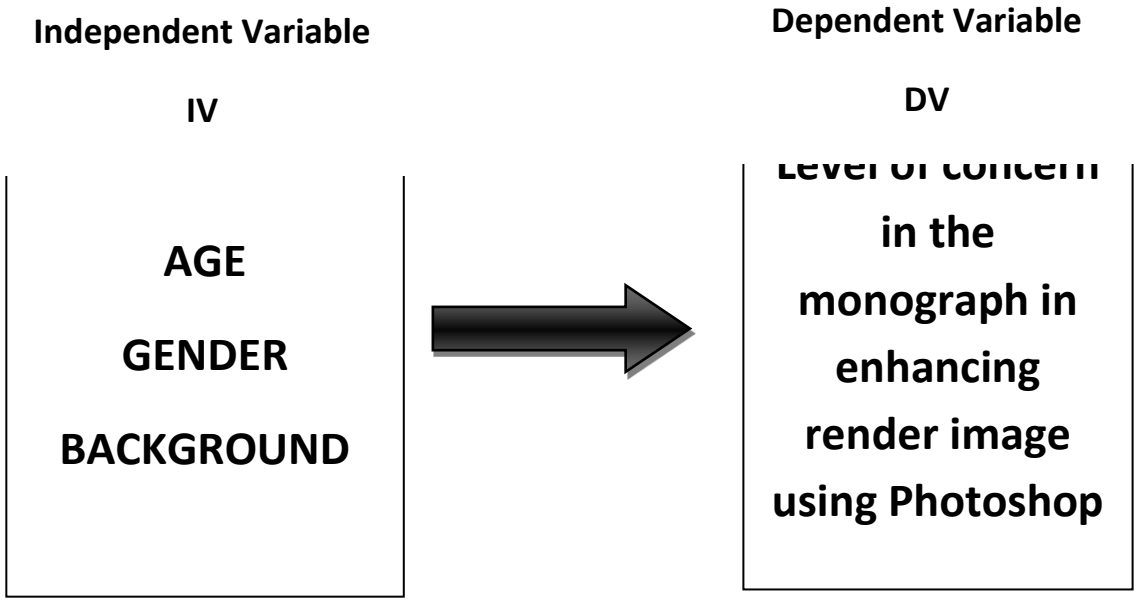


Figure 1 Schematic Diagram

Statement of the Problem

This study aimed to determine if the monograph in enhancing render image in Photoshop improves the quality of an image. Specifically, it sought to answer the following questions:

1. What is the profile of the second year college students in terms of:
    1.1 Age
    1.2 Gender
    1.3 Background
2. Does the monograph be an aid for enhancing render image?
3. What is the level of concern on the monograph in enhancing render image in Photoshop in terms of:
    3.1. Self-Expression
    3.2. Technical Skills
    3.3. Presentation Skills
    3.4. Communication skills
4. What are the common benefits and advantages of the monograph in enhancing render image in education and training?
    4.1. Skill and ability Improvement
    4.2. Engagement

4.3. Motivation
4.4. Eliminates Frustration
4.5. Attracting and holding attention

5. Is there significant relationship between the profile of the respondents and their level of concern on the monograph in enhancing render image in Photoshop?

Null Hypothesis

Ho: There is no significant relationship between the profile of the respondents and their level of concern on the monograph in enhancing render image in Photoshop.

Scope and Limitation of the Study

The main objective of this study is to determine if the monograph in enhancing render image in Photoshop improves the quality of an image. The study limits only the evaluation of the skill and ability improvement, engagement, flexibility, motivation, eliminates frustration, attracting and holding attention of the respondents. The respondents are the students who were enrolled in the subject DT 211 - AutoCAD 3d Application of Drafting Technology of the Mindanao State University – Iligan Institute of Technology, College of Education, Department of Technology Teacher Education.

