

**EXPOSURE TO DIGITAL PAINTINGS ON MALE SEX
OFFENDERS' ATTITUDES TOWARDS SEXUAL
CRIMES: CASE OF NAIROBI WEST PRISON,
NAIROBI CITY COUNTY, KENYA**

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University or for any other award.

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DEDICATION

To
My Family

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ABBREVIATIONS AND ACRONYMS

ABS	Australian Bureau of Statistics
AIDS	Acquired Immune Deficiency Syndrome
ATOB	Attitudes to Offending Behaviour
AVE	Analysis of Variance Extracted
BP-LM	Breusch–Pagan Lagrange Multiplier
CFA	Confirmatory Factor Analysis
CVI	Content Validity Index
GBRVC	Gender Based Violence Recovery Centres
GI-TOC	Global Initiative Against Transnational Organized Crime
HIV	Human Immunodeficiency Virus
ICCS	International Classification of Crime for Statistical Purposes
ICPD	International Conference on Population and Development
IPAL	Institute of Performing Artists Limited
KMO	Kaiser-Meyer-Olkin
KNH	Kenyatta National Hospital
LVCT	Liverpool Voluntary Counseling and Testing
MAR	Missing at random
MDG	Millennium Development Goals
NACOSTI	National Commission of Science, Technology and Innovation
NCA	National Crime Agency
NCAJ	National Council on Administration of Justice
NCRS	National Crime Recording Standard

NCVS	National Crime Victimization Survey
NWH	Nairobi Women’s Hospital
NPGD	National Policy on Gender and Development
NRHS	National Reproductive Health Strategy
NWP	Nairobi West Prison
OLS	Ordinary Least Squares
RSVP	Rapid Serial Visual Presentation
SPSS	Statistical Package for Social Sciences
TSC	Teachers Service Commission
UN	United Nations
UNODC	United Nations Office of Drugs and Crime
UNSMR	United Nation Standard Minimum Rules
USA	United States of America
YTC	Youth Corrective Training Centre

OPERATIONAL DEFINITION OF TERMS

Attitude:	Positive or negative reactions towards objects or an idea.
Defilement:	Sexual knowledge of a minor aged below 18 years
Digital Paintings:	Paintings produced by use of computer software.
Mere Exposure:	Repeated exposure to stimuli such as Digital paintings
Mere Exposure Effect:	Familiarity effect that arises from repeated exposure to stimuli
Monochrome:	An art work done in shades and tints of one colour
Polychrome:	A multi coloured artwork
Rape:	Unlawful sexual act involving forced genital penetration
Realism:	Painting style where image painted resembles the real thing
Re-offending:	To commit crime again after receiving punishment or treatment for a previous crime
Sexual Offence:	A statutory offence that occurs when someone does not consent to a sexual act
Sex Offender:	An adult male convicted of unconsented sexual knowledge of another person through genital penetration
Surrealism:	Painting style that uses modified realistic images to inspire imagination, introspection and analysis by the audience.

ABSTRACT

Crime is an act in violation of the criminal law. Global statistics indicate that sexual offending is among the leading crimes in many countries, with close to one billion people falling victim. The high prevalence of sexual offending is an issue of concern considering the significant negative effects on the victims, their families and the larger society. In Kenya, the high numbers of sexual offending are attributed to re-offending, where previous convicts revert to their criminal behaviour. Whereas global studies estimate rates of sexual re-offending to be as low as 5-25% over periods of 5-10 years, in Kenya the rates are above 40% yearly, leading to overcrowding in prisons. Stiff criminal penalties prescribed against sexual offences and the existing rehabilitation programs have not deterred the perpetrators. This is despite the fact that consequences of sexual offending undermine the fulfillment of the national goals encompassed in Vision 2030, the National Health Sector Strategic Plan II and global development goals embraced in Millennium Development Goals. Arising from this data has been the need to develop offence-focused interventions intended to lower the possibility of re-offending. Unlike Kenya, Canada, Australia and the USA have successfully implemented the use of art-based programmes to minimize re-offending. Attitudinal impacts of these art-based programs among incarcerated offenders however remain largely unexplored. Studies in the cited countries have focused on active participation with minimal emphasis on passive participation, including Mere Exposure. This study therefore sought to examine the place of visual art in reducing cases of reoffending by investigating the effects of exposure to digital paintings on male sex offenders' attitudes towards sexual crimes. The study targeting incarcerated male sex offenders in Kenya was conducted in Nairobi West prison, a male offenders' facility in Nairobi City County. A mixed method research approach with a one-group pretest-posttest quasi-experimental design was employed. Sixty-one study respondents were selected by stratified random sampling from male convicts of defilement and rape, aged 18-45 years. The respondents were randomly assigned to two experimental conditions involving viewing the digital paintings in exhibition and via projection in Rapid Serial Visual presentation respectively. An attitude questionnaire was used for pretest and posttest attitude measures, while a five-point Likert scale was used to measure the responses to the digital paintings. A Paired T- Test was used to determine the differences in attitudes towards crime at pretest and posttest. Significant differences were found between posttest1 and pretest ($t=-3.117$, $p\text{-value}=0.003$) and between posttest 2 and pretest ($t=-2.161$, $p\text{-value}=0.035$). The R-squared of the regression models linked improved attitude scores to repeated exposure to digital paintings. Regression analysis based on Ordinary Least Squares (OLS) was done and the results showed that painting style ($p\text{-value} = 0.047$), colour schemes ($p\text{-value} = 0.000$) and exposure frequency ($p\text{-value} = 0.002$) significantly influenced the sex offenders' attitudes towards sexual crimes. The study findings were ultimately used to recommend a model for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders. This was envisioned to reduce cases of re-offending, decongest prisons and have a large workforce out of prison to drive the government's development agenda.

CHAPTER 1: INTRODUCTION

This chapter outlines the background of the study, objectives of the study, problem statement, rationale, scope and limitations of the study. It also provides a review of the related literature, theories, the conceptual framework, the research methodology and the pilot study findings.

1.1 The Background of the Study

Crime is an intentional act in violation of the criminal law to which legitimate punishment or sanctions are attached. Sexual offending is among the leading crimes today. The high prevalence of sexual offending is an issue of global concern considering the significant negative effect on the victims, their families and the larger society. Statistics indicate that close to one billion people fall victims of sexual offending worldwide, making it a serious problem.

In the United States, a study on adverse childhood experiences reported 16.3% of females and 6.7% of males as having experienced sexual offending before the age of 18 years (Merrick, Ford, Ports & Guinn, 2018). In England and Wales, a 2017 crime data reported a 14% increase in cases of sexual offending. In Australia, police records in 2018 showed that 19.5% of victims of sexual assault aged were 10 - 14 years and a further 25.8% aged 15 - 19 years (ABS 2019). A prevalence rate for child sexual abuse in Nordic countries was found to be between 11 - 36% for girls and 3 - 23% for boys (Kloppen et al., 2016), while studies in Japan found the rate of penetrative sexual abuse ranging from 0.5 - 1.3% for males and 1.3 - 8.3% for females (Tanaka, Suzuki, Aoyama, Takaoka, & MacMillan, 2017). India similarly reported increased cases sexual offences from 164,765 cases in 2006 to 213,585 incidents in 2010 (Chhibber, 2013).

Kenya like other countries has continued to record high cases of sexual offending. Reference is made to the Kenya Prisons Headquarters 2012 report, which showed that sexual offenders accounted for 27.2% of the 12,315 prisoners incarcerated in six main prisons (Mutsotso, 2014). Crime reports for the years 2013 to 2017 showed an increase in cases of sexual offences by 15% as compared to 9% increase in general crimes. A survey on violence against children in 2010 indicated that 12% of boys aged 13–17 and 23% of girls had been sexually offended in Kenya (Mwangi et al., 2015). The survey further found that one in five males and one in three females are sexually offended before the age of 18 years (Republic of Kenya, 2012).

While the Kenya Sexual Offences Act (2006) lists a number of sexual offences, police crime report for the years 2016 and 2017 indicate that defilement and rape were the leading sexual offences. Reports also show that in the first quarter of the year 2020, sexual offences accounted for 41% of crimes reported to the police (Ondenyoo, 2020). Rape and defilement constituted more than 35% of all cases sexual offences reported in the same period (Siele, 2020). The spike in cases of sexual offending was blamed on the closure of schools following the announcement of the first case of Covid 19 virus in Kenya.

Despite the stiff criminal penalties prescribed by the sexual Offences Act (2006) and the numerous rehabilitation programs in prisons in Kenya, former convicts have continued to re-offend. Isha and Yadav (2015) describe re-offending as the tendency of an offender to return to the previous pattern of criminal habits after conviction or punishment. Whereas sexual re-offending rates are estimated to be as low as 5- 10% after 5years and 10-25% after 10 years in a number of global studies (Scurich & John, 2019; Jennings, 2015), in Kenya sexual re-offending rates are approximated at 40% in a year (Kimiti, 2008; Musau,

Odero & Mutuku, 2014). This is despite the fact that consequences of sexual offending undermine the fulfillment of the national goals encompassed in Vision 2030, the National Health Sector Strategic Plan II and global development goals embraced in Millennium Development Goals. Nairobi County reported a higher rate of 43% yearly accounting for 19.5% of the total population of all re-offenders, which stands at 34.8% (Aluda, 2012). A more recent study seeking to establish the extent to which participatory design of correctional rehabilitation programmes had influenced sexual re-offending reported 58% increase up from 43% in 2012 (Okoth, Kyalo & Mulwa, 2016). The result has been highly overcrowded prisons and a reduced work force to drive the governments' development agenda. According to the Kenya Prisons Service (2015), the prisons operate above their current capacity of 54,000 inmates and at times even rising to over 80,000.

These patterns show that there is an urgent need for not only decongesting prisons but also controlling rates of re-offending nationally (Omboto, 2013). According to Robertson (2010), the design of sex offender rehabilitation programs needs to be re-considered in order to curb cases of re-offending. Despite research suggesting the effectiveness of offence focused interventions (Campbell Policy Brief, 2017), such interventions that are specific to sexual offenders have not been adequately explored in Kenya. While previous research appears to focus on offender compliance to the conditions of the sentence and the general rehabilitation process (Wambugu, 2014; Miriti & Kimani, 2017; Ondeng, 2018). A study by Ndombi (2014) suggested that offenders convicted of sexual crimes have different problems from other offenders and recommended sexual counseling as well as other impulse control behavior programs. Although studies touching on sex offenders (Kimiti, Kathuku & Mburu, 2008; Mutsotso, 2014; Kimiti & Thinguri, 2016) have not directly focused on rehabilitative needs of this group of offenders, their focus on the trends

and statistics of sexual offending provide useful statistics upon which rehabilitation programs may be grounded.

In the view of Sorrentino, Brown, Berard and Peretti (2017) the problem of sexual offending requires concerted multidisciplinary efforts for its prevention. The persistent rise in cases of sexual offending and re-offending point to a need for the justice and correctional mechanisms to explore additional rehabilitation strategies for sex offenders. One such strategy is the art-based interventions. The benefits of art intervention programs with regard to the prison environment in countries like Canada, Australia and the USA are cited in literature (Nugent & Loucks, 2011; Brewster, 2014; Koiv & Kaudne, 2015). Although extant literature reports positive outcomes of the art based prison programmes, there is minimal evidence on the use of visual arts for offender rehabilitation in Kenya. Art based correctional rehabilitation programmes tailor made for sex offenders are equally scarce, hence the need for the current study. Only one study (Kuria & Wainaina, 2019) reported the successful use of art therapy as treatment for depression among female offenders. This study however did not focus on a specific type of offence. Most studies using art-based interventions have focused on active forms of participation such as directed, collaborative and creative participation, with less emphasis on passive forms like nominal participation. Similarly, while empirical research and theory suggest that change in attitude subsequently leads to behavioural change (Ajzen & Fishbein, 1980; Ajzen, 1991), attitudinal impacts of the art based programs among incarcerated offenders also remains largely underexplored.

Given that the reduction of re-offending is the main purpose of offender intervention programs (Taxman & Sachwald, 2010), this study was formulated to address the gaps by examining the effects of exposure to digital paintings on male sex offenders' attitudes

towards sexual crimes. The art-based intervention utilized in this study presented an alternative method of rehabilitation for male sex offenders, focusing on the exploration of nominal participation in arts through viewing as a way of getting the participants to gain exposure. This study utilized Mere Exposure technique, which relies on the premise that repeated exposure to a stimulus object strengthens attitude towards it (Inoue, Yagi & Sato, 2018). Digital paintings were used to illustrate the consequences of sexual crimes on the victim, the offender and the offender's family. The findings of this study were used to recommend a model for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders with the aim of reducing cases of re-offending.

1.2 Statement of the Problem

Sexual offending is listed as one of the leading crimes in Kenya, with Nairobi County reporting the highest statistics (Mutisya, 2018). A national survey on violence against children showed that 12% of boys aged 13–17 and 23% of girls of the same age had been sexually offended in Kenya (Mwangi et al., 2015). Crime reports for the years 2013 to 2017 also showed an increase in cases of sexual offences by 15% as compared to 9% increase for general crimes. Despite stiff criminal penalties being prescribed by the Sexual Offences Act (2006) and the existence of various rehabilitation programs in Kenyan prisons, former offenders have continued to re-offend. This has led to overcrowding in prisons and escalation of crime rate in communities. Statistics further estimate sexual re-offending rates at 40% per year with Nairobi County reporting a higher rate of 43% yearly. This is against international sexual re-offending rates that are as low as 5- 10% after 5 years and 10-25% after 10 years (Jennings, 2015; Scurich & John, 2019).

The above statistics indicate that there is an urgent need for reducing the rates of sexual offending and re-offending in Kenya by exploring additional intervention programmes that specifically target sex offenders. The use of art-based programmes is one such method. Art based interventions have been used widely in countries like Canada, Australia and the USA but very minimally in Kenya. In addition, majority of the studies using art interventions with offenders have focused on active forms of participation as opposed to passive participation such as viewing art work. The effects of planned exposure methods like Mere Exposure have also not been investigated among the offender population despite its wide application in art viewing studies by a number of scholars (Meskin, Phelan, Moore & Kieran, 2013; Van Paasschen, Bacci & Melcher, 2015). Drawing from the stated concerns, this study therefore sought to determine the male sex offenders' attitudes towards sexual crimes after exposure to the paintings. The study also investigated the use of Mere Exposure as an example of passive participation in arts. The findings of the study were ultimately used to recommend a model for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders. It was expected that attitude changes arising from exposure to the digital paintings would result in a reduction in cases of reoffending. This could decongest the prisons and keep large work force out of prison to drive the Kenya government's Big Four Agenda and other long-term development goals including Vision 2030.

1.3 Objectives of the Study

The key objective of the study was to examine the effects of exposure to digital paintings on male sex offenders' attitudes towards sexual crimes.

The study was guided by the following specific objectives:

- i. To establish the attitudes of male sex offenders towards sexual crimes before exposure to digital paintings.
- ii. To compare the responses of male sex offenders to digital paintings based on different formats of exposure.
- iii. To determine the attitudes of male sex offenders towards sexual crimes after exposure to digital paintings
- iv. To recommend a model for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders.

1.4 Research Questions

- i. What are the attitudes of male sex offenders towards sexual crimes before exposure to digital paintings?
- ii. What are the comparisons of male sex offenders to digital paintings based on different formats of exposure?
- iii. What are the attitudes of male sex offenders towards sexual crimes after exposure to digital paintings?
- v. What model for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders can be recommended from this study?

1.5 Research Hypothesis

The study hypothesized that:

H₀₁ There is no significant effect of exposure format on responses of male sex offenders to the digital paintings

H₀₂ There is no significant change in attitudes of male sex offenders towards sexual crimes after exposure to digital paintings.

H₀₃ There is no significant difference in attitudes of male sex offenders arising from the context of exposure.

1.6 Rationale and Significance of the Study

There is minimal use of visual arts in offender rehabilitation in Kenya, hence the rationale for this study. Research on the few art-based interventions have additionally focused on active forms of participation such as directed, collaborative and creative participation, with less emphasis on passive forms like nominal participation. Further, research on attitudinal impacts of these art-based programs among incarcerated offenders also remains largely unexplored, with the exception of studies by Clawson and Coolbaugh (2001) and Brewster (2014). This study presented an opportunity to examine nominal participation in arts among male sexual offender population. This was done by having the respondents passively view the digital paintings under the mere exposure concept, where respondents were exposed to digital paintings repeatedly for brief periods. The art-based intervention utilized in this study presented an additional method of rehabilitation for offenders. By focusing on passive viewing of the digital paintings under the mere exposure concept, the participants were able to gain exposure to the content in the paintings.

The digital paintings were deemed more appropriate because the technique is interactive and enabled the artist to co-function with others and add to a versatile adaptive framework that enabled changes to be made synchronously (Agyeman, 2015). Realist paintings were preferred because they use representational forms and are preferred by novices (de Zilva, Vu, Newell & Pearson, 2013), while surrealist paintings provided a medium level complexity preferred for arousal potential resulting from visual stimulation level (Jang, Baek, Yoon & Choo, 2018).

Literature shows that much research on sexual offending have focused on public attitudes toward sexual offending (Shackley, Weiner, Day & Willis, 2014; Jahnke, Imhoff & Hoyer, 2015) and sex offender treatment and rehabilitation efforts (Rogers, Hirst & Davies, 2011). While these studies are clearly of value, attitudes of the offenders towards sexual crimes have been overlooked. Empirical research and theory suggest that change in attitude subsequently leads to behavioural change (Ajzen & Fishbein, 1980; Ajzen, 1991) lending credence to the focus of this study on offenders' attitudes towards sexual crimes. The art-based intervention utilized in this study presented an additional method of rehabilitation for offenders focusing on the exploration of nominal participation in arts through viewing as a way of getting the participants to gain exposure.

Crime reports show that Nairobi City County topped in sexual offences list in the first quarter of 2018 (Mutisya, 2018) with sexual re-offending rates of 43% per year. Nairobi West prison therefore provided a suitable location for an in-depth study on male sexual offenders. Although unrelated studies on male sexual offenders have been carried out in Kamiti prison, (Kanyanya, Othieno & Ndeti, 2007) and in Nyeri Maximum Security Prison (Kimiti et al., 2008), this study was deemed useful in providing new insights in changing of male sexual offenders' attitudes towards crime.

According to Henrichson and Delaney (2012), societies spend a lot of money on incarcerating offenders and Kenya is no exception. High rates of re-offending is very costly in terms of public safety, increased budget by government to sustain offenders in custody, the cost of re-arrest and prosecution (Mears, Cochran & Cullen, 2015). In order to reduce government expenditure in the justice sector, there is need to decongest the prisons whose official is 25,000 but currently holds 54,000 inmates and at times even rising to over 80,000

(Kenya Prisons Service, 2015). This study was in support of the government agenda to decongest prisons in Kenya.

On the significance of the study, statistics by Oduor (2018) show that 100 male teachers (61.72%) were found to be perpetrators of sexual offending against school going children as compared to 62 (38.27%) female colleagues. Based on these statistics, this study contributes to the literature by focusing on male sex offenders' attitudes towards sexual crimes, providing a basis for future rehabilitation programmes. Reports showing high statistics for defilement and rape (Annual Crime Report 2018; Crime Situation Report, 2017) support the choice of defilement and rape convicts as respondents in this study.

From the perspective of this study the data gathered could be useful in the development and the evaluation of art based interventions for the sex offenders in Kenya. Based on the anticipated link between exposure to the digital paintings and the possibility of fostering negative attitudes towards sexual crimes, the research findings could provide a framework for examining possible attitudinal influences that visual arts could have on offenders. The study findings could also help identify the social influences and the factors which have the biggest impact on the attitudes of the groups targeted for interventions, thereby allowing the effective implementation of such programs.

The findings of the current study could lend support to the possibility that art based programs can be beneficial in rehabilitating sex offenders and should be emphasized in the applied settings such as prisons in Kenya. Having set a precedence for the potential use of tailored intervention for sex offenders, the findings of this study could challenge the prison department on the need to provide specific interventions for different groups of offenders.

The findings of this study could benefit the department of correctional services by reducing cases of re-offending, hence decongesting the prisons. In seeking to explore an art based intervention tailored for sex offenders with the view of reducing cases of re-offending, the study findings could promote the realization of the Big Four Agenda and other long-term development goals for the country including Vision 2030 by keeping a large work force out of prison.

1.7 Scope of the Study

The Kenya Sexual Offences Act (2006) lists a number of offences such as rape, gang rape, defilement, incest, bestiality, indecent act and sexual harassment among others. The study targeted offenders convicted of defilement and rape. Selection of this group of convicts as subjects of interest in this study was informed by Kenya police statistics (2016; 2017) which showed defilement and rape cases as recording the highest statistics compared to other sexual offences. Support for this study also comes from an acknowledgement of defilement as a key hindrance to the health of the children and society by the United Nations General Assembly (2015). The respondents were drawn from male sex offenders aged between 18- 45 years from Nairobi West Prison located in Nairobi City County. This age group has been identified as high-risk offenders (Levenson & Shields, 2012).

According to United Nations Office on Drugs and Crime (UNODC, 2013), Kenya has 108 prison facilities, 2 borstal institutions and one Youth Corrective Training Centre (YCTC). Nairobi West Prison was purposively selected because of its uniqueness as the only male prison in Nairobi hosting long-term convicts and without a remand section. This ensured that respondents were available throughout the period of study with less likelihood of early release.

There are different types of paintings including acrylic, oil, water colour and fresco. This study utilized digital paintings. The digital paintings utilized were categorized according to style as realist and surrealist and according to colour schemes as polychrome and monochrome schemes. Painting has been used to explore a number of issues like climate change (Hollo, 2014). In this study, digital paintings were used to illustrate the consequences of sexual crimes on the victim, the offender and the offender's family. Scoping of themes for the digital paintings used in this study was based on research findings of shame, stigma, loss of income, suicide attempts (Loureiro, 2016), threats and harassment (Ballantyne, 2015) as consequences of crime on sex offenders' family; fear, anxiety, severe trauma, depression and physical injury as consequences of sexual crimes on the victim (Loureiro, 2016); discrimination and sexually transmitted diseases as consequences on the offender. These themes were a hypothesis of concerns and contained the core components of emotional meaning (Tan, 2000) and hence suited the study. Although Omondi (2015) suggested that an awareness of consequences of crime discourage likely offenders from wrongdoing, this study explored the awareness of consequences of sexual crimes with convicted offenders using digital paintings.

Surrealist paintings were scoped because they show the inner workings of the mind by the use of dream imagery. In using multiple forms designed to make the audience think through, feel and interpret the artwork, surrealism triggered a discussion on the content, emotional value and thought. This aspect made it valuable in sending messages that target the subconscious mind which influences behavior and character of a person. This quality allowed for experimentation where features were merged to express the themes comprehensively. Realist paintings were scoped to allow for a clear-cut, thorough and exact

representation of the visual appearance of objects and scenes. The style enabled the conveyance of the subject matter in a simplistic way.

Researchers enlist different methods of exposure to visual information such as selective exposure and incidental exposure. This study however focused on Mere Exposure because it encourages intentional processing of specified stimuli. Stronger Mere Exposure Effect (MEE) has been shown when the repetition scheme is heterogeneous. Respondents were therefore exposed to digital paintings in a heterogeneous presentation sequence (Young, Jones, & Claypool, 2016). Although Mere Exposure has been largely explored in art viewing studies (Cuttings, 2003; Meskin et al., 2013; Van Paasschen et al., 2015), its application with the offender population is not documented in any study.

Studies using visual arts in prisons have focused on active forms of audience participation such as directed, collaborative and creative participation. The current study however focused on nominal participation in arts through viewing as a way of getting the participants to gain exposure to the digital paintings. The study utilized temporary Exhibition Displays and projection by Rapid Serial Visual Presentation (RSVP) where the respondents were passive participants, simply viewing the artwork. The exhibition offered the advantage of digital paintings being perceived with multiple senses such as sight and touch and a direct experience unmediated by technology (Cline, 2012). Rapid Serial Visual Presentation (RSVP) on the other hand provided flexibility of control and varied image presentation modes as suggested by Witkowski and Spence (2012).

1.8 Limitations of the Study

The study sampled rape and defilement convicts in Nairobi West prison, Nairobi City

County due to the high statistics posted by these two sexual offences. Data collected therefore does not represent all types of sexual offences as listed in the 2006 sexual offences act. However, the information gathered provided insights needed in future scholarship when handling other sex offenders not covered by this study.

For an in-depth study, a limited sample of 61 respondents were selected. This enabled a more detailed experience and discussion of the digital paintings.

Due to the sensitivity of the type of offence and the gender of the respondents, male research assistants were recruited to cater for some of the sex offenders who only felt comfortable expressing their views to the male gender.

1.9 Literature Review

The literature that follows reviews information related to crime, sexual offending, attitudes towards sexual offending, utilization of arts in offender rehabilitation, exposure to visual images, formats of exposure, theories and conceptual framework related to the study.

1.9.1 Crime

Crime is a public wrong that is less approved by society (Thotakura, 2011). Morrison (2009) recognizes that in both scholarly and general opinion, crime is associated with mischief and violence; damage to people, destruction of property, and the denial of respect to people and institutions. Many argue that crime has no objective reality and that it is in actuality a social construction since what is considered crime is so alterable over time and place. This perspective emerged from the work of the sociologist Howard Becker in the 1960s, who took the view that the law often criminalized people who were seen as different or deviant by mainstream society. Despite this view, ongoing investigations have analyzed

variations in crime because of the utilization of different information sources (Mosher, Miethe & Hart 2011). There are in fact numerous conceptions of crime, each mirroring a different scientific and ideological viewpoint. To date, the most generally employed definition of crime in the criminology writing is a behavior that violates the criminal law. (Lynch, Stretesky & Long, 2015). The International Classification of Crime for Statistical Purposes (ICCS) prepared by UNDOC (2015) views crime as a violation of the rules of human behavior as prescribed by national criminal law. In Kenya, crime is first classified as wrong actions for example, burglary, rape, and murder. Secondly, crimes are acts which are wrong because they are prohibited by law and civil wrongs which are redressed by damages. Thirdly, as stipulated by ICCS, crimes are injurious acts of a sexual nature, commonly referred to as sexual offences.

1.9.2 Sexual Offending around the World

Sexual offending is an international public health issue with high rates of victimization found across different countries. Research on adult males who offended sexually determined that most offenders commit their first offence after the age of 18 years (Lussier & Blokland, 2014). World Health Organization (2014) approximates that 10% of men and 20% of women suffered from sexual abuse at childhood. World Health Organization (WHO) further approximates 73 million boys and 150 million girls as having been abused sexually before attaining 15 years of age. Prevalence of defilement and sexual offending has been estimated to be between 7–36% among females and 5–10% among males by a number of studies (Callender & Dartnall, 2010; Sumner et al., 2015). In 2013 to 2014, one to two billion children were exposed to sexual offences worldwide (Hillis, Mercy, Amobi & Kress, 2016).

In the United States, approximations from National Crime Victimization Survey (NCVS) show 431,840 cases of sexual assault/rape victimizations in 2015 (Truman &, Morgan, 2015). A study on adverse childhood experiences among 250,000 participants reported 16.3% of females and 6.7% of males as having experienced sexual assault before the age of 18 years (Merrick, Ford, Ports & Guinn, 2018). In England and Wales, a 2017 crime survey estimated that 3.1% of women (510,000) and 0.8% of men (138,000) aged 16 to 59 years had been victims of sexual offending (Office for National Statistics, 2018). According to the survey, the number of sexual offences recorded the highest level since the introduction of the National Crime Recording Standard (NCRS) in April 2002, with an increase of 14% compared with the previous year. Police records further showed that in comparison to 2016, rape cases increased by 15% (41,186 offences) with 88% female victims while the remaining 12% were male. Sexual offences against children also contributed over 41% to the total increase in cases of sexual offending. In related findings, the UK's National Crime Agency's (NCA) most recent intelligence report shows that there are at least 300,000 people in the UK who pose a sexual threat to children. (Grierson & Weale, 2020). This raised concerns of a possible rise in sexual threat to children, either through physical contact or through online abuse during the Covid-19 pandemic.

In Australia, police recorded 26,312 victims of sexual assault in 2018 with 19.5% aged 10 - 14 years and a further 25.8% aged 15 - 19 years (ABS, 2019). Data further shows that majority of all sexual assault victims were female (84%). According to the Australian Bureau of Statistics personal safety survey (ABS, 2017), 5% of men and 11% of women in Australia reported having sexually abused before the age of 15 years, translating to approximately 1,410,100 victims. A prevalence rate for child sexual abuse in Nordic

countries was found to be between 11 - 36% for girls and 3 - 23% for boys (Kloppen et al., 2016). A review of sexual abuse studies in Japan found the rate of penetrative sexual abuse ranging from 0.5 - 1.3% for males and 1.3 - 8.3% for females (Tanaka, Suzuki, Aoyama, Takaoka & MacMillan, 2017). India reported increased cases sexual offences from 164,765 cases in 2006 to 213,585 incidents in 2010 (Chhibber, 2013), with 2018 reporting over 33,000 rape cases (Society, Crime & Law Enforcement, 2020).

In five African countries, a global school-based student health survey showed a lifetime exposure to sexual abuse of 13–15-year-olds as ranging between 9% to 33% (Brown et al., 2009). The UN Sustainable Development Goals' agenda for global human development endeavours (2015–2030) acknowledged defilement as a major hindrance to children's health and the general society and seeks to banish all types of abuse (United Nations General Assembly, 2015). In South Africa, crime statistics for the year 2013 showed 64,514 sexual crime cases reported (Davids, Londt & Wilson, 2015). According to Gantanan (2014) most of the sexual offenders were raised in maladjusted families, experienced explicit difficulties including substance misuse, violence, low financial status and unacceptable sexual activities. Although this observation could inform the rehabilitation approaches that may suite this group of offenders, Gantanan 's (2014) study can be criticized for the fact that apart from unacceptable sexual activities, it presented findings that are common to all other types of crimes.

1.9.2.1 Sexual Re-Offending

The high rate of sexual re-offending has been identified as a major problem affecting the offender, his immediate family and other vulnerable members in society. While re-offending is commonly defined as falling back into crime (Kheswa & Lobi, 2014),

according to Langstrom and Grann (2000) in sex offending it is tied to reconviction. In South Africa, Mjekula (2011) reported that sexual offenders were found to re-offend after they were released from prison. This view was supported by Bogle (2012) who indicated that even after incarceration or intervention, sex offenders ultimately returned to police custody as a result of re-offending. This makes them to be considered a continued risk to society. Factors such as substance use, antisocial attitudes and beliefs and association with delinquent peers have been documented as influencing re-offending. (Tadi & Louw, 2013). Tadi and Louw (2013) further linked sexual re-offending to age of arrest, where younger offenders tended to re-offend. They also linked sexual re-offending to low level of education, with higher likelihood of re-offending reported amongst non-high school completers.

While Bogle (2012) recognized significant community responses to sex offenders such as treatment or incarceration to reduce re-offending, he opined that sexual re-offenders being more dangerous required specialized interventions beyond those applied to non-sexual-re-offenders. Bogle (2012) acknowledged the inadequacy of the existing remedies employed for sex offenders. Although the term 'sex offender' refers to an individual who commits sex crimes, it is of essence to recognize that the individuals convicted for sex offences constitute heterogeneous population. This is evident in an analysis of child molesters and rapists by Hanson and Bussiere (1998) where re-offending rates varied by sexual offence type. Out of the 9,603 child molesters under study, reoffending and reconviction rates stood at 36.3 and 12.7 percent, respectively, while that of the 1,839 rapists under study stood at 46.2 percent and 18.9 percent, respectively.

In Kenya, Koinange (2015) avers that many incidences of sexual offences are attributed to re-offending. While globally sexual re-offending rates are estimated to be as low as 5-10% after 5 years and 10-25% after 10 years (Jennings, 2015; Scurich & John, 2019), in Kenya, the situation is contrary. Musau et al. (2014) reported a 40% increase in rates of sexual re-offending rates in Kenya in the year 2012. Nairobi County reported a higher rate of 43% accounting for 19.5% of the total population of all re-offenders, which stood at 34.8% (Aluda, 2012). A more recent study seeking to establish the extent to which participatory design of correctional rehabilitation programmes had influenced sexual re-offending reported 58% increase up from 40% in 2012 (Okoth et al., 2016).

Since the participants in this study constituted both sex offenders and re-offenders, the observations by Bogle (2012) on the need for specialized interventions for this category of offenders offered support for this study by providing a basis upon which an alternative intervention for male sex offenders in Kenya could be mounted.

1.9.2.2 Prevalence of Sexual Offending and Re- Offending in Kenya

In Kenya, an audit of crime information recognizes sexual offending as one of the leading crimes which poses serious challenges to the society in the effort to maintain public safety. Kenya is a signatory to the international human rights instruments and standards such as the Millennium Development Goals (MDGs) and the International Conference on Population and Development (ICPD) that have been incorporated in the Constitution. These instruments commit governments to set up measures to address sexual offending. The Sexual Offences Act 2006, National Reproductive Health Strategy (NRHS) and the National Policy on Gender and Development (NPGD) are guidelines which were created to provide knowledge on and address issues of sexual offences in Kenya. The Sexual Offences

Act (2006), a legislation that defines sexual offences in Kenya lists among others rape, sexual assault, incest, bestiality and defilement as crimes that belong to this category. An individual who has been convicted for a sexual offence is therefore defined as a sexual offender.

Although classified as a serious crime, Kenya like any other sub-Saharan African countries has limited data on sexual offences and with many cases going unreported. Findings of a study conducted by the National Crime Research Centre (NCRC) in Kenya showed that only 15.6% of females and 16.7 % of males who had experienced sexual violence reported the sexual attack (NCRC, 2014). The Gender violence and Recovery Centre annual report (2011-2012) additionally indicates that sexual violence accounted for 86% of the total 2954 cases of violence reported. In 2014, data on sexual crimes by Liverpool Voluntary Counseling and Testing (LVCT) from sponsored health institutions in Kenya reported 4,944 cases, while Nairobi Women's Gender Violence Recovery Centre reported 2,532 victims of sexual offending in 2011-2012. A survey on violence against children in 2010 indicated that 12% of boys aged 13–17 and 23% of girls of the same age had been sexually offended in Kenya (Mwangi et al., 2015). The survey further found that one in five males and one in three females are sexually offended before age 18 years (Republic of Kenya, 2012). According to the Human Rights Watch (2017), during the political chaos resulting from disputed presidential elections, almost 1500 cases of sexual offences mostly directed at women and girls were reported.

Statistical evidence shows that sex offenders make up a significant percentage of the total prison population. For instance, a study in Nyeri Maximum Security Prison by Kimiti, et al. (2008) reported that sexual offenders constituted 24.42% of a total population of 831

convicted offenders. Mutsotso (2014) details subsequent reports from the Kenya Prisons Headquarters for the year 2012 showing that out of a total population of 12,315 prisoners held in six of the main prisons in Kenya, 3350 (27.2%) were convicted for sexual offending. Crime reports for the years 2013 to 2017 similarly show an increase in cases of sexual offences by 15% as compared to 9% increase in general crimes.

Annual Crime report (2018) showed that there were 6228, 5492 and 7233 reported cases of sexual offences in 2016, 2017 and 2018 respectively. The comparative summaries of sexual offence figures are shown in Figure 1.1:

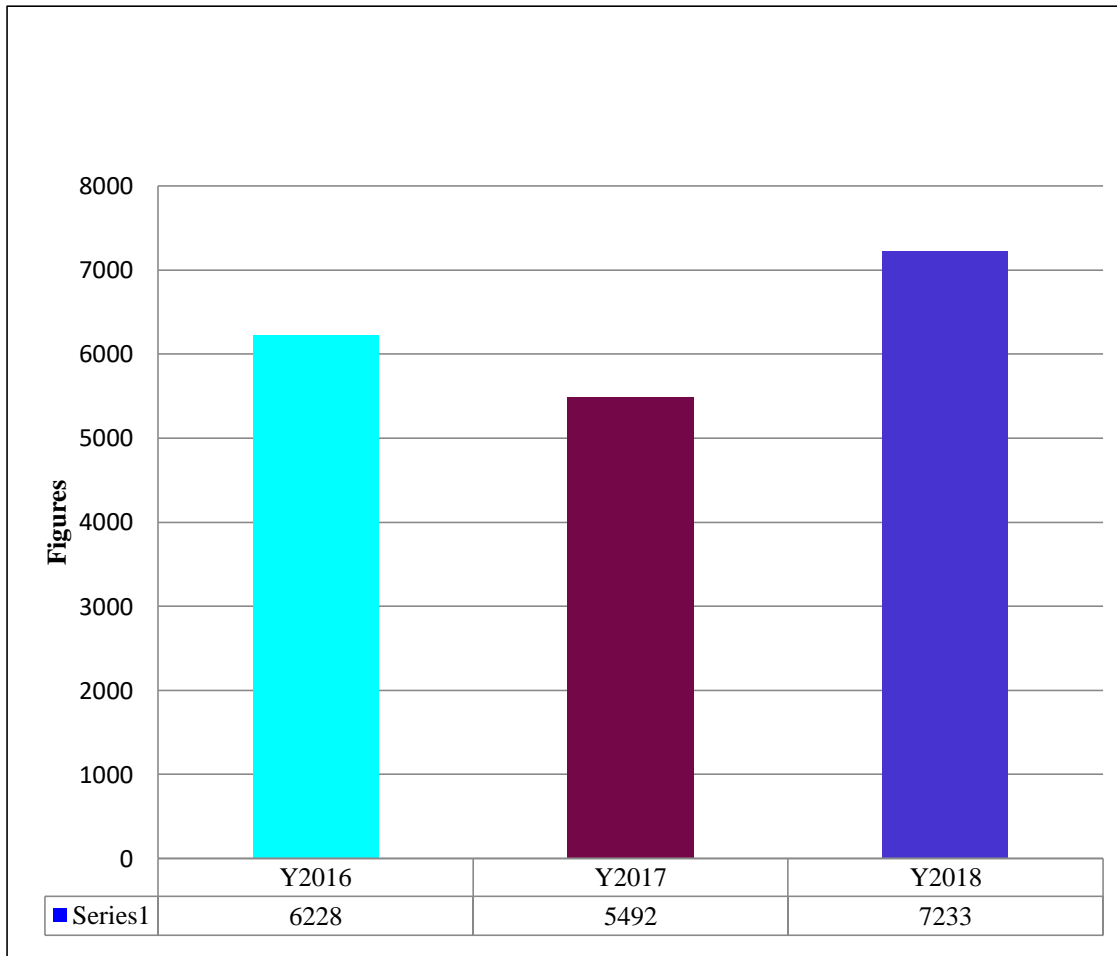


Figure 1.1: Comparative summary of sexual offence figures 2016-2018

Source: Annual Crime Report 2018

Recent reports indicate that the first quarter of the year 2020 recorded substantial rise in sexual offence cases following the announcement of the first case of coronavirus and the subsequent closure of schools in Kenya (Ondenyoo, 2020). Figure 1.2 presents a summary of offence statistics in Kenya as at April 2020.

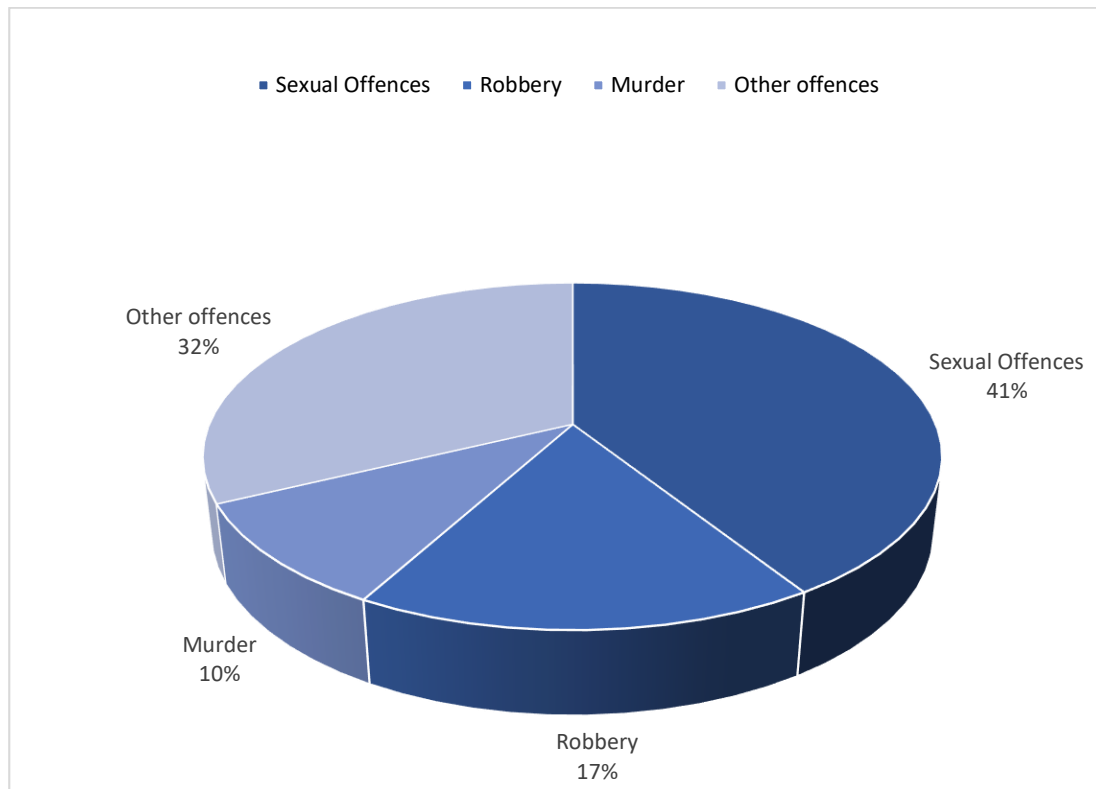


Figure 1.2 Summary Crime Statistics in Kenya (April 2020)
Source: Ondenyoo (2020).

The statistics showed that cases of sexual offences were highest at 41% in comparison to other crimes reported to the police. Nairobi, Mombasa and Uasin Gishu counties reported the highest number of sexual offence cases particularly defilement. A Global Initiative against Transnational Organized Crime (GI-TOC) document on the impact of the pandemic on crime attributed the increased sexual crimes to people having too much time on their hands and children being out of school. Nairobi and Kiambu Counties were the crime hotspots, with robbery and murder cases being the most reported after sexual offences.