Method

This chapter presents the procedures and methods used in the study. It includes the research method, respondents of the study, location of the study, sampling design; instruments used data gathering procedures and statistical tool and treatment.

Research Design

This study utilized the descriptive method of research. As widely accepted, the descriptive method of research is a fact-finding study that involves adequate and accurate interpretation of findings. Descriptive research describes a certain present condition. Relatively, the method is appropriate to this study since it aims to describe the present condition of technical analysis as it is used in the stock market. The technique that was used under descriptive method is the normative survey approach and evaluation, which is commonly used to explore opinions according to respondents that can represent a whole population. The survey is appropriate in this study because it enables the researcher in formulation of generalizations. Specifically, two types of direct-data survey are included in this study. These are questionnaire survey and interviews.

Respondents of the Study

The respondents of the studies were enrolled in the subject DT 211 – AutoCAD 3d Application which consists of 35 students from College of Education (CED), taking up the course of Drafting Technology in second semester A.Y.2015-2016. A total of thirty-five (35) respondents were used in this study. This year level was selected to be applied by a quota sampling in this course.

Study Locale

This study is conducted at MSU – Iligan Institute of Technology, College of Education. This is located at Andres Bonifacio Avenue, Tibanga, Iligan City. MSU-Iligan Institute of Technology, College of Education is founded in 1968 under the provision of Republic Act (RA) 5363, MSU-IIT is known for its excellence in science and technology and its passion for extensive research and community involvement.

Results and Discussion

This chapter presents the analysis and interpretation of the results from the gathered data. Data were tabulated, computed, and analyzed. The focus of this interpretation is to determine if the toolkit aids in enhancing render image in Adobe Photoshop and also makes the quality of an image look beautifully and nicely.

1. Do toolkit can really be an aid for enhancing render image?

Figure 2. Profile of the respondents in terms of their agreement if do Monograph can really be an aid for enhancing render image.

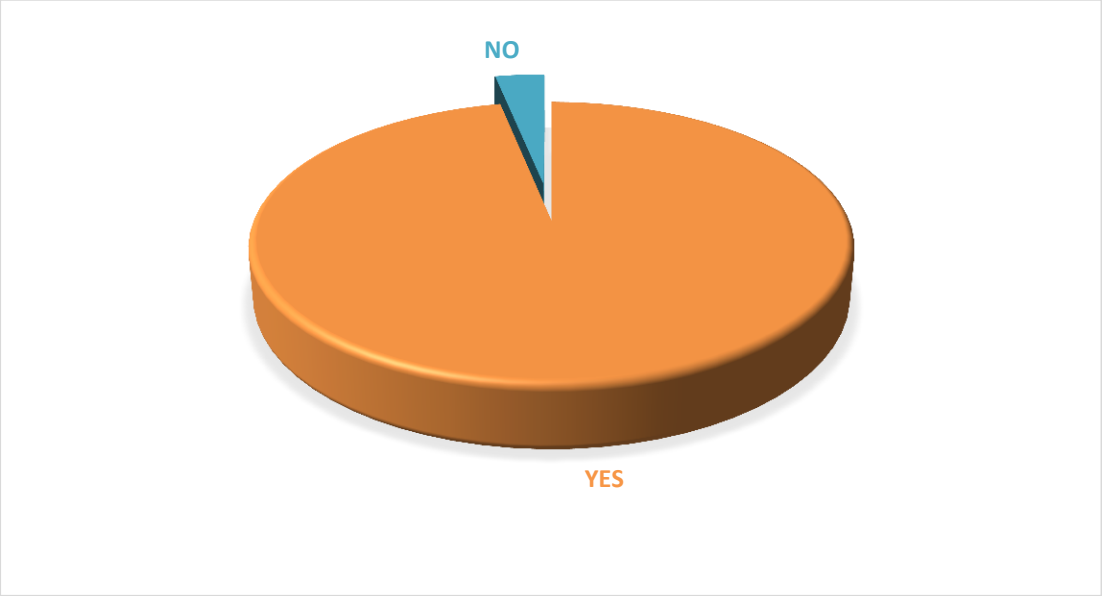


Figure 2 above presents the profile of the respondents in terms of their agreement if do monogram can really be an aid for enhancing render image. There were thirty-three (33) or 97.1% respondents who said yes and one (1) or 2.9% respondents who said no.

According to the responds of the respondents there are a mean of 3.1544 which is majority of the respondents shows that it is effective for the monograph in enhancing render image using Photoshop. It implies that the toolkit is aid of learning and it supports easily for designing, planning to sustain creativity also it enhances images.

According to Aliaga & Carlbom (2001) rendering can generate photo-realistic novel views from reference images; it has received much attention in recent years. It is generally regarded as a powerful alternative to traditional geometry-based rendering in computer graphics. The focus of rendering has been extended from the earlier restricted view synthesis, to the recent scalable walkthrough environments. However based on Moeller &Reitzes (2011) effective ways

that technology may be used to students is that it can personalize their learning experience and it also examines their integration of computer- and Web-based tools, applications, and games.

Furthermore Rendle (2015) said that the image-rendering property defines how the browser should render an image if it is scaled up or down from its original dimensions. By default each browser will attempt to apply aliasing to this scaled image in order to prevent distortion, but this can sometimes be a problem if we want the image to preserve its original pixelated form.

1. In learning the toolkit for enhancing render image is there a possibility to develop:
   3.1 Self Expression
   3.2 Technical Skills
   3.3 Presentation Skills
   3.4 Communication skills

Table 1. Profile of the respondents in terms on the rate on their level of concern if there's a possibility to develop in learning the monograph in enhancing render image.

	NC		**SU**		**SC**		**TC**		**Mean**	**SD**	**Degree of Response**
	f	%	*f*	%	*f*	%	*f*	%			
Self-expression	1	2.9%	8	23.5 %	21	61.8%	4	11.8%	2.8235	.67288	Somewhat Concerned
Technical Skills	1	2.9%	2	5.9%	19	55.9%	12	35.3%	3.2353	.69887	Somewhat Concerned
Presentation Skills	1	2.9%	2	5.9%	14	41.2%	17	50%	3.3824	.73915	Totally Concerned
Communication Skills	1	2.9%	2	5.9%	21	61.8%	10	29.4%	3.1765	.67288	Somewhat Concerned
					Mean Average				**3.15**		**Somewhat Concerned**

Legend: **NC** – Not Concerned
SU – Somewhat Unconcerned
SC – Somewhat Concerned
TC – Totally Concerned
SD – Standard Deviation

Table 1 above presents the profile of the respondents in terms on the rate on their level of concern if there's a possibility to develop in learning the monograph for enhancing render image.

As shown in the table, the highest rate in terms on their level of concern if there's a possibility to develop in learning the monograph in enhancing render image, the self-expression has twenty-one (21) or 61.8% respondents were somewhat concerned with the mean of 2.8265; for the technical skills has nineteen (19) or 55.9% respondents were somewhat concerned with the mean of 3.2353; the presentation skills has seventeen (17) or 50% respondents were totally concerned with the mean of 3.3824; and for the communication skills, the highest rate has twenty-one (21) or 61.8% respondents were somewhat concerned with the mean score of 3.1765. For the lowest rate in terms on their level of concern if there's a possibility to develop in learning the monograph in enhancing render image, the self-expression, technical skills, presentation skills and communication skills has one (1) or 2.9% respondents who were not concerned and the mean average is 3.15 with the degree of response were somewhat concerned.

According to the responds of the respondents, most of them has concerned by their rate of skills like self-expression, technical skills, presentation skills and communication skills. It implies that most of them are not so confident by their different skills especially in planning and designing. Monograph could help them to improvise the confident and practice their creativity for enhancing image especially to Drafting Technology students.