Related reports show that in 2018, Nairobi County recorded the highest number in sexual offences with a 15% increase reported in 2013 to 2017 (Mutisya, 2018). Reports by UN-Habitat (2014) support these statistics in noting that one in every seven women in Nairobi experienced sexual abuse with three out of five involving rape, one quarter (25%) of sexual abuse cases resulting in an unwanted pregnancy and one in twelve women (0.08%) contracting the HIV virus.

Previous studies have also shown defilement and rape as the leading sexual offences in Kenya. For instance, Kanyanya et al. (2007) reported 61.8% cases of defilement and 30.3% of rape cases. Similarly, Kimiti et al. (2008) reported 60.76% and 24.05% of defilement and rape cases respectively. Figure 1.3 shows 2017 and 2018 statistics for sexual offences by category.

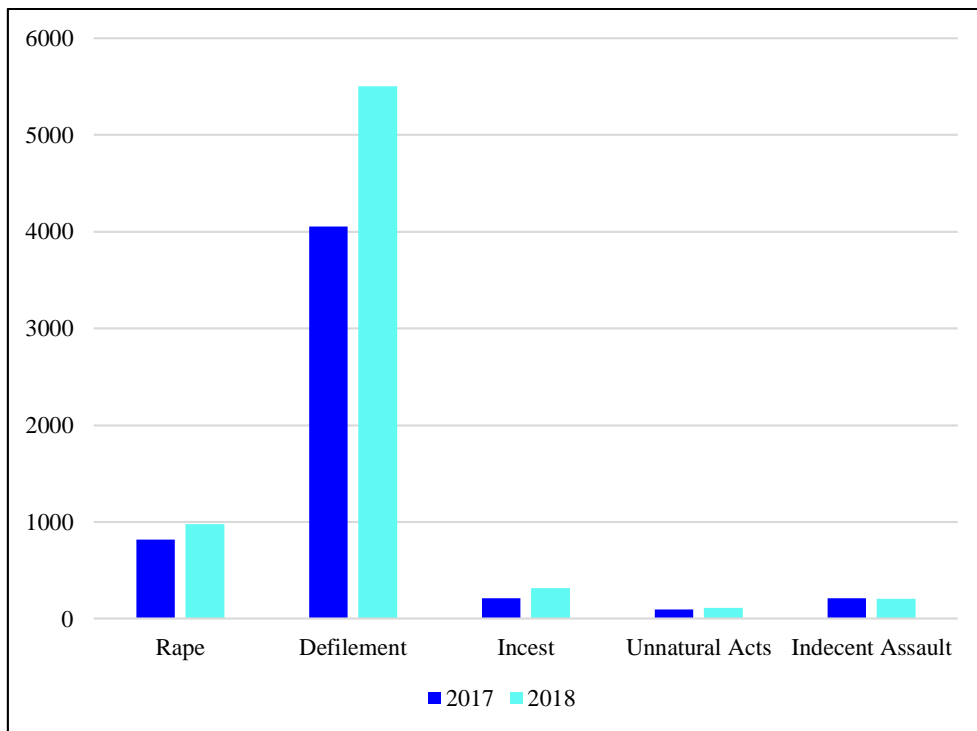


Figure 1.3: Statistics for Sexual offence categories in 2017 and 2018
Source: 2017 Crime situation Report and Annual Crime Report (2018)

The statistics detail high cases of defilement and rape in 2017 and 2018 indicating that rape and defilement recorded the highest statistics compared to other sexual offences.

In analyzing child sexual abuse in Korogocho slum, Nairobi, Njehu (2015) reported that defilement and rape were the most prominent sexual offences according to 74% of the respondents in the area of study. In support of police statistics, cases reported at the Gender Based Violence Recovery Centers (GBVRC) of departments of mental health in Kenyatta National Hospital (KNH), and Nairobi Women's Hospital (NWH) also showed defilement as the leading form of sexual crime against children (Mutavi, Mathai, Kumar, Nganga, & Obondo, 2016). Supporting details show that in the first quarter of the year 2020, rape and defilement constituted more than 35% of all reported cases in Kenya (Siele, 2020).

The above statistics lead to many conclusions. One, there are problems of public awareness and reporting of sexual offences in Kenya. Two, there is no proper documentation of incidences of sexual offences including a public list of past offenders. Three, existing means of rehabilitation for sex offenders may not be effective enough to avert re-offending.

1.9.2.3 Ages of Victims Most Affected by Sexual Offending in Kenya

Oduor (2018) posits that in Kenya, one in five women and men who are sexually offended before the age of 18 reported that the first incident occurred at school. Therefore, most of the victims are school age going persons, ranging from 4 years to 17 years of age. Oduor observes that the perpetrators of these sexual offences where school going children are involved are both teachers and fellow students. He further reports that between the years 2015 and 2018, the Teachers Service Commission (TSC) had deregistered at least 162 teachers for sexually harassing their learners. Of these teachers, 100 were male. Oduor also avers that there is low reporting of sexual offences with decreasing ages of victims.

Confirming Oduor's views, Boudreau, Kress, Rochat & Yount (2018) reported that in Kenya among the female and male victims who reported to have been sexually offended before 18 years, only 45% of the females and 28% of the males reported to have described the experience.

Reports showing that most victims of sexual offending are school going children ties in with the high statistics of defilement cases as compared to other sexual crimes (Annual Crime Report, 2018; Crime Situation Report, 2017). An observation by Oduor (2018) that most perpetrators where school going children were involved are male teachers lends support to the higher numbers of male sexual offenders in Kenya as compared to female sex offenders.

1.9.2.4 Consequences of Sexual Offending

Sexual offending is a serious public health and human rights concern with adverse physical and psychosocial consequences on the survivor, the offender and offender's relations. Across multiple studies, sex offenders reported rejection by family members and friends because of their offence (Robbers, 2009). Stigma and isolation have been identified as a consequence of sexual offending, with community members typically refusing to tolerate sex offenders in their midst and labeling them as social outcasts (Willis et al., 2010). As a result of these experiences, sex offenders also reported depression, anxiety, distress, fear, shame and loss of hope (Robbers, 2009). Long prison sentences, life imprisonment till death without leniency and parole (Deccan Herald, 2013) and death sentences have also been noted as some of the consequences of sexual offending. A case in point is the 2013 death sentence by a New Delhi Court for the five accused in the "Nirbhaya" case, resulting in one accused committing suicide in prison (The Hindu, 2013). Other studies established that members of various families were exposed to stigma, ostracism, shame and harassment

by virtue of their association with a sex offender (Levenson & Tewksbury, 2009; Farkas & Miller, 2007). On child victims, Gill and Tutty (1999) reported health and physical consequences such as Pregnancy, sexually transmitted diseases, social isolation or withdrawal.

Over the years, the Kenyan government and other stakeholders in acknowledging the consequences of sexual crimes have developed responses that are captured in the legal and policy frameworks and programmatic interventions. Although many may know these consequences, visual representation has seldom been considered as a method of exploring these consequences with the perpetrators of these crimes. The study considered these documented consequences of sexual offences in developing themes for the digital paintings. The study found support from research findings confirming that visual images have a strong impact, enhance communication and remained memorable for a long time (Panke, 2016; Baralaei & Najmabadi, 2016). While Omondi (2015) suggested that an awareness of consequences of crime discourage likely offenders from wrongdoing, this study explored the awareness of consequences of sexual crimes using digital paintings with convicted offenders. In this way, the study drew attention to the audience's experience with a product of the creative skill.

1.9.3 Attitudes towards Sexual Offending

Attitudinal studies related to sexual offending have focused on public attitudes towards sex offenders (Shackley et al., 2014; Jahnke et al., 2015), sex offender treatment and rehabilitation efforts targeting them (Rogers, Hirst & Davies, 2011). Recently, Svensson, Baer and Silva (2019) studied knowledge level and attitudes supportive to sexual offending among adolescents in Sweden. Results indicated that youths were knowledgeable on

different sexual crimes and tended to show supportive attitudes to these offences. Harper et al. (2017) explored the extant literature on the factors underlying attitudes towards sex offenders and analyzed the conceptualization and measurement of such attitudes. Spoo et al. (2017) also reviewed sex offender legislation and victims' attitudes toward sex offenders, noting that compared with non-victims, victims of sexual offending reported more positive attitudes toward sex offenders and were supportive of mandated treatment.

In Tanzania, Abeid et al. (2015) studied the attitudes and knowledge towards rape and child sexual abuse. The study sought to determine community attitudes and knowledge on sexual offences and found that most women were not knowledgeable in sexual offences. The study also reported that demographic characteristics of age, marital status and level of education moderated the attitudes and knowledge of the respondents. Attitudinal studies conducted in Kenya by Ndombi (2014) and Odera (2013) combine variables of knowledge and attitudes. Literature is however silent on sexual offenders' attitudes towards sexual crimes with much focus directed on attitudes of the public towards sex offenders.

Notwithstanding all studies mentioned above, a potent factor that is often neglected on the issue of crime and criminal behaviour is attitude. Empirical research and theory suggest that change in attitude subsequently leads to behavioural change (Ajzen & Fishbein, 1980; Ajzen, 1991). However, it is evident that majority of research in this area has focused on public attitudes toward sexual offending as opposed to offenders' attitudes towards crime. While these studies are clearly of value, it is important not to overlook the attitudes of the offenders towards sexual crimes because it can inform effective rehabilitative mechanisms. This study sought to contribute to literature by focusing on male sex offenders' attitudes towards sexual crimes. In taking the approach of art viewing as a means of exposure to

influence the offenders' attitudes towards sexual crimes, the study further added to the current debates on Mere Exposure by testing its effect with digital paintings. The intervention targeted rape and defilement convicts, subgroups of sex offenders in an attempt to measure the effectiveness of an offence specific program.

1.9.3.1 Evaluating Attitudes towards Sexual Offending

An accurate measurement of an offender's attitudes, perceptions, and lifestyle could be used to predict the success of an intervention and help criminal justice sector identify suitable treatment programs for sex offenders. There has been rapid development and application of related instruments in recent decades among them Crime-Pics II Scale which has stood the test because of its ease of administration, interpretation and predictive power. With special focus on attitude modification, Crime Pics II offered a powerful tool for assessing the impact of intervention with sex offenders. The self-report instrument was developed by criminology and psychology scholars with support from probation and prison service units in England (Frude, Honess & Maguire, 2008) and has been used for measuring attitudes, life problems related to offending and for program impact in correctional settings by various scholars (Williamson et al., 2018; Chui & Chan, 2011). While using Crime Pics II scale, Williamson et al. (2018) reported positive impact of a program based on motivational Cognitive Behavioural Therapeutic (CBT) approach on participants' attitudes. Chui et al. (2016) identified four indices for measuring offenders' attitudes in relation to general attitude to offending (G), anticipation of reoffending (A), victim hurt denial (V) and evaluation of crime as worthwhile (E). G- Scale looks at the general view about offending and a low score shows that the offender believes that offending is not an acceptable way of life. A- scale indicates a person's expectation as to whether they are likely to offend again. A lower score implies that offending would be avoided in future.

The V- scale indicates the offender's level of acceptance of adverse effect on victims. A low score in this scale indicates that the offender recognizes their actions impact on victims. E- scale explores the offender's cost benefit analysis of the worthwhileness of crime, with a low score indicating the offenders' perception of the cost of crime as being greater than its rewards.

Life issues such as relationships, money, housing and mental health are measured in the P scale of problem inventory. According to Williamson et al. (2018), the scale provides an offender's view on problems they face in life. The higher the score, the greater the number and gravity of the identified problems. Although literature argues that a lower score in each domain represents lower offending-related attitudes and problems, Williamson et al., (2018) also acknowledged the authors of Crime Pics II's observation of a likelihood of the nature of offence impacting on scoring in the scale.

1.9.4 Sex Offender Intervention Programs Globally

Sex offender intervention is a mechanism for encouraging offender accountability, minimizing re-offending and reinforcing public safety. Such interventions have become an important part of the current practices in the management of sex offenders. An evaluation of psychosocial treatment approach by Schmucker and Lösel (2015) suggested that intervention can effectively minimize re-offending by sex offenders. They argued that knowledge about various sub-types of sex offenders should be a consideration in future research so that treatment is successful basing on the relationship between offender characteristics and the type of intervention. Tewksbury, Jennings and Zgoba (2012) projected that better results could be achieved through sex offender intervention programmes that target risk factors beyond legislation and primary offender static and dynamic factors.

A meta-analysis of fourteen studies focusing on psychological treatment of sex offenders against children submitted by Gronnerd et al. (2015) did not find any effect of intervention on such offenders. Potential of reduced sexual and non-sexual re-offending has been shown by cognitive behavioral therapy provided within programs using the risk-need-responsivity model (Corabian, Dennett & Harstall, 2011). Kim, Benekos & Merlo (2016) produced evidence that treatment works in reducing re-offending among youth and reported a mean reduction in re-offending of 25% across studies in a review of eleven meta-analyses with a variety of comparison groups, including those with random assignment and quasi-experimental designs. Other studies on sex offender treatment programs focusing on pro-criminal attitudes reported positive improvement. Beech, Mandeville-Norden, & Goodwill (2012) using a sample of 413 convicts reported clinically significant change in all three pro-offence attitude scales. Although Wakeling, Beech & Freemantle (2011) reported no change in attitude scores, their findings showed clinically significant change across three sex-related pro criminal attitude scales in a third of program participants.

While a number of factors have been found to moderate effectiveness of treatment, there is a paucity of literature on the potency of varied approaches of treatment targeting specific sub-types of sex offenders. The factors that lead to sexually abusive behavior also differ from one offender to another and success in intervention depend on factors such as the treatment environment, mode of program delivery and the offender's response to the intervention.

1.9.4.1 Sex Offender Intervention Programs in Kenya

Although some studies were conducted on sex offenders in Kenya prisons, none has focused on interventions for this group of offenders. For instance, a study by Kimiti et al.

(2008) found a risk of re-offending score of a low of 5% to a high of 40% in convicted male sexual offenders in Nyeri Maximum Security Prison. Out of the 79 incarcerated sexual offenders, they reported risk assessment scores for 29 respondents as low risk category, 41 participants as medium low risk level of re-offending, while 9 as medium high-level risk of re-offending. Another study carried out in Kamiti prison by Kanyanya et al. (2007) found that sexual offending was not limited to particular age groups and found high defilement related convictions at 61.8%. This led them to conclude that studies aimed at establishing ways of rehabilitating and treating sex offenders could minimize the vice. Koinange (2015) argued in support of the need for a sex offenders' register to help curb the vice.

A study by Okoth et al. (2016) explored the extent to which participatory design of correctional rehabilitation programmes would influence recidivism of sex offenders. Additional studies on sex offenders have not been specific on rehabilitative needs of this category of offenders. Kimiti & Thinguri (2016) investigated risk assessment as an untried tool for the prevention of sexual offending and found a relationship between age, marital status, type of offence and the risk of offending. Mutsotso (2014) highlighted the reality of sexual offending in Kenya in light of the Sexual Offences Act (2006) and the increasing number of offenders.

Extant literature report on a number of diverse and non-specific offender rehabilitation programs in Kenya with attention to vocational training, educational programs, victim offender mediation and faith-based prison programs. Wambugu (2014) in examining the role of chaplaincy and rehabilitation of inmates in Kenya established that there was continued increase in prisoner populations and levels of recidivism coupled with moral

decadence despite all attempts of intercessions by chaplaincy in rehabilitating inmates. Miriti and Kimani (2017) in analyzing prisons rehabilitation programs on behaviour reformation of offenders found positive impact on behavior reformation arising from educational training course. The study however found minimal impact arising from socio-psychological training programs. Ondeng (2018) in a study of women prisoners established that the rehabilitation programs did not effectively address the unique psychological needs of women offenders. In other related studies, Ndombi (2014) focusing on North Rift prisons in Kenya examined rehabilitation programs' impact on re-offenders. The author reported that existing rehabilitation programs in Kenyan prisons were not potent enough to minimize cases of re-offence. Nevertheless, there were strategies in place to ensure the programs reduced levels of recidivism among offenders. Moreover, the study found that offenders from poor economic backgrounds, males, younger offenders and less educated offenders tended to re-offend more than those with contrary characteristics. Another Kenyan study by Odera (2013) assessed how effective rehabilitation programs were on juvenile delinquents in Nairobi County. The programs identified to be in use in the prisons were counseling, spiritual welfare, education, life skills and vocational training.

Although the studies discussed are useful, they are lacking a focus on unique pathways to criminality by sex offenders and how their rehabilitation needs can be addressed. By proposing rehabilitation methods for sex offenders (Kanyanya et al., 2007) and indicating sexual recidivism as a real risk (Kimiti et al., 2008), these studies provided the basis for the current study.

1.9.5 Art Based Offender Intervention Programs in Developed Countries

The benefits of art intervention programs with regard to the prison environment in countries

like Canada, Australia and the USA are cited in literature. Interdisciplinary investigations found in education, neurobiology and criminal justice journals demonstrate that psychological, social and individual skills are created by way of arts training and processes (Baker, 2013; Bembenutty, White & Dibenedetto, 2016). According to Cheliots (2010), art based programs make indirect contributions to desistance. Such contributions are partially covered by the concept of secondary desistance. Meekums and Daniel (2011) in reviewing the effectiveness of different modalities of art therapies in the offender context found overall positive effects in behavioral outcomes, improved mental health and decreased rates of recidivism among other outcomes. Nugent and Loucks (2011) in evaluating art programs for offenders acknowledged the significant rehabilitative benefits generated by the arts. Gardner, Hager and Hillman (2014) reviewed 48 American prison art based programs, with 19 and 29 addressed to juvenile and adult inmates respectively. Reports of positive changes among participants were noted in nearly every case.

Argue, Bennett and Gussak (2009) suggested that participation in artistic projects can serve a transformative function for prisoners, acting as a catalyst for positive psychological and attitudinal changes. This function of art assumes particular significance considering Fazel and Baillargeon's (2010) observation that rates of psychological conditions and associated problems amongst prisoners have repeatedly been found to exceed the respective rates reported for the general population. Brewster (2014) linked the positive impact on inmates' attitudes and behavior to prison arts programs. Pre-and post-test study results of the subset of men lacking experience in arts or training demonstrated a positive difference in attitude on every life effectiveness scales and major difference in intellectual adaptability, accomplishment motivation and self-confidence. Brewster (2014) further found that 75%

of arts in corrections participants at the California Medical Facility and 80.6% of those at the Correctional Training Facility had less disciplinary infringements when contrasted with non-participants. Brewster noted an improvement in compliance with staff rules, mood and abilities to socialize. Brewster (2010) in a qualitative study on the effect of California Arts-in-Corrections Program's on lives of detainees during and after imprisonment had results showing upgraded prisoners' confidence, hardworking attitude, control and identity as artists. Art therapy has also been used in treating offending behavior (Banks, 2012). In one study of community-based art projects with juvenile offenders, Clawson and Coolbaugh (2001) reported improvements in participants' attitudes toward school and a decrease in delinquent behaviour.

Art has been found to lower depression among prisoners (Yoon, Slade & Fazel, 2017). An audit by Yoon et al. (2017) affirms the potency of art therapy in lowering depression in prison populaces. In differentiating the potent of art therapy in the locus of control of female and male convicts, Gussak (2009) found that both female and male participants exhibited changes in mood and the locus of control. Gussak (2007) also reported a significant decrease in depressive symptoms of completers of a prison art therapy program. Koiv and Kaudne (2015) similarly reported significant reductions in three out of five emotional and behavioral problems in young female offenders following participation in an integrated arts therapy program. Yu, Ming, Yue, Hi and Ling (2016) in quasi-experimental study found lower pre-release anxiety rates among participant in the House-Tree-Person art therapy intervention.

Cheliotis and Jordanoska (2016) found increased effective communication, empathy, collaboration and improved social skills among participants following participation in the

arts-in-prisons schemes. Turner (2016) reported improvement in conversation, reinforcement of bonds and gaining autonomy as benefits of art therapy. While Murphy, Beaty and Minnick (2013) found an improvement in self-esteem from juvenile offenders who participated in a mural project. They recommended further research to examine whether these improvements would be sustained overtime and the subsequent effect on re-offending. Jarjoura and Krumholz (1998) found low reconviction rate (18.75%) among offenders who participated in prison arts programs and argued for the effectiveness of art programs when enacted within a comprehensive system of punishment.

In an assessment of prison arts locus of control in Norway, Langelid, Maki, Raundrup and Svensson (2009) contemplated that arts add to prisoner self-improvement by upgrading their inspiration, social and fundamental abilities. Brewster and Mert (2012) distinguished prison arts programs as a passage to enhance knowledge acquisition by structure certainty and self-esteem. Research indicates that arts create a condition of willingness to be instructed by enhancing self-esteem and creating essential intercourse and alternative central capacities (Anderson & Overy, 2010). Breiner, Tuomisto, Bouyea, Gussak and Aufderheide (2012) also advocated for the use of art therapy in the management of anger, emotional, physical and mental health among male offenders to help them learn more about themselves unconsciously. In the United States, Jaafari (2018) reported incidences in which healing for former offenders have been achieved in some prisons using theatre arts. He, however, lamented that art programs are usually the first to be sacrificed when a prison is in need for more beds or security. Jaafari's claim could explain why there is minimal use of arts in rehabilitative strategies for convicts in the Kenyan prison framework.

The cited studies confirm that the more a prisoner is presented with the arts and innovative procedures, the more probable it is that the prisoner will encounter a higher emotional containment, social fitness and time management skills (Brewster, 2014). The existing literature further offers support for the place of arts in offender rehabilitation. Additionally, the cost effectiveness of arts therapy in offender rehabilitation has been demonstrated in an economic evaluation of three case studies (Johnson, Keen & Pritchard, 2011). Consequently, prisons have depended on the advantages that art programs provide in the restoration of offenders (Oliver, 2017).

Although the studies show the benefits of art to offenders in varied dimensions, attitudinal impacts of these art-based programs among incarcerated offenders remains largely unexplored, with the exception of Brewster (2014) and Clawson and Coolbaugh (2001), hence providing a basis for the current study. Additionally, Brewster (2014) did not focus on offenders' attitudes towards crime, but instead measured attitudinal and behavioral changes in inmates who participated in visual arts, theater, poetry and writing courses offered in four California state prisons. Clawson and Coolbaugh (2001) on the other hand focused on juvenile offenders' attitudes toward school following participation in art-based programs.

Majority of prison-based art studies have used the intermodal approaches that embrace and integrate all arts modalities such as music, drama, crafts and visual arts. Literatures reviewed further show that most of the art-based prison programs are activity-based and involve practical engagement in creation or performance. For instance, the study by Brewster (2014) used pre- and posttest, surveys to test the participants who took part in more than one form of art. While the current study borrowed heavily from Brewster's

methodology in using pretest and posttest surveys, it deviated in terms of the mode of participation, which was primarily passive. The current study also had participants only focus on one type of creative art in the form of digital paintings.

1.9.5.1 Relevance of the Arts in Prisons in Africa

The benefits of art interventions with regard to the prison environment are cited in numerous exploratory studies of art programs in prison settings. In Africa, artists have been successful in accessing prisons and convincing the prison institutions to legitimize artistic activities. In South Africa, Chinhanu (2016) explored possibilities for aesthetic intervention understandings and nuances in prison theatre through the practice of inquiry by a method of art making. In his findings, he acknowledged the potential of aesthetics of theatre in a prison setting to facilitate therapy.

Twani (2011) further presented evidence on the use of arts in the rehabilitation of offenders by making reference to a Creative Arts Awards for Prison Art which offered opportunities to prisoners to express creativity through visual arts. Although the study by Twani (2011) focused on the exploration of music as a tool for the empowerment and rehabilitation of offenders, the inclusion of music in presentation of other creative arts within the South African prisons was acknowledged. Through narrative enquiry and thematic content analysis the study examined the critical consciousness of the participants raised about music and about themselves as well as how their lives changed through the praxis method. In its findings, the study reported the development of a sense of comradeship that was non-existent prior to the engagement.

In the Kenyan context, minimal studies have been carried out using arts in prison. Additionally, none of these studies focused on sexual offenders. Positive outcomes were realized while using drama art therapy with female offenders in Langat Prison, Nairobi City County (IPAL, 2011). Participants were able to reconstruct their beliefs by reconciling with self. The same project was replicated in Kamiti and Industrial Area Remand and Allocation prisons. Kuria and Wainaina (2019) also reported the successful use of art therapy as treatment for depression among female offenders in Langata Women's Prison. In a related study, Otieno, Abong'o and Wagah (2020) investigated the quality of pottery products made in Kenyan prisons. Although this study was not focusing on the rehabilitative role of skill attainment through pottery, their findings showed that majority of the inmates who took part in pottery making had low standard craftsmanship and poor rendition skills as exhibited in the quality of pottery. In order to captivate the consumers, they recommended enhanced training of inmates on the use of pottery as a vehicle for self-expression by use of imagery, symbols and inspirations.

These studies are pointer to the fact that creative art-based interventions in general provide positive outcomes despite the fact that studies on visual art interventions in Kenya are minimal. In addition to studies cited above, art-based interventions in Kenya have also been used in non-prison studies. For instance, Okoth (2014) used drama in rehabilitating survivors of Female Genital Mutilation (FGM) and found that drama therapy provided a safe, playful environment where the survivors are able to act out their anxieties, fears and mental conflicts arising from FGM trauma. Situma (2018) in using docudrama films to investigate psychological distress effects among women refugees in urban Kenya reported reduced psychological distress levels among participants. Mbayi (2016) explored

psychodramatic role playing in communicating HIV messages among youth in Msambweni and reported enhanced participative communication among the youth, resulting in improved insights and social awareness. Wanjeri (2017) in assessing the role of music in peace building in Kenya found that music aided in establishing community dialogues, boosting self-esteem and trauma healing.

The studies reviewed point to the broad and multidimensional function of prison based art programs in Africa. The positive impacts reported could be an indicator that with systematic implementation, prison based art programs may provide the much needed additional intervention methods for offenders. The studies further provided detailed discussions on the benefits of arts in varied rehabilitation contexts that are diverse and non-specific in nature. Programs tailored for specific categories of offenders are scarce and could be a contributing factor to high rates of sexual re-offending in Kenya.

This study attempted to widen the scope of understanding by focusing on the use of digital paintings as a form of art-based intervention for male sex offenders. Despite evidence in literature on the effectiveness of art-based interventions, there is scarcity of studies specific to the use of visual art -based interventions for sex offenders in the Kenyan context. While the modes of presentation in the reviewed studies involved active participation, this study deviated by exploring passive participation through viewing the digital paintings.

1.9.5.2 Art Based Intervention Programs for Sex Offenders

According to United Nation Standard Minimum Rules for the treatment of prisoners (UNSMR, 2015), rehabilitation programs provide the best way to handle prisoners to the change in order to curb re-offending. Art has been identified as a potential tool for rehabilitating sex offenders. Parkes and Bilby (2010) argue that artistic and spiritual

activities should be included in rehabilitation programs for offenders. De Vries Robbé, Mann, Maruna and Thornon (2014) examined the impact of painting art in reducing recidivism among sex offenders. According to these authors, paintings or visual art in general is effective in communicating with offenders who have difficulty expressing their emotions. They reported cases in which offenders began to use art as a mechanism for channeling their longings for sexual violence. De Vries Robbé et al. (2014) concluded that art can be an avenue for purgation of repressed sexual feelings of rage among offenders.

Persons (2008) reported stress relief and relaxation, pride and self-confidence and reduction of boredom as some of the perceived benefits of art therapy with juvenile sex offenders. A study by Skaggs (1997) reported the use of music-centered creative arts in sex offender treatment programs for juvenile males. At the time, Skaggs contended that programs for juvenile sex offenders were new, so that existing literature hardly provided any analysis on the effectiveness of existing programs. Therefore, he proposed the use of music-centered arts as an effective approach to the treatment for sex offenders.

1.9.6 Digital Painting as a Form of Visual Art

Painting is one of the most practiced and appreciated art forms throughout human history. Today, this art has been digitalized with digital paint systems. Digital painting is based on digital information technology and exists in electronic form by getting rid of the limitations of paper (Luo, Yang & Hua, 2016). This emerging art form involves the application of traditional painting techniques such as impasto, watercolour and oils using digital tools by means of a computer, software, a digitizing tablet and stylus (Cui, 2017). With the development of digital information technology, digital painting has been found to be more

suitable for the requirements of time development and especially in economic benefit as compared to the traditional painting (Luo et al., 2016).

In his submission, Annum (2014) argued that a professional painter cannot afford to be left behind, since the computer has become a tool for analyzing and solving problems in all fields. As a field of artistic exploration, Cui (2017) observes that digital painting brings a vibrant conceptual approach to the visual arts and although it has a short development history, it has an irreplaceable position in the digital age. Annum (2014) however, observed that digital painting has not received the same degree of acceptance accorded to other well-known art forms and remains rather underexplored. In response to the foregoing observation (Annum, 2014), the present study was formulated to contribute to knowledge by examining the effects of exposure to digital paintings on male sex offenders' attitudes towards sexual crimes in the Kenyan context.

1.9.6.1 Image Content and Organization in Paintings

Three levels or types of image organization and content comprise of a painting (Locher, 2014) with the basic level accounting for elements such as line, colour, texture and shape (first-level pictorial elements). Klavans, LaPlante and Golbeck (2014) argue that at a first glance, an individual will first take in the organic entirety of an artwork and only later will he or she focus on the artwork's individual details. This constitutes the first phase of artistic appreciation. Commenting on this, Koenderink (2011) asserts that the second phase is more detailed and goes beyond mere visuals. At this phase, the viewer keenly zooms in on the pictorial elements, their construction, order and organization in a bid to aesthetically appreciate the picture. Here, the viewer may draw on their repertoire, experience and curiosity as sources of linking the picture to their worldview.

Using the levels of image content and organization (Locher, 2014), respondents in this study experienced first-order pictorial elements of digital paintings such as line, color, texture, and shape. Klavans et al. (2014) support this view by suggesting that before examining the material in detail, the viewer should first see the work of art in its entirety. In the second phase, respondents directed the focus of the image to create information about the interesting features of the images and their creative organization to satisfy curiosity and to enhance the enjoyment of the beauty of the painting (Koenderink, 2011).

Further, the composition and structure have been shown to have a strong influence on the audience's response to visual art. Kesner (2014) reported strong effects on all visual aids and painting styles. Research on art perceptions, experiments, and emotional simulations using drawings show that art lovers are more inclined to represent the arts than invisible works of art (Anderson, Siegel & Barrett, 2011; Pihko et al., 2011). In their work, de Zilva et al. (2013) found an increase in the popularity and effects of satisfaction to a certain degree of exposure to uncluttered drawings. Differences in findings in response to different works of art have highlighted the need for further research by different audiences.

According to Tavaragi and Sushma (2016), apart from cognitive and emotional response, art images painted in an expressive style evoke negative emotions when shapes and bright colors are used with negative image topicality. Color as a significant tool for the artist strongly influence the mood of an artwork and trigger human feelings. Forsythe et al. (2011) have stressed the importance of color as a medium that artists use to communicate with the observer. While investigating emotional response patterns to certain colors, Yanulevskaya et al. (2012) found a correlation of bright colors and smooth lines with positive emotions and negative emotions associated with chaotic texture and dark colors.

Differences in perceptual impact between coloured paintings have also been shown in Eugene Delacroix's painting done in the year 1826 with the title "Still life with Lobster". Pelowski, Gerger, Chetouani, Markey and Leder (2017) in examining viewers' reactions to paintings in within subjects with and without colour found a decreased liking for paintings which excluded colour. While similar observations were confirmed in experiments by Polzella, Hammar and Hinkle (2005), excluding colour on portraits was found to enhance their liking. Although the study reviewed discusses the removal of colour in paintings as leading to decreased liking, no clear discussion is provided on monochrome schemes and how style of painting affects liking. In furthering this discussion, the present study compared reactions to composition in monochrome and polychrome schemes and realist and surrealist styles in an attempt to find out the relationship between style, colour schemes and themes in painting.

Jasna (2018) contends that short wavelength colours are less provoking as compared to long wavelength colours like yellow and red. Moreover, Bart (2013) stipulates that brighter more saturated colours elicit greater pleasure. However, Abodunrin's (2017) study established that forms with flush lines, non-expressive hues and rigorous composition elements such as salience and perspective are considered dull while bright coloured images, sharp lines and visible brushstrokes are considered alive. These findings are in line with the idea that valence and arousal judgments are formed, at least in part, because of visual features of the artworks such as line, shape and colour. Based on viewers' emotional responses with focus on 500 abstract paintings, Yanulevskaya et al. (2012) concluded that bright colors are mostly regarded as positive while dark colors have a negative connotation.

Compositional content and artistic style are two such art-related properties of a painting that contribute to an observer's interpretation, aesthetic judgment, and emotions regarding it. Support for the themes used in this study emanated from the observation that eternal themes, like death, sex and violence, among others have a potential of eliciting emotion. This is because they can be hypothesized to touch on basic concerns and contain core components of emotional meaning such as valence and difficulty (Tan, 2000). Art therefore provides a platform within which elements of a picture can be used to influence the sentimental reaction of a viewer to a given situation. The current study in using surrealism, a highly expressive painting style and negative image topicality showing the consequences of sexual crimes sought to evoke negative emotions towards crime. However, unlike Yanulevskaya et al. (2012) who explored abstract forms, the current study sought to confirm if similar effects could be found with realistic forms in an attempt to unravel new relationships not explored before.

1.9.6.2 Audience Participation in the Arts

Art viewing as a form of passive participation has been known to result in a myriad of emotional reactions. Helguera (2011) who contends that all arts can participatory explains the taxonomy of participation. In collaborative participation, there is a division of responsibility for the structure and composition of the work; in directed participation, various actions are done to promote the artwork; in creative participation major contribution is made to the work while nominal participation, participants rarely interrelate with the artwork.

In evaluating participation as audience development, Brown & Novak-Leonard (2011) highlighted improvements from mere observation by spectating to improved commitment,

emphasizing on collaborative creativity, as well as the final stage of the audience as an artist. To extend the model further, Brown & Novak-Leonard (2011) proposed other forms of audience participation such as inventive, where participation connects with the psyche, body and soul in a demonstration of artistic creation. They also proposed interpretive, curatorial, observational and ambient forms of participation. In the observational participation which applied to the current study, participation incorporates experiences of viewing artwork by individuals.

The analysis of how participants view and respond to artwork is an area of practical and theoretical interest. According to Carbon (2017), effects of viewing and processing time used on the perception, elaboration, understanding and appreciation of art have been repeatedly documented in research. Previous studies relating to art viewing have reviewed what visitors see, their behaviour and appreciation after the exhibition. For instance, while Carbon (2017) focused on the viewing behaviour of visitors, Yi and Lee (2019) applied technological methods in tracking the behaviour of museum visitors. Kirchberg and Tröndle (2012) also focused on understanding the aesthetic response by the visitors, but did not consider detailed response by the visitors. Only a few studies have considered in detail the responses of viewers regarding the artwork on display. Kirchberg and Tröndle (2012) who reported low ratings for empirical studies of visitors and their exhibition experiences with only a few articles scrutinizing visitor experiences confirm this observation.

Carbon (2017) posits that the average time taken to view art in a 28-hour temporary art exhibition was 25.7s to 41s per image with viewers using most of their time when visiting groups to view. Smith, Smith, and Tinio (2017) calculated the amount of time people spend

looking at works of art at the Chicago Art Institute and found that the average time spent in contemplating was 28 seconds. Carbon views offer an important element of the success of temporary exhibitions which show a limited number of works of art, giving viewers the opportunity to focus on a topic and elaborate on it. The current study adopted this view by limiting the number of digital paintings used to 24 and allowing respondents to view in groups of 5-7. This follows the argument that with controlled number of artworks, the audience could achieve aesthetic understanding (Muth & Carbon, 2013) and sustainable memories through deeper processing of artwork (Belke et al., 2015).

Art viewing is a concept which has been mostly studied in the museum context (Carbon, 2017). Most art prison-based art programs have focused on active participation where participants take part in the production of the artwork. In an attempt to contribute to knowledge, this study conformed to the nominal participation through viewing digital paintings. Nominal participation posits that simply passively viewing a work, with the viewer contemplating the work in a thoughtful manner can be an act of participation. In this study, interest was focused on the participants' views and evaluation of paintings generated by the researcher after repeated exposures.

1.9.7 Exposure of Visual Images to the Audience

Exposure to visual images can occur consciously or accidentally. As observed by Weeks et al. (2017) regarding attitudinal research, mere exposure, selective exposure and incidental exposure are the three main types of exposure. Selective exposure refers to when individuals actively avoid material that confronts their bias and preconceptions. Fischer and Greitemeyer (2010) have opined that this type of exposure adversely affects the efficacy of the decision-making process. Yanqin (2019) conceptualized incidental

exposure as a secondary exposure that cannot reasonably be anticipated, is constrained in nature and happens because of another revelation that is intended. On the other hand, research has shown that the attitude towards a stimulus object is highly depended on exposure. In this regard, mere exposure relies on the premise that repeated exposure to a stimulus object strengthens the attitude towards it (Inoue et al., 2018). This study utilized Mere Exposure because it encourages the intentional processing of a specified stimuli. The term exposure in the context of this study is applied to the primary explanatory variable of interest and to other variables which may be associated with the primary outcome.

1.9.7.1 Mere Exposure of Visual Images to the Audience

Stafford and Grimes (2012) and Inoue et al. (2018) aver that Mere Exposure denotes a condition that makes a given stimulus available to a person's perception. They argued that repeated unreinforced exposure to this stimulus increased the likelihood of its evaluation being influenced by sentimental considerations. Empirically, Mere Exposure points to positive repetition-affect relationships that result from exposure alone. It is assumed that familiarization by repeated exposures enhances liking, leading respondents to rate frequently presented stimuli more favorably. (de Zilva et al., 2013; Nanay, 2017). Inoue et al. (2018) presented experimental findings of strong impinging factor towards affective evaluation resulting from repeated, unreinforced exposure to stimulus. Subsequent studies have shown the effect over a wide variety of stimuli like drawings, paintings, photographs, ideographs and music (Hanser & Mark, 2013; Elgendi et al., 2018).

Although Mere Exposure research originated from social psychology, it has several implications in visual displays. There is a consensus that the attitude enhancing effect of repeated exposure is robust for a variety of stimulus objects including works of art,

portraits, ideographs, nonsense words, and musical composition. Attitude here is a generic term taken to include, among other things, preference, liking, and judgments of goodness. Of particular interest to this research were stimulus, presentation and measurement variables of Mere Exposure. Besides presentation variables (the number of exposures) and measurement variables (delay between exposure and rating) this study also discussed stimulus type as one major stimulus variable.

1.9.7.1.1 Stimulus Variables of Mere Exposure

Valence category, type of stimulus and the complexity of the stimulus are some of the stimulus variables of Mere Exposure. Although the magnitude of Mere Exposure can depend on stimulus type (Topolinski & Strack, 2009), stimulus differences may also be important variables (Weeks, et al., 2017; Kirby & Greenwald, 2017). Studies involving experimental designs have indicated that increasing exposure frequency leads to increased positive affect ratings for complex stimulus. However, no exposure effect was obtained from simple stimuli in within subjects' design, indicating discrepancy concerning stimulus complexity. Further, regarding stimulus valence, studies by Delplanque, Coppin, Bloesch, Cayeux and Sander (2015) and Aimers (2015) established stronger effect of Mere Exposure for positive stimuli and weaker effect for negative stimuli.

Neutral unfamiliar stimuli have also been used, with higher preference for Turkish words; Polygons and Chinese characters (Hekkert, Thurgood & Whitfield, 2013). Hajcak, Weinberg, MacNamara and Foti, (2012) found increased positivity 300–500 milliseconds after stimuli presentation for emotional images as compared to neutral stimuli. Aversing or threatening stimuli may influence performance by varied mechanisms such as withdrawal or attraction away from the threatening stimuli (Yiend, 2010) or attraction of attention.

Jakesch and Carbon (2012) noted a close relationship between exposure effects and stimulus type, quoting from experiments by Stang (1974) and Bornstein (1989) where large effects sizes were found for meaningful words and polygons but low effect sizes for line drawings and paintings. Stang (1974) however, pointed out that the majority of studies involving paintings did not incorporate a period of delay between the first and second presentation, something that is considered important to achieve increased preference at the time of the second viewing. This argument provided a basis for the methodology used in current study. The study reasoned that in experimenting with digital paintings, introducing delay periods between the presentations could yield positive appraisal of the messages in the digital paintings.

From the foregoing, it was evident that the literature on Mere Exposure reported inconsistent results concerning repeated exposure to diverse sorts of stimuli, stimulus complexity and positive and negatively valence stimuli. Previous studies also did not account for effects of exposure resulting from manipulating stimuli for the same group of audience. This study broadened the scope by manipulating stimuli through varied painting styles, themes and colour schemes for the same group of male sexual offenders under study.

1.9.7.1.2 Presentation Variables of Mere Exposure

Presentation variables refer to the manner in which the stimuli are exposed to participants and include the number of stimulus exposures, the sequence of stimuli presentation and the duration of exposure. A meta-analysis by Montoya, Horton, Vevea, Citkowitz and Lauber (2017) shows that stimulus discriminability, stimulus complexity, presentation sequence and the delay between exposure and ratings are among other variables that may impinge on exposure frequency. The effect of Mere Exposure was confirmed for the connection

frequency of stimulus presentation and preferences (Soga, 2018). Nanay (2017) noted a correlation with the frequency of exposure in the judgment of images of paintings following brief exposure to students in a class on visual perception. In a series of experiments, Zajonc, exposed study participants at different frequency rates to varied stimuli, with Mere Exposure to stimuli involving passive viewing via screen projection. Zajonc (1968) experimentally investigated the relationship between familiar stimuli and higher preference ratings compared to novel ones. Zajonc was able to show that preference ratings increased with higher exposure by manipulating the exposure frequency. This view was supported by Fechner cited in Jakesch and Carbon (2012) who observed that although the first impression is the strongest, to reach the full strength of impression, a repeated presentation of a stimulus was necessary.

Nadal, Munar, Marty, and Cela-Conde (2010) presented the art of representation and non-representation of two levels of complexity in different sequences or similar sequences of presentations. Unusual sequences of exposure led to higher reported, complex reorganizations that were not expected, while similar sequences led to lower levels of excitement. Young et al. (2016) established that participants in the worst cases showed significant improvements in mean values at higher frequency levels, whereas those in the corresponding conditions displayed higher ratings in all low-frequency frequencies. In the present research, the findings of Mere Exposure in digital drawings aided in explaining the outcome obtained by controlling the intensity of gravity using real and surrealist diagrams, frequency exposure, and presentation order.

1.9.7.1.3 Measurement Variables of Mere Exposure

Measurement variables incorporates the type of dependent measure used, the test order

used, and the period of delay used between exposure and rating. In affective evaluations research, forced choice order and test order are among the techniques upon which dependent measures are obtained. de Zilva et al. (2013) found that forced choice processes were appropriate to test preferences by asking respondents to select stimuli from the same pair, which they liked the most. The test order was also identified by a rate variable that could affect the effect of Mere exposure. Introducing the time delay between exposure and measurement can affect Mere Exposure quality. In a study by Kirby and Greenwald (2017), a linear increasing function of pleasantness ratings was observed with a delay of 5 to 10 minutes or two weeks. Researches that collect affect ratings immediately following the presentation of all stimuli produce relatively stronger effects (Montoya et al., 2017; Young et al., 2016). The present research made comparison between rating effects with a delay of 10 minutes and two weeks among the study respondents.

1.9.7.1.4 Effect of Mere Exposure to Paintings and other Works of Art

Experiencing an artwork is a complex phenomenon, involving a number of cognitive, affective and motivational processes such as recognition memory, pleasure, thinking, and reasoning (Marković, 2012). Researchers in the field of art have applied the concept of Mere Exposure in their studies with majority of artworks being explicitly created to evoke a strong emotional response. (Yanulevskaya et al., 2012). Tröndle and Tschacher (2012) obtained physiological evidence for the emotional impact of viewing artworks in studies, where participants gave evaluations of the emotional aspects of paintings long after viewing. Research suggests that exposure to visual impressions presented outside an artistic context can alter taste for abstract paintings and lead to liking (Böthig & Hayn-Leichsenring 2017). Focusing on aesthetic responses to art, Cuttings (2003) established enhanced liking for merely exposing undergraduate psychology students to particular

impressionist paintings. Cuttings argued that viewers prefer paintings reproduced more often arguing for the positive effects from mere exposure. Of significance is that the study having depended on laboratory exposure was not concerned with everyday exposure to artwork.

Meskin et al. (2013) reported findings suggesting that the quality of an artwork remained key in its evaluation and that frequent exposure to artwork did not necessarily make people like them more. In analyzing the findings of Meskin et al. (2013) on mere exposure to bad art, Cuttings (2017) noted mirroring of his methodology in two experiments with roughly similar results for good art. However, Meskin et al.'s. (2013) methodology problem was noted in lack of statistical grounds for generalization from one bad artist to all bad art. Cuttings in his methodology aimed at making things equal by having viewers compare pairs of paintings by the same artist, produced at around the same time with roughly similar content, style and the same general color palettes. The current study maintained methodological similarity in terms of comparison of paintings. However, variations in the digital paintings was in colour schemes, styles and themes.

In their study, Belke, Lederer and Carbon (2015) applied the Mere Exposure method to account for the preference ratings of art portraits and other artistic paintings while Van Paasschen et al. (2015) appropriated the effect of Mere Exposure to confirm that confrontation with pictures of artworks increases appraisals on liking of artworks. Effect of Mere Exposure was also reported by Meskin et al. (2013), whose findings showed that exposure to bad art had a detrimental effect on appreciation of art. Mallon, Redies and Hayn-Leichsenring (2014) found effects of Mere Exposure on liking for abstract coloured shapes and reported an interaction that complex paintings were preferred over simple ones.

Van Paasschen et al. (2015) refer to a study by Leder (2001), who sought to link the familiarity of artistic works and liking. The results intimated a strong correlation between familiarity and preference for an art work.

Although confrontation with images of artworks increase the ratings on the liking of artworks, a domain independence of the Mere Exposure Effect has also been observed for non-art stimuli (Monahan, Murphy & Zajonc, 2000). Bothig and Hayn-Leichsenring (2107) found domain-independent exposure effect of images of histological stains to restricted subsets of abstract paintings where ratings of the paintings were altered by visual impressions presented outside of an artistic context.

The literature reviewed above provided the basis upon which the current study grounded its exposure format including the number of stimulus exposures, the sequence of stimuli presentation and the duration of exposure. Like majority of the studies reviewed, the current study adhered to the brief repeated presentations of the digital paintings to the respondents. Literature suggests that collecting affect ratings immediately after the presentation of stimuli produce relatively stronger effects. The current study however went further to also test ratings after a delay period to confirm the sustainability of exposure effects.

1.9.8 Formats of Audience Exposure to Visual images

Exposure to visual images point to the manner in which the audience get to encounter the image. There are direct and indirect methods of exposure to visual images, with direct method providing the advantage of using the visual and tactile senses to experience the visual image. Indirect methods on the other hand are bolstered by the growth of technology, where audiences are enabled to view several images remotely. In the case of visual arts, a

number of exposure formats exist, starting with the traditional gallery exhibition, digital shows and websites.

1.9.8.1 Rapid Serial Visual Presentation as a Format of Exposure to Art

Rapid Serial Visual Presentation (RSVP) is the process of displaying images in a sequence at high presentation rates with multiple images per second at the same spatial location (Lees et.al., 2018). Using either the static mode in which images appear and disappear without moving or moving mode where targets within short moving clips have to be identified (Cecotti, Eckstein & Giesbrecht, 2012; Weiden, Khosla & Keegan, 2012). Rapid Serial Visual Presentation (RSVP) has been shown to provide flexibility of control and varied image presentation modes (Witkowski & Spence, 2012). The key factor of RSVP paradigm is presentation rate, where information is presented at rapid rate with more data being analyzed in a short period. Researchers list variants of RSVP such as key hole mode, shelf-mode, carousel-mode, collage-mode and floating-mode.

Recognition of target image has been shown to occur with 90% success rate in slide show mode even in high presentation rate (Spence & Witwoski, 2013). Studies comparing static and moving modes of RSVP found higher identification and better memory for static images in slideshow (key hole) mode (Porta & Ricotti, 2017; Abdullah & Ali, 2011). According to Spence and Witwoski (2013), task recognition accuracy averages at 84% across all static modes (slideshow mixed and tile mode) and 62% across all moving modes (diagonal, ring and stream modes). Spence and Witwoski (2013) also found 75% preference for static modes where target recognition accuracy was less influenced by the nature of the task. Two hypotheses put forward by (Spence, 2002) to explain the performance of keyhole-mode suggested that due to the static nature of the image

presentation, RSVP would minimize eyestrain in users and secondly, the user's eye-gaze can only usefully be fixated in one location.

Nico, Potter and Nieuwenstein (2017) linked good long-term memory and success of image identification with increased presentation time. Candan, Cutting and DeLong (2016) also found increased memory performance with longer exposure durations ranging from 400 milliseconds – 2000 milliseconds per image and superior overall memory performance for dynamic images. Mallon et al. (2014) similarly found positive effects while presenting images in varied durations of up to 3000 milliseconds. While using five-minute video clips, Ferguson (2014) attributed memory boost for dynamic images to longer exposure and richer information. Increased performance with kinetic images during the RSVP paradigm was also reported by Weiden, Khosla and Keegan (2012), while a study by Lees et al. (2018) where participants were to identify images containing natural scenes, reported reduced performance for faster stimulus presentation.

The studies provide contradicting evidence on the superiority of static and dynamic images in RSVP. Differences also arise in what is considered sufficient time for stimulus recognition. However, Potter (2012) adds that blank inter-stimulus intervals added after every picture increased percentage of picture remembrance by up to 84%, pointing to methodological differences that create disparities in time sufficient for stimulus recognition. Although there may be need to balance the tradeoff between accuracy and speed, variations in stimulus recognition time suggest that this may vary for different stimuli and tasks required of the participants.

Despite different observations, this study adopted slide show mode of RSVP, where images would zoom in and fade out centrally located on the screen. This is pegged on the

observation by Dias and Parra (2011) that participants performed best (90%) when the target stimulus was centered, but register a consistent decrease of performance to 50% in all participants when target stimulus was placed further away from the center 4° of visual angle. A strong factor in slide show mode is that success in recognition rate is less dependent on nature of the task.

1.9.8.2 Exhibition as a Format of Exposure to Art

Exhibitions have become a medium through which most art become known and according to Cline (2012) represent ideal forums for dialogue. Wahab and Zuhardi (2013) define exhibitions as complex presentations that convey concepts, showcase objects, and excite the senses. Smeds (2012) on the other hand defines an exhibition as a spatially organized and visualized expression of thoughts, things and systems of knowledge, and largely based on the display of material objects. Exhibitions today serve the goal of bringing art to a place of relevance that is relatable to a wide audience, by using varied strategies to connect and to touch audiences (Cline, 2012). Exhibits offer potential for emotional connection by giving viewers an opportunity to experience objects in their actual scale and multiple perspectives in real space.

According to Wahab and Zurhabi (2013) displays in the exhibition area must catch the eye of a user and hold the interest as users get the message across fast. Winfield & Webber (2011) opined that the objective of the exhibition was to allow face-to-face contact between an artist by bringing together the purveyor of a message and the visitors. According to Pelowski et al. (2016), art viewing engenders myriad emotions, evokes evaluations, physiological reactions, and in some cases can mark or alter lives. Leder (2013) observes that understanding this multifaceted impact of art is especially key for psychology and

empirical art research in addition to numerous areas of scholarship such as sociology, humanities, art history and museum education among others.

Cline (2012) argues for the pivotal role of exhibitions and their challenge to viewers' preconceptions by contributing to artistic dialogue of their time. The method of display plays a huge role in the impact of an exhibition, its reception and its message (Cline, 2012). In this study, exhibits had the advantage of being perceived with multiple senses such as sight, touch and even smell. A key advantage of exhibition was that it allowed viewers to experience objects directly and unmediated by technology. This study views the exhibition as a template providing an ideal platform for a new idea where a challenge is presented to participants in order to draw attention and emotional response, to the digital paintings. The study further postulates that a creative, exploratory attitude may be heightened by objective factors such as the kind of stimulus presented, the amount and type of additional information provided, and the wider exhibition context.

1.9.9 Image perception and processing by the Audience

According to Locher (2003) visual scanning, interpretation and evaluation of elements of a composition is spontaneously established by vision. Huston and Huston (2015) noted that perception of each compound stimulus occurs in multiple ways. They opined that Individual viewers respond to art displays in varied ways based on momentary state variables, the history of experience and genetic determinants. A work of art can be evaluated based on a compound of simple attributes such as color or emotionally charged variables. Huston and Huston (2015) suggested that the variables also could be information with associative value based on figurative and representational content loaded with meaning.

Locher (2015) postulated that the aesthetic experience with visual art occur in two phases. In his submission, Locher (2015) suggested that a viewer spontaneously generates a global impression upon initial exposure to a painting. This first phase of aesthetic experience could include pictorial content, style and overall structural organization, semantic meaning and an emotional reaction to the painting. Locher (2012) reasoned that the global impression of an artwork generated by an individual arises from interaction between the pictorial content of a work a viewer's personal context, hence reflecting his cognitive structures. According to Locher (2015), the second phase entails the development of aesthetic appreciation of the composition and satisfaction cognitive curiosity accruing from directed focal exploration of the image to expand knowledge related to the compositional features and organization of the artwork.

Although Locher, Krupinski, Mello-Thoms and Nodine (2007) identified the link between first-order type and holistic second order reaction to pictorial features such as line orientations or colors in a composition and complexity, symmetry, balance, perspective respectively, this study utilized second and third levels of compositional components to investigate the viewers' evaluation of digital paintings. At the third level, also considered the highest, the conceptual and semantic meaning of an artwork are conveyed through its content and artistic style by arranging pictorial attributes into a composition (Locher, 2014; Tinio, 2013).

The viewer's evaluation of a work of art is related to the experienced attributes of the work. Huston and Huston (2015) reasoned that in the case of repeated presentation of the same artwork, each presentation would be influenced by the effects of prior presentations causing a likelihood of different effects on the viewer. In this study, the major variables postulated

as determinants of the subjective evaluation include visual impact, tonality, content and meaning, compositional clarity and emotional impact. The study proceeded on the assumption that these multiple attributes would determine the viewers' evaluative responses to the digital paintings.

1.9.10 Theories that Guided the Study

For achievement of the objectives of this research and relevance in explaining the dynamics surrounding the effect of exposure to digital paintings on male sexual offenders' attitudes towards crime, an eclectic approach was used to apply three models namely: The Model of Aesthetic Appreciation and Aesthetic Judgments proposed by Leder, Belke, Oeberst and Augustin (2004); The Opponent – Process Model as advanced by Solomon and Corbit (1974) and the Cognitive Dissonance Theory as espoused by Festinger (1957). The three models are discussed in the subsequent sections.

1.9.10.1 The Model of Aesthetic Appreciation and Aesthetic Judgments (2004)

Leder et al. (2004) proposed a model representing different processing stages and important variables involved in aesthetic experiences and how aesthetic experiences are linked to cognitive and affective processing of artwork. This model considered art experience as a series of information processing stages and proposed five key stages. The first is perceptual analysis involving analysis of low-level visual features like shape, colour and contrast. The second stage is implicit memory integration, where art is processed based on previous experiences and particular schema held by the viewer. The use of the term implicit means that the results of this processing do not have to become conscious in order to affect aesthetic processing. The third stage is explicit classification, where the viewer focuses on conceptual artistic factors, such as style and content. The theory posits that processing at

this stage is affected by expertise and knowledge in art. However, in case of limited art knowledge and expertise, the output of this stage is presumably in terms of what is depicted like digital paintings in the case of this study. The fourth stage involves cognitive mastering where the viewer creates meaning through making interpretations and linking information to existing knowledge. Evaluation is listed as the final stage where a combination of processed outcomes results in aesthetic judgment and the potential for aesthetic emotions. Cognitive Mastering and Evaluation are closely linked as they build a feedback-loop. Leder et al. (2004) argued that results of the cognitive mastering stage are permanently evaluated in relation to their success in showing expected changes in the level of ambiguity and a satisfying understanding with the evaluation stage guiding the aesthetic processing by measuring its success. Leder et al. (2004) described aesthetic experience as the entire process of classifying, understanding and cognitively mastering the artwork upon exposure. This they argued is a cognitive process accompanied by continuous upgrade of affective states that are in turn appraised, resulting in an (aesthetic) emotion.

In partial response to objective two, this model was chosen to offer a more holistic understanding of participants' response when viewing digital paintings. In addition, it incorporated factors such as formal aspects of artworks, viewer experience and emotions in viewing stages which partially influenced final results. According to this model, the digital paintings were analyzed perceptually, then implicitly. Explicit analysis of style, content, and themes was followed by cognitive mastering and evaluation of digital paintings. Since aesthetic preferences are also affected by familiarity, the current study utilized the mere-exposure paradigm, which found that familiarity by repetition increased

the affective preference for a stimulus (Zajonc, 1968). The paradigm is explained in the Opponent – Process Model.

1.9.10.2 The Opponent – Process Model by Solomon and Corbit, (1974)

The Opponent-process model states that when an unusual stimulus is met, a negative emotional response is generated and subsequent removal of this stimulus triggers a different, positive emotional response (Markowitz & Arent, 2010). With each continuous exposure, the stimuli seem to be more familiar, so the quality of the negative process decreases, leading to reinforcement of positive emotions. This research suggested that the first exposure to digital paintings could attract emotionally negative reactions because it was so bad and so uncommon. Subsequent disclosures were expected to cause respondents to think more carefully about the message in the paintings and to attract feedback that is more positive. In response to objective two, this theory further accounted for the initial stage of viewing stimuli where the respondents experienced terror and panic, followed by caution when the stimulus was halted. It also explained how respondents' attitudes would change from unhappy to positive about a content of a painting after several exposures that led to various artistic responses. In the opponent-process model, the response pointed to the fear-pleasure emotion pair, with a shift over time from fear to pleasure. Since this theory could not explain the attitudinal differences arising from exposure to digital paintings, Festinger's theory of cognitive dissonance clarified the aspect of attitudes.

1.9.10.3 Cognitive Dissonance Theory

Festinger (1957) characterizes dissonance as the presence of conflicting cognition and may happen within or among sets of attitudes, beliefs, and behaviors. There is therefore a proclivity among individuals to align their thoughts and ways of reasoning to match their

cognition (Cooper, 2012). Consequently, whenever there results in discrepancy between attitudes or behaviors, this dissonance must be taken care of by aligning one of the elements to a shift. Although Festinger’s theory of cognitive dissonance has three tenets, this study scoped attitude as the concept of focus. On account of inconsistency between attitudes and behaviour and taking into consideration all factors, the attitude will change to accommodate the behavior. Figure 1.4 presents the model for Cognitive Dissonance theory.

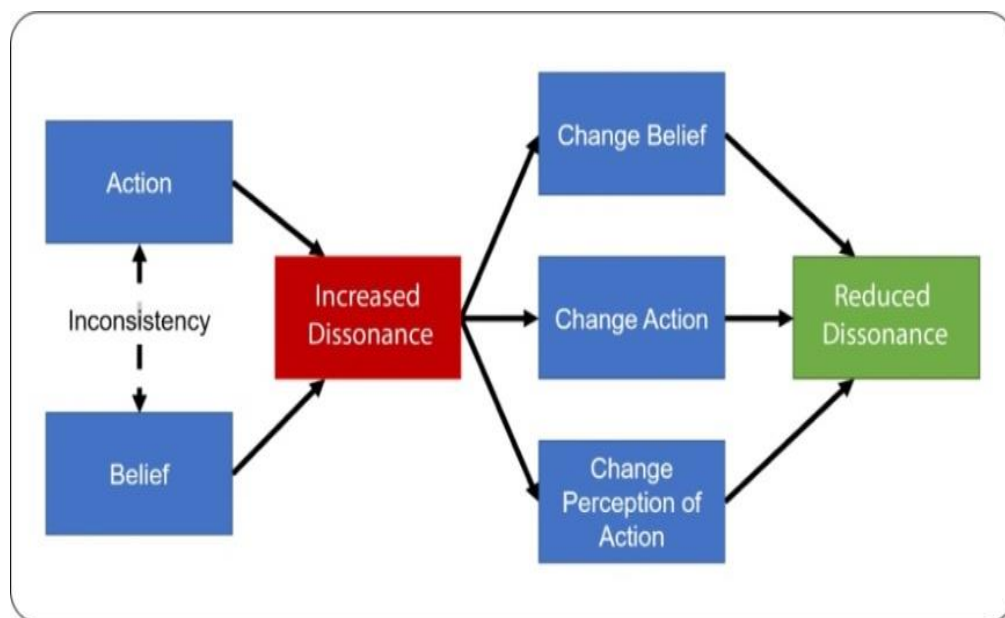


Figure 1.4: Theory of Cognitive Dissonance (Festinger, 1957)

Source: Festinger, L. (1957). A theory of cognitive dissonance, Evanston, IL: Row & Peterson

According to Festinger (1957), dissonance occurs frequently in situations where one has to choose between two conflicting beliefs or actions. In short, the concept of cognitive dissonance states that when people express their views and their mental structure by disclosing their state of consciousness, a drive towards consistency is made. According to objective three of the study which sought to determine the effect of exposure to digital paintings on the attitudes of male sexual offenders, psychological misunderstandings were

considered the norm in the public domain. When the exposure was complete and the respondents experienced the real effect of the message in the artwork and compared it with their current beliefs, they felt the discomfort or dissonance. The theory described the inconsistencies that occur when information contradicting the beliefs of perpetrators reaches out to them, encouraging offenders to minimize disagreements by changing attitudes, including new cognitions that were consistent with the one being referred to, or by reducing the significance of the components being referred to.

A number of theories challenging the Cognitive dissonance theory have been proposed by Bern (1967), self-perception theory, (Tedeschi, Schlenker, & Bonoma, 1971) impression-management theory, (Steel, Spencer & Lynch, 1993), self-affirmation theory and Cooper and Fazio's (1984) new look theory. However, despite the alterations made, the theory of cognitive dissonance is still among the most applicable theories of social psychology. This theory was selected for this research because of its flexibility in explaining the link between cognition and attitude. Although the current research contributes to the general understanding of Cognitive Dissonance Theory, this study applied the theory as a framework for understanding attitudinal variations arising from exposure to digital paintings. The cognitive dissonance theory proposed by Festinger (1957), the Model of Aesthetic Appreciation and Aesthetic Judgments (Leder et al., 2004) and a review of literature on variables of Mere Exposure were used to develop a conceptual framework.

1.9.11 Conceptual Framework

The conceptual framework is a structure used in research to explain the natural progression of the phenomenon under study. According to Grant and Onsanloo (2014), it is a visual display of how research ideas interrelate.

Figure 1.5 outlines the conceptual framework that guided the study.

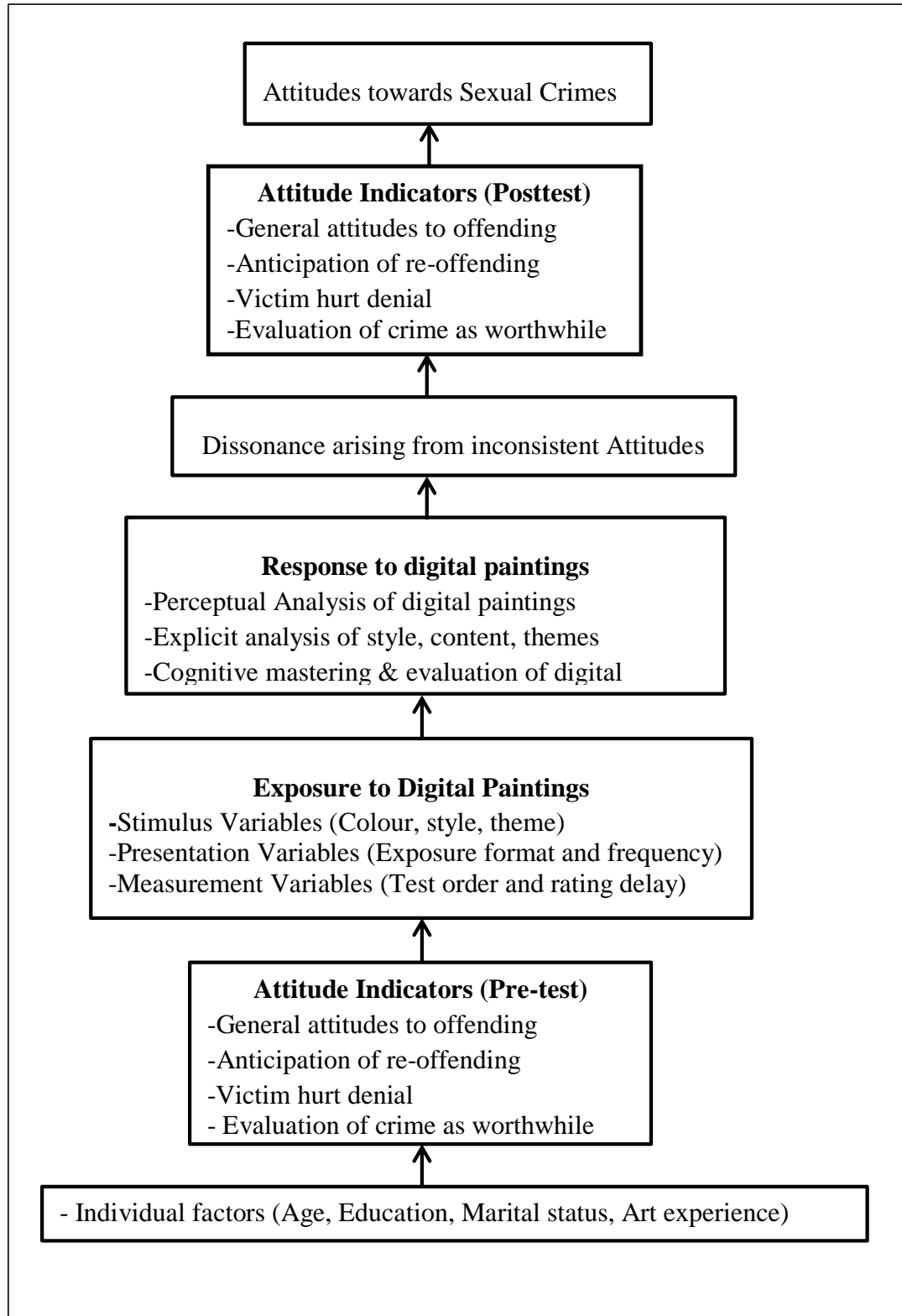


Figure 1.5: Conceptual Framework

Source: Researcher's Model (2019)

According to figure 1.5, the dependent variable is the attitudes towards crime, which was precipitated by the independent variable. The dependent variable is represented by posttest attitude indicators under general attitudes to offending, anticipation of re-offending, victim hurt denial and evaluation of crime as worthwhile. Since the study sought to find out the effect of intervention on offenders' attitudes, pretest measure of attitudes was done before intervention. The differences in attitudes between pre and posttests are explained by the cognitive dissonance theory (Festinger, 1957) which highlights the reduction of dissonance sought by adjusting attitudes based on new information presented in the digital paintings.

The independent variable was identified as the exposure to digital paintings, which could precipitate a difference in attitudes towards sexual crimes among male sex offenders. The conceptual framework highlights underlying factors that influenced exposure to digital paintings such as stimulus variables, presentation variables and measurement variables. The stimulus variables were classified as colour schemes, themes and styles of digital paintings illustrating the consequences of sexual crimes. Presentation variables included the exposure frequency and the formats of exposure. Exposure in line with these variables resulted in negative emotions, caution and positive emotions as explained in the Opponent – Process Model (Solomon & Corbit, 1974). Presentation variables were test order and rating delay, where rating was done immediately at the end of the intervention and two weeks after.

The intervening factors included the process of response to the digital paintings, which was expounded by the Model of Aesthetic Appreciation and Aesthetic Judgments (Leder et al., 2004). This model highlighted the stages of response as perceptual analysis of the digital paintings, explicit analysis of style, content, themes, cognitive mastering and evaluation of

the digital paintings. Individual factors such as age, marital status, level of education and art experience were identified as influencers of responses to the digital paintings.

1.9.12 Gaps in the Literature Review

This chapter reviewed the theoretical frameworks and related studies on sexual offending, art-based prison programs for offenders and formats of participation and exposure to visual arts. Although a number of global studies have shown sexual offending as one of the leading crimes, little has been done to establish the attitudes of sex offenders towards sexual crimes, despite the negative effects on the victims, their families and the larger society.

Reviewed literature suggests that art-based prison programs are beneficial to offenders. However, this does not seem to inform rehabilitation practices in Kenya where only one study by Kuria and Wainaina (2019) has attempted the use of visual arts in offender intervention. The benefits of art prison programs identified the literature included but are not limited to anger management (Breiner et al., 2012), increased effective communication, empathy, collaboration and improved social skills (Cheliotis & Jordanoska, 2016). Research interests in the arts also define a participatory taxonomy of participation as a collaborative effort where there is a shared role in the design and the content of the work; directed participation in which artistic contribution activities are carried out; creative participation where real contribution is provided in the work and nominal participation, where participants simply interact with the artwork through viewing. (Helguera, 2011). Many studies of prison art programs are more focused on collaborative, directed, and creative participation. Studies which have explored nominal participation only captured art viewing in the museum. This leaves nominal participation in the arts with the offender

population underexplored. Examining the effects of artistic views on incarcerated offenders can provide new insights into the arts participation literature.

Studies also suggest that repeated unreinforced exposure to stimulus enhances liking and appreciation, leading respondents to rate frequently presented stimuli more favorably. (de Zilva et al., 2013; Nanay, 2017). However, the studies are limited on demonstrating how repeated exposure to visual arts by way of viewing can address sex offenders' attitudes towards sexual crimes. The studies further fall short of explaining how the specific rehabilitative needs of sex offenders may be addressed despite the understanding that they have different problems from other offenders (Ndombi, 2014). Empirical research and theory suggest that change in attitude subsequently leads to behavioural change (Ajzen & Fishbein, 1980; Ajzen, 1991). However, numerous attitudinal studies touching on sexual offenders have seldom regarded the offenders' attitudes in their research.

Literature explains extensively the link between quality rehabilitation outcomes and offence focused interventions (Campbell Policy Brief, 2017). It is not clear whether or not rehabilitation programs within the Kenyan male prisons address the unique needs of sexual offenders. There is need for sexual offender interventions which focus on the unique needs of this category of offenders for positive outcomes. Finally, it has emerged that defilement and rape are the leading sexual offences in Kenya (Crime Situation report 2017; Njehu, 2015). However, while a numbers of factors have been found to moderate effectiveness of intervention, there is a paucity of literature on the potency of varied approaches of intervention targeting specific sub-types of sex offenders.

1.10 Research Methodology

An outline of research methods which were used in the implementation and realization of the research objectives is discussed as follows: research design of the study, target and the study population, sampling procedures, development and validation of research instruments, data collection procedures, method of presentation and analysis of data.

1.10.1 Research Design

The study utilized the one group pretest-posttest quasi-experimental design. Quasi-experimental designs are used in social research since it is difficult to fully randomize all the characteristics of the experimental and control groups (Fraenkel, Wallen & Hyun, 2006). The one group pretest- posttest design had the advantage of ensuring that attitudes of the same individual were precisely measured before and after intervention. Table 1.1 presents an illustration of the one group pretest-posttest design.

Table 1.1: The Test Illustration of One Group Pre-test and Post-test Design

Pre- Test	Independent Variable (Treatment)	Post- Test
Y1	X	Y2

Source: Knapp, T. R. (2016).

A mixed method research approach was used for triangulation and validation of data. Mixed methods research implies that data from qualitative and quantitative sources are integrated, related or mixed at some stage in the research process (Creswell, 2014). Whereas qualitative research aimed at the development and the understanding of theories, quantitative research was used in testing theories, determining facts, demonstrating relationships between variables, and predicting outcomes. Methods used were designed to ensure objectivity, generalizability and reliability of research findings. While qualitative

the approach in this study opined that male sex offenders' attitudes towards sexual crimes were likely to change, quantitative approach measured the actual attitudinal changes that accrued after exposure to the digital paintings.

In order to balance time constraints and study objectives, attention was focused on identifying the positive effects of exposure to digital paintings on male sex offenders' attitudes towards sexual crimes. A pre-test was carried out to determine the initial attitudes towards sexual crimes, while the post-test aimed at determining changes that occurred after the exposure to digital paintings. The pre and post intervention phases were characterized by the administration of a questionnaire based on an Attitude to Offending Behaviour instrument (ATOB) called Crime Pics II. (Appendix A)

Under qualitative method, the study applied participatory action involving viewing of digital paintings illustrating the consequences of sexual crimes. Ratings were done to enable the researcher to assess the overall effect of exposure to digital paintings on male sex offenders' attitudes towards sexual crimes and the variations arising from the two modes of presentation.

1.10.2 Location of Study

The study was conducted in Nairobi West Prison (NWP), a facility for male offenders in Langata constituency, Nairobi City County. Nairobi West prison is a medium security facility for male offenders. Built in the 1950s during the colonial era, the prison is situated on Langata road opposite Wilson Airport and neighbours African Medical and Research Foundation (AMREF) international University to the right and Langata road primary school to the left. The map of the study location is presented in Figure 1.6.



Figure 1.6:Map of Nairobi West Prison

Source: Google maps (2018)

The prison which occupies about two acres of land initially served as a British army base but was changed to a prison staff training college. In 1967 when the staff training college was relocated to its present location in Ruiru, it was gazetted as a prison. According to the prison record in 2018, it has an average population of 550 inmates and 386 staff members. The prison has a building department, welfare, school, industry and a spiritual sector all tasked with spearheading the rehabilitation and reformation of offenders. Nairobi West Prison was selected for the study because it is not a farm prison, hence the participants were fully available for the study duration with minimal fatigue. It is also the only facility in Nairobi that host long term convicted offenders with no remand section.

1.10.3 Target and Study Population

According to Flick (2015), a target population alludes to the entire group of people or items of interest to be considered in a statistical study. The target population is used by a

researcher in coming up with the findings of the study. Bhattacharjee (2012) posits that a study population is a reachable segment of the target population from where a researcher can isolate a sample for the study. The study targeted male sex convicts incarcerated in prisons in Kenya. In order to narrow the scope of respondents expected of an in-depth study, convicts of rape and defilement aged 18-45 years were selected to participate in this study. This age group has been identified as high-risk offenders (Levenson & Shields, 2012).

1.11 Sampling Techniques and Sample Size

Bhattacharjee (2012) notes that sampling is a statistical process which involves picking a subset of a population with the intention of coming up with study observations and inferential statistical regarding the given population. According to Cooper and Schindler, (2014), a sample therefore is a segment of the population selected to represent the population as a whole. The following sampling procedures were employed in selecting the male sex offenders, themes for the digital paintings and experts who contributed to this study:

1.11.1 Sampling and Sample Size of Male Sex Offenders

Nairobi West Prison records as at February, 2019 showed that the total number of offenders convicted for sexual crimes stood at 277 out of 600 inmates. The prison records were used to identify potential participants after which direct recruitment was carried out by soliciting for volunteers from sex offenders convicted of defilement and rape and aged 18-45 years. A total number of 142 convicts volunteered to take part in the study. Purposive sampling was then used to recruit 72 convicts from the group of volunteers who had below one year to the date of release. Although Wermink et al. (2018) argued that offenders who

had served longer prison spells are more exposed to deviant values, and consequently can become more deeply embedded in criminal networks, this study selected participants who would soon be released back into society. Such participants would need correct attitudes upon release in order to avoid re-offending. Out of this population, 42 were convicted of defilement, while 30 were convicted rape. Using Bartlett, Kotrlik, and Higgins' (2001) formula (Figure 1.7), a sample population was calculated from the 72 convicts with a 95% confidence level and an error of 0.05 giving a total of 61 respondents.

For a definite population, sample size, $n = \frac{\frac{P(1-P)Z^2}{E^2}}{1 + \frac{P(1-P)Z^2}{E^2 N}}$

P= 50% the percentage occurrence of a state or condition (standard deviation)

E =0.05 the percentage maximum error required (margin of error)

Z =1.96 the z-value corresponding to level of confidence required (Statistical table -Appendix B)

N = 72 finite sexual offender population

n =Required sample size, is calculated as: $\frac{\left(\frac{0.5(1-0.5)1.96^2}{0.05^2}\right)}{\left(1 + \frac{0.5(1-0.5)1.96^2}{0.05^2 \times 72}\right)} = 60.63 \approx 61$

Figure 1.7:Sample size Calculation Formula for categorical data
Source: (Bartlett, Kotrlik, & Higgins, 2001)

Random assignment was then used to assign respondents to one of the two exposure conditions namely; exhibition and projection Rapid Serial Visual Presentation.

1.11.2 Sampling and Sample Size of Digital paintings

Typical case sampling was used to select six themes for exploration through Digital painting. This is a type of purposive sampling useful when a researcher wants to study a

phenomenon or trend as it relates to what are considered typical or average members of the effected population. Sampling of digital paintings for this study was based on research findings regarding consequences of crime on the offender, offender’s family and victim (Loureiro, 2016; Ballantyne, 2015). Purposive sampling was also used to select the colour schemes and styles used in the digital paintings. This provided the researcher with the justification to make analytical generalizations from the sample studied (Sharma, 2017). The summary of information on themes, colour schemes and styles of the digital paintings is provided in Table 1.2

Table 1.2: Summary information on themes, colour schemes and style of Digital Paintings

Consequences of crime	Theme	Realism	Surrealism
Sexual Offender	Public shaming	Monochrome(1)	Monochrome(1)
		Polychrome (1)	Polychrome (1)
	Social stigma	Monochrome(1)	Monochrome(1)
		Polychrome (1)	Polychrome (1)
Offender’s Family	Discrimination	Monochrome(1)	Monochrome(1)
		Polychrome (1)	Polychrome (1)
	Extreme poverty	Monochrome(1)	Monochrome(1)
		Polychrome (1)	Polychrome (1)
Victim	Injury and sexually transmitted disease	Monochrome(1)	Monochrome(1)
		Polychrome (1)	Polychrome (1)
	Disgrace and depression	Monochrome(1)	Monochrome(1)
		Polychrome (1)	Polychrome (1)
Total Number of Digital paintings		12	12

A total of twenty-four (24) digital Paintings were developed for this study and total population sampling was used to select all the twenty-four (24). Two (2) themes each covering the consequences of sexual crimes on the sex offender, offender’s family and the

victim were explored resulting in twelve (12) realists and twelve (12) surrealist paintings. The paintings were further classified according to colour schemes as monochrome and polychrome. Out of the 24 digital paintings, random sampling was used to assign six digital paintings to a single exposure and the remaining eighteen to repeated exposure of up to fifteen sessions.

1.12 Sampling of experts who contributed to the study

Additional sampling was done to select art and psychology experts who validated the data collection instruments. One artist who produced the digital paintings was also sampled.

1.12.1 Sampling and Sample Size of Art Experts

Purposive sampling is used when research requires one to capture knowledge rooted in a particular form of expertise. Consequently, purposive sampling was used to select three art specialists possessing a Master's degree in painting or a related area. The experts were sampled to validate the digital paintings and the response to art questionnaires to establish their aptness for the study.

1.12.2 Sampling and Sample Size of Psychology Experts

Three psychology experts, two with PhD degrees in psychology and one with masters degrees in both psychology and criminology were purposively sampled to validate the attitude questionnaire.

1.12.3 Sampling and Sample Size of Artist

Expert sampling was utilized to identify and choose one artist with a Bachelor's degree in Fine Arts and Design and over of four years of practice in digital painting. An interview schedule (Appendix A) was used to verify the competence of the artist. The artist was then tasked with the process of producing the digital paintings based on the brief provided.

1.13 Research Instruments

Primary data was collected using an attitude questionnaire, an art response questionnaire, digital paintings and a focus group discussion guide. Primary data is unique and original data, which is directly collected by the researcher from a source (Ajayi, 2017). The research instruments used in the study complemented each other in gathering both qualitative and quantitative data. Triangulation was then used to facilitate the validation of the data through cross verification from different sources and also to test the consistency of findings.

1.13.1 Questionnaires

A questionnaire is a set of questions formulated to obtain statistically useful information about a given topic (Kabir, 2016). The questions are intended to provide high degree of data standardization and implementation of generalized information amongst any population. The study used two questionnaires. The first is an attitude questionnaire which was used to determine male sex offenders' attitudes towards sexual crimes at pretest and posttests phases. A Response to digital paintings questionnaire with a five-point Likert scale was used to gauge the participants' reactions to the digital paintings on display. The questionnaires were designed to be semi-structured and self-administered to the sample chosen. They were preferred because according to (Zikmund, Babin, Carr, & Griffin, 2010), they are economical and a moderately non-obstructive method of collecting data.

1.13.1.1 Attitude Questionnaire for Offenders

The attitude questionnaire (Appendix B) was used to gather information from the respondents at pretest and posttests. The first part of the questionnaire gathered background information of the respondents like age, level of education, marital and employment status. The second part of the attitude questionnaire was modeled after Crime Pics II tool, a self-report instrument developed by criminology and psychology scholars: Frude, Honess, and

Maguire (2008). The 35-item structured questionnaire comprises of five indices for measuring offenders' attitudes. The first section contains 20 indicators for measuring attitudes as follows: G scale- general attitude to offending (7 indicators), A scale- anticipation of re-offending (6 indicators), V-scale- victim hurt denial (3 indicators), and E- scale -evaluation of sexual crime as worthwhile (4 indicators). These were measured on a 5-point scale (range: 1–5: 1= strongly disagree; 5=strongly agree). The second section of the questionnaire is the P scale which contains a problem inventory with 15 indicators. This was used to measure life issues such as relationships, money, and employment on a four-point scale (range: 1–4: 1= a big problem; 4=no problem).

1.13.1.2 Response to Art Questionnaire for Offenders

The art response questionnaire (Appendix C) was administered to capture the participants' responses to digital paintings. The questionnaire was designed based on Jorgensen's (1998) twelve classes of art image attributes grouped into perceptual (attributes identified by looking at an image), interpretive (attributes based on a viewer's opinion), and reactive (attributes that reflect an emotional or intellectual reaction of a viewer) aspects of an image.

The questionnaire was sectioned into two parts. The first contained sixteen items used to gather general information on participants' views about the digital paintings used in the study on a 5- point Likert scale (range: 1–5: 1= strongly disagree; 5=strongly agree). The second part contained colour images of all 24 digital paintings used in this study and five dimensions of rating as follows: Visual impact, tonality, content and meaning, compositional clarity and emotional impact. Each dimension was rated on a 5-point Likert scale (range: 1–5: 1=very bad; 5 = very good). The digital paintings with their respective titles were numbered sequentially (1–24) and the respective number was printed on the

questionnaire. For RSVP group, the paintings were displayed on the screen during the rating. The second part of their questionnaire did not have the art images, but had the respective image numbers and rating scale for each painting as per the art dimensions.

1.13.2 Digital Paintings

The study utilized researcher generated digital paintings in two colour schemes (monochrome and polychrome) and two styles (Realist and surrealist) to test exposure effects on male sexual offenders' attitudes towards crime. Traditional digital painting was used in developing researcher generated digital paintings. This technique involves pallet knife, brush, or application. The process began with the collection of references from different media including videos and photographs related to the themes. The artist produced thumbnail concept sketches covering the different themes based on the brief provided by the researcher. These were essential in achieving the most appropriate composition in relation to the intended effect. At this stage, frequent editing and adjustments were common. After the sketch and compositions were approved, the images were scanned and imported into Adobe Photoshop as a jpeg format image. At this stage the canvas size and resolution of the image was determined. Adobe Photoshop was set to painting mode to activate the color swatches and brushes. Placing the image of the sketch onto the canvas and introducing a new layer enabled the artist to trace over it and have a detailed sketch to guide the painting process. A monochrome painting was done over the sketches to ensure coherent lighting of the images. By picking color from the swatches and reducing the opacity of the brush, the colors were painted over the monochrome image to bring up the mood of the paintings for polychrome schemes. Colour pallet and a virtual brush tool were used to convey the emotional aspects desired. The watercolor tool was used to supply more detail, shades, concentration, and textures while the blending tool

was applied to attain colour harmony. Details were then added to enhance the images. The final files were exported and saved in Photoshop Document (PSD) format for future editing, and in Portable Document Format (PDF) for printing purposes. The artist produced experimental pieces which were evaluated by art experts to check for the suitability and aptness of the artwork for this study. Adjustments were made based on recommendations by the experts and changes saved. Final prints were created on canvas sizes measuring H=117.8 cm and W=83.7 cm. Brief titles were added to the digital paintings to help participants understand the information in the artwork.