According to Williams (2011) 81 students of the Information Technology Management for Business (ITMB) who is taking up the degrees of CA Technologies shows 51% believe IT technical skills to be the least important for a careerinIT compared to 45% who think communication and team skills were the most helpful. The said survey shows that 85% of students feel prepared for a job in IT but only 50% of employers believe IT graduates have the right skills for its job vacancies. As Colin Bannister (CTO of CA Technologies) said, "Now more than ever, both universities and employees should be doing more to ensure that young talent has both the technical and business skills necessary to secure and forge a successful job in IT."

According to the article of Skills (2011) you need presenting information clearly and effectively are a key skill to get your message or opinion across and, today, presentation skills are required in almost every field. Whether you are a student, administrator or executive, if you wish to start up your own business, apply for a grant or stand for an elected position, you may very well be asked to make a presentation.

Pearson-Moment Correlation of the Significant Relationship between the profile of the respondents and their level of concern on the toolkit in enhancing render image in Adobe Photoshop.

Variables	N	Correlation	Sig.	Decision		Interpretation
Age	34	-.049	.784	Not Significant	Accepted	Weak relationship
Gender	34	.473(**)	.005	Significant	Rejected	Good relationship
Background	34	.116	.515	Not Significant	Accepted	Weak relationship

Table 4 above presents the Pearson-Moment Correlation of the Significant Relationship between the profile of the respondents and their level of concern on the toolkit in enhancing render image in Adobe Photoshop.

As shown in the table, variable "age (p-.784)" and background (p-.116)" which are not significant on their level of concern on the monograph in enhancing render image in Photoshop and the hypothesis was accepted, gender (p-.005) which is significant on their level of concern on the toolkit in enhancing render image in Adobe Photoshop and the hypothesis was .

It shows that age has weak relationship in regards to level of concern on the monograph in enhancing render image in Photoshop. This implies that age matter less on the level of the respondent's concern in the monograph. The monograph in this study aims to aid assistance in faster and effective learning of Photoshop. Photoshop were used in various products, such as image rendering, editing pictures for stop motion and designing web pages. According to an online article of Webdesigners (2015), designers of young ages tend to perceive that older people were already out of place in the field of web design, believing that the field of technology is mostly inclined in the scope of younger generation moreover younger generations were born on the digital age in in which at early age they were already exposed on technology, such as digital phones, tablets and even complex computer skills (Zickuhr, 2011). However base on the data of this study there is a weak relationship of the respondent's age and their level of concern on the toolkit in enhancing render image in Photoshop this could be associated with the fact the there is no significant variations of respondent's ages due to the fact that the respondents who participated in this study were solely 2nd year students wherein base on the Philippine Educational System belong to the age of 18. Moreover 2nd year students aging 17, suggest that the students entered formal education a year early.

Base on the table, background has weak relationship in regards to level of concern on the monograph in enhancing render image in Photoshop. This could be inclined to the result of this study's survey in terms of the respondent's background wherein base on the result majority of the respondents has no prior knowledge or background on Photoshop. No prior knowledge or background information is the best condition for the researcher, due to the fact that majority of the respondents have no background experience on the subject the researchers were able to properly assesses the effectiveness of the toolkit, manipulation of the learners ability during the hands on is limited due to the condition. Moreover technology allows for changes in curriculum to ensure that learners are taught skills that remain valuable for life. Photoshop skills have become an acknowledged educational program in itself since graphics designers, illustrators and artist's alike use the program to inform their own unique studio practices. This information is often shared with learners to create an engaging learning environment where aspiration becomes the driving point for constructivist learning (Lave, 2012). However the main issues surround the use of Photoshop is its availability out of the education system; learners who wish to use the program at home for example are subject to costs of around two hundred pounds for the most basic version of the software.