1.13.3 Focus group discussion guide

A Focus Group Discussion (FGD) guide is a questionnaire for focus groups and for other types of qualitative research. Open-ended questions in the FGD guide (Appendix D) were used to provide in-depth discussions on consequences of sexual crimes as depicted in the digital paintings. For this study, the guide contained thirteen questions that guided the discussions, thus facilitating the collection of qualitative data. According to Kabir (2016), focus group discussions are facilitated discussions, conducted with a small group of people who have an interest in a particular topic.

1.14 Validity and Reliability of Research Instruments

A pilot study was carried out in preparation for the main study through preliminary trial to assess the data collection tools and methods in order to mitigate any risks of failure. According to Thabane et al. (2010), pilot studies and feasibility studies are meant to guide and to plan for a large-scale investigation and are therefore often viewed synonymously. Ismail, Kinchin and Edwards (2017) explained piloting to exclusively consist of pre-testing a particular research instrument, and to give the researcher advance warning on where the main research project might fail. To ensure the success of data collection process and the

validity and reliability of measurements of the study constructs, data collection instruments were tested using the pilot study data collected. Validity was checked by assessing for content validity and construct validity, while reliability was checked by determining the internal consistency of the data collection instruments.

1.14.1 Selection of Participants for the Pilot Study

After the initial data collection instruments were designed, twenty (20) respondents (12 defilement and 8 rape convicts) were selected to be used in the pilot study. The respondents selected for the pilot study had similar characteristics as the main study sample in terms of age and nature of sexual offence. They included rape and defilement convicts aged 18-45 years who had below year to the date of discharge or release from prison. Validity and reliability of the data collection instrument were tested using the pilot study data collected. The pilot study respondents were selected from among sex offenders in Kamiti Medium Prison in Nairobi County. Twenty (20) respondents formed more than 10% of the study sample size and were therefore deemed appropriate for the pilot study. This concurs with proposals by scholars such as Creswell (2003) who argued that using a pilot of at least 10% of the sample is adequate to detect weaknesses in design and instruments as well as provide proxy data. Experts in art and psychology also participated in the pilot study process in validation of the data collection instruments of and intervention mechanisms.

1.14.2 Content, Construct and Convergent Validity of Research Instruments

Content validity as referred is the degree to which items contained in a research instrument are representative of the targeted construct and depends on the adequacy of a specified domain of content that is sampled in the items used to measure the study variables Yusof (2019). Construct validity assessment using Confirmatory Factor Analysis (CFA) was carried out as an assessment of uni-dimensionality of the study constructs from the pilot

study data. The study assessed construct validity based on Fornell-Larcker techniques involving CFA results in which construct validity is assessed through convergent and discriminant validity (Henseler, Ringle & Sarsreth, 2015).

Convergent validity and discriminant validity tests were also carried out. This was to ensure that indicators (observed variables) which are meant to be related based on empirical information and on content validity confirmation are actually related and that indicators belonging to different constructs not meant to be related are not related respectively. To assess convergent validity based on the Fornell-Larcker techniques, the Average Variance Extractions (AVEs) were computed for each construct from the factor loadings as proposed by (Ghadi, Alwi Bakar & Taib, 2012). Confirmatory Factor Analysis (CFA) was carried out to estimate the factor loadings of each dimension in the questionnaires tested and the Average Variance Extractions (AVEs) for each construct calculated as the average of the indicator loadings in the constructs. Discriminant validity was assessed based on the Fornell-Larcker technique where the AVEs are compared to the squared multiple correlations (Henseler et al., 2015).

1.14.2.1 Validity of Attitude Questionnaire for Offenders

The content in the attitude questionnaire for offenders (Appendix B) was developed based on the Crime-Pics II tool, which has been approved and used for assessing attitudes towards crime since 1994. The Crime-Pics II tools being a standard measure was used to guide the computation of indices of each sub-dimension and the general measure of attitude towards sexual crimes.

Three experts from psychology were consulted to assess the content validity of the attitude questionnaire and content validity index calculated from their opinions (Appendix E). In

this study, this was assessed by the use of Content Validity Index (CVI). Content validity index (CVI) was used to assess whether a scale has an appropriate sample of items representing the construct it was meant to measure and whether the items chosen adequately represented the domain of content used in the construct. Table 1.3 shows the content validity index summary for the attitude questionnaire for offenders.

Table 1.3: Content validity index summary for attitude questionnaire for offenders

Construct	Proportion of relevance			Average Item CVI
	Expert 1	Expert 2	Expert 3	
General Attitude to Offending	0.957	0.950	0.894	0.934
Anticipation of Re-Offending	0.889	0.988	0.963	0.947
Victim Hurt Denial	0.957	0.891	0.978	0.942
Evaluation of Crime as Worthwhile	0.993	0.979	0.975	0.982
Perception of Current Life Problems	0.976	0.897	0.972	0.948
Overall ratings	0.954	0.941	0.956	0.951

In calculating the CVI, the study considered experts' opinions in assessing the proportion of items in the sampled content as proposed by Polit et al. (2007). In this technique Polit et al. (2007) proposed 3 experts to assess the items intended to measure each construct and recommended a minimum Content Validity Index of 0.8 based on opinions of 3experts. The Average I-CVIs of the constructs of the study were found to be adequately above the 0.8 minimum thus there was no adjustment of the questionnaire.

The construct validity of the attitude questionnaire was also tested by first carrying out factor analysis of the indicators used to measure the indicators of each dimension. The analysis was carried out for both pre-test questionnaire and the post-test questionnaire. The assessment of indicators to retain or expunge was also based on the factor loadings from

the CFA models. Table 1.4 show the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests showing that the CFA models used were reliable and adequate to use.

Table 1.4: Kaiser-Meyer-Olkin (KMO) and Bartlett's Tests for Data on Attitudes

Test	Statistics	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.798	
Bartlett's Test of Sphericity	Approx. Chi-Square	707.324
	df	595
	Sig.	.001

Kaiser-Meyer-Olkin (KMO) and Bartlett's tests were carried with the aim of exploring the adequacy of the data to determine if it was suitable for factor analysis (Burton & Mazerolle, 2011). The KMO statistics for all the constructs were found to be above 0.7 thus implied suitability of data for the CFA models. The adequacy was examined by the Bartlett's tests that were based on the significance of the chi-square statistics. According to this pilot study, all the Bartlett's statistics had p-values of 0.000, which were all less than 0.05 implying that the item correlation matrix was not an identity matrix thus the pilot study data was adequate and suitable for the factor analysis models carried out. All indicators loaded the hypothesized dimensions above 0.4 and implied that the items as detailed in the crime-pics II software belonged to the dimensions.

Table 1.5 shows the construct validity results for the attitude questionnaire.

Table 1.5: Construct Validity Summary Results

	Pre-test data		Post-test data	
	AVE	Squared correlations	AVE	Squared correlations
General Attitude to Offending	0.611	0.399	0.552	0.365
Anticipation of Re-Offending	0.604	0.524	0.621	0.072
Victim Hurt Denial	0.787	0.513	0.612	0.365
Evaluation of Crime as Worthwhile	0.683	0.227	0.718	0.426
Perception of Current Life Problems	0.816	0.524	0.743	0.426

Confirmatory factor analysis was carried out for each dimension of attitudes towards sexual crimes on the pre-test and post-test pilot study data to generate the factor loadings. Convergent validity was assessed using the Average Variance Extracted (AVE) for each construct from the indicators as proposed by the Crime-Pics II tool. Convergent validity is said to be very good if the AVEs are above 0.7 and acceptable if above 0.5 (Hair, Hult, Ringle & Sarterdt, 2014). The table shows that the Average Variance Extracted (AVEs) for all the dimensions were above 0.5 on both pre-test and post-test questionnaires which implied adequate and acceptable convergent validity. Discriminant validity was assessed by estimating the square multiple correlations ($\max r^2$) which were compared with the AVEs of the dimensions of attitudes towards sexual crimes. The squared multiple correlations reflected the variance that the indicators belonging to a construct shared with other constructs. The squared multiple correlations should be low as discriminant validity, is attributed to AVEs larger than the squared correlations (Henseler et al., 2015). As shown in table 1.5, all the AVEs were larger than the squared multiple correlations and implied that the attitude questionnaire exhibited discriminant validity. Since both convergent and discriminant validity were found to be exhibited, it was concluded that the instrument exhibited construct validity and that the study constructs exhibited uni-dimensionality.

1.14.2.2 Validity of Art Response Questionnaire for Offenders

Three art experts assessed the validity of the art response questionnaire for offenders using a checklist shown in Appendix F. The questionnaire measured five (5) sub-constructs detailing response to digital paintings namely; general questions, individual image ratings, ratings of themes, colour schemes, and painting styles. A content validity index computed from the opinions of the art experts is shown in Table 1.6.

Table 1.6: Content Validity Index Summary for Art Response Questionnaire

Construct	Proportion of relevance			
	Expert 1	Expert 2	Expert 3	Average Item CVI
General questions on digital paintings	0.909	0.971	0.803	0.894
Individual image ratings	0.834	0.776	0.951	0.854
Ratings for digital painting themes	0.958	0.807	0.989	0.918
Ratings for digital Painting styles	0.983	0.716	0.875	0.858
Rating for digital painting colour schemes	0.965	0.946	0.776	0.896
Overall ratings	0.930	0.843	0.879	0.884

The Average Item Content Validity Index (I-CVI s) of the constructs in this questionnaire were found to be adequately above the 0.8 minimum. Therefore, there was no further adjustment of the questionnaire based on the content validity results for this questionnaire.

Confirmatory Factor Analysis (CFA) was also carried out on each dimension and used in assessing the construct validity of the instrument. Table 1.7 shows the KMO and Bartlett's tests which shows that the CFA models used were reliable and adequate to use.

Table 1.7: Kaiser-Meyer-Olkin Measure (KMO) and Bartlett's Tests for Data on Art Response Questionnaire for Offenders

Test	Statistic
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.754
Bartlett's Test of Sphericity	Approx. Chi-Square
	df
	Sig.
	555.010
	496
	.034

Kaiser-Meyer-Olkin Measure (KMO) and Bartlett's tests were carried with the aim of exploring the adequacy of the data to determine if it was suitable for factor analysis. The KMO statistics for all the constructs were found to be above 0.7 implying suitability of data for the CFA models. The adequacy was also examined by the Bartlett's tests that were based on the significance of the chi-square statistics (Tabachnick & Fidell, 2001). According to the pilot study, all the Bartlett's statistics had p-values of 0.000 which were all less than 0.05 implying that the item correlation matrix was not an identity matrix thus

the pilot study data was adequate and suitable for the factor analysis models carried out.

Confirmatory Factor Analysis (CFA) was carried out for each dimension and convergent validity for each construct assessed using the Average Variance Extracted (AVE) from the indicators as proposed by the empirical factor models. Table 1.8 shows that the AVEs for all the dimensions are above 0.5 on all the dimensions implying adequate and acceptable convergent validity.

Table 1.8: Construct Validity Summary Results for Art Response Questionnaire

	Number of items retained	AVE	Squared correlations.
General questions on digital paintings	11 out of 15	0.733	0.448
Individual image ratings	5 out of 5	0.844	0.447
Ratings for digital painting themes	3 out of 3	0.851	0.244
Ratings for digital Painting styles	3 out of 3	0.768	0.360
Rating for digital painting colour schemes	3 out of 3	0.811	0.349
Arousal levels	7 out of 7	0.744	0.448

Discriminant validity was assessed by estimating the square multiple correlations ($\max r^2$) which were compared with the AVEs of the dimensions of the responses to digital paintings. As shown table 1.8, all the AVEs were larger than the squared multiple correlations which implied that the data and thus the instrument exhibited discriminant validity. With both convergent and discriminant validity exhibited, the implication was that the instrument also met construct validity and un-dimensionality of the constructs.

1.14.2.3 Content Validity of Digital Paintings

The content validity of the digital paintings was assessed at two levels. Eight (8) digital paintings were first produced by the artist and evaluated by the experts. An opinionnaire (Appendix G) was used to check the suitability and aptness of the artwork for the study.

The relevance of the digital paintings in relations to constructs rated was 67%. This necessitated that adjustments and improvements be made on the eight paintings after which were then used, in the pilot study. At the second level, the remaining sixteen (16) digital paintings were produced following the approval of the art experts and findings of the pilot study. These were further evaluated to confirm that they met the set criteria. A summary of the art experts' opinions regarding the suitability of all twenty-four (24) digital paintings for the main study is presented in Figures 1.8, 1.9 and 1.10. Figure 1.8 shows the experts' opinion on general quality of the digital paintings.

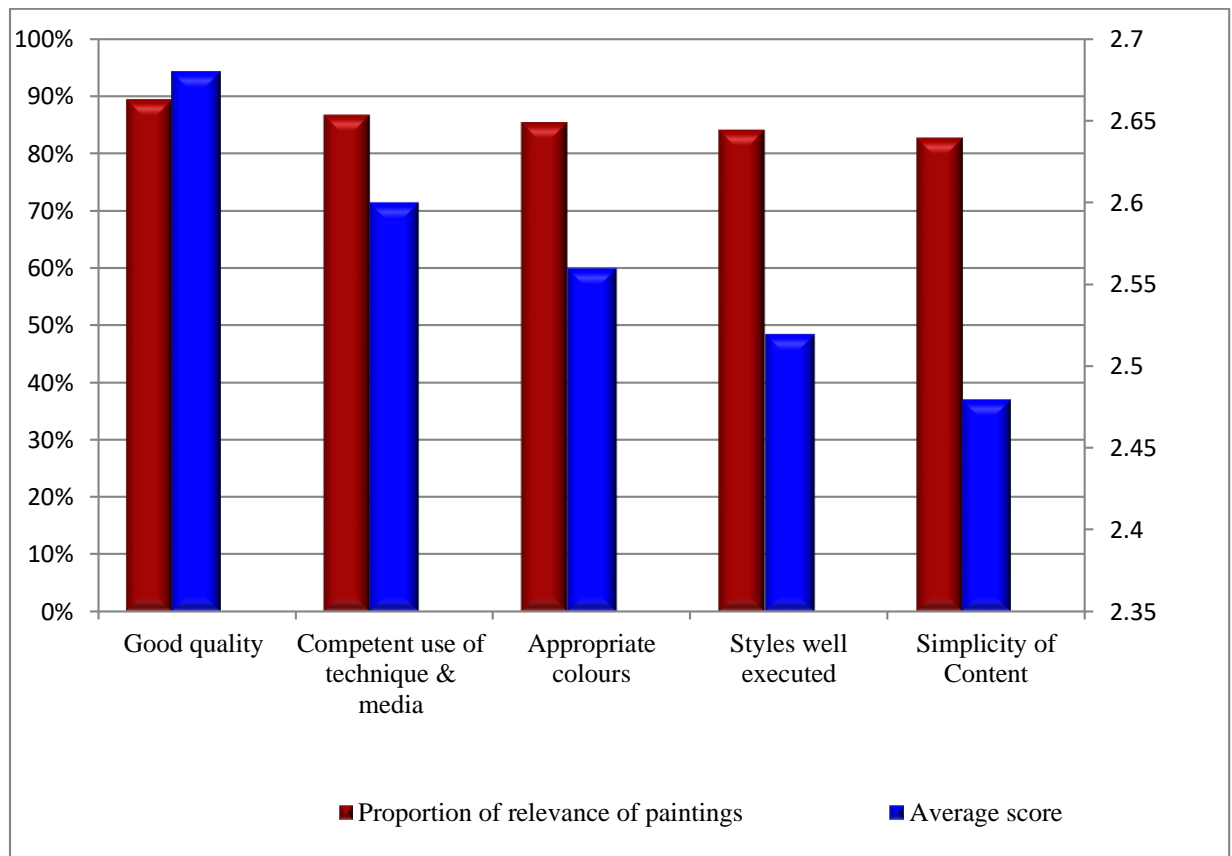


Figure 1.8: Art Experts' opinions on quality of digital paintings

As shown in figure 1.8, expert evaluation of the quality of digital paintings improved after input. Improvement was reported in use of technique and media, colour, style and content. Figure 1.9 presents the experts' opinion on content of the digital paintings.

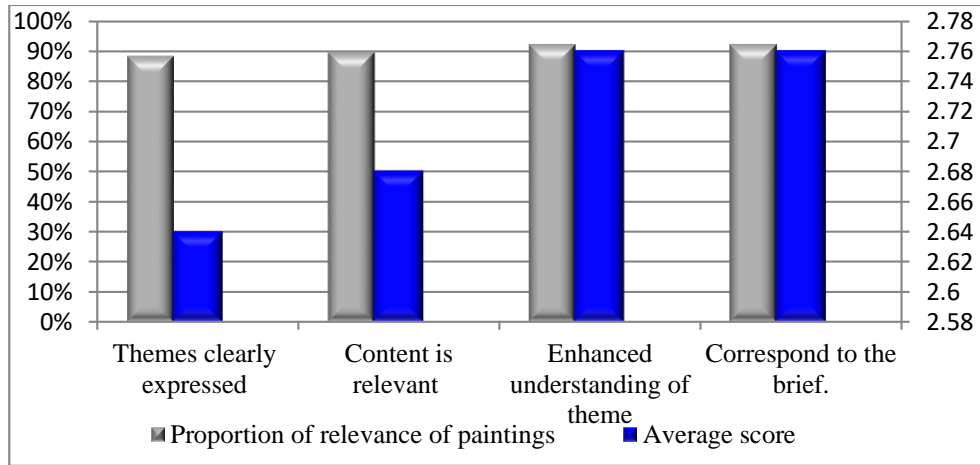


Figure 1.9: Art Experts' Opinions on digital Paintings' Correspondence to Brief
 Experts' evaluations sought regarding digital paintings 'correspondence to the brief show improved ratings. High ratings were also reported for clarity of themes, relevance of content and enhanced understanding of the themes as provided by the digital paintings

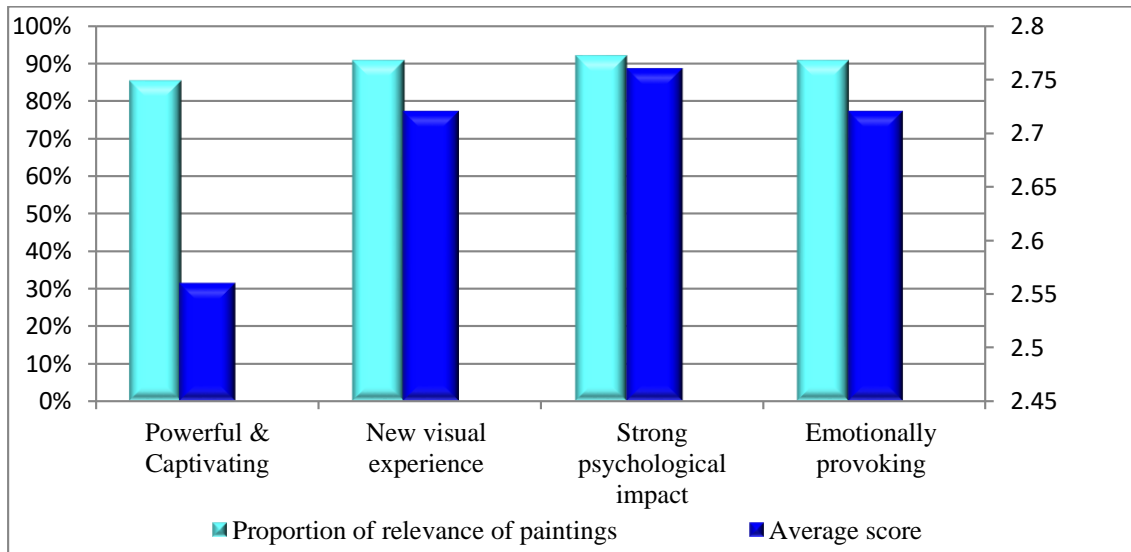


Figure 1.10: Art Experts' Opinions on impact of the Digital Paintings
 The experts gave high evaluation for emotional and psychological impact of the paintings. The digital paintings were also seen as captivating and with ability to provide a new visual experience to the viewers. As shown in Figures 1.8- 1.10, the overall relevance of the digital paintings considering the areas inquired was 88.19%, which was deemed adequate for the study.

1.14.3 Reliability Analysis of Data Collection Instruments

Reliability is a measure of how closely related a set of items are as a group. The pilot study data was used in assessing the reliability of the quantitative data collection tools by determining the internal consistency calculated as the coefficient of reliability of the variables under study. This was carried out on all the dimensions used to measure the variables in both the questionnaire and the art response questionnaire.

Table 1.9: Instrument Reliability

Construct	Number of Items	Cronbach alpha	Number of items retained	Cronbach alpha after deletion	Conclusion
<u>Pre-test data on Attitudes towards sexual crimes</u>					
General attitude to offending	17	0.700	17	0.700	
Anticipation of re-offending	6	0.749	6	0.749	
Victim hurt denial	3	0.774	3	0.774	
Evaluation of crime as worthwhile	4	0.752	4	0.752	
Perception of Life problems	15	0.903	15	0.903	
<u>Post-test data on attitudes towards sexual crimes</u>					
General attitude to offending	17	0.738	17	0.738	Reliable
Anticipation of re-offending	6	0.748	6	0.748	Reliable
Victim hurt denial	3	0.753	3	0.753	Reliable
Evaluation of crime as worthwhile	4	0.750	4	0.750	Reliable
Perception of life problems	15	0.875	15	0.875	Reliable
<u>Data on response towards digital paintings</u>					
General Questions on the digital paintings	15	0.791	11	0.889	Reliable
Individual Image ratings	5	0.857	5	0.857	Reliable
Rating of themes	3	0.792	3	0.792	Reliable
Rating of styles	3	0.719	3	0.719	Reliable
Rating of Colour	3	0.867	3	0.867	Reliable
Arousal level ratings	7	0.853	7	0.853	Reliable

As shown in table 1.9, all the study constructs had reliability measures above 0.7 from all the items used to measure them. Cronbach alpha value of 0.7 as recommended was used as a cut-off point of reliabilities (Fraenkel & Wallen 2000). Based on the pilot study results, it was concluded that the main study would be plausible without expectations of failure if the instruments were to be used as planned.

1.15 Data Collection Techniques

Data collection is a process of gathering information on a variety of interests in a systematic way that allows one to answer research questions, evaluate hypothesis, and assess outcome (Kabir, 2016). The researcher and the research assistants collected primary data in order to answer specific objectives of the study and help draw conclusions. Primary data is unique and original data, which is directly collected by the researcher from a source (Ajayi, 2017). Secondary data was used to supplement the primary data and to provide background information for the study. Data on types of sexual offences was obtained from the Sexual Offences Act (2006) while statistics on sexual offenders were obtained from Nairobi West Prison records (2019). The study incorporated additional secondary data which was sourced from the libraries, books, online publications, journals, surveys and published government records.

1.15.1 Pre- testing of the Male Sex offenders

A pretest was administered to answer the first research objective of the study which sought to establish attitudes of male sex offenders towards sexual crimes before exposure to digital paintings. The process began by briefing the participants on how they would answer the questionnaire. The attitude questionnaire (Appendix B) was then administered to the sixty-one (61) participants to determine their attitudes towards sexual crimes before exposure to digital paintings. The questionnaire also gathered background

information like age, level of education, marital and employment status in a session which lasted one hour.

During the administration of the pretest questionnaire, respondents were positioned in spaces three meters apart to avoid consulting or influencing each other. Four research assistants comprising of two artists, a statistician and a graduate prison warder were briefed and trained in order to assist with the administration of questionnaires to the respondents. All items in the questionnaire were discussed exhaustively with the research assistants for a common understanding and to enable them explain to respondents in case queries arose. The research assistants were trained on ethical handling of the respondents, data collection and coding.

1.15.2 Exposure of Male Sex Offenders to the Digital Paintings

To answer the second objective, random sampling was used to assign respondents to one of the two exposure conditions namely exhibition and projection by Rapid Serial Visual Presentation (RSVP). The format of presentation was a between-subjects variable where respondents were exposed to the digital paintings either through exhibition or by projection in Rapid Serial Visual Presentation (RSVP).

Of the twenty-four digital paintings generated, the study conducted an observation on temporary displays with eighteen (18) paintings presented fifteen (15) times in a span of five (5) weeks and the remaining six (6) digital paintings introduced once during the rating phase. In assigning (6) digital paintings to a single exposure and eighteen digital paintings to multiple exposures, the study sought to test the effect of repeated exposure on ratings of the artwork. Table 1.10 gives a summary of display schedule for digital paintings.

Table 1.10: Summary of Display schedule for Digital Paintings

No of Paintings	Number of displays per week					Total displays
	Wk. 1	Wk2	Wk3	Wk. 4	Wk. 5	
18	3	3	3	3	3	15
06	1	1	1	1	1	1

The eighteen (18) digital paintings were presented three (3) times a week with two-day intervals for up to 5 weeks. To avoid over exposure, the display sessions were brief lasting approximately 35 minutes for the exhibition participants and 20 minutes for RSVP participants. To minimize any stimuli-specific effects, all digital paintings were displayed in heterogeneous sequence. The stimuli were given uniform dimensions to control for possible side effects.

Since the exposure effect is deemed to be strongest for the first ten exposures, emphasis was focused on early presentations for maximum effect. Experiments were divided into an exposure phase, where digital paintings were shown to the respondents and a rating phase, where respondents evaluated the digital paintings according to the specified parameters. Although the design of the current study was adopted from Zajonc et al. (1972) as cited in Jakesch and Carbon (2012), only two sets of stimuli were used. In the exposure phase a set of eighteen (18) digital paintings were shown fifteen times and the remaining six (6), only shown once at the rating phase. In experiments in this study, two exposure frequencies (F0 = novel stimuli presented only once, and F15 = stimuli presented fifteen times) were varied in a design similar to the one used in experiments by Zajonc et al. (1972) cited in Jakesch and Carbon (2012). Repeated exposure to digital paintings therefore provided the respondents with a challenging situation to classify understand and cognitively master the artwork successfully.

1.15.2.1 Exposure to Digital Paintings by Exhibition Format

The exhibition of the artwork took place in a hall, with the participants viewing the artwork in groups of 5-7 participants. Eighteen (18) digital paintings were displayed at approximately two linear feet per painting on two walls of the exhibition hall and left up for 35 minutes in three-day intervals for a period of five weeks. Muth and Carbon (2013), link the success of temporary exhibitions to the display a limited number of artworks enabling viewers to focus on an artwork and elaborate it gaining aesthetic insights. Figure 1.11 shows the layout for the display digital paintings.

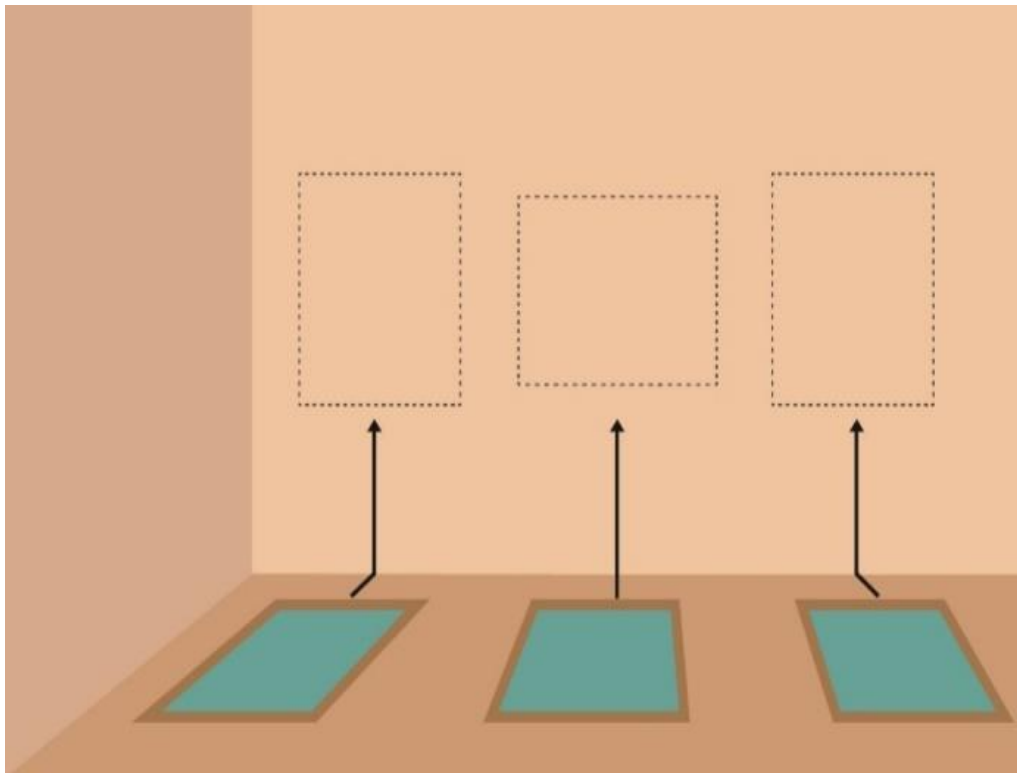


Figure 1.11: Layout for display of digital paintings

Source: Researcher's own layout (2019)

In experimental laboratory research, viewing distance is usually fixed, while in museum settings viewers change distances for each artwork. In this study, participants varied

viewing distance for each painting, but averagely kept at 105 cm given that all paintings had uniform dimension of H=117.8 cm and W=83.7 cm, either in landscape or portrait format. Initial viewings of the digital paintings showed larger distances and approximately 13 seconds per painting with subjects maintaining studious silence. With subsequent viewings and explanations from research assistants, respondents spent longer periods (averaging 1.9 minutes) viewing each painting and maintained shorter distances in an attempt to observe finer details closely. Six digital paintings were introduced at the rating phase where respondents in this group did their evaluation on a 5-point rating scales for each artwork using booklets containing pictures of all digital paintings.

1.15.2.2 Exposure to Digital Paintings by Rapid Serial Visual Presentation (RSVP)

This study applied RSVP technique for image representation in the context of digital paintings. In the exposure phase, digitized copies of 18 paintings were projected at their actual size via abeam projector (Casio Data Projector-XJ-A150V) on a white background wall in an exhibition hall at the Nairobi West prison. The study adopted shelf mode RSVP where recognition of target image has been shown to occur with 90% success even in high presentation rate (Spence & Witwoski, 2013). Since the study was focused on cognitive effects of viewing digital paintings, each single image was presented for 3000 milliseconds and updated at a regular time interval at the same location, followed by a blank backward masking of 800 milliseconds, which has been found to increase percentage of picture remembrance by up to 84% (Potter, 2012). Each exposure session had seven sequences with 3-minutes break after every two sequences. Each exposure session lasted 20 minutes with different target stimuli per exposure session. Participants had 15 viewing sessions in three-day intervals for 5 weeks. At the start of the experiment, the participants were given

detailed instruction about what to expect and how to respond by putting a dotted mark on green circles when target stimuli were detected and dotted mark on red circles when target stimuli were not detected in the sequence as illustrated in Figure 1.12:

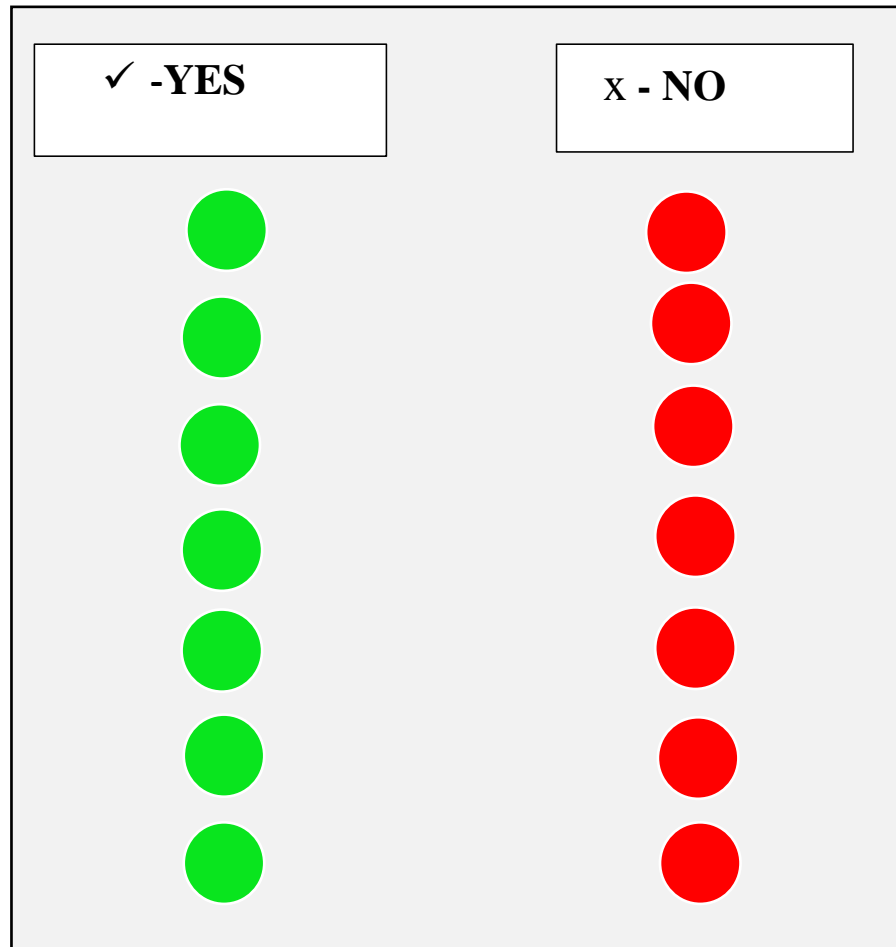


Figure 1.12: Stimulus identification template

Source: Researcher's own design (2020)

In every exposure session, participants searched for six targets in an RSVP sequence of eighteen digital paintings presented at the center of the screen with a resolution of 1024×768 pixels. Participants were informed about the theme and features of the target images before the start of each viewing session. Each image was presented on the white

background with a horizontal visual angle of 15.9° and a viewing distance fixed at three (3) metres. The category name of the targets was first presented in black 48-point times new roman font and displayed for 2000 milliseconds. The fixation cross reappeared for 500 milliseconds, followed by a blank interval of 800 milliseconds and then the digital painting.

The schematic representation of RSVP is shown in Figure 1.13

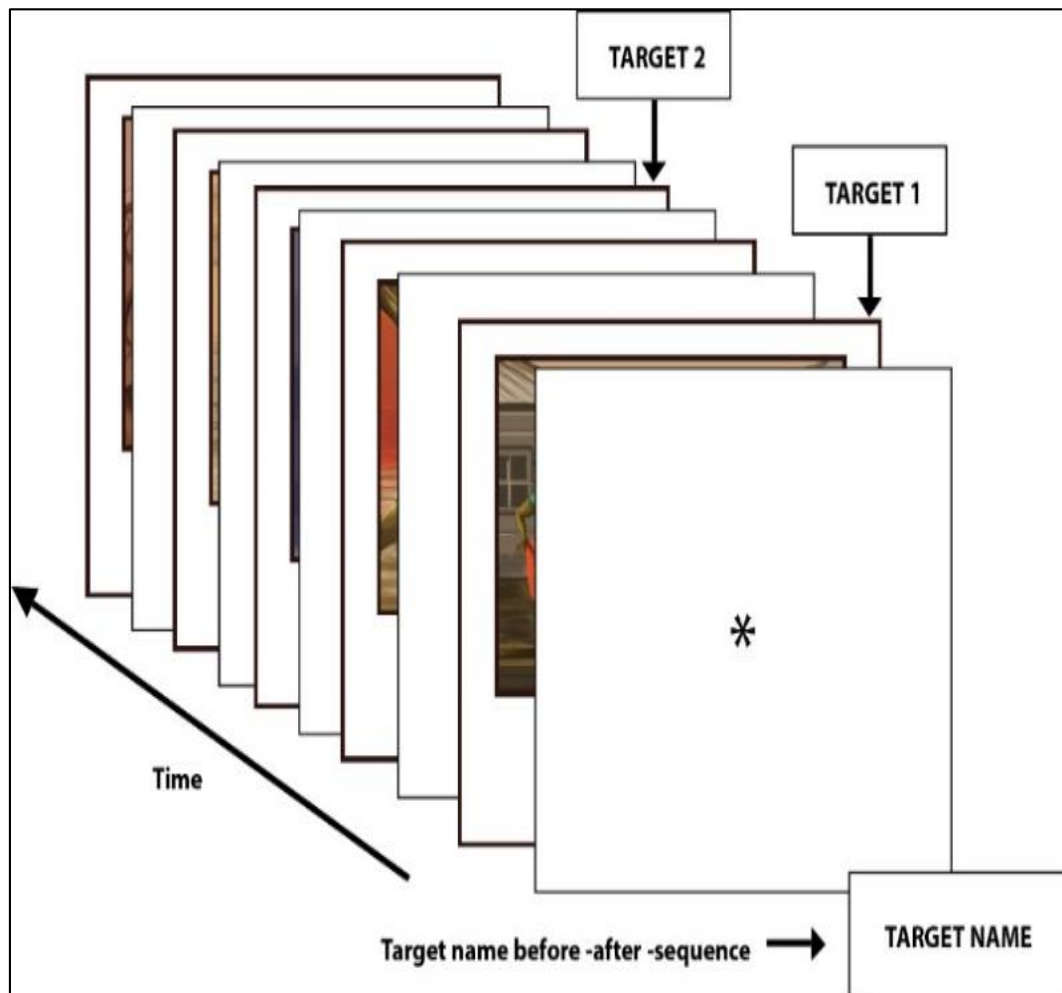


Figure 1.13: Schematic representation of RSVP exposure

Source: Researcher's own design (2020)

Six digital paintings introduced at the rating phase were also shown in the same format but only for one exposure session. Participants identified specific images relating a selected theme of the day. Themes touched on the offender, offender's family and victim, with

special frames given to target stimuli during each viewing session. Lighting was dimmed in the display hall to ensure clarity of images and digital paintings scaled down to preserve the original proportions.

1.15.3 Focus Group Discussion

Focus group discussion information was intended for collecting qualitative data to be used in triangulation. According to Heale and Forbes (2013) triangulation in research refers to the use of more than one approach to researching a question. Study participants were divided into eight (8) focus groups comprising of 7-8 members in a bid to underscore the messages executed in the digital paintings and to unravel their responses to various types of digital paintings in the course of exposure. The study carried out four focus group discussion sessions where an average of four questions from the discussion guide was elaborately discussed. The main purpose of an FGD was to stimulate an in-depth exploration of responses to digital paintings illustrating the consequences of sexual crimes and the subsequent effect on attitudes towards sexual crimes since little was known about the topic. The researcher chose FGD because they could produce a lot of information quickly, identify and explore ideas or opinions of the prisoners regarding the attitudinal effects associated with exposure to digital paintings. Each FGD lasted for two hours. The researcher moderated the discussions and provided direction to ensure that the participants remained focused on the topic of discussion. The FGD sessions also involved discussion on the styles, colour schemes and themes applied in the digital paintings. Dimensions of digital paintings such as visual impact, compositional clarity and emotional impact were also exhaustively explained to the respondents. These discussions and clarifications were deemed important in getting the participants well acquainted with the digital paintings and art terminologies used in order to facilitate the answering of the art response questionnaire.

Leaders were appointed for each focus group from among the participants. The leaders were in charge of group discipline, sitting arrangements, punctuality and time keeping. However, due to the sensitivity of issues under discussion, the focus group discussion notes were only recorded by the researcher and research assistants. The research assistants were briefed with information about the digital paintings to help in the conversations and in answering queries brought up by the participants. Upon gaining consent from the participants, one artist research assistant captured key narrations by audio recording. These recordings were later transcribed into text by the researcher. The information gathered in the FGDs was used to corroborate and clarify answers provided in the questionnaires for the enhancement of the validity and the reliability.

1.15.4 Post- Testing of Male Sex Offenders

To find out if there were any changes in participants' attitudes towards sexual crimes after intervention by exposure to digital paintings, posttest attitude questionnaires were administered as an evaluative measure of attitudes. Two posttests were carried out at the end of exposures to digital paintings; one 10 minutes after and the other after 2 weeks delay period to check for sustainability of attitudinal differences amongst the participants. Although the general results across the literature indicate that heterogeneous display sequences and longer delays enhance exposure–affect relationships, this study also tested the short delay period of 10minutes to determine the strength of the effect for emotive stimuli like the digital paintings used in this study. In order to reduce threats of non-completion of the study by participants, the amount of time between the pre-test and post-tests were reduced by having the full study take a period of 8weeks. Respondents were excluded from counseling and religious based rehabilitation programs during the period of study to avoid any influence which could have led to biased results.

1.15.5 Responses of Male Sex Offenders to the Digital Paintings

To investigate whether the responses to digital paintings improved during repeated exposures, an art response questionnaire (Appendix C) was administered a day after the first attitude posttest. Previous researchers have used a variety of dependent measures to examine the exposure–affect relationship with every type of affect measure producing significant exposure effect. Respondents in this study therefore rated the digital paintings on 5-point Likert based on visual impact, tonality, content & meaning, compositional clarity and emotional impact. There is evidence that presenting titles together with artworks apart from identification affects their processing by guiding their interpretation (Gerger & Lederer, 2015) and understanding. (Carbon, 2017). The digital paintings were therefore presented with brief titles to guide participants.

Before response to the art questionnaire for RSVP group was administered, two rehearsal paintings (not used in this research) were presented to acquaint the subjects with the duration of picture presentation and the time for answering the questions. Subsequent to the 30-seconds presentation of each digital painting, the subjects had 30-seconds period for answering questions on a printed questionnaire after which a bell sound was used to indicate the end of the answering period and the subjects had to switch their gaze back to the screen. The time frame chosen was based on observations by Locher et al. (2007) that 10-seconds is sufficient to obtain an overview of a picture while 30-seconds is the average observation duration for an aesthetic judgment.

A flow chart of the data collection procedures carried out during the study is summarized in figure 1.14. The sampled details include the eligibility of participants, sampling procedures, the pretest, intervention process and the posttest procedures.

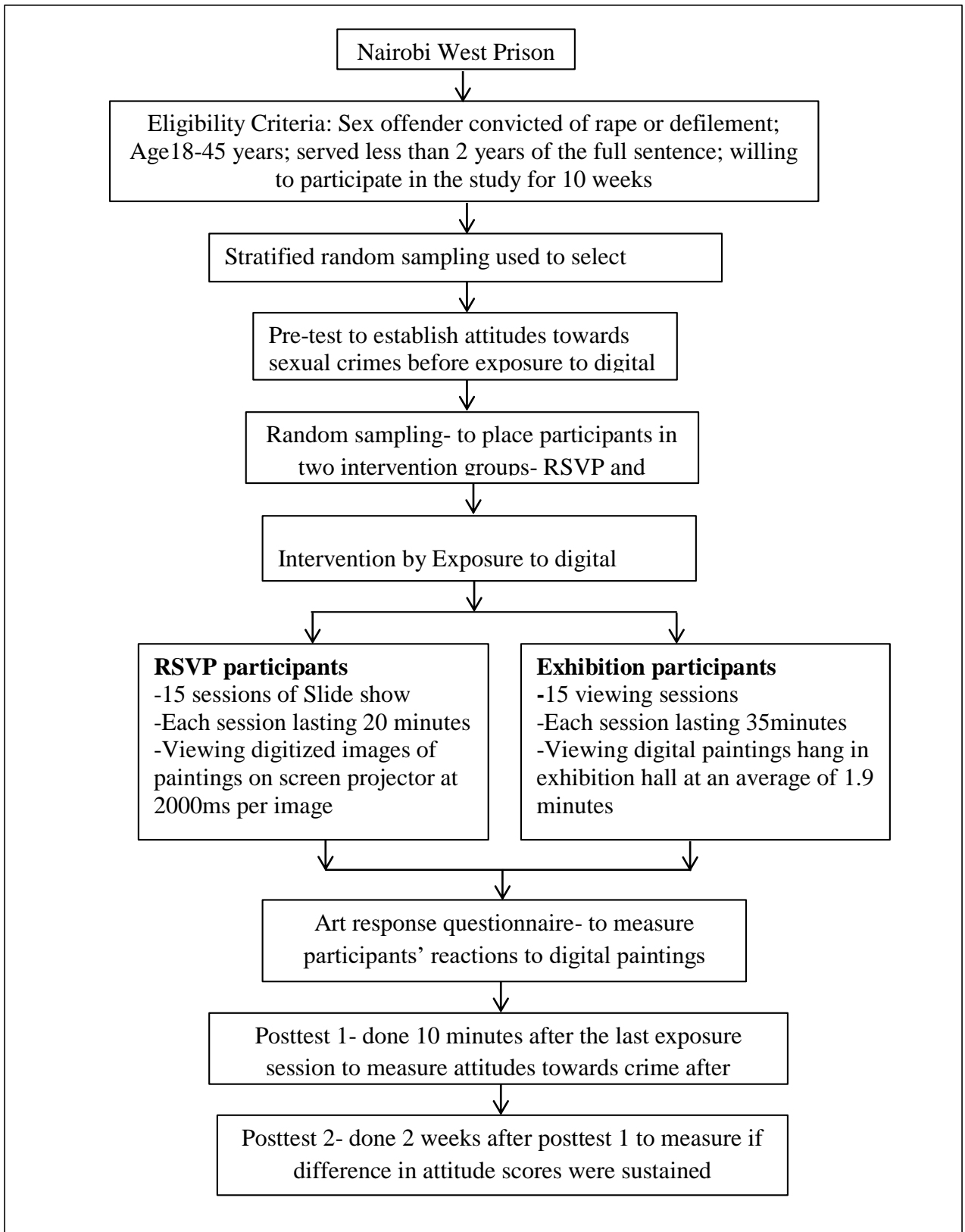


Figure 1.14: A Flow chart of data collection procedures

Source: Researcher's own model (2020)

1.16 Data Analysis Techniques

Summary of the data was obtained using descriptive statistics. Some of the participants' general information retrieved included their age, education level, employment and marital status. The computation of inferential statistics was carried out where the hypothesized relationships were tested. Coding and analysis of the collected data was done as follows:

1.16.1 Male Sex Offenders 'Attitudes towards Sexual Crimes before Exposure to Digital Paintings

Descriptive analysis was adopted to assess the first objective of the study which was to establish male sex offenders' attitudes towards sexual crimes before exposure to digital paintings. A computer was used to code data in MS Excel. Additional descriptive analysis on the items (questions) resulting into frequency tables and mean scores as measures of central tendency was done using Statistical Package for Social Sciences (SPSS) and presented in distribution tables. Analysis of the participants' responses on the attitudinal scales was done using the Crime-Pics II software which was used to determine weighted scales of measurement of the different aspects of attitude that were intended to be measured by the questions (items). The resulting scales from Crime-Pics II were further exported to SPSS for additional descriptive analysis of the various dimensions of attitude including general attitudes towards offending, anticipation of re-offending, victim hurt denial, evaluation of crime as worthwhile and perception of current life problems.

1. 16.2 Responses of Male Sex Offenders to the Digital Paintings

For descriptive analysis of the responses to digital paintings, frequency tables were used with the mean scores of the responses and the standard deviation as the measure of the central tendency and measure of dispersion respectively. Varied tests were carried out to assess the effect of nominal participation by exhibition viewing or by Rapid Serial Visual

presentation on male sex offenders' response to messages in digital paintings. Cross-tabulation tables between each response question (items) and presentation mode were determined and chi-square tests carried out to assess any associations. Further, based on weighted means of the ordinal scores from the items measured, mean responses were determined and the difference in mean response assessed. The assessment on the difference in the mean responses between participants in the exhibition and RSVP mode was assessed using the independent sample 2 test of mean differences using SPSS.

1.16.3 Male Sex Offenders' Attitudes towards Sexual Crimes after Exposure to Digital Paintings

To examine the male sex offenders' attitudes towards sexual crimes at post-intervention, Crime-Pics II software was used to further run the data and determine the scales of attitudes immediately after intervention and 2 weeks after, yielding 2 post tests. Each respondent participated in the intervention program then responded to the pre-test and posttest attitude questionnaires resulting in repeated measures of attitude. The mean and the standard deviation were used as measures of central tendency and measures of dispersion respectively to describe the respondents' attitude status after exposure to art. The paired differences of the attitudes of the respondents were determined and tested for significance.

Paired t-tests were applied to assess whether there were significant differences in attitude between the pre-test and post-test. Further the significance in difference in attitudes in attitude between the immediate post-test and the posttest carried out 2 later were tested to assess whether the change in attitudes after exposure to digital paintings was retained over time. The paired t-test is based on the assumption that the paired differences follow a normal distribution thus a Shapiro-Wilk test of normality was carried out on the paired differences in attitude ahead of each t-test carried out. In cases where the paired differences

were found not to follow a normal distribution, bootstrapping was carried out to cater for the violation of the assumption.

1.16.4 Analysis of Focus Group Discussions

The process of analyzing qualitative data begun as soon as data collection started (Miles, Huberman, & Saldana, 2014). The data was transcribed and coded into themes according to the study objectives. Analysis of qualitative data was done using content and thematic analysis (Drisko & Maschi, 2016). Content analyses involved identification of categories of similar items, which were then classified into separate themes. This entailed analyzing facts and information gathered through oral responses from focus group discussions

The audio-recorded responses of participants were transcribed into text by the researcher. Responses were entered into pools relevant to the study objectives, analyzed and reviewed to identify the emerging patterns. The presentation was based on themes and connections to explain the findings. Similarly, relevant dimension of the artwork was used to create a guide from where summaries were derived and compared to have meaning to the interpretation of the digital paintings. In the process of categorizing and sorting data, a list of key points discovered were prioritized and included in the findings backed up with descriptive examples.

1.17 Model for Utilizing Digital Paintings to Foster Negative Attitudes Towards Sexual Crimes among Male Sex Offenders

To test the difference in attitudes arising from exposure to digital paintings, a model applicable for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders was fitted. The model was fitted to determine the components of digital paintings and exposure techniques which could improve the differences in attitudes. Ordinary least squares (OLS) regression models were fitted using SPSS

considering the continuous measure of the attitude elements generated from Crime Pics II software. The OLS model fitted was based on the equation below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

Where:

Y – Difference in Attitude after exposure to digital paintings

X₁ – Mode of exposure (0 = Exhibition, 1=RSVP)

X₂ – Test Order (0=immediately after treatment, 1= two weeks after)

X₃ – Style (Ratings of realist paintings over surrealist paintings)

X₄– Colour scheme (Ratings of polychrome paintings over monochrome paintings)

X₅– Painting theme (Ratings of each theme over other themes)

X₆– Frequency of exposure (Ratings of paintings shown repeatedly over those shown once at the rating phase)

β₁ to β₆ – Coefficients estimates of the elements of the paintings

β₀ Constant term

ε – Error term

Figure 1.15: Equation of Model for Utilizing Digital paintings to Foster Negative Attitudes Towards Sexual Crimes Among Male Sex Offenders

Source: Researcher's own model (2020)

The OLS model was based on classical assumptions of linear regression modeling. Model diagnostics were therefore carried out to assess that the model fitted met the assumptions of normality, non-autocorrelation, and homoscedasticity of the model residuals and that of non-multicollinearity of the model predictors. The R-square of the model fitted was used to determine the explanatory power of the models which is proportion of the variation on the difference in attitude explained by the variations of the model predictors. To assess the significance of each of the factors of the digital paintings, t-statistics p-values of the

coefficient estimates were used. The factors were deemed to significantly affect the art works if the p-values were less than 0.05.

1.18 Ethical Considerations

Bhattacharjee (2012), noted that ethical issues are acceptable and non-acceptable behaviors in the professional conduct of science. The consent for this study proposal was approved by Kenyatta University Ethical Review Committee (Appendix H) and the National Commission for Science, Technology and Innovation (Appendix I). Clearance was also obtained from the Commissioner of Prisons for access to Kamiti Medium Prison for pilot study and Nairobi West Prison for the main study (Appendix J).

Following an explanation on the purpose and procedure of the study, participants filled a consent form (Appendix K) to give their approval of participation in the study. Informed consent was also sought for audio recording of narrations by the participants. Utmost confidentiality and anonymity were ensured by providing participants with random identification numbers instead of names.

During focus group discussions only audio recording was used in addition to notes. Research assistants were trained on ethical handling of the respondents, data collection and coding. Arrangements for debriefing after the study were made in order to deal with adverse psychological memories and reactions that could have been aroused during the study. Prison warders on duty were engaged to keep off unauthorized interference from non-participant inmates who were curious to view the art exhibits.

1.19 Summary of the Chapter

This chapter outlined the background information of the study and situated it in the broad area of offender rehabilitation. The key objective highlighted is the effect of exposure to

digital paintings on male sex offenders' attitudes towards sexual crimes. It pointed out the gaps to be addressed and formed the central pillar to subsequent review of literature on sexual offending, arts in offender rehabilitation, exposure concepts and a discussion on theoretical frameworks that guided the study. Research methods and techniques which were used to make this study acceptable as a social science research were also discussed. The subsequent chapters focus on objective based presentation of the research findings, their analysis and interpretation.

CHAPTER 2: THE MALE SEX OFFENDERS' ATTITUDES TOWARDS SEXUAL CRIMES BEFORE EXPOSURE TO DIGITAL PAINTINGS

2.1 Introduction

This chapter details the presentation, analyses, interpretation and the discussion of the findings for objective one of the study which sought to establish attitudes of male sex offenders towards sexual crimes before intervention by exposure to digital paintings. An attitude questionnaire with 20 indicators and 15-item inventory of life problems was used to assess the attitudes of the offenders (Appendix B). Attitude indicators are discussed under four measures namely: general attitudes to offending (G-scale), anticipation of re-offending (A- scale), victim hurt denial (V- scale) and evaluation of crime as worthwhile (E-scale). The inventory of life problems is discussed under P-scale, while the final section presents the discussion of findings. The demographic details of the study participants are also presented in this chapter.

2.2 Socio-demographic Characteristics of the Respondents

The study targeted 61 respondents out of whom 36 (59%) were convicted of defilement, while 25 (41%) were convicts of rape. However, of the 61 participants sampled, only 57 were able to participate fully in the entire process of the study. The study conducted a general analysis of the socio-demographic characteristics of the respondents. The demographics include age, marital status, the number of children, education, employment status and the type of upbringing of the participants. The results are presented in the sections below as follows:

2.2.1 The Age of the Respondents

Figure 2.1 gives a summary of the age of the respondents.

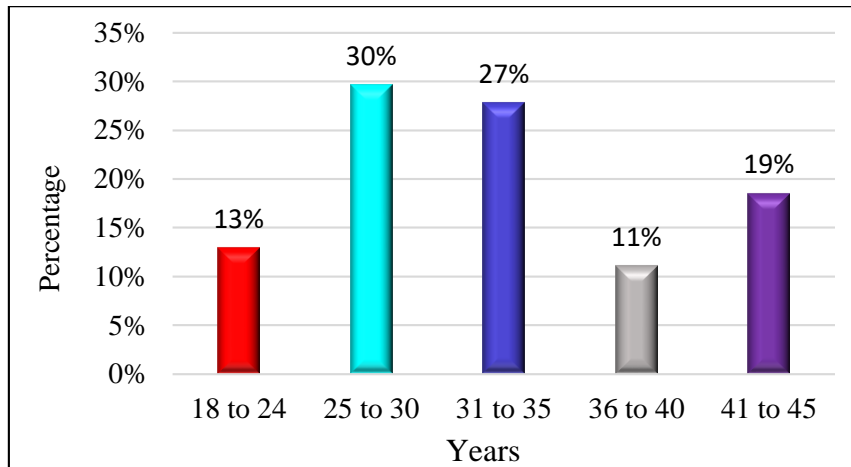


Figure 2. 1: Summary of the age of the respondents

Majority of the respondents were aged 35 years and below, giving 70%. Participants aged 36 years and above accounted for 30% of the sample population under study. The calculated mean age of the respondents was 32.22 years.

2.2.2 The Marital Status of the Respondents

Figure 2.2 shows a summary of the marital status of the respondents.

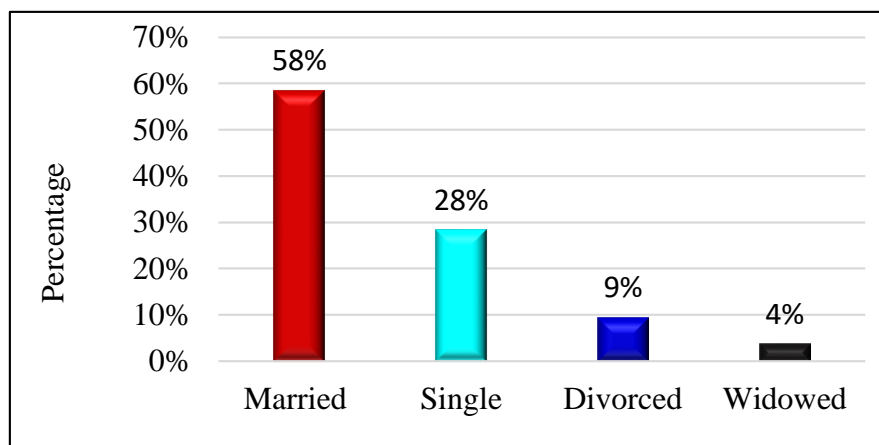


Figure 2.2: Summary of the marital status of the respondents

Majority (58.49%) of the respondents were married. Only 4% and 9% were widowed and divorced respectively. 65% of the respondents had children, while 35% had no children.

2.2.3 The Level of Education of the Respondents

Details were sought regarding the level of education of the participants. A summary of the level of education of the respondents is shown in Figure 2.3 below:

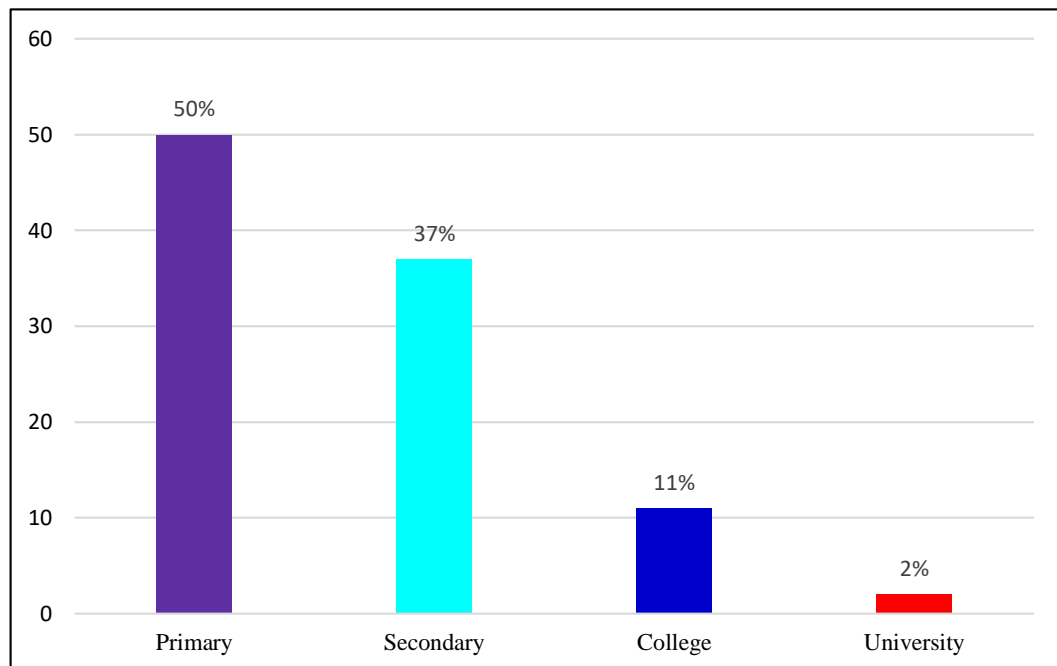


Figure 2.3: The Education level of the respondents

Regarding the level of education, 50.00% of the participants had studied up to primary school. The respondents with secondary school education accounted for 37%, while those with college certificates and university degree were 11% and 2% respectively.

2.2.4 The Employment Status of the Respondents

Further details were also sought regarding the employment status of the respondents before imprisonment. Figure 2.4 provides a summary of the employment status of the respondents.

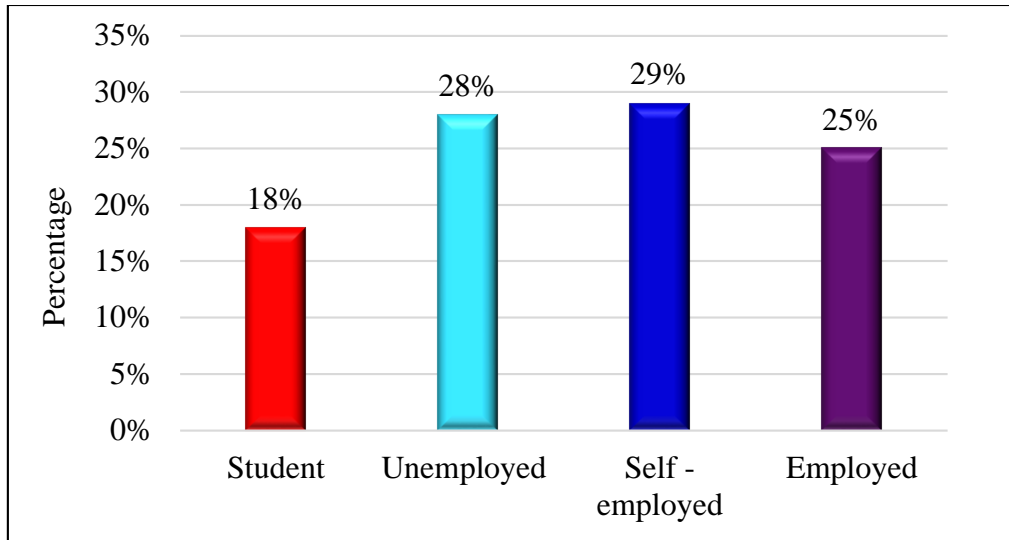


Figure 2.4: Employment status of respondents

The respondents under employment at the time of arrest formed 54% of the total sample population under study, while only 28% were unemployed. 18% of the participants were students from different institutions at the time of conviction.

2.2.5 The Upbringing of Respondents

Figure 2.5 shows a summary of the upbringing of the respondents.

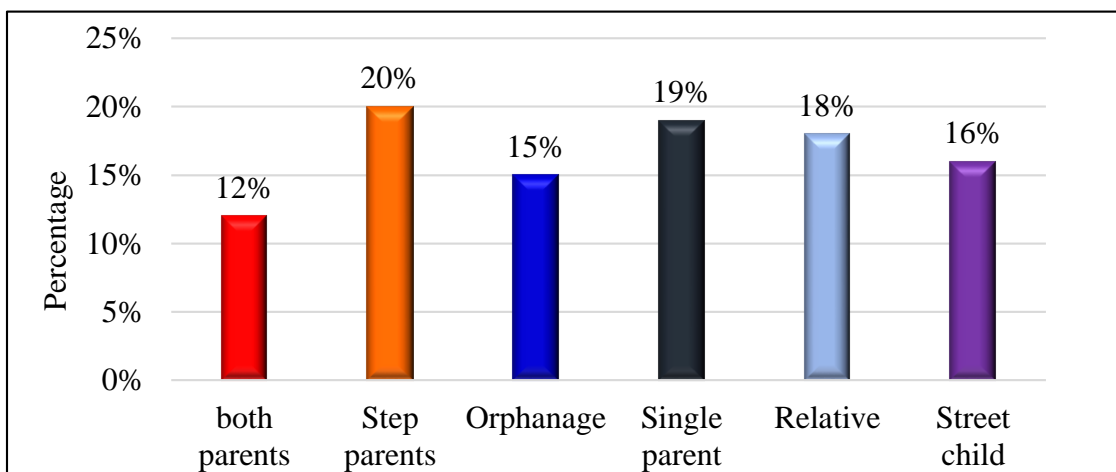


Figure 2.5: The Upbringing of respondents

On upbringing, only 12% of the respondents were brought up by both parents. The summary of the findings showed that 88% were either brought up by step parents, orphanage, single parents, relatives or grew up in the streets. Additional findings showed that 57% of the respondents had received advice and guidance against criminal behavior while growing up. However, 43% did not receive any guidance.

2.3 The Criminal History of the Respondents

The study also sought to find out about the criminal history of the participants. An inquiry was done to establish previous convictions for sexual crimes from the respondents. A summary is shown in Figure 2.6.

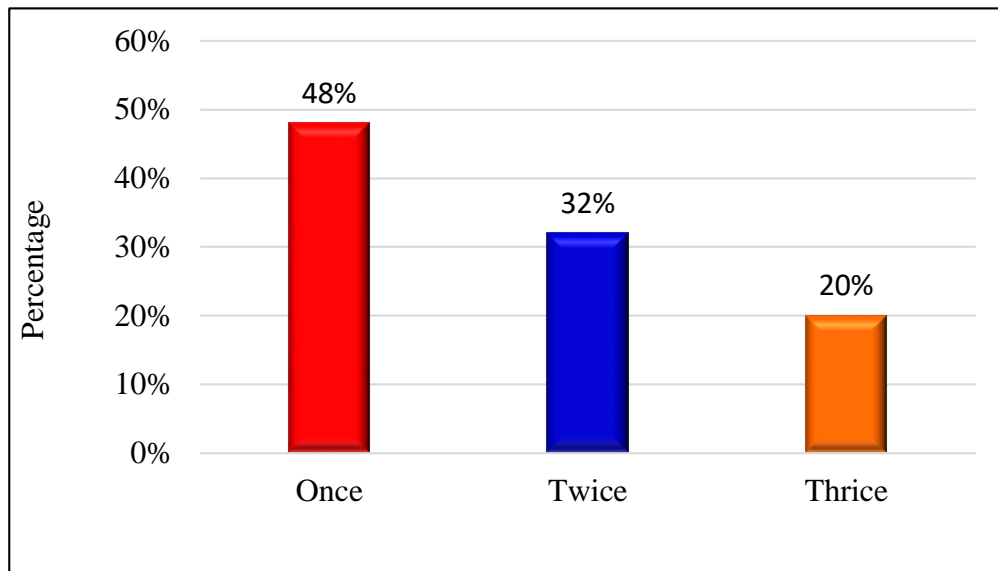


Figure 2.6: Previous convictions for sexual crimes

The findings showed that 48% were first time sexual offenders, while a total of 52% were repeat offenders. Majority of the repeat offenders reported to have either served short sentences owing to loss of evidence or having settled the matter out of court. The study further sought to establish the of ages of victims of sexual crimes accosted by the respondents. The summary is presented in figure 2.7

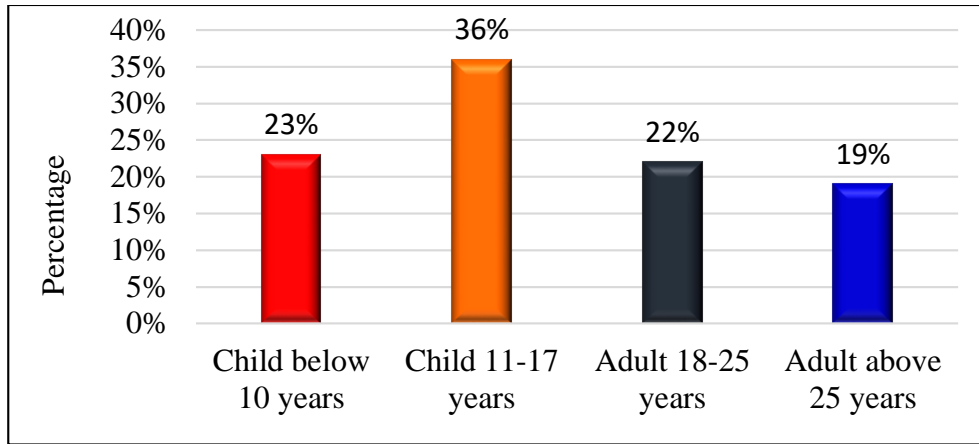


Figure 2.7: The Age of victims sexual crimes

Defilement cases accounted for 59% of the total convictions with the ages of child victims ranging below 10 years at 23% and 11-17 years at 36%. Rape accounted for 41% of the convictions with 22% of victims aged 18-25 years and another 19% aged above 25 years.

The study also sought to know some of the factors that led the offenders to commit sexual crimes. The summary is presented in Figure 2.8 below:

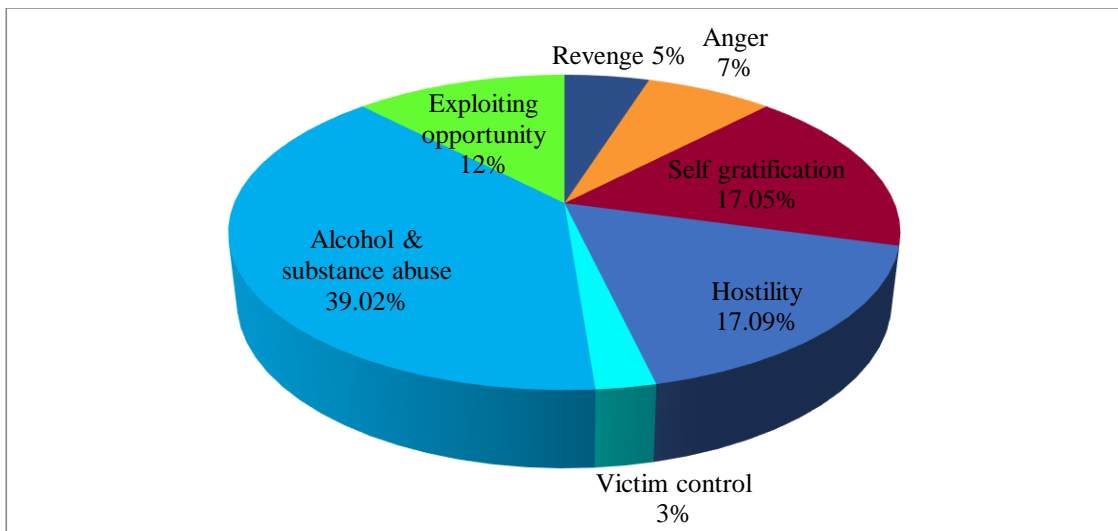


Figure 2.8: A summary of the statistics on factors that led to sexual crimes

According to the statistics, alcohol and substance abuse (39.02 %) was found to be the

main cause of offending, followed by hostility (17.09%) and self-gratification (17.05 %) respectively.

2.4 Pre- Test Attitudes of the Male Sexual Offenders

The responses in the attitude's questionnaire were entered into the Crime pics II software which generated scaled weighted scores of attitude measurement on an interval scale for the dimensions of attitude. Figure 2.9 shows a summary of the descriptive statistics of pre-test attitudes of male sex offenders based on the dimensions of attitude generated from the questionnaire by using Crime Pics II software.

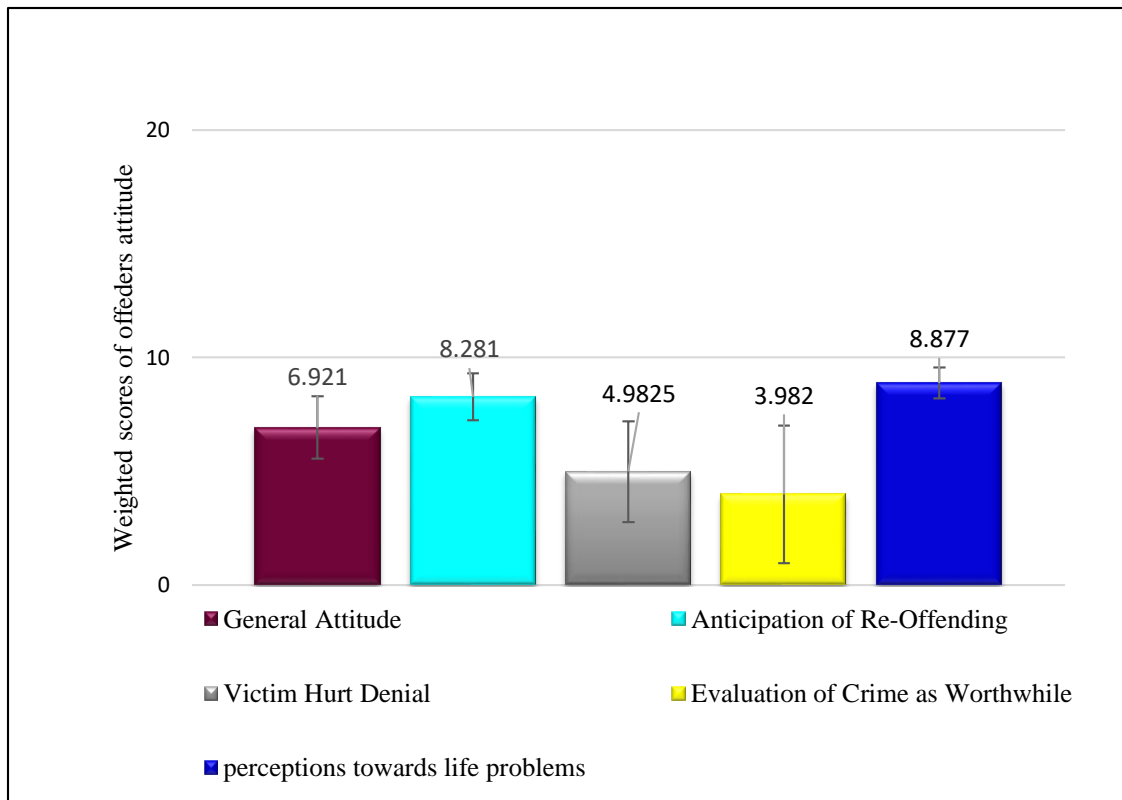


Figure 2.9: Pre- Test Attitudes of Male Sexual Offenders

The findings show that before intervention, the overall mean score for general attitudes towards offending was 6.921, anticipation of re-offending 8.281, victim hurt denial 4.982, while evaluation of crime as worthwhile was 3.982. The perception of life problems

recorded mean score of 8.87. A higher score in each domain represents higher offending-related attitudes and problems.

2.5 Descriptive Analysis of the Indicators of Attitude towards Crime

Descriptive analysis of the attitude indicators was assessed under the following domains: general attitude towards offending (7 indicators), anticipation for re-offending (6 indicators), victim hurt denial (3 indicators) and evaluation of crime as worthwhile (4 indicators). The indicators were arranged randomly as recommended in Crime pics II tool to avoid any biases during response. The questionnaire also had 15-item inventory of life problems.

2.5.1 General Attitudes towards Offending

This domain also referred to as the G- scale was measured using seven indicators. This domain measures the participants' general attitudes towards offending. The first indicator measured the respondent's views regarding the seriousness of sexual offence. The summary is presented in Figure 2.10

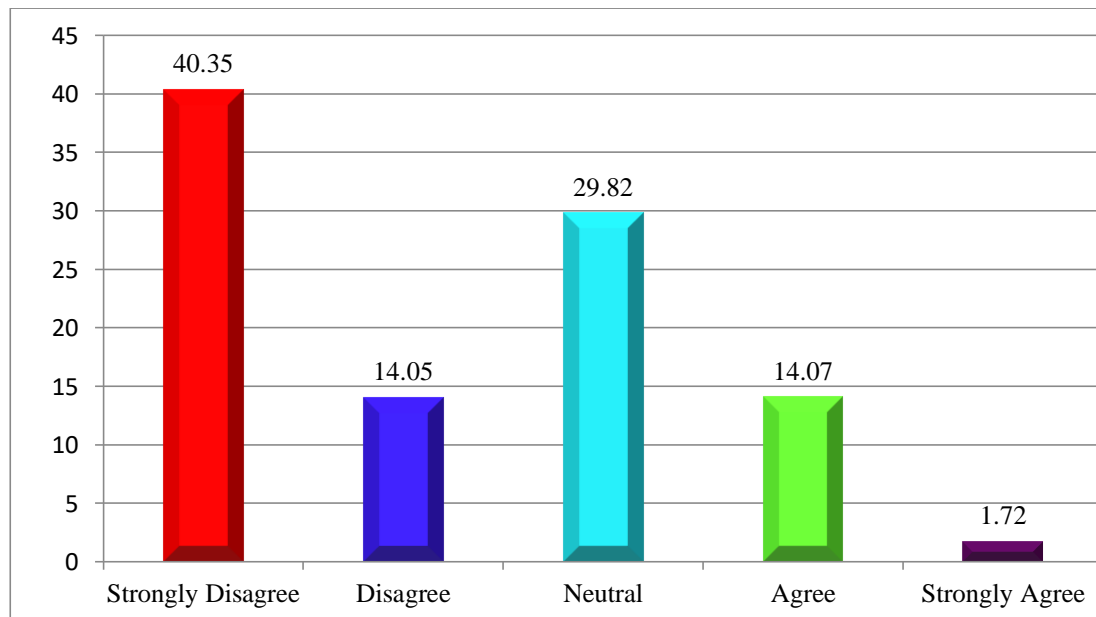


Figure 2.10: Percentage Responses for the seriousness of sexual crimes

Findings show that 40.35% of the respondents strongly disagreed to the seriousness of sexual offence while only 1.72% strongly agreed.

Regarding the second indicator, 31.58 %of the respondents strongly agreed that they did not see themselves as real criminals while14.04% strongly disagreed. The next indicator sought to establish the respondent’s views about social stigma associated with sexual crimes.

Figure 2.11 presents a summary of the responses.

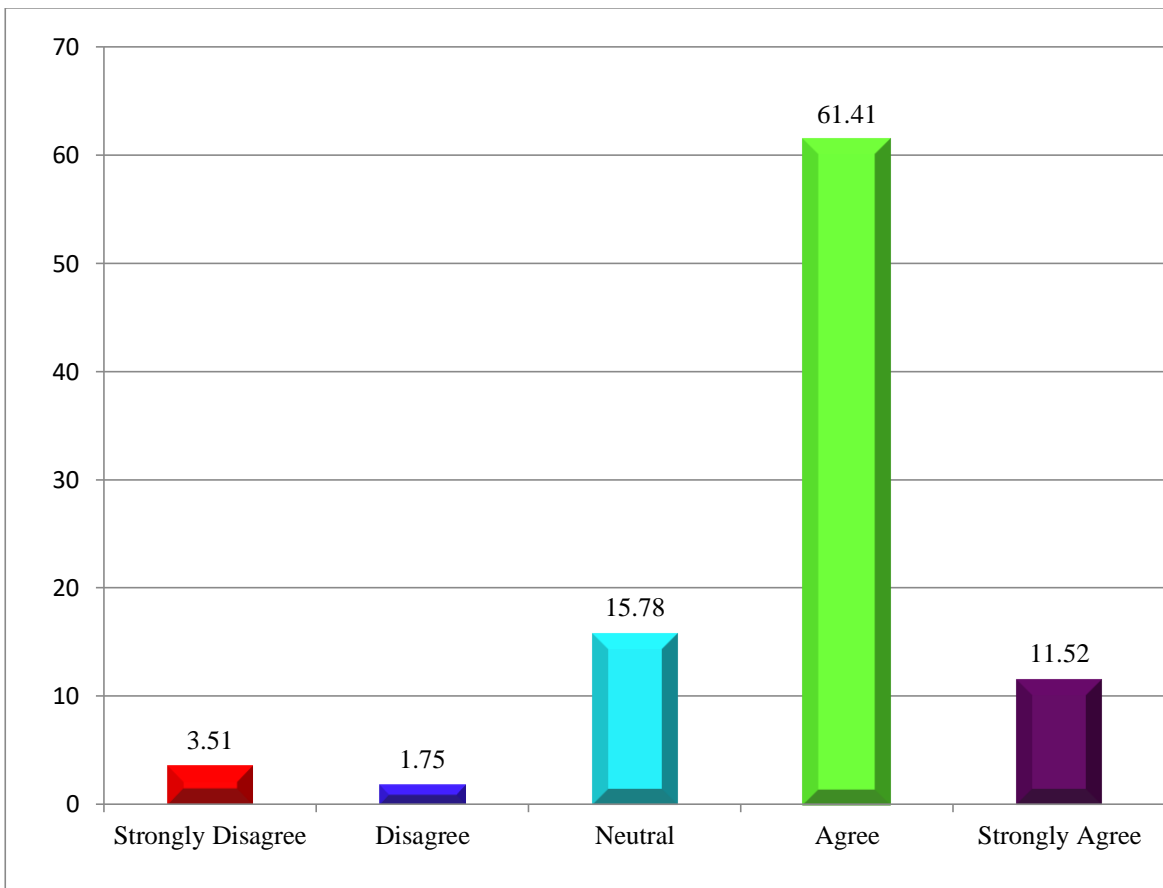


Figure 2.11: Percentage responses of the stigma surrounding sexual crimes

Data shows that 61.4% of the respondents agreed that there is exaggerated social stigma surrounding sexual crimes and only 1.75% were in disagreement.

Figure 2.12 presents a summary of the responses on participants' views regarding security threat posed by sexual crimes.

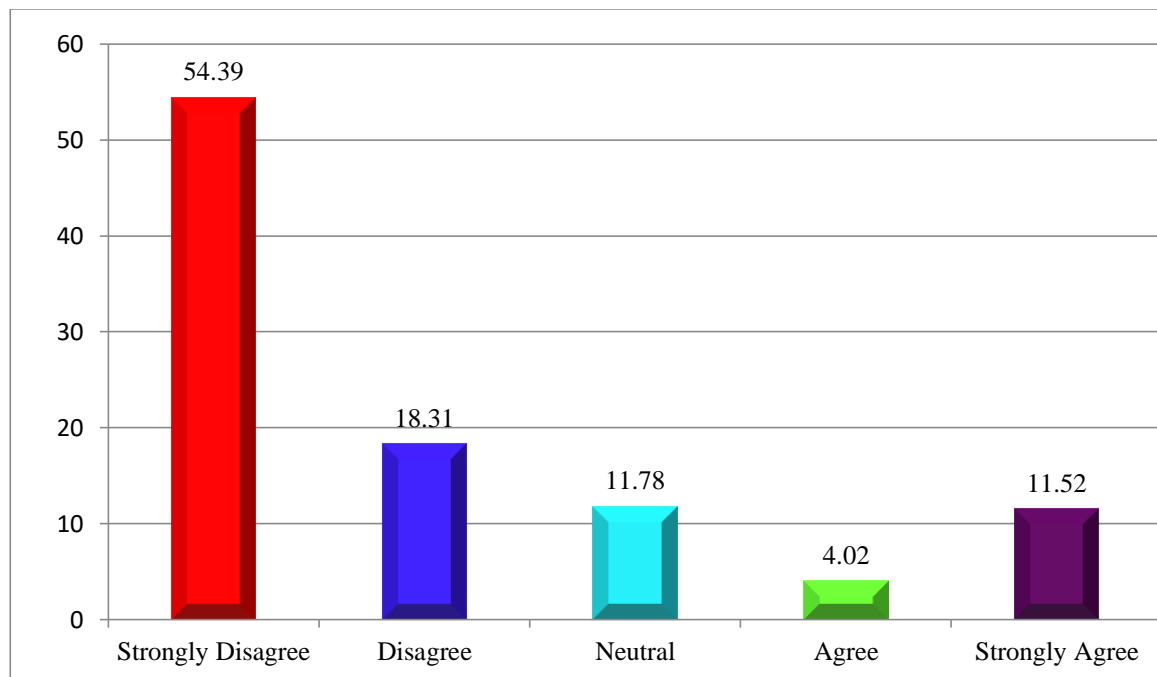


Figure 2.12: Percentage responses of the stigma surrounding sexual crimes

There was a strong disagreement by 54.39% of respondents that sexual crimes posed a security threat in society and 11.52 % were in strong agreement. On another indicator, the sexual offender tag was not seen as a problem, with findings showing that 36.6% of the respondents were in agreement, and a minority 3.51% disagreed with this statement. Further findings showed that 38.6% of the respondents agreed that they did not have to feel remorse over sexual crime(s) committed while 12.28% strongly disagreed. Whereas 35.09 % of the respondents strongly disagreed as to whether they deserved the sentence handed, 15.39% disagreed. No respondents strongly agreed giving a score of 0%.