Base on the table gender has good relationship in regards to level of concern on the monograph in enhancing render image in Photoshop. This implies that gender doesn't matter on the level of the respondent's concern in the toolkit. Both female and male could have the capability in media arts or in using Photoshop. According to findings from a List Apart Survey 2009, a poll created by and for Web designers, 82.6% of Web designers are male. Ironically, 66.5% of the same respondents stated there is "definitely not" a gender bias in the design field. Web design is just one segment of the design world, but the statistic is nonetheless chilling.

According to an article of International Labor Organization (November, 2008), another element to look at is the degree of access women and men around the world have to information and communication technologies. Even though women hold more than 60 per cent of Information and Communication Technology (ICT)-related jobs in OECD countries, only 10 to 20 per cent

are computer programmers, engineers, systems analysts or designers. The large majority of women are in secretarial, word processing or data-entry positions, requiring rather routine, low-level skills or limited technical training. Moreover education and skills training increase the ability of women and men to apply new techniques, thus enhancing their employability as well as the productivity and competitiveness of enterprises. Effective skills development systems – connecting education to technical training, technical training to labor market entry and labor market entry to workplace and lifelong learning - can help women and men benefit from existing and emerging opportunities.

Conclusion and Recommendations

The developed Monograph in Enhancing Render Image in Photoshop is a very effective tool as supplementary materials for students who were enrolled in the course of DT 211- AutoCAD 3d Application especially to all Drafting Technology students.

There is no significant relationship between the profile of the respondents and their level of concern on the monograph in enhancing render image in Photoshop.

Recommendations

1. The monograph in enhancing render image in Photoshop should be utilized as main tool or instructional material in Teaching and Learning in the course of DT 211 – AutoCAD 3d Application especially to all Drafting Technology students.
2. The monograph in enhancing render image in Photoshop could be validated further, by researchers, to improve the worth of the material. Constant revision could be done to keep the toolkit updated.
3. The researchers would like to recommend the student who are enrolled in the course DT 211 – AutoCAD 3d Application to use the monograph in enhancing render image in Photoshop on their future subjects, the instructional developer to use the toolkit as the basis in developing their instructional materials, the College Book Committee to include this toolkit as an additional resource material of the college, the administrator curriculum planner of DTTE to introduce the toolkit in the curriculum, and lastly, the future researchers may refer to this study towards developing a learning material on a higher level of Photoshop.
4. The future researchers will serve this as a manual for their class discussions about enhancing render image in Photoshop. Future researches must add more features and example in terms of enhancing render image that can help the learners to have more knowledge about Photoshop.

References

Backwell, John L. and Clare, D... (2006). 'ICTs: Teachers' and students' preconceptions and the implications for present and future teacher education'. In: *International Conference on Multimedia & Communication Technologies in Education (m- ICTE).* Seville, Spain 2006. [Conference or Workshop Item]

Caselles, V., B. Coll, and J. Morel: **(**2002**)**, 'Geometry and Color in Natural Images'. Journal of Mathematical Imaging and Vision 16(2), 89–105.

Gonzalez, R. C., Woods, R. E., & Eddins, S. L. (2012). Image processing place. Retrieved from http://www.imageprocessingplace.com/index.htm

B. Owens and F. Makedon. High Quality Alias Free Image Rotation. Technical Report PCS-TR96-301, Dartmouth College, Computer Science, Hanover, NH, November, (2000). URL ftp://ftp.cs.dartmouth.edu/TR/TR96-301.ps.Z

Smith (2008). Howard Gardner, multiple intelligences and education. URL http://infed.org/mobi/howard-gardner-multiple-intelligences-and-education/

Victoria Williams. (2011). Encyclopaedia Britannica. Retrieved April 20, 2011, from www.britanica.com: http://www.britannica.com/EBchecked/topic/213344/foreign-aid

Zickuhr, (2011). Generations and their gadgets. URL https://sites.google.com/a/my.shu.ac.uk/mikemitchellltt/home/adobe-photoshop-in-education