2.5.2 The Anticipation of Re-Offending

This measure indicates a person's expectation as to whether they are likely to offend again. A higher score implies that offending will not be avoided in the future. Six attitude

indicators were used to measure this domain of attitude. The pinions of the respondents were sought on whether they would definitely not commit a sexual offence in the future.

Figure 2.13 shows summarized details of the responses.

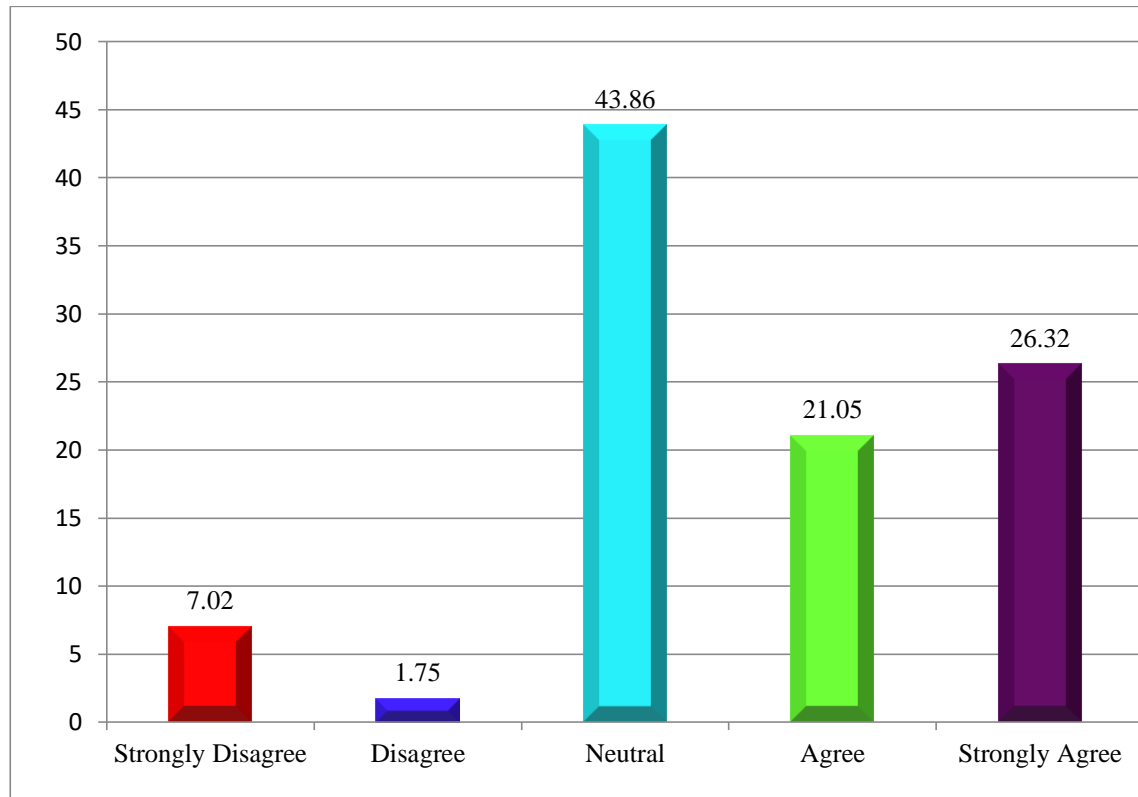


Figure 2.13: Percentage Responses on not committing a sexual offence in future

Whereas 43.86% of the respondents remained neutral on whether they would not commit a sexual offence in future, 1.75% agreed with the statement. On a different parameter, neutral scores of 29.82% were reported regarding whether the participants hated sexual crimes following imprisonment, with only 8.77% in strong disagreement. While 22.81% of the respondents remained neutral as to whether the feelings of low self-worth arising from conviction for sexual offending would deter future offending, 21.05% agreed. Further findings indicate that 29.82% of the respondents strongly disagreed to the fact that increased social rejection would deter them from committing future sexual crimes with

only 10.53% strongly agreeing to the statement. The respondents' opinions were also sought regarding whether re-offending was not a justifiable act.

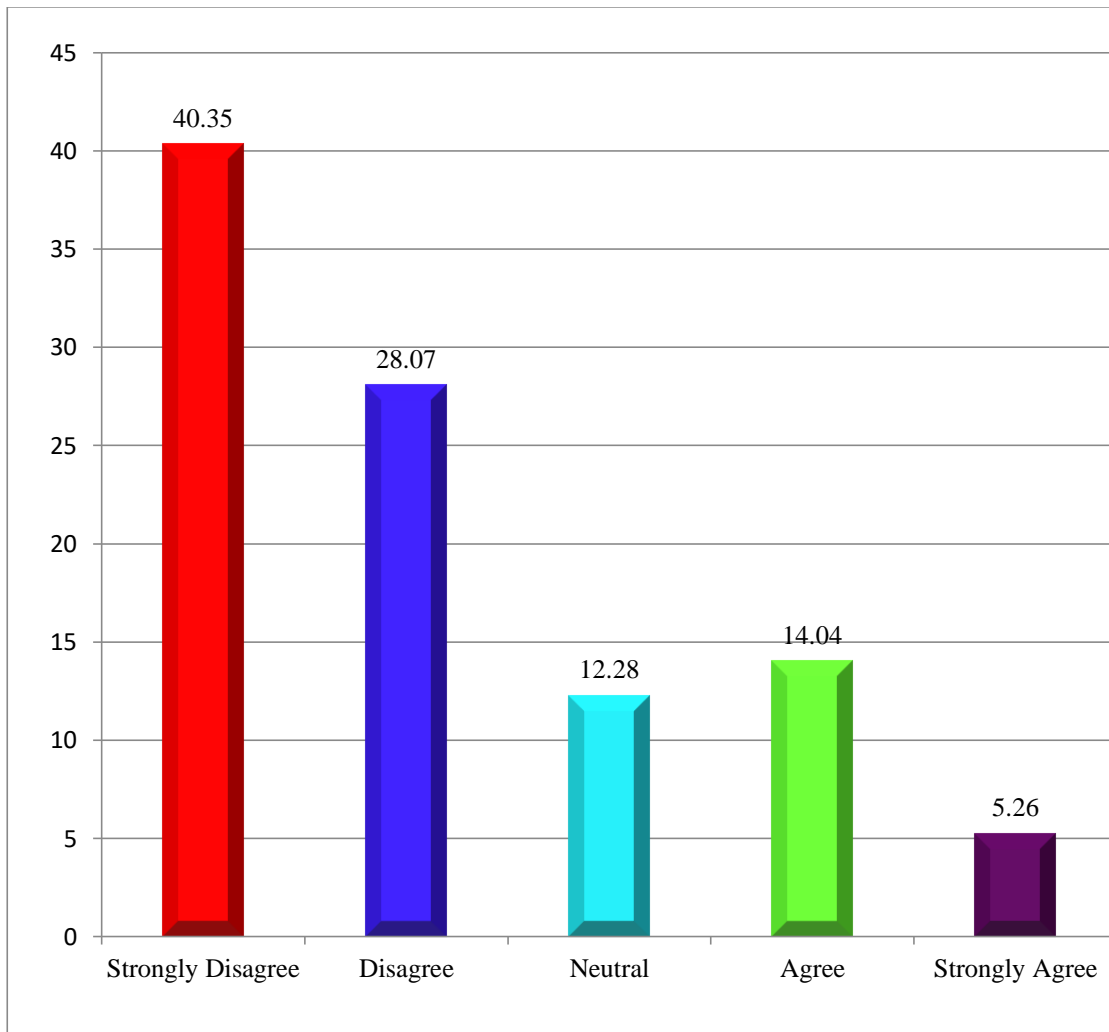


Figure 2.14: Percentage responses regarding justifiability of re-offending

Although 40.35% of the respondents strongly disagreed that there is no justifiable reason for re-offending, only 5.26% strongly agreed with this statement. An assessment was also done to investigate the respondents' views on whether they agreed that time served in prison could change their views on sexual crimes. Findings showed that 28.07% of the respondents agreed with this view while 10.53% strongly disagreed.

2.5.3 Victim Hurt denial

Victim hurt denial is used to assess the offender's level of acceptance of adverse effects of their action on victims. The scores indicate the offender's level of recognition of the impact of their action on victims. Three indicators were used to measure this attitude domain. Figure 2.15 shows summarized details of percentage responses on the seriousness of the effects of sexual crimes on the victim

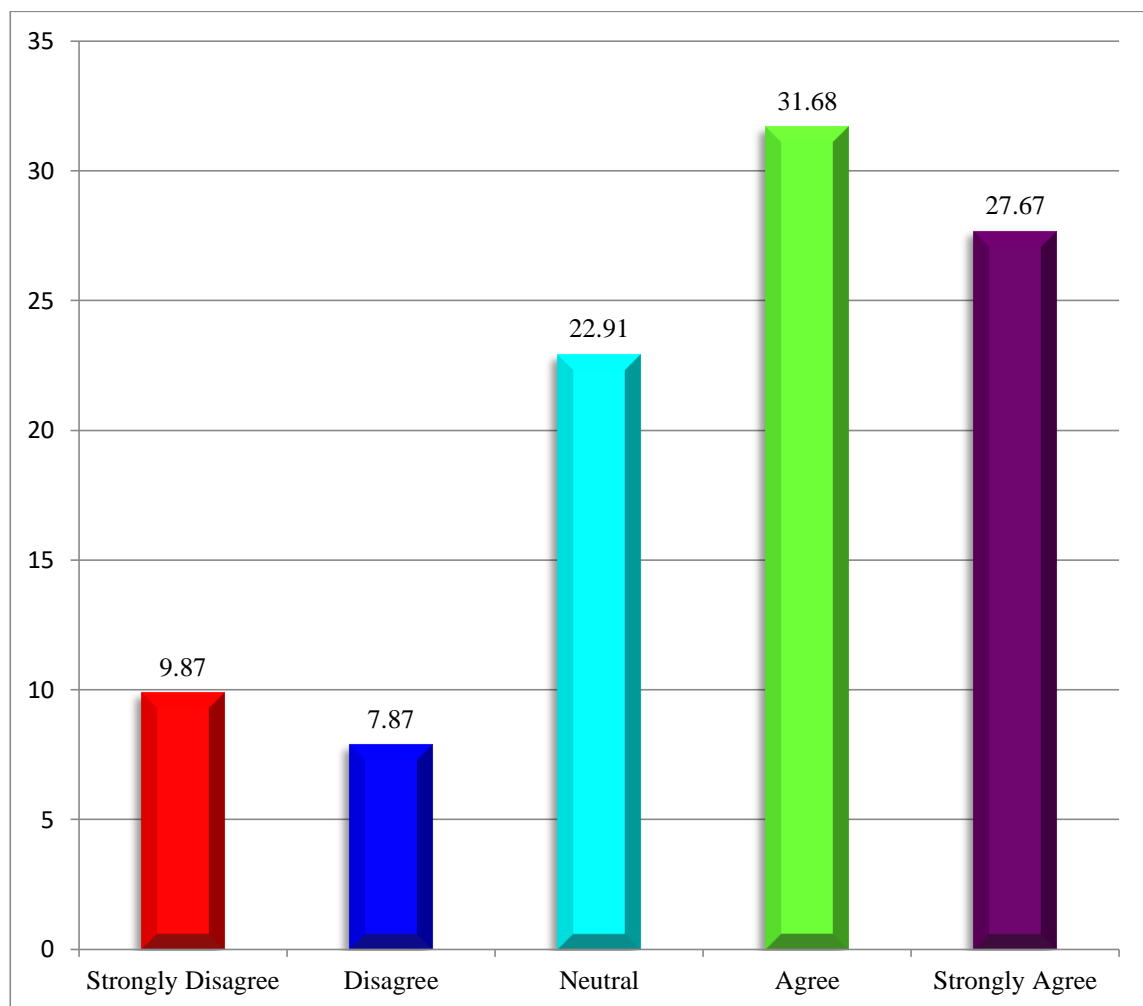


Figure 2.15: Percentage responses on serious effect of sexual crimes on victim

According to the data, 31.68% of the respondents agreed that sexual crime had no serious effects on the victim while only 7.87 % disagreed. On average, the respondents were in

agreement with the statement. Another parameter that was measured is whether victims of sexual attack should always report to police after criminal attack. Findings show that 35.09% of the respondents strongly disagreed, while 10.53% strongly agreed. Respondents' opinions were sought regarding whether the victims should understand that sexual offenders had no control over their criminal acts. A summary of the responses is presented in Figure 2.16.

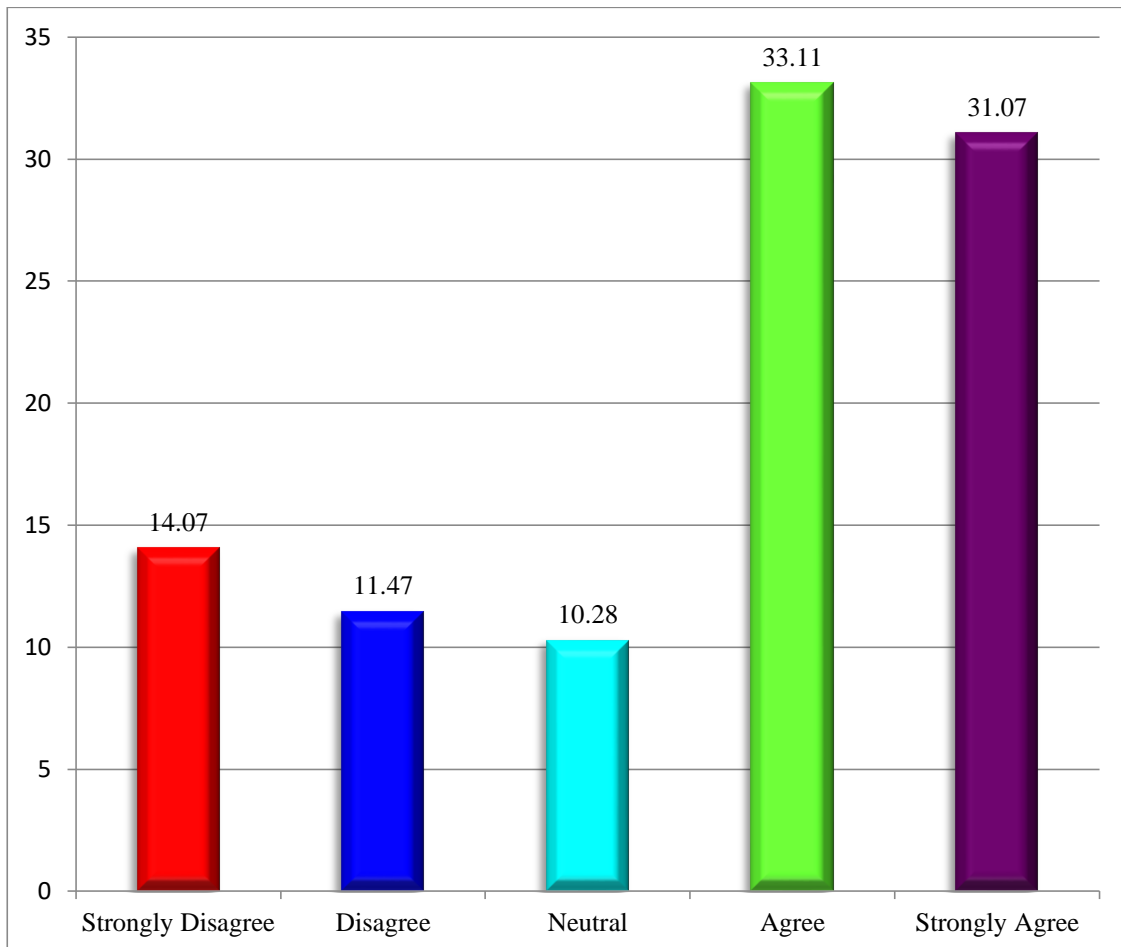


Figure 2.16: Percentage responses of the offenders' control over criminal acts

The respondents were of the opinion that victims should understand that sexual offenders had no control over their criminal acts, with 33.11% in agreement and another 31.07%

strongly agreeing with this statement. However, 14.07% of the participants strongly disagreed and another 11.47% disagreed.

2.5.4 Evaluation Crime as Worthwhile

Evaluation of crime as worthwhile explores the offender's cost benefit analysis of the worthwhileness of crime. Four indicators were used to measure this attitude domain. Figure 2.17 shows a summary of percentage responses on whether sexual offence restores self-confidence.

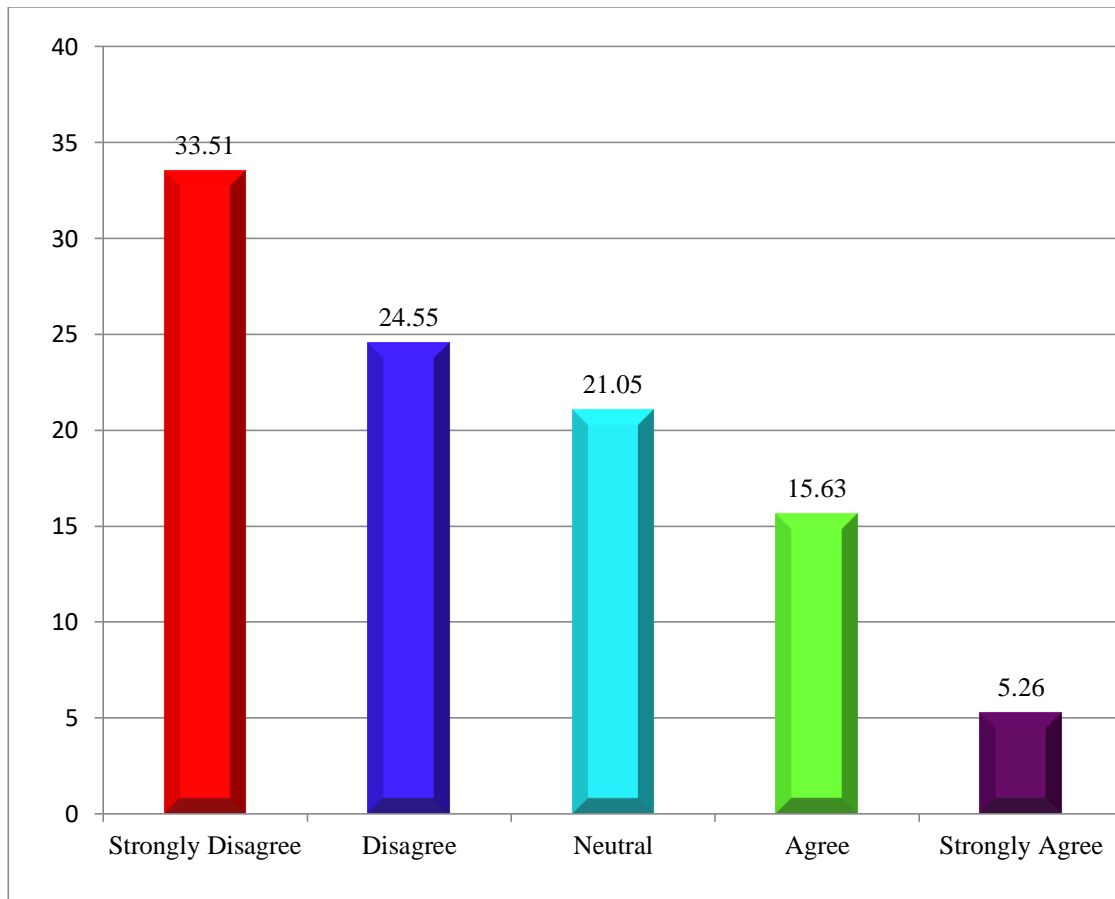


Figure 2.17: Percentage responses of whether sexual offence restored self-confidence

The data shows that 33.51% of the respondents strongly disagreed that sexual offence restored self-confidence, while only 5.26% strongly agreed to this indicator. The average data show that 21.05% of the respondents remained neutral on this statement. On other

parameters, 29.84% of the respondents strongly disagreed that sexual crimes were totally unacceptable, while strong disagreement was reported regarding whether participants worried about missing employment opportunities in the future following conviction for sexual offence. 14.04% strongly disagreed, 15.79% disagreed, while 22.81% remained neutral, giving a large majority who did not exactly agree with the statement. Figure 2.18 gives a summary of the responses of the effects of separation from family on the offender.

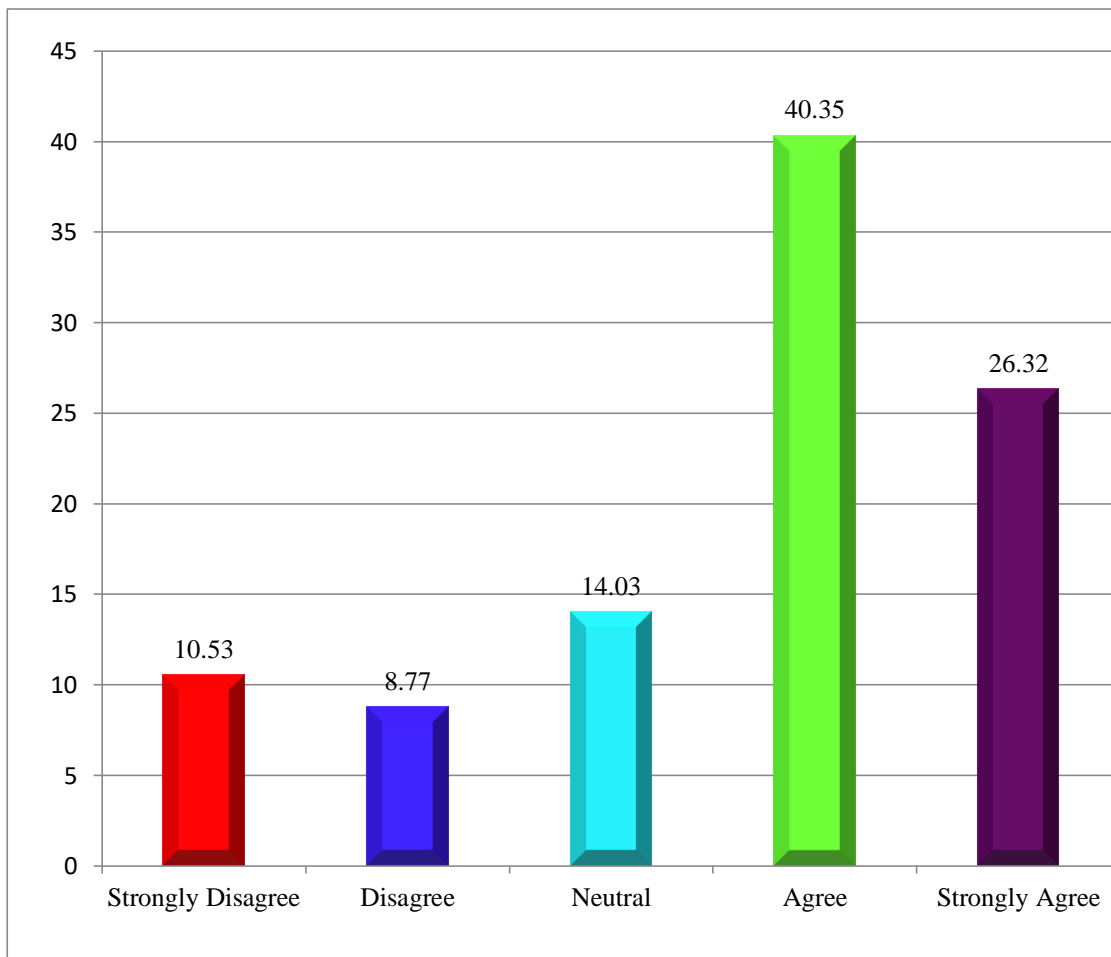


Figure 2.18: Percentage responses of the effects of separation from family on the offender

The results show that 40.35% of the respondents agreed that separation from family had no negative effect on them and only 8.77% disagreed.

2.5.5 The Perception of Life Problems

Figure 2.19 presents the descriptive results of the respondents' pre-test perceptions of life problems reported as highly problematic.

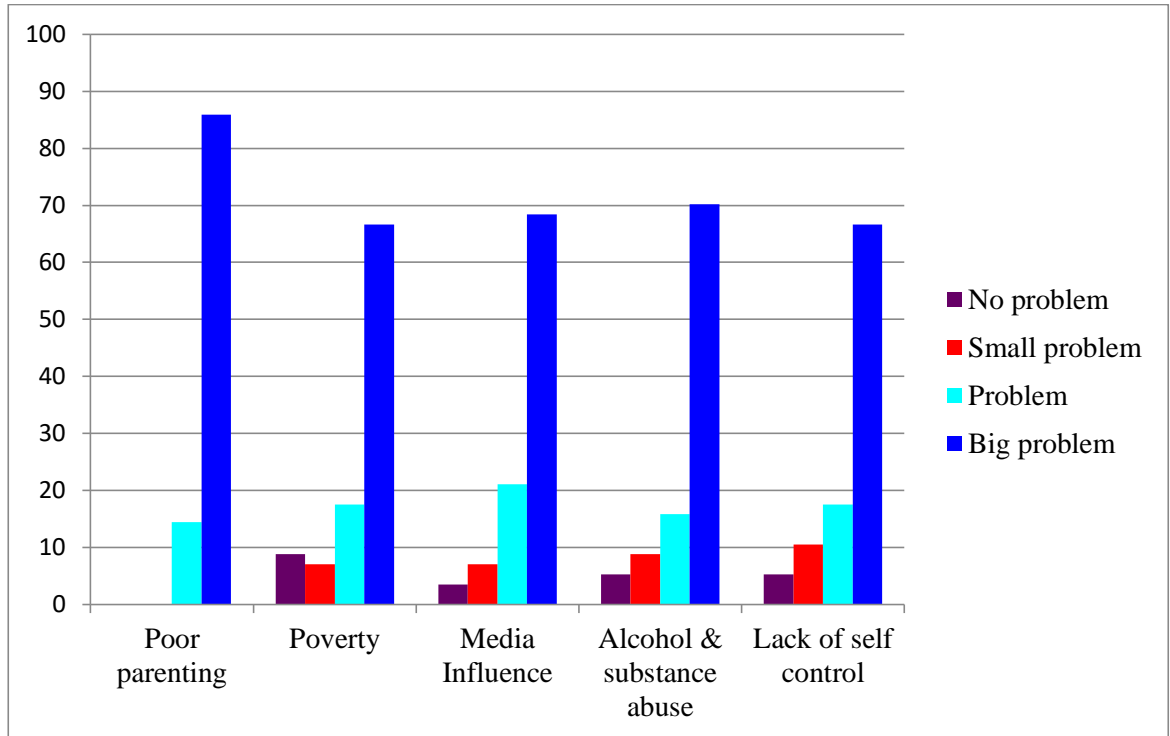


Figure 2.19: The Pre-test perceptions of top five current life problems

The problem inventory provides an offender's view on problems they face in life with higher scores indicating the gravity of the identified problems. The complete descriptive results of the pre-test perceptions on current life problems are provided in a frequency table in Appendix L

The majority of the respondents at 85.96% viewed poor parenting as a big problem while 0% viewed it as no problem. Alcohol and substance abuse was seen as a big problem by 70.18% of the respondents while only 5.26% reported it as no problem. On average, the respondents perceived alcohol and substance abuse as a problem. Negative technology

influence was also perceived as a big problem by an average majority of the respondents at 68.42% and only 3.51% viewed as no problem. The majority of the respondents at 66.67% viewed poverty resulting from unemployment as a big problem, while only 7.02% viewed it as small problem. Lack of self-control was reported as a big problem by 64.91% of the respondents, while only 5.26% reported it as no problem. On average, the respondents perceived poverty resulting from unemployment as a big problem.

Peer pressure was also averagely perceived as a big problem, with a majority at 63.16% and only 5.26% for no problem. On average, the respondents perceived lack of knowledge on sexual offences law as a big problem, with 61.4% and 8.77% of respondents reporting it as a big problem and no problem respectively. Further to this, 61.4% of the respondents viewed poor judgment as a big problem while only 1.75% viewed it as no problem. On average, the respondents perceived poor judgment as a problem. Dysfunctional family unit was viewed as a big problem by 57.89% of respondents viewed while only 3.51% viewed it as small problem. On average, the respondents perceived dysfunctional family unit as a big problem. Being idle was reported as a big problem by 56.14% of the respondents, while only 5.26% reported it as no problem. On average, the respondents perceived idleness as a big problem.

Results show that 54.39% of the respondents on the other hand viewed feelings of rejection as a big problem while only 1.75% viewed it as a small problem, creating an average perception of feelings of rejection as a big problem. Illiteracy was perceived as a big problem by 50.88% of the respondents, while only 7.02% viewed it as small problem. On average, majority at 54.39% perceived income disparity and inequality as a big problem, while only 8.77% reported it as small problem. Concerning lack of proper role models,

54.39% of the respondents viewed lack of proper role models as a big problem while only 1.75% viewed it as a small problem. On average, the respondents perceived lack of proper role models as a big problem. Deprived neighborhood was reported as a big problem by 49.12% of the respondents while only 8.77% reported it as no problem.

2.6 The Interpretation and the Discussion of Findings

The study set out to establish attitudes of male sex offenders towards sexual crimes before intervention by exposure to digital paintings. The mean age of the participants was 32.22 years. Considering that the age for youth in Kenya is up to 35 years, 70% of the participants were youthful offenders aged 35 years and below. Findings of the study indicating that 58% of the participants were married at the time of the offence also suggested that sexual offending is more of a deviant sexual preference and is not influenced by marital status. Similar findings were reported in a study by Hawes, Boccaccini and Murrie (2013). Data indicating that 52% of the participants were sexual re-offenders conform to the findings by Kimiti et al. (2008) and Musau et al. (2014) who reported sexual re-offending rates of 40% annually in Kenya and a higher rate of 43% in Nairobi County.

The study used crime Pics II scale, a self-report instrument for assessing offending-related attitudes, which has been proven to have good internal consistency and test–retest reliability, as well as evidence of construct, concurrent, discriminant, and predictive validity in studies by Williamson et al. (2018). Attitudes were measured with the following indices: G scale (general attitudes to offending), A scale (anticipation of reoffending), V scale (victim-hurt denial) and E scale (evaluation of crime as worthwhile). A Problem inventory (P scale) was used to measure offenders' views towards life problems.

At pretest, the study found that G scale had an attitude measure of 6.921, A scale 8.281, V scale 4.9825 and E scale 3.982. Higher scaled scores in conversion table in crime pics II manual show greater positive identification of the offender with the attitudinal index being measured. The study recorded higher positive identification with general attitudes to offending and anticipation of re-offending while moderate identification was recorded for victim hurt denial and evaluation of crime as worthwhile. The higher scores in G and A-scales implied that most participants saw offending as an acceptable way of life and a higher likelihood of re-offending respectively. The moderate scores in V and E scales indicated indecisiveness in recognizing the impact of their actions on victims and the cost of crime as being greater than its rewards respectively.

The importance of different dimensions of sexual offence supportive attitudes varies between studies as indicated by pretest scores in the current study. A study of adult men in South Africa showed perpetrators of rape scored significantly higher on a scale measuring gender inequitable attitudes than non-perpetrators. Authors have suggested that sexually aggressive men have greater stronger sexual dominance desires, hostility towards women and more traditional attitudes towards gender roles and sexual relationships (Jewkes, Sikweyiya, Morell and Dunkle (2011). Although the current study only focuses on attitudes of perpetrators after conviction, it is possible that attitudes before conviction played an important role in the overall environment in which the sexual offence was perpetrated, acting as an enabling factor. This is evidenced in studies carried out in Bangladesh and South Africa where 80% and 70% perpetrators of rape cited sexual entitlement as a motivation for committing the offence (Jewkes et al., 2011).

During the FGDs, a sense of entitlement was expressed by some convicts who did not consider their actions as criminal, citing cultural practices that allowed marriage of underage children. Other convicts claimed to have been set up by family members over property disputes and revenge. Some offenders were bitter about being locked in as expressed by one 42-year-old participant in verbatim recording:

“I’m very bitter about being locked here. Our culture allows us to marry very young wives. I got a wife aged 14 years and my older wife was not happy. She set me up and the authorities picked me and took me to court. The girl’s parents abandoned me yet I had paid seven cows as bride price. I think sex offence laws should be reviewed by the government.” (FGD-RSVP)

Other participants indicated that they did not really care or feel remorseful about the offence they had committed. One respondent convicted of defilement expressed this feeling:

“I’m just curious to join a new activity. I feel bored around here. I do not feel sorry about my offensive behavior. Actually, I should not be held in prison for sexual crime, yet the girl was my friend then we clashed. I think am just a victim of malice.” (FGD-RSVP)

In addition to the general scores for the five scales, the individual items on the questionnaire also provided crucial diagnostic information, which formed the basis for future discussion and examination. The outcome of this study suggest that majority of the offenders were in denial of responsibility and accountability for the crime(s) committed. Denial of the severity of sexual offending took several forms such as disregarding the impact on the victim, blaming circumstances for the crime and failing to accept inner pain as shown in the findings across most scales. This was a defense strategy meant to shield perpetrators from shame, guilt and hurt. Similar observations were made by Davids et al. (2015) who suggested that denial of sexual offence is a coping mechanism where perpetrators seek to

protect the self-image of their families and shield themselves from physical and emotional harm as well. These findings influenced the discussion surrounding the consequences of sexual crimes through digital paintings to help offenders gain more insights which would lead to a different outlook.

In the FGDs with the offenders, denial of the seriousness of their offending actions set in when most participants indicated that they deserved a second chance and that penalties for sexual offending were exaggerated. Others confessed that the sexual offence was not deliberate and they were not bothered much with the issues concerning the victim. One participant commented:

“I think the justice system is too hard on sexual offenders for no reason. Most of us here never intended to hurt our victims. It was just unfortunate that we were caught. I think we deserve pardon like other offenders” (*FGD- Exhibition*)

On the problem inventory, majority of the respondents identified three issues as highly problematic. Poor parenting was a leading problem for 85.96% of the male sexual offenders under study. Findings in a study by Sigré-Leirós, Carvalho and Nobre (2016) on the relationship between early parenting styles and different types of sexual offending showed less memory of emotional warmth from fathers and mothers by rapists and pedophiles respectively. Londt and Roman (2014) described domestic violence, negative relationship with mothers and separation from parents as early family environment of adult sex offenders. Davids et al. (2015) observation that many sex offenders had been raised without a paternal figure or relationships frequently marked by physical and emotional abuse when the father was present. The findings of the current study are supported by the foregoing observations, which were seen as likely causes of the development of insecure attachment style suggested as a risk factor for later sexual offending.

The focus group discussion findings corroborated the quantitative data on poor parenting. Most of the participants admitted growing up in dysfunctional families, experiencing specific challenges including substance abuse, low socioeconomic status and absence of positive role models as expressed by one participant as given below:

“Life in prison although tough, is a little better than out there. This is my third time in prison- I had committed petty crimes on two occasions and was in prison for short stints. Now am here for a longer period for sexual crime. Most of us keep committing crime so that we are locked in prison where we can get free food and treatment for many diseases. Out there, no one cares about you. I have no family to go to or to care about. There are no proper jobs or money to cater for your needs. You find that crime is the only way out.” (*FGD-Exhibition*)

Alcohol and substance abuse was reported as a big problem by 70.18% of the respondents. These findings are in line with suggestions in literature that offenders with greater substance consumption, poor social skills, poor self-management, and low self-esteem are more likely to report problematic attitudes and issues. Emmelkamp and Kraanen (2017) reported that up to half of male sex offenders had a history of alcohol and substance misuse and that at the time of committing the offence, about one third to half of the sex offenders were intoxicated by psychoactive substances, mostly alcohol. Davids et al. (2015) also exposed alcoholism, housing problems and poverty as profile history of many imprisoned sex offenders. In looking at factors that led to offending, respondents in this study reported alcohol and substance abuse (39.02%) as the main cause of offending, supporting statistics in the problem inventory. Self-gratification (17.09%) and hostility (17.05%) were also reported as key factors leading to offending.

Negative media influence was also reported as a big problem by 68.42% of the respondents. Although the current study dealt with adult offenders, the findings compare to Naidoo and Sewpaul's (2014) study of adolescent sex offenders which found 88% of the respondents

had been exposed to pornographic material and inappropriate sexual messages, since most of such information is available in digital, print and electronic media. Other issues that featured prominently as big problem were poverty (66.70%) and lack of self-control (66.67%). Poor judgment, peer pressure and lack of knowledge on sexual offence laws were all reported as big problem by 63.16% of the respondents.

Although studies have shown that poverty can predispose some victims to sexual crimes in the developing countries (Asanti, Owusu, Ababio & Owusu, 2016), sex offenders are also affected by poverty as suggested by this study. The findings resonate with earlier findings by in a South African study by Jewkes et al. (2011) which showed a large sample of adult men with low income had the highest risk of rape compared to those in other income brackets.

Research has shown that friends are similar in their characteristics in a whole range of areas, describing gang membership and perpetration of rape (Jewkes et al., 2011). This partly explains the strong connection between peer pressure and offending and supports the findings of this study, which found peer pressure to be highly problematic for 63.16% of the respondents.

On education, the study found that most offenders were high school completers. Other studies showed no difference in among men who completed school and those who did not in committing the offence of rape (Jewkes et al., 2011). On the contrary, a study by Jewkes, Nduna, Shai and Dunkle (2012) suggested that rape offence was higher among men with higher educational attainment. Although seemingly contradictory, these studies seem to suggest that the level of education has nothing to do with sexual offending.

All the factors discussed in the paragraphs above impacted negatively on the social functioning of the sexual offenders and contributed to their offensive behaviour.

2.7 Summary of the Chapter

This current body of largely cross-sectional research does not enable this study to distinguish the temporal ordering of attitudes towards sexual offending. It seems likely to be reinforced by a variety of factors as listed in the life problems scale. The findings in this section provided the basis for implementation of intervention by exposure to digital paintings. Crime Pics II provided information that has immediate relevance for this study and gave a valid base line measure against which the effects of intervention by exposure to digital paintings could be measured.

CHAPTER 3: RESPONSES OF MALE SEX OFFENDERS TO THE DIGITAL PAINTINGS

3.1 Introduction

This chapter presents and analyses the data for objective two of the study which sought to assess the responses of male sex offenders to digital paintings. The chapter also presents the interpretation and the discussions of the findings. The ratings for the digital paintings are presented in four parts. The first part presents the participant's overall views on fifteen indicators of the responses to digital paintings. The views are summarized into three subsections relating to the effectiveness of the paintings in communicating consequences of sexual crimes, the impact of the digital paintings on viewers and how participants connect with the digital paintings. The study controlled for participation by randomly selecting a section of the respondents for Exhibition Viewing and another for projection in Rapid Serial Visual Presentation. The second part therefore presents the effect of formats of exposure on the responses of participants to the digital paintings. The third part presents overall descriptive analysis of the digital paintings based on five art measures such as visual impact, tonality, content and meaning, compositional clarity and emotional impact, while the fourth part presents comparative results for preference of styles, colour schemes and themes according to age, art experience and level of education. The analysis is also presented for exposure frequency, which was factored as a major contributor to the responses given by participants.

3.2 Descriptive Analysis of Responses of Male Sexual Offenders to Digital Paintings

The respondents were given a questionnaire with 15 indicators on responses to digital paintings. Each question was close ended and measured on an ordinal Likert scale with scores of 1 to 5 to determine their levels of agreement with the statements about the digital

paintings. A frequency table was used to assess the distribution of the responses with the mean as the measure of central tendency and the standard deviation as the measure of dispersion. Figure 3.1 presents a summary of the descriptive statistics on the responses for communicative effectiveness of the digital paintings.

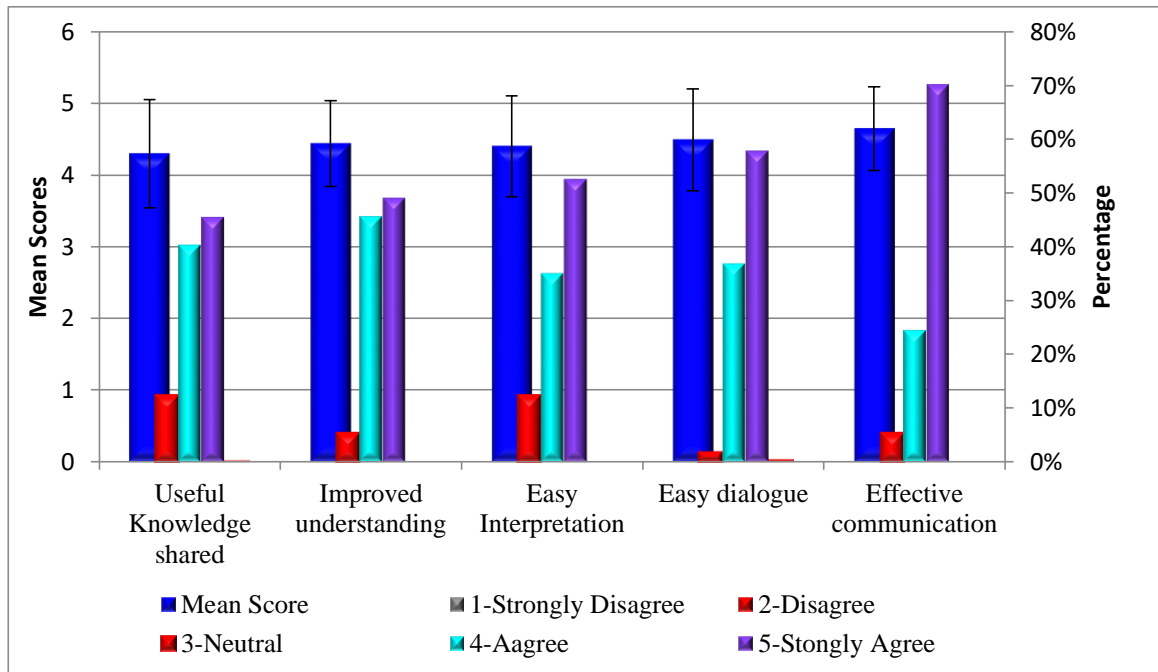


Figure 3.1: Descriptive indicators of the responses to digital paintings regarding the communicative effectiveness

The indicators in this section tested the usefulness of knowledge shared through the digital paintings, whether the paintings improved the participants understanding of the consequences of sexual crimes and the ease of interpretation of the paintings. Data shows that 52% of the respondents strongly agreed with the usefulness of knowledge shared through digital paintings, 60% of the respondents strongly agreed that the information in the digital paintings had greatly improved their understanding of the consequences of sexual offences while 67% of the convicts strongly agreed that the digital paintings were

easy to interpret. Further to this, the respondents were also tested on the place of digital paintings as an easy means of dialoguing on the consequences with 54% reporting strong agreement. A further 70% of the respondents strongly agreed that the digital paintings communicated the consequences of sexual offending effectively.

Figure 3.2 presents a summary of the descriptive statistics for the responses of the viewer’s connection with the artwork (Digital Paintings)

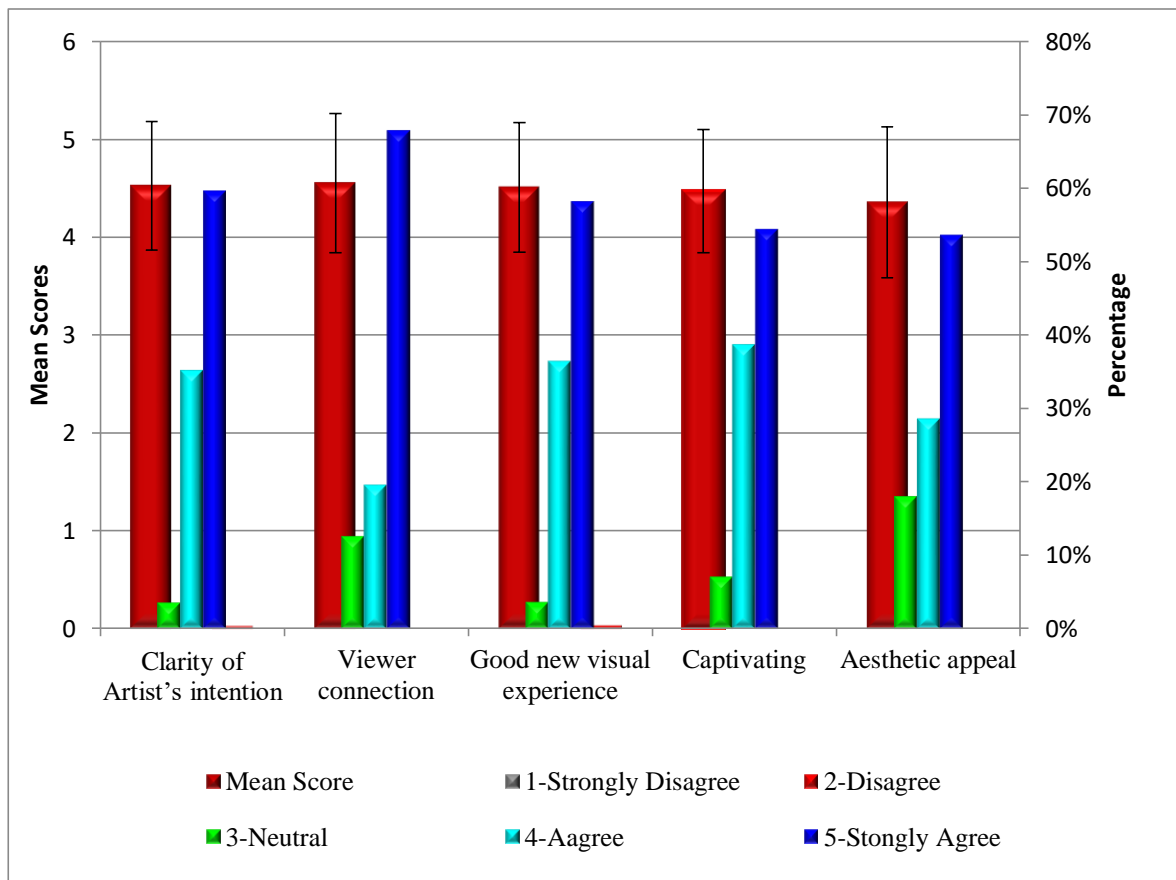


Figure 3.2: Descriptive indicators of the responses to digital paintings regarding viewers’ connection with the art work

The findings show that 42% of the respondents agreed that the intention of the artist in illustrating the consequences of sexual crimes through digital paintings was clear while 57% of the respondents strongly agreed that they were able to connect with the digital

paintings well. The data further shows that 59% of the respondents were in strong agreement that the new visual experience provided by the artwork was good, while 45% strongly agreed that the digital paintings were captivating. Another 52% of the participants strongly agreed that the digital paintings were aesthetically appealing.

Figure 3.3 presents a summary of the descriptive statistics of the responses for the impact of digital paintings on the viewers.

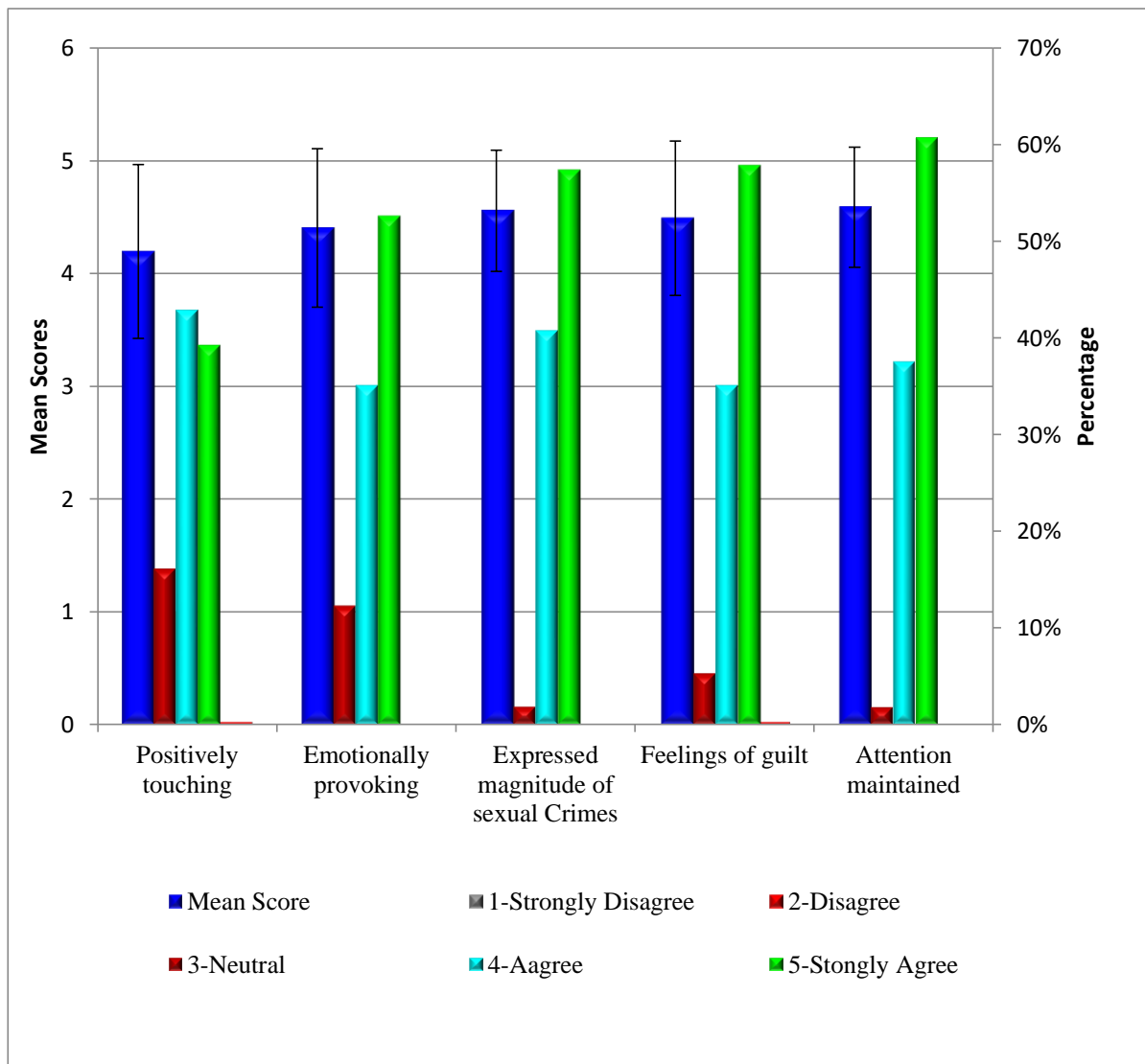


Figure 3.3: Descriptive indicators of the responses to digital paintings regarding the impact on viewers

The findings show that on average the respondents were in strong agreement that the digital paintings touched them positively with the results showing 57% of the respondents strongly agreeing, while 58% of the respondents strongly agreeing that the emotional provocation provided by the art work made them regret their actions. It was also noted that 53% of the respondents strongly acknowledged that the messages in digital paintings expressed the magnitude of sexual crimes, while 49% agreed to the fact that the messages portrayed in the digital paintings caused feelings of guilt. There were also 57% of the respondents strongly agreeing that the digital paintings maintained their attention.

3.3 Analysis of the Digital Paintings based on Formats of Exposure

Further to the frequency tables of each indicator on response to digital painting, cross-tabulations were carried out to assess the association between the presentation formats and the responses to each question. Since each indicator was measured on a categorical ordinal scale with the scores of 1 to 5 depending on the level of the respondents' levels of agreement with the statements, contingency tables (cross-tabulations) were best suited to assess the associations. The contingency tables between each response and mode of exposure displays the frequency and number of participants who were exposed via exhibition and responded to each category from strong agreement to strong disagreement and the frequency of respondents exposed via projection in RSVP who responded to each category.

The frequency tables between the response to each question and presentation format are shown in Appendix M with chi-square test of association. Chi-square tests of association are used to assess the significant difference in the frequencies between groups based on contingency tables. A summary of the chi-square goodness of tests is shown in table 3.1.

Table 3.1: The Chi-square test of association between format of exposure and the indicators of responses to the digital paintings

	Chi-square	df	Sig.
Exposure mode vs Indicator1	3.414	3	0.332
Exposure mode vs Indicator 2	0.325	2	0.850
Exposure mode vs Indicator 3	1.142	2	0.565
Exposure mode vs Indicator 4	4.214	3	0.239
Exposure mode vs Indicator 5	1.095	2	0.578
Exposure mode vs Indicator 6	0.983	3	0.805
Exposure mode vs Indicator 7	0.234	2	0.890
Exposure mode vs Indicator 8	3.908	3	0.272
Exposure mode vs Indicator 9	1.455	2	0.483
Exposure mode vs Indicator 10	1.533	2	0.465
Exposure mode vs Indicator 11	2.660	3	0.447
Exposure mode vs Indicator 12	3.709	2	0.157
Exposure mode vs Indicator 13	1.059	2	0.589
Exposure mode vs Indicator 14	3.304	3	0.347
Exposure mode vs Indicator 15	1.559	2	0.459

The Chi-square tests for all the associations between nominal participation presentation modes and the indicators of the responses to digital painting messages had p-values greater than 0.05. This implied that the format of exposure had no significant association with the responses to any of the questions on the digital paintings. Factor analysis was used to reduce the dimensions of the scores to the responses to each of the messages. The composite measure of response scores to digital painting was determined as standardized factor scores from the factor analysis results. The variable was further analyzed as shown in table 3.2.

Table 3.2: Mean score responses to the digital paintings

	Presentation	N	Mean score	Std. Deviation	Std. Error Mean
Responses Paintings	Overall	57	0.899	0.441	0.058
	RSVP	28	0.871	0.506	0.094
	Exhibition	29	0.929	0.370	0.070

The overall mean score of the standardized responses to digital painting was found to be 0.899. The mean response score was observed to seemingly differ between the two groups of participants, implying that the mode of exposure could have had a possible effect on the responses to the digital paintings. The mean response to digital painting was seemingly higher for the respondents who were exposed via exhibition than those who were exposed via RSVP.

To assess the significant effect of the format of exposure on the responses to the digital paintings, a test on the significance of the mean difference in mean response score in the two groups of participants was carried out and the results presented in table 3.3

Table 3.3: Effect of exposure format on the responses to the digital paintings

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
								Lower	Upper
Equal variances	6.764	0.012	-0.309	47	0.759	-0.089	0.289	-0.670	0.491
Non -Equal variances			-0.311	43.9	0.757	-0.089	0.287	-0.667	0.489

The t-test carried out is based on an assumption that the variances of the response variable exhibit either homogeneity or heterogeneity between the two groups of participants. An F-test of equal variances was therefore carried out to assess the homogeneity of variance. The F-statistic had a p-value less than 0.05 implying that the variances were not equal; hence the t-test assumed that the variances were heterogeneous. The p-value of the t-statistics assuming heterogeneous variances was found to be -0.311 with a p-value of 0.757, which is greater than 0.05 to implying no significant difference in the mean response between the two groups in either format of exposure.

3.4 Descriptive Analysis of the Measures of the Digital Paintings

The respondents rated their appreciation for the 24 digital paintings in regards to visual impact, tonality, content and meaning, compositional clarity and emotional impact. The ratings were measured on an ordinal scale of 5 from 1 very bad, 2 bad, 3 neutral, 4 good to 5 very good. The overall mean score ratings given for all the 24 paintings across the measures are shown in Figure 3.4.

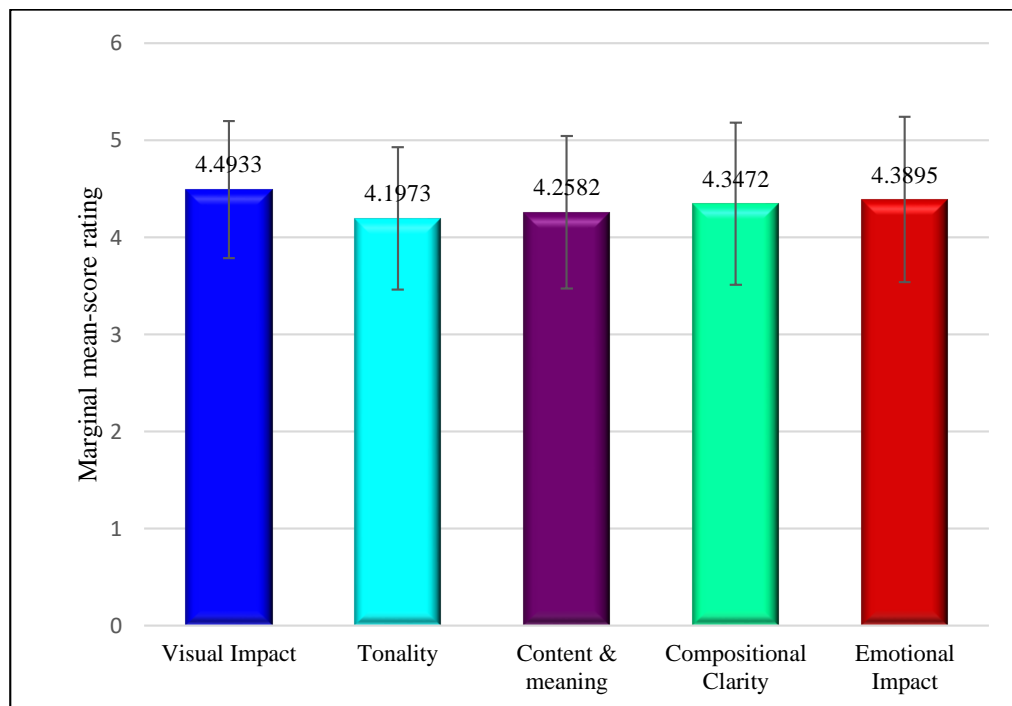


Figure 3.4: Mean score ratings of digital paintings

The results show that on average, the digital paintings were rated highly with mean scores above 4. The visual impact of the paintings recorded the highest average rating close to 4.50, while tonality had the lowest rating at about 4.10. Although the overall average ratings were observed to be above a mean score of 4 (good), not all paintings were awarded averagely high ratings by the respondents. Figure 3.5 shows individual average ratings of six (6) digital paintings rated highly and six (6) digital paintings rated low. The digital

paintings were numbered randomly according their order of appearance in the sequence attached in the art response questionnaire (Appendix C).

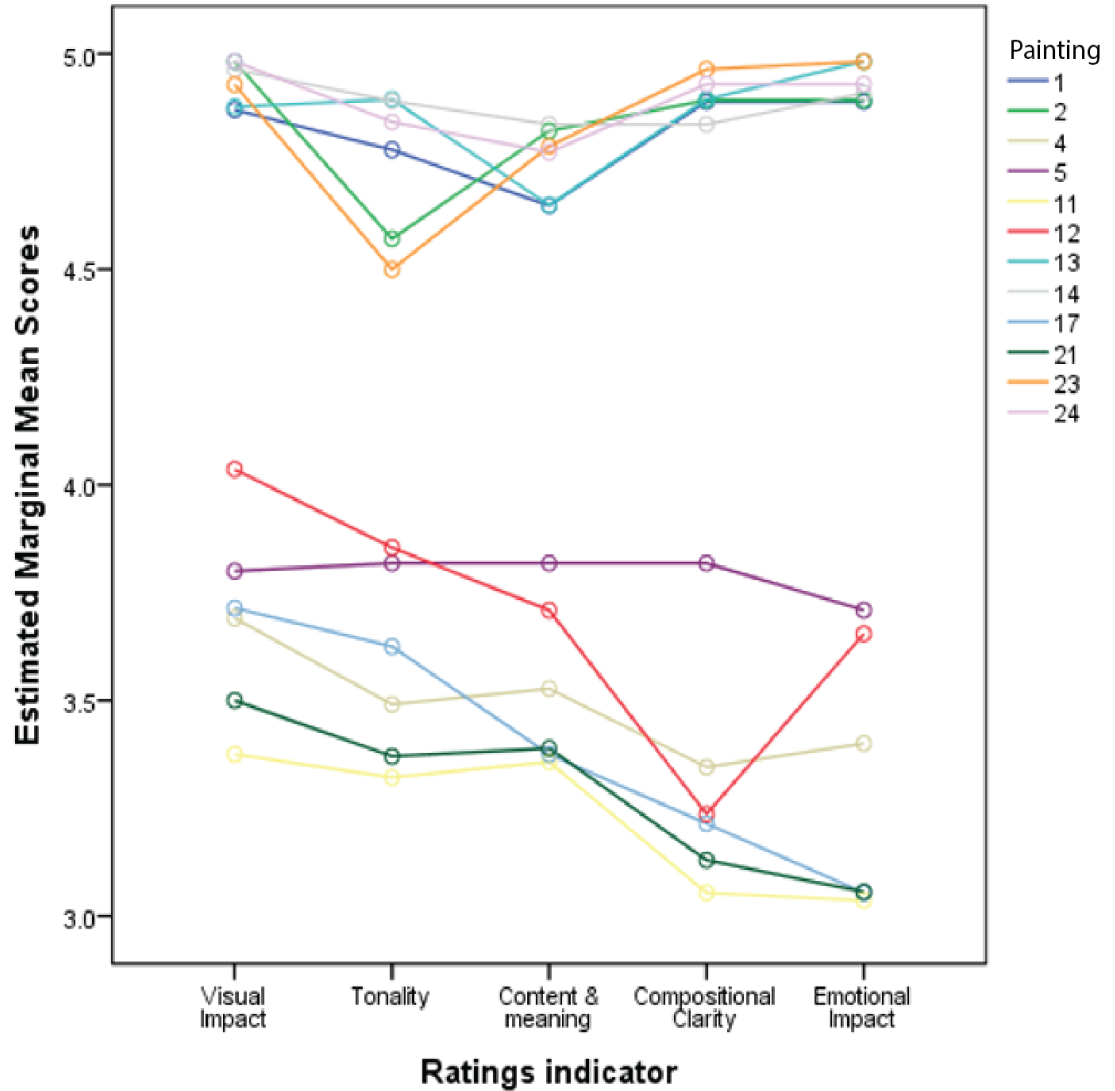


Figure 3.5: Marginal mean score ratings of top six and bottom six digital paintings
 The details in Figure 3.5 show that the best-rated paintings had mean scores above 4.6 across all the measures. Details however show lower ratings tonality for two of the paintings. The digital paintings ranked low showed ratings below 4.0 across all measures except in visual impact which was at a mean score of 4.1 for only one painting. Compositional clarity was ranked lowest for two of the paintings, while emotional impact was similarly ranked lowest for three of the paintings.

3.5 Layered Ratings for Digital Paintings

For a more comprehensive analysis, the digital paintings were further classified into four major sub sections under colour schemes (monochrome and polychrome), painting styles (realist and surrealist), themes (offender, offender's family and victim based) and exposure frequency. Overall ratings for each sub group were done based on the five measures of digital paintings, against age, education and art experience.

3.5.1 Ratings for Monochrome and Polychrome Digital Paintings

An assessment across the five measures of digital paintings was carried out on the difference in ratings between the monochrome and polychrome colour schemes. The levels of ratings of the 24 paintings were found to vary for the two styles of paintings as shown in Table 3.4 below:

Table 3.4: Tests of between-subjects colour scheme effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	125206.012	1	125206.012	59004.264	.000
Colour Schemes	109.139	1	109.139	51.432	.000
Error	2856.188	1346	2.122		

The overall findings show that the colour scheme used for the paintings significantly affected the ratings given by the respondents as shown by the F statistic with a p-value of 0.000 which is less than the 0.05 level of significance.

Figure 3.6 shows a graphical presentation of the significance difference in the overall mean scores of the various rating measures for the two colour schemes among mean scores of the various rating measures for the two colour schemes among the two groups of participants.

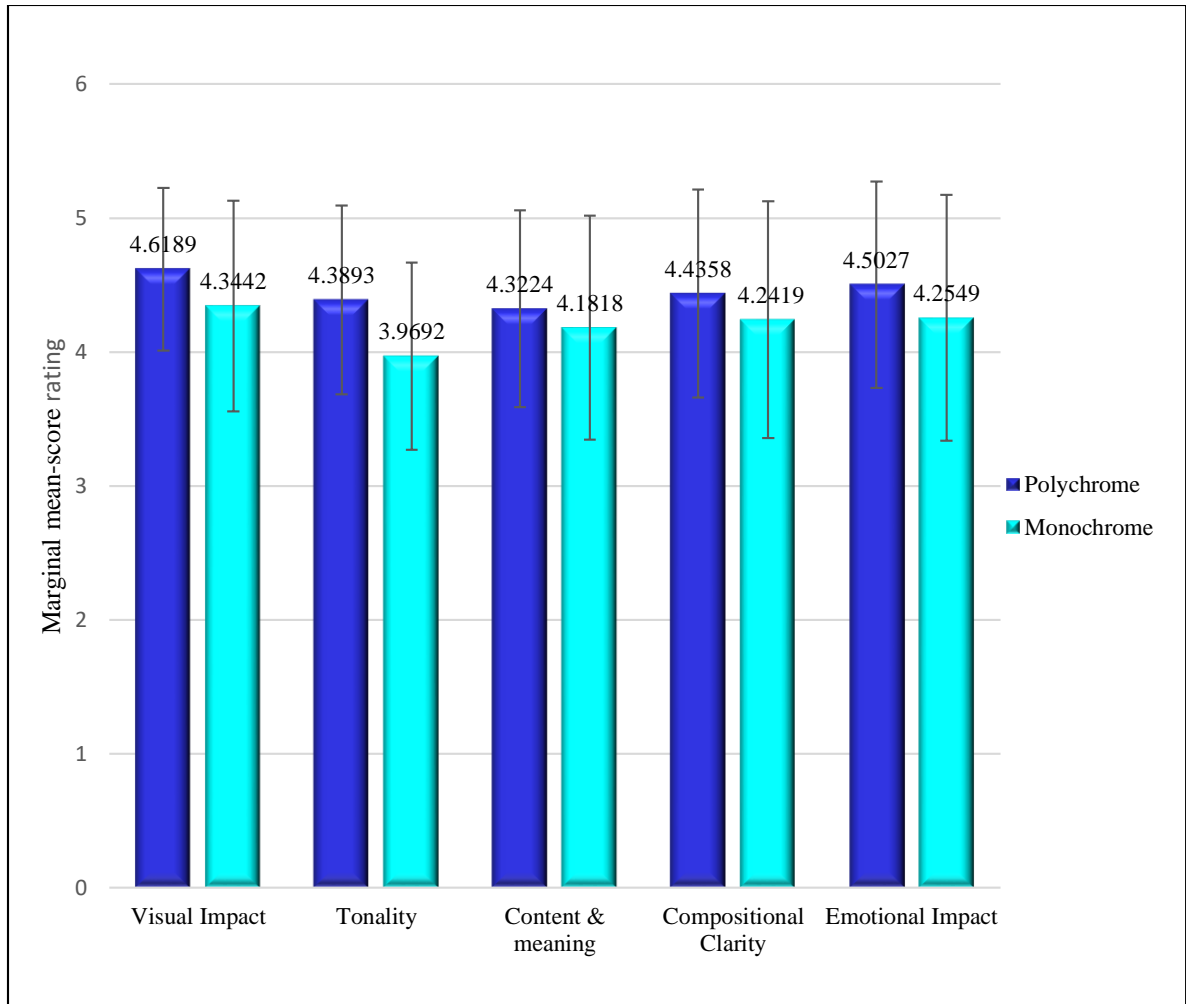


Figure 3.6: Marginal overall mean-score ratings of paintings by colour scheme

The paintings in both colour schemes generally rated highest on their visual impact compared to the other rating aspects assessed. The polychrome paintings generally rated higher than the monochrome colour scheme paintings in all aspects with their lowest rated aspect being on content and meaning. The monochrome colour scheme paintings had lower ratings across all measures as compared to polychrome colour paintings.

The study further sought to find out the level of preference for the colour schemes among all participants. Figure 3.7 presents a summary of responses on preference for digital paintings by colour schemes.

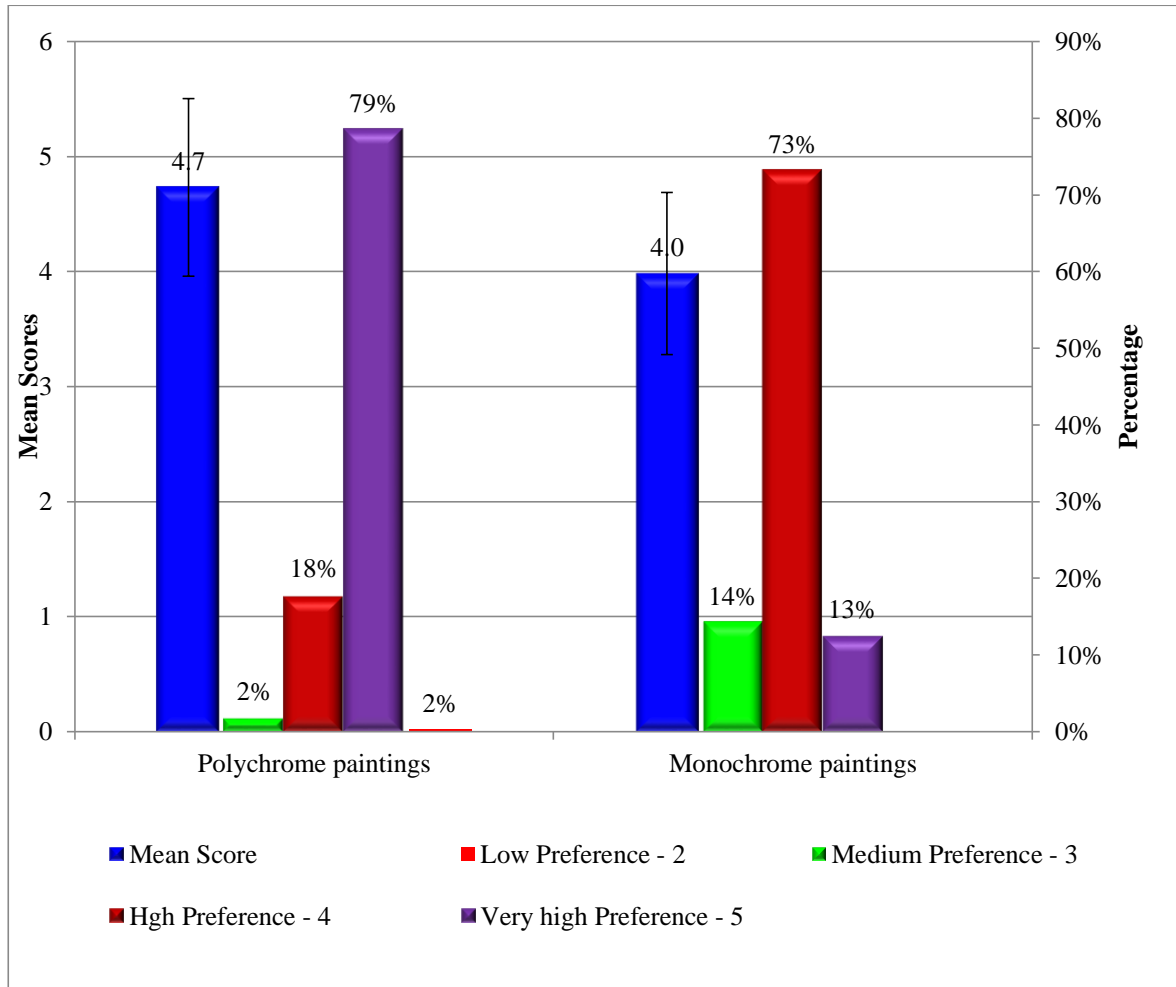


Figure 3.7: Preference for digital paintings by colour scheme

The findings show that 78.6% of the respondents expressed a very high preference for the polychrome paintings while none (0%) of the respondents expressed no preference at all for the polychrome paintings. The mean score was 4.73 with a standard deviation of 0.587. This implied that on average, the polychrome paintings were very highly preferred by the majority of the respondents. On the other hand, it was also observed that 73.2% of the convicts had a high preference for the monochrome paintings and that none (0%) reported no preference at all. The mean score of the level of preference of the monochrome paintings was found to be 3.98 with a standard deviation of 0.52, which indicated that on average, the majority of the respondents liked them.

3.5.1.1 Ratings for the Colour Schemes by Age of Participants

The study rated the preference for colour schemes of the digital paintings based on the age of the participants. Figure 3.8 shows the mean score ratings of the colour schemes by to age.

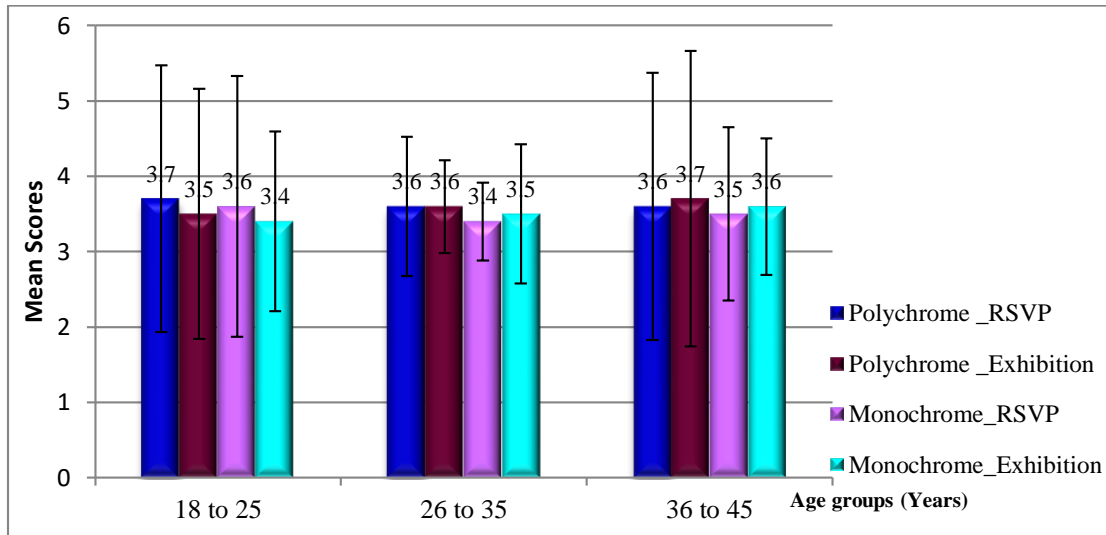


Figure 3.8: Mean score ratings of colour schemes by age

The findings show that the polychrome paintings were highly rated in RSVP presentation by the participants aged 18-25 years, but had slightly lower ratings among the participants aged between 26-35 years and 36-45 years respectively. In the exhibition format of presentation, polychrome paintings had the highest ratings among the older participants aged between 36-45 years and the lowest ratings by younger participants aged 18-25 years.

Monochrome paintings similarly had slightly higher ratings among younger participants aged 18-25 years, while the participants aged 26-35 years reported the lowest mean scores.

Under the exhibition, the highest ratings for monochrome paintings were reported among older participants aged 36-45 years, with the younger participants aged 18-25 years reporting the lowest score.

3.5.1.2 Ratings for the Colour Schemes by Art Experience

Data shows that the majority (91.07%) of the respondents had no training or art experience prior to participation in the study while only a small percentage of 8.93% acknowledged to have had some prior experience in art as shown in Figure 3.9

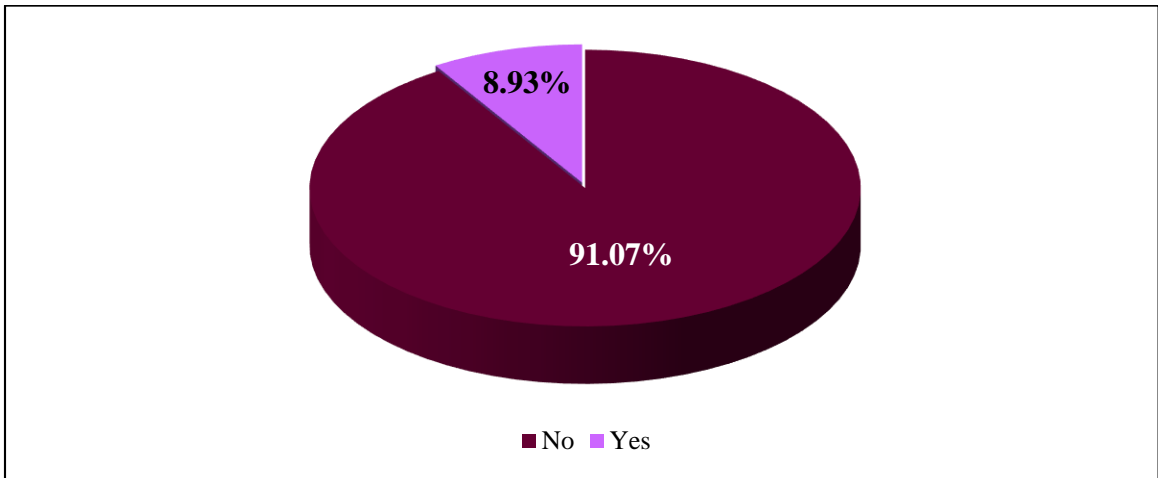


Figure 3.9: Participants' art experience

Despite these findings, the study went on to assess the effect art experience or lack of it on responses of participants to the digital paintings under study. Figure 3.10 shows the relationship between art experience and the ratings on colour schemes.

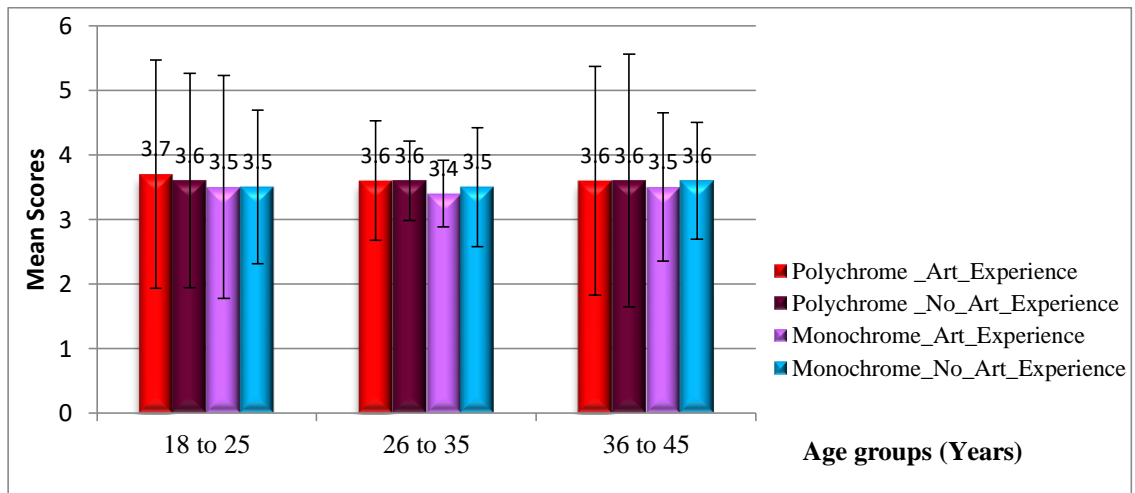


Figure 3.10: Mean score ratings of colour schemes by art experience

Although the variations were minimal, the findings show that polychrome paintings generally had higher ratings across all the groups.

3.5.1.3 Ratings for Colour Schemes by Level of Education

Ratings were done for the preference of the colour scheme based on the participants' level of education as shown in figure 3.11

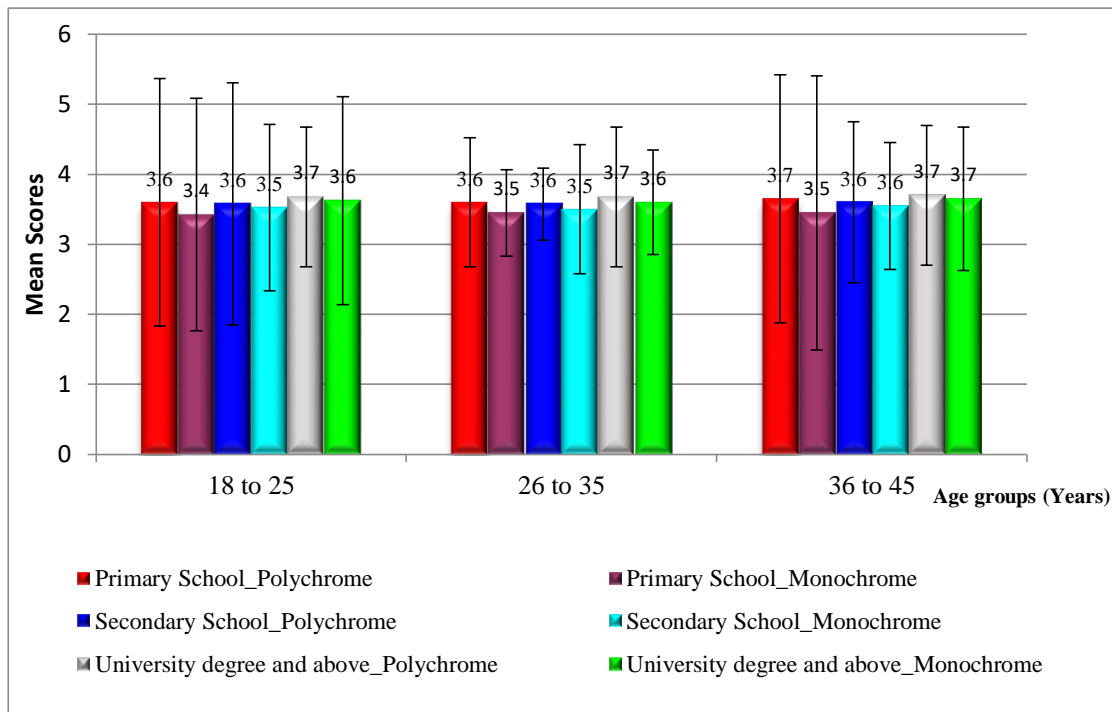


Figure 3.11: Mean score ratings of the colour schemes by the level of education

Except for monochrome paintings that seemed to score lower among participants of all ages both with primary and secondary education, minimal differences were reported for colours schemes across all other groups.

3.5.2 Ratings for the Realist and the Surrealist Paintings

The difference in ratings between the realist and the surrealist painting styles was assessed across the five measures of digital paintings. The levels of ratings of the 24 paintings were found to vary for the two styles of paintings as shown by Table 3.5.

Table 3.5: Tests of Between-Subjects Style Effects on Ratings

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	124734.915	1	124734.915	64508.409	.000
Style	362.671	1	362.671	187.560	.000
Error	2602.656	1346	1.934		

Findings show that the style of painting used significantly affected the ratings as shown by the F statistic with a p-value of 0.000, which is less than the 0.05 level of significance. Figure 3.12 shows the results on the significant effect of style on the rating scores of the various measures.

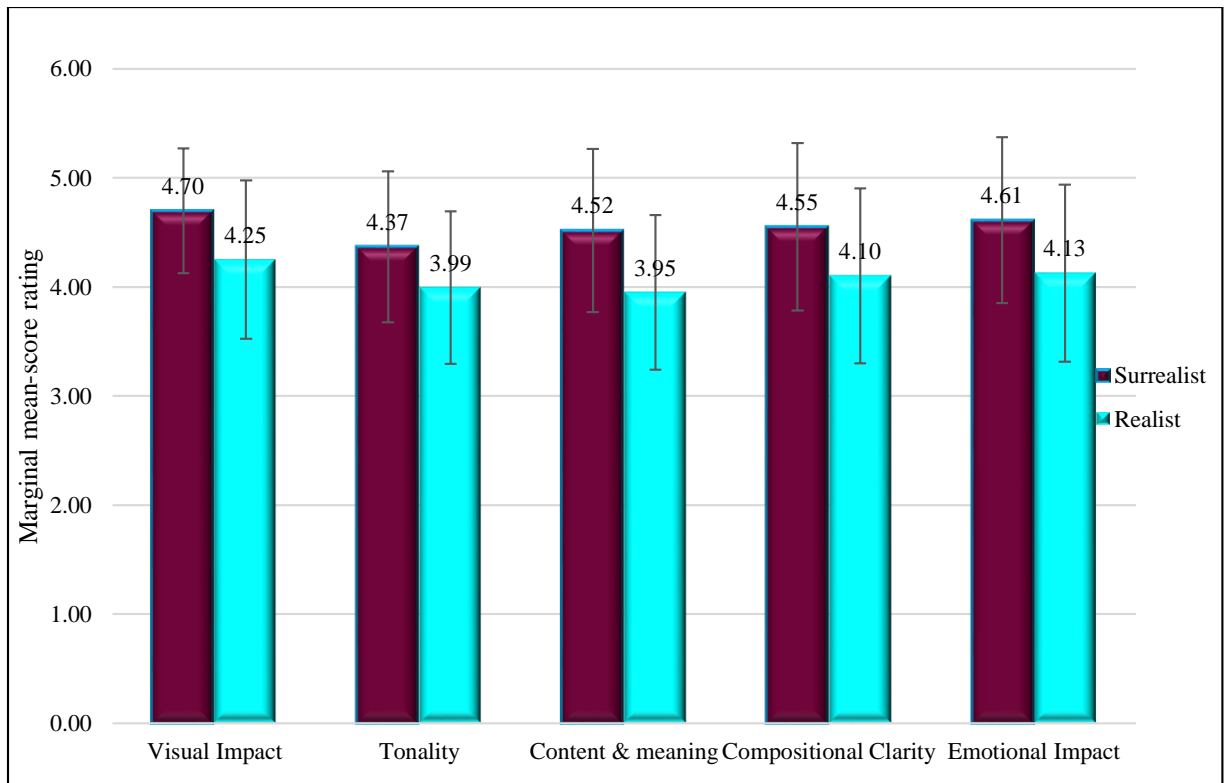


Figure 3.12: Marginal overall mean-score ratings of the paintings by style

From the findings, it was observed that in general, surrealist paintings had significantly higher ratings than the realist paintings across all the measures assessed. It was also noted

that although both painting styles generally rated highest on visual impact compared to other measures, surrealist paintings had their lowest rating being tonality while realist paintings had their ratings being on content and meaning.

The study also sought to find out participants' preferences for painting styles. Figure 3.13 provides a summary of responses on preference for digital paintings by style.

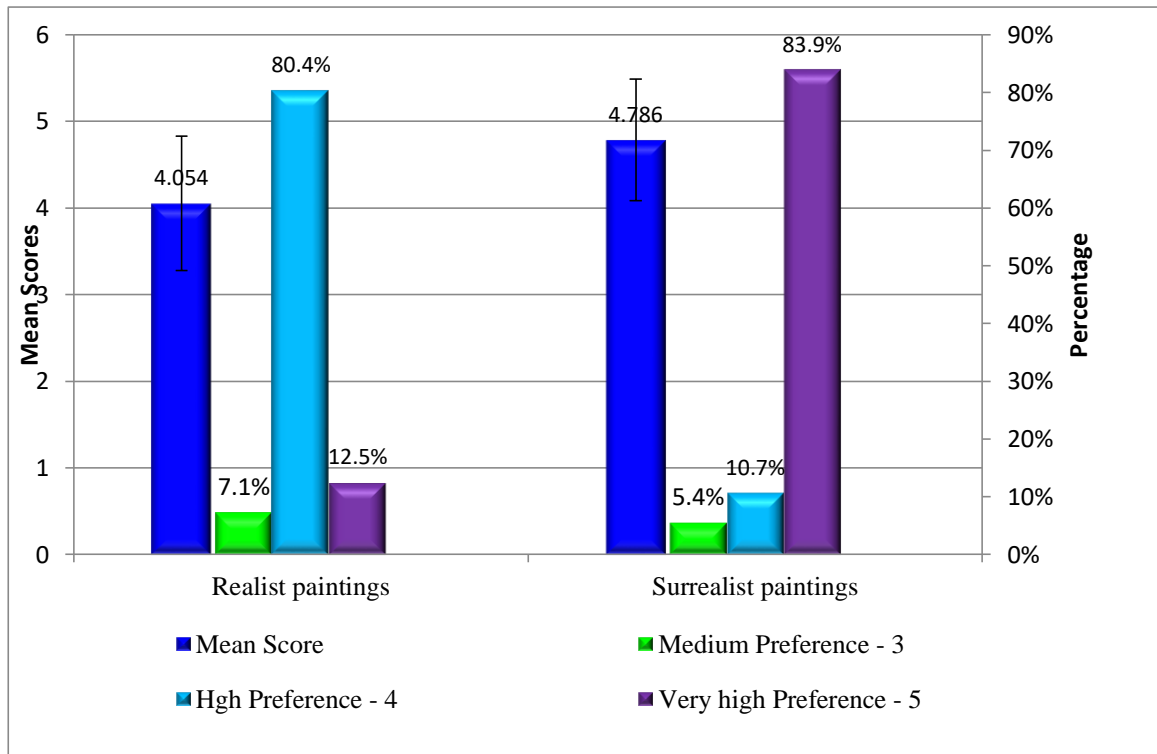


Figure 3.13: Summary of the Responses on preference for Digital Paintings by Style

The realist paintings were highly preferred by 80.4% of the respondents. At least none (0%) expressed no preference for the realist paintings. The mean score of this was 4.05 with a standard deviation of 0.44. This implied that on average, most prisoners had a high preference for the realist paintings. With a mean score of 4.79 and a standard deviation of 0.53, the surrealist paintings were however very highly preferred by 83.9% of the

respondents and not preferred at all by none of respondents (0%). On average, the surrealist painting style was very highly preferred by the participants.

3.5.2.1 Ratings for Style by Age of Participants

Ratings were done for the preference of style of the digital paintings based on age of the participants. Figure 3.14 shows the mean score ratings of the painting styles by age of participants.

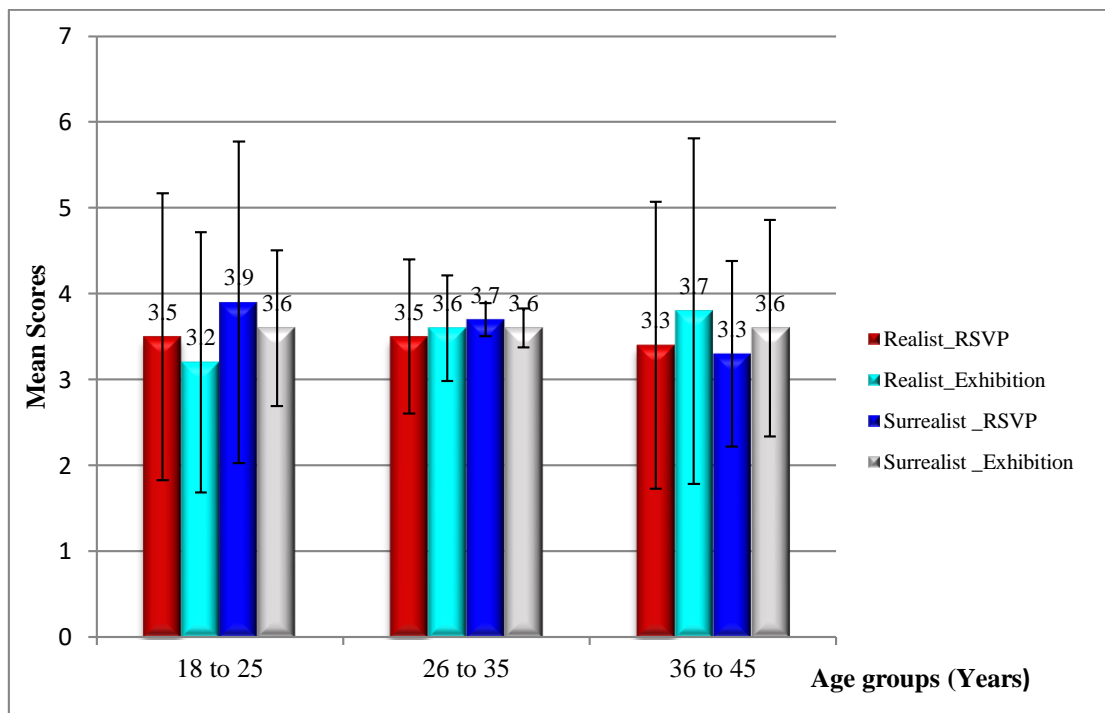


Figure 3.14: Mean score ratings of the painting styles by age of participants

The findings show that the participants aged 18-25 years and 26-35 years under RSVP preferred the realist paintings better, while participants aged 36-45 years reported lower preference. In the exhibition format, higher scores for the realist paintings were reported among older participants aged 36-45 years, with the participants aged 18-25 years reporting the lowest scores. For the surrealist style, the highest score was reported among participants

aged 18-25 years under RSVP and lowest scores among participants aged 36-45 years. There was a tie in scores for all groups of participants for surrealist style under exhibition format.

3.5.2.2 Ratings for Style by Art Experience

Ratings were done for preference of paintings styles based on art experience as shown in Figure 3.15

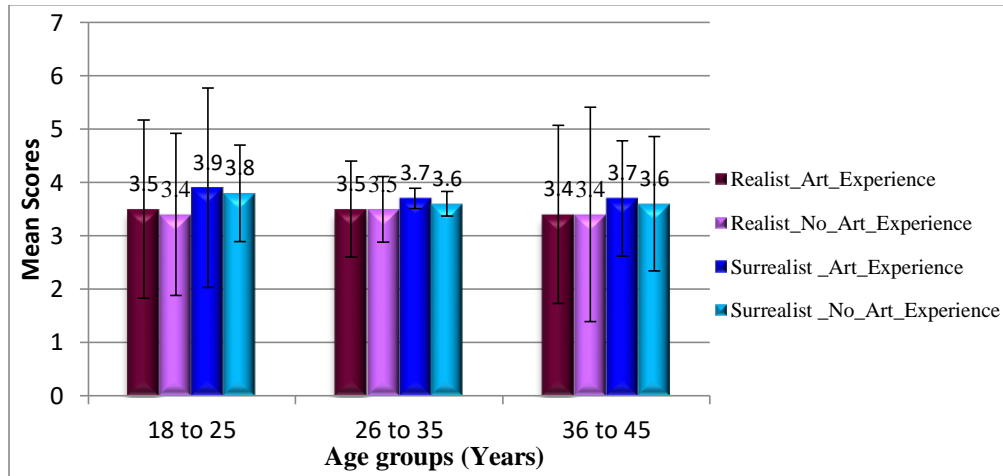


Figure 3.15 Mean score ratings of painting styles by art experience

Generally, the findings show higher ratings for surrealist paintings among participants of all ages, regardless of the art experience. However, slight differences were found between the groups of participants, where those with art experience posted slightly higher scores for the surrealist paintings as compared to those with no art experience. Further findings show that there was no difference in ratings for the realist paintings between participants with art experience and those without.

3.5.2.3 Ratings for Style by Level of Education of the Participants

Ratings were carried out to see how the level of education could have impacted on the participants' responses. Figure 3.16 presents the mean score ratings of the painting styles by level education of the participants.

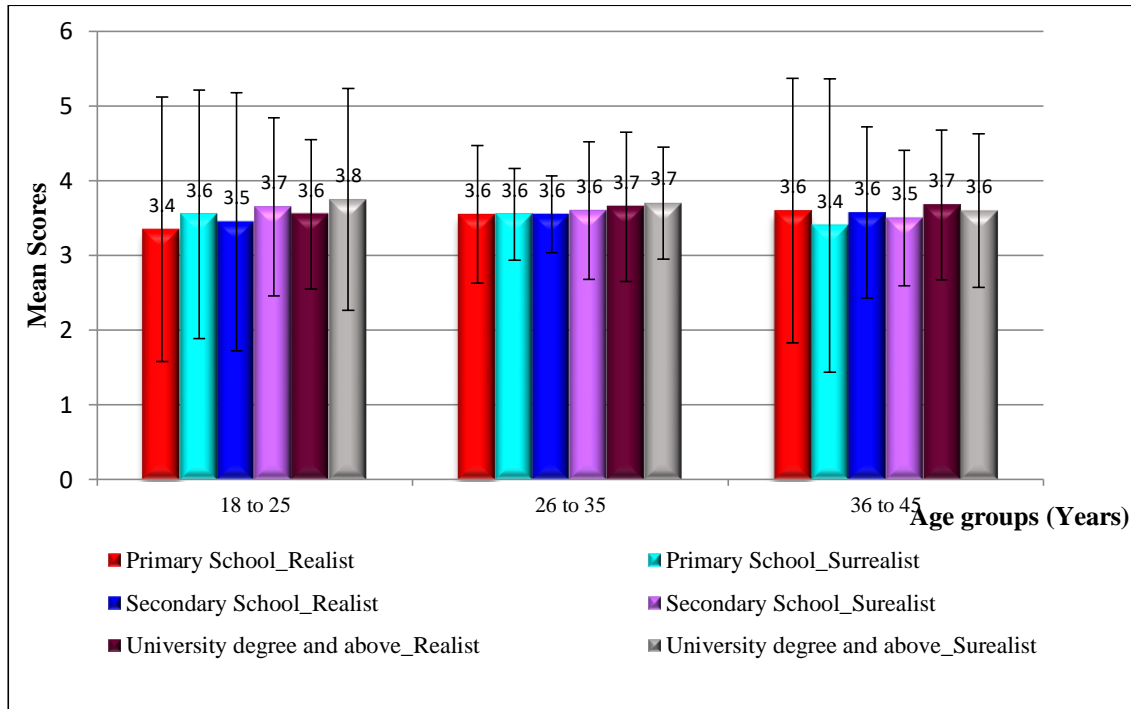


Figure 3.16: Mean score ratings of painting styles by level education

Although the differences were minimal across, the surrealist paintings were more appreciated by participants aged 18-25 years and 26-35 years with university degree and above. Participants aged 18-25 years with primary school education reported the least appreciation for the realist paintings, while participants aged 36-45 years with university degree and above reported a greater appreciation for the same.

3.5.3 Ratings for Digital Paintings by Themes

The ratings were further assessed across the painting theme categories. Table 3.6 shows the tests of between subjects theme effects.

Table 3.6: Tests of Between-Subjects Themes Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	125941.105	1	125941.105	57832.697	.000
Themes	36.347	2	18.174	8.345	.000
Error	2928.980	1345	2.178		

All the 24 digital paintings were categorized thematically as sexual offender based, victim based or offender family based. The levels of ratings given to the paintings on all aspects measured were found to significantly vary across the themes. Results show that the themes chosen for the paintings significantly affect the rating given by the respondents as shown by the F statistic with a p-value of 0.000 which less than the 0.05 level of significance.

The results on the significant effect of the themes on the rating scores for the five measures were graphed as shown in the chart in Figure 3.17

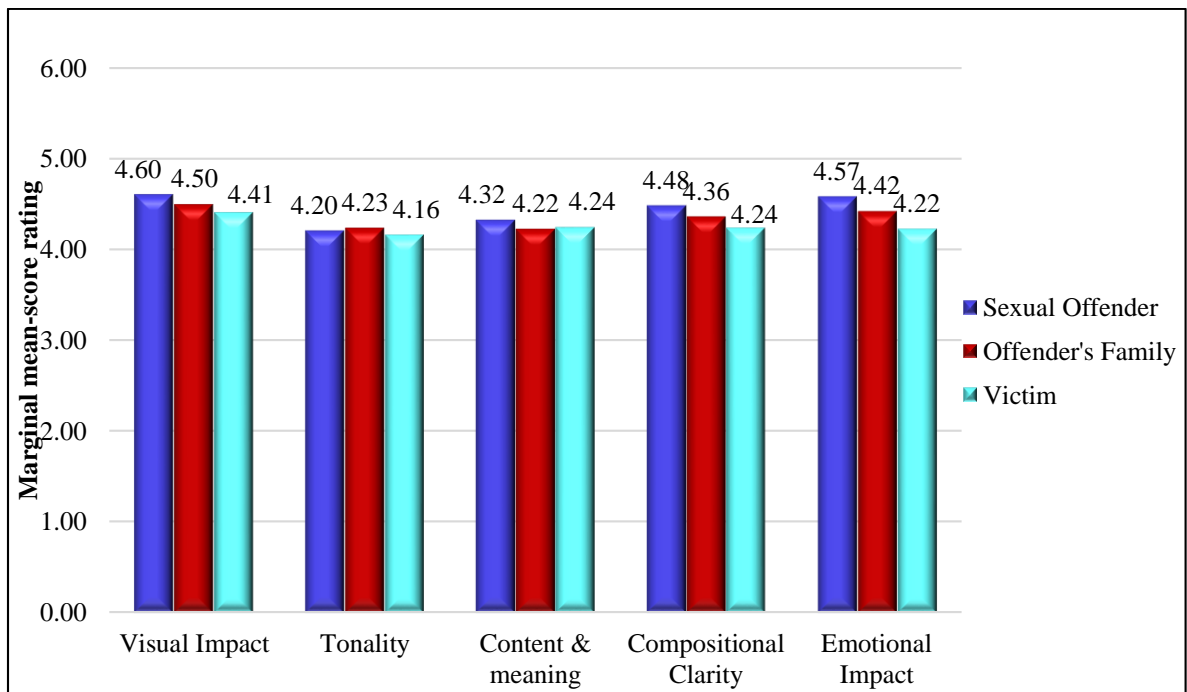


Figure 3.17: Marginal overall mean score ratings of the digital paintings by themes

The paintings with sexual offender based themes were generally rated higher than the other themes across most (4 out of the 5) of the aspects rated. Offender’s family related themed digital paintings however had the highest mean score ratings in tonality and the lowest rating on content and meaning among all the three themes. Victim related themes scored

lowest in most (4 out of 5) aspects except for the content and meaning. The study also checked for arousal levels of digital painting themes. Figure 3.18 shows summary on the level of arousal of digital painting themes.

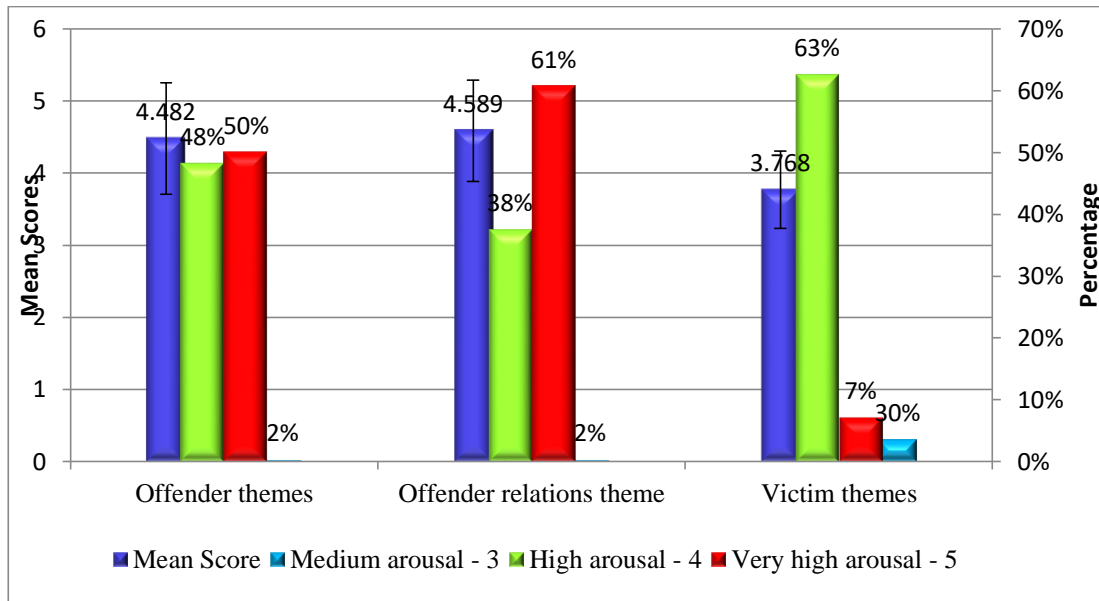


Figure 3.18: Summary of Responses on Arousal levels of Digital Painting Themes

The themes relating to effects of crime on the offender were very highly arousing according to majority (50%) of the sexual offenders. None (0%) reported the themes not to be arousing at all or to have very low level of arousal. The mean score of the arousal levels of the themes was found to be 4.48 with the standard deviation of 0.54, which indicated that on average, the themes on the effects of crime on the offender were of high arousal to the sexual offenders. The majority of the participants (60%) also reported very high arousal levels for themes related to effects of crime on the offender’s family, while none thought of them to have no arousal at all or very low arousal. On average, the general perceived arousal of themes relating to the effects of crime on offender’s relations by the respondents was high as shown by the mean score of 4.59 and standard deviation of 0.53.

Concerning the arousal levels of themes relating to the effects of crime on the victim, the majority (62%) reported that the arousal level was high. None of the respondents reported no arousal levels at all or very low arousal levels on the painting themes relating to effects of crime on the victim. The mean score of was observed to be 3.77 with the standard deviation of 0.57 which indicated that on an average, the themes on the effects of crime on the victim were considered to have high arousal levels.

3.5.3.1 Ratings for the Themes by Age of Participants

Further ratings were done for the preference of themes according to the age of participants. Figure 3.19 shows the mean score ratings of painting themes based on age of participants.

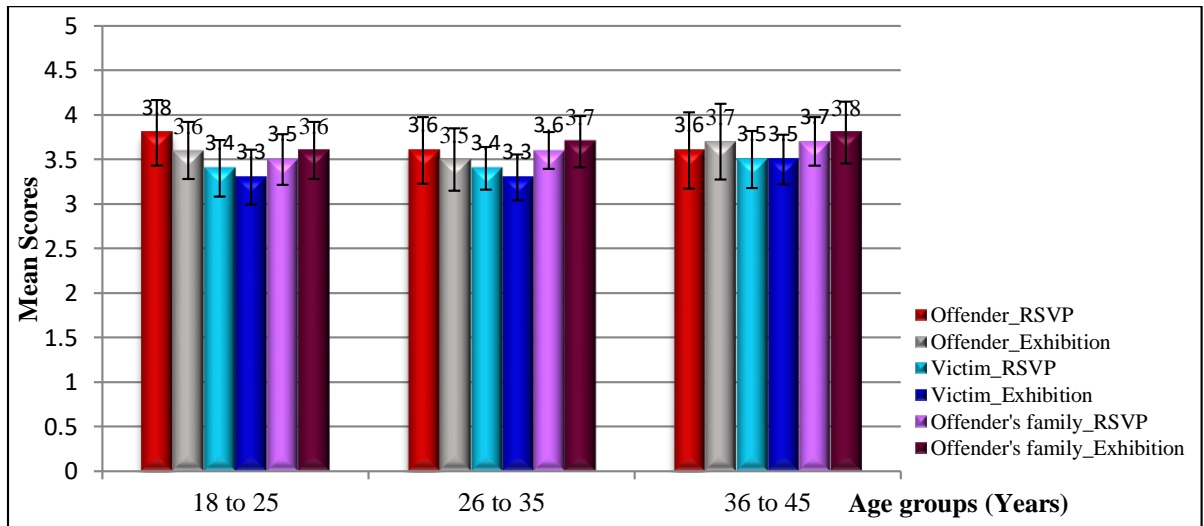


Figure 3.19: Mean score ratings of painting themes by age of participants

The findings show that the offender based themes were rated highest under RSVP by the participants aged 18-25 years, while the participants aged 36-45 years rated offender based themes highest under the exhibition format. The victim based themes were also highly rated

under RSVP and exhibition by the older participants aged 36-45 years, while the participants aged 18-25 years and 26-35 years reported low scores under both formats of exposure. The data further showed that across both presentation formats, offender’s family based themes scored slightly higher among older participants aged 36-45 years as compared to the younger participants.

3.5.3.2 Ratings for the Themes by Art Experience

Figure 3.20 shows mean score ratings for digital paintings based on the participant’s art experience

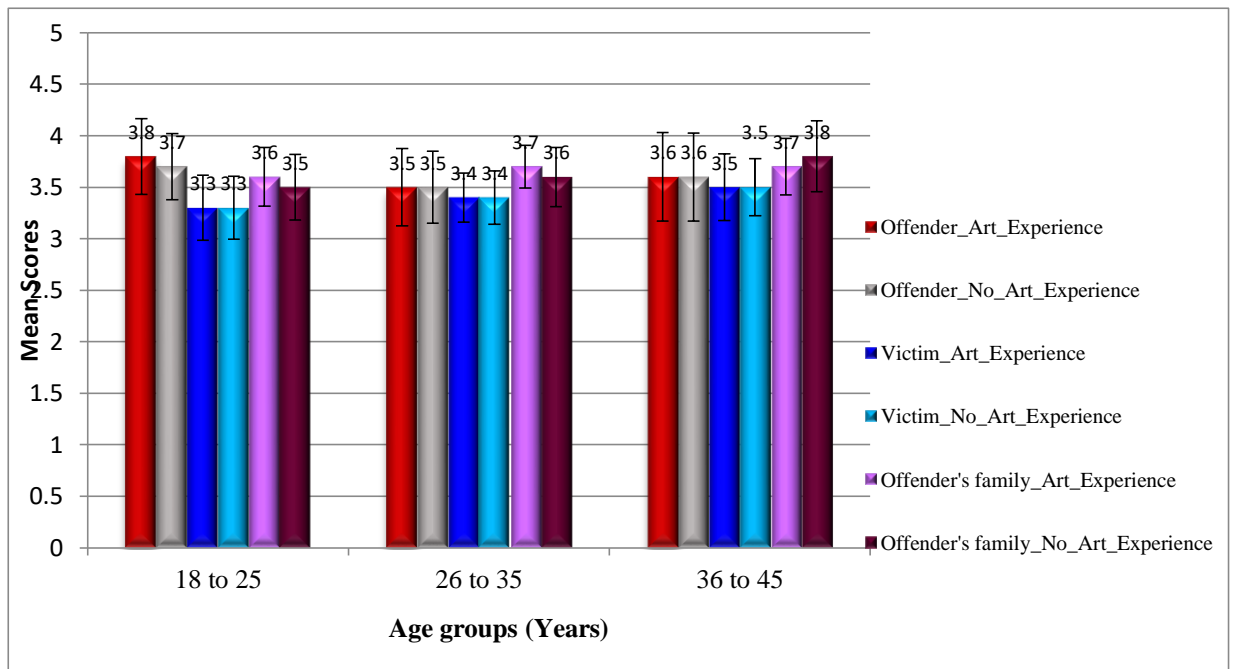


Figure 3.20: Mean score ratings of painting themes by art experience

The findings show that the victim themes were rated lowest across all groups regardless of the art experience or the lack of it. The offender based themes however had higher ratings among the younger offenders (18-25 years), whereas those with art experience scored slightly higher. Family based themes scored highest among the older participants (36-45 years) with those without art experience scoring higher.

3.5.3.3 Ratings for Themes by Level of Education

Figure 3.21 shows mean score ratings for digital paintings based on participant's art experience.

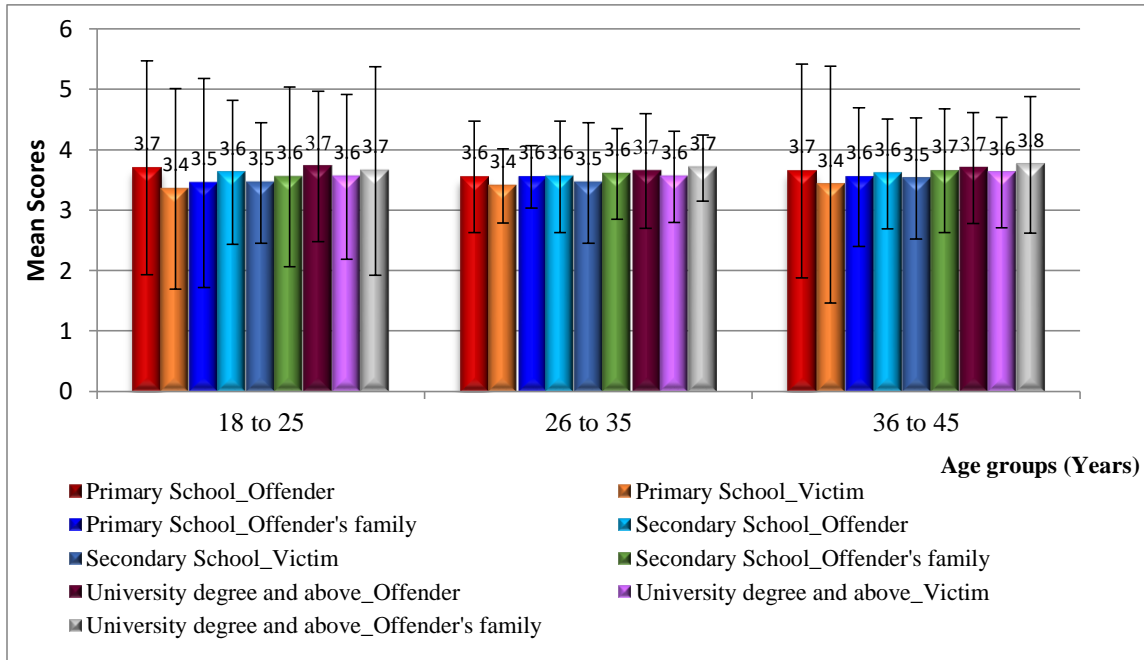


Figure 3.21: Mean score ratings of the painting themes by the Level of Education

The findings indicate that the level of education had minimal impact on the participants' preference for digital painting themes. The participants with university degree and above had slightly higher ratings for offender and family based themes across all the age groups, while the participants who had primary education rated victim related themes lowest across all groups.

3.5.4 Ratings for Digital the Paintings by Exposure Frequency

The 24 paintings were rated according to the exposure frequency. Some selected six (6) digital paintings were presented to the respondents only once during the rating session while the other eighteen (18) were presented in fifteen exposures. The difference in the ratings of the paintings by exposure frequency was assessed as presented in Table 3.7.

Table 3.7: Tests of Between-Subjects Exposure- Frequency Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	125206.012	1	125206.0	59004.2	.000
			12	64	
Stimulus Frequency	109.139	1	109.139	51.432	.000
Error	2856.188	13	2.122		
		46			

The levels of the ratings of the 24 paintings were significantly different for the two (2) exposure frequencies. The exposure frequency therefore significantly affected the ratings given by the respondents as shown by the F statistic with a p-value of 0.000, which is less than the 0.05 level of significance. Figure 3.22 shows a graphical presentation of the significance difference in mean scores of the various rating measures for the two exposure frequencies.

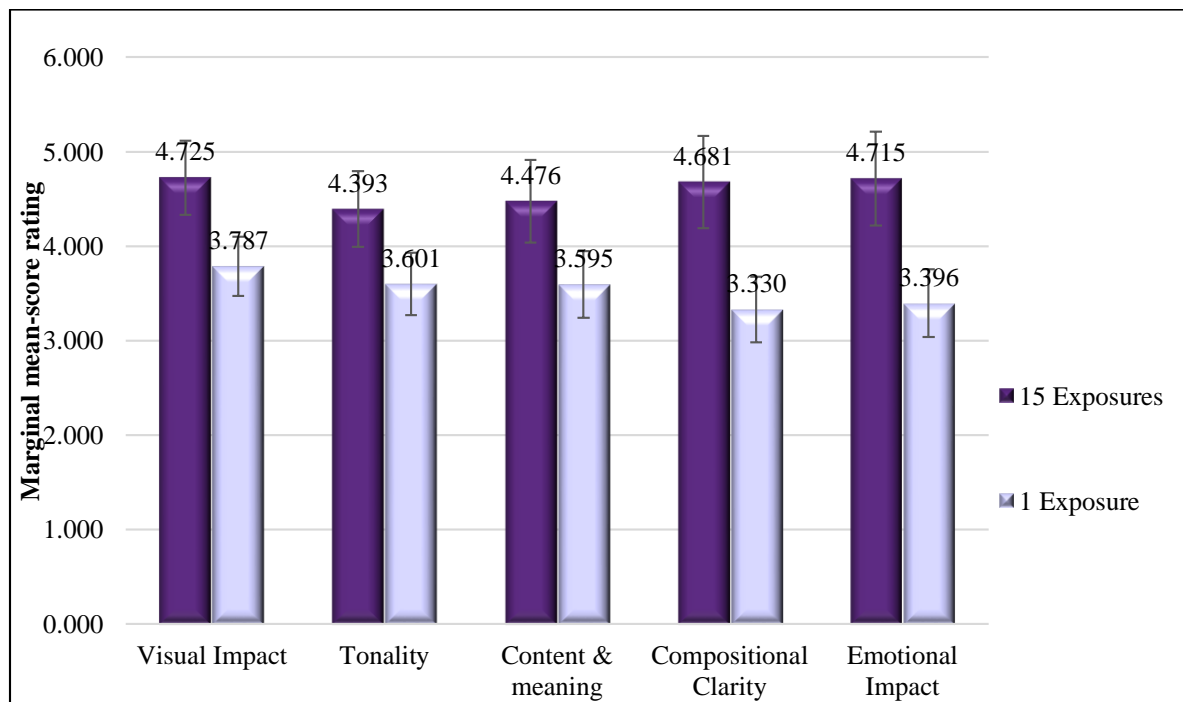


Figure 3.22: Marginal Mean Score Ratings of the Digital Paintings by Exposure Frequency

The digital paintings in both exposure frequencies generally rated highest on their visual impact compared to the other rating aspects assessed. The more frequently exposed digital paintings were however rated higher in all the measures as compared to the paintings shown only once at the rating phase.

3.6 Interpretation and the Discussion of the Findings

The second objective of the study sought to compare the responses of male sexual offenders to digital paintings based on different the formats of exposure. In this study, the form of participation was clearly stipulated as nominal, where the participants passively viewed the digital paintings, contemplating them in a thoughtful manner (Helguera, 2011). The study further examined how repeated viewing influenced male sex responses to the digital paintings based on varied measures. Like Carbon (2017), this study utilized a temporary exhibition with a limited number of arts work solely devoted to one broad theme-consequences of sexual crimes. In line with other studies that have utilized the explicit ratings of artworks to measure the aspects of aesthetic experience of audiences while viewing artworks, this study focused on the characteristics of the paintings such as visual impact, tonality, content and meaning, compositional clarity and emotional impact.

Art is always experienced in a specific context. In this study digital painting were experienced in Rapid Serial Visual Presentation (RSVP) and exhibition contexts. These methods respectively relate to laboratory context where reproductions of artworks are viewed on computer screen and the museum context where originals are viewed. This study by directly comparing ratings on a variety of measures for digital paintings seen in exhibition and digital images of the same work by screen projection in RSVP found that the format of exposure formats did not affect the participants' responses to the paintings.

The findings of this study compared with those of Locher, Smith and Smith (2001) who found similar evaluations on pictorial content or the composition of paintings across presentation formats while comparing slide-projected images of paintings and originals.

The results of an analysis carried out to assess the significant difference in the participants' responses to the digital paintings based on the two formats of exposure were used to test the first hypothesis of the study:

H₀₁ There is no significant effect of exposure format on responses of male sex offenders to the digital paintings.

The findings showed that the p-value of the t- statistics was greater than 0.05. The study thus failed to reject the null hypothesis and deduce that there is no significant effect of exposure format on the responses of male sex offenders to the digital paintings. This implied that the format of exposure chosen did not affect the responses of the participant to the digital paintings.

The mean scores however showed a slight raise for exhibition participants at 0.9289 against 0.871 for RSVP. Although minimal, the findings resonate with Brieber et al. (2014) who found more positive evaluation of the original paintings and sculptures as compared to computer-simulated versions. A similar observation was also made by Bertamini and Blakemore (2019) who found an overall preference for viewing a reproduction of an original painting as opposed a digital image. Despite the minimal difference between the Exhibition and RSVP, the study findings point to a possibility of an increase in exhibition scores with unrestricted viewing time and an ideal environment. It is apt to note that in this study, the conditions of viewing, the participants and the circumstances surrounding them did not exactly match with those of the previous studies linked to art viewing where participants were well-informed free citizens. The observations of this study therefore

could be linked to the disparities in the context of viewing and the type of participants in this study. The exhibition hall used in Nairobi West prison could not exactly compare to the well-established museums where the previous studies have been carried out. Similarly, unlike the current study where viewing time was restricted to conform to mere exposure requirements, the previous studies did not limit viewing time.

The model of aesthetic appreciation and aesthetic judgments (Leder et al., 2004) offered a more holistic understanding of the participants' responses when viewing digital paintings. The participants went through the processes of the viewing as proposed by (Leder et al., 2004). This study found that exploring a stimulus following repeated exposure rendered positive reinforcement as suggested in a series of experiments by Stang (1974). In conforming to the mere exposure conditions, viewing sessions were kept brief lasting 20 minutes and 35 minutes respectively for RSVP, exhibition, and groups respectively. This was found to result in stronger exposure effects as suggested by Bornstein's (1989) meta-analysis of research that showed strongest effects with brief exposures. Although some studies have shown weaker mere exposure effects for paintings, this study found stronger effects and increased preference following the delay periods between the first viewing and the subsequent viewings, as suggested by Stang (1974) and Bornstein (1989). The delay periods introduced between the presentations of digital paintings were also found to raise participants' anticipation for future sessions.

Studies linked to art viewing in museums suggest that, individuals do not look at art for very long (Smith, 2014; Brieber et al., 2014; Tröndle & Tschacher, 2012) with average timings ranging between 27.2 seconds to 39 seconds deemed appropriate for initial and intermediate stages of processing. This study however found that longer periods of

engagement were required for more profound experiences of art as suggested by Leder and Nadal (2014). The longer extension time averaging 1.9 minutes per painting allowed for several cycles of feedback and feed-forward processes related to perception and cognition. This could be linked to a number of pointers; 1)- The theme of the paintings- consequences of sexual crimes was confounding for majority of the viewers; 2)- The total number of paintings presented was 24, a complete contrast from the well-established museum settings that display a large number of artworks and 3)- The majority of the participants (91.07%) had no background in the visual arts, with this being the first study of its kind in Nairobi West Prison and the larger Kenya Prisons.

Like in the study by Smith and Smith (2001), the participants in the exhibition viewing gathered in social groups of 5-7 to view the paintings thereby spending longer time on each painting. Art interventions in a group setting has been found to be effective as a trigger for verbal channels of communication which is cognitive and the visual channel which is emotional (Shenaar-Golan & Walter, 2018). The current study benefited from group viewing to arouse curiosity about the digital paintings and deepen understanding through discussions. In contrast to participants in RSVP just like in a laboratory set up had the viewing distance fixed. The speed of presentation and rating provided no room for discussion, subjecting them to individual testing.

The average mean viewing distance of 1.4 m was observed across the paintings displayed in the exhibition hall. This could be attributed to their large dimensions as suggested by Carbon (2017) and Locher et al. (2001), who confirmed a positive correlation between the size of artwork and the viewing distance. The large dimensions of the digital paintings in this study (H x W =117.8 x 83.7cm) could have held the attention of the viewers as

suggested in a study by Bitgood, McKerchar and Dukes' (2013) who reported the effectiveness of larger artworks in attracting and holding attention. Seidel and Prinz (2018) have also reported positive evaluations for larger reproductions of paintings. This was confirmed by the observation that most participants were glued to the paintings and found the restricted viewing time provided as insufficient.

Based on the precincts of theory (Leder et al., 2004), the participants proceeded to the evaluation stage where the digital paintings were judged according to colour schemes, style, themes and exposure frequency where perceptual analysis was embraced for low-level visual features like shape and colour. Art measures such as visual impact, tonality, content and meaning, compositional clarity and emotional impact were used in this rating phase. The image analysis was based on firmly established empirical methods which predict emotional responses to paintings (Yanulevskaya et al., 2012) or categorize painting styles (Wallraven et al., 2009). A significant association was observed between the exposure frequency and favorable ratings of paintings. Like in previous mere exposure research by Mrkva and Boven (2020), this study found which repeated exposure to stimuli influenced evaluations by increasing salience and liking, for the digital paintings, thereby replicating previous research (Zajonc, 1968). This relationship was more pronounced for the paintings that were shown 15 times. In both contexts of exposure, the study registered more positive responses for digital paintings which were exposed at higher frequency as compared to the six (6) paintings introduced only once at the rating phase. Jakesch and Carbon (2012) who observed that a repeated presentation of a stimulus is necessary to reach the full strength of impression further supported this view. The overall average ratings across all the art measures were observed to be above the mean score of 4.

Figure 3.23 shows the paintings which were ranked highest in most of the measures.



Figure 3.23: The Highest rated digital paintings

Image number 1 shows a polychrome surrealist painting depicting an offender ravaged by worms to depict the curse of being a sexual offender. Image 2 shows a monochrome surrealist painting of a child victim ravaged by sexually transmitted disease following an attack, while image 13 is a surrealist polychrome painting of a victim trapped in emotional turmoil. Image number 14 represents a realist polychrome painting showing an offender under punishment by castration, while image 23 is a monochrome surrealist painting of a victim disgraced into silence by the offender. Image 24 is a surrealist polychrome painting showing the stigma directed at a sexual offender's family. Paintings number 13, 14 and 23 had higher ratings on emotional impact. Higher ratings were also reported for tonality, content and meaning in painting number 13 and for compositional clarity in painting number 23 and visual impact in painting number 24.

The overall, mean scores showed that the visual impact of the paintings had the highest rating with 61.54% of the respondents rating it as very good. The very good ratings for emotional impact of the paintings by 61.08% of the participants also tie in with Wikstrom's (2011) observation that emotions enable us to tie the past and the present together experientially when viewing a work of art. This function was especially important for male sexual offenders experiencing emotional confusion while in prison. Compositional clarity, content and the meaning of the paintings were also rated as very good by 57.17% and 46.20% of participants respectively. Although tonality had a slightly lower rating of good by 45.5% of the respondents, it was seen as an important consideration for this study given that colour is an important medium of communication (Forsythe, Nadal, Sheehy, Cela-Conde & Sawey, 2011).

The general observation is that five of the highly rated paintings were surrealist while only one applied the realist style. Another observation is that four of the highly rated paintings were polychrome while only two were monochrome. Amongst the highly rated paintings, three were victim related themes, two offender based and one family based. These observations were backed by statistical evidence and qualitative data from FGDs. The data show that 83.9% of the participants reported very high liking for the surrealist paintings as expressed by one participant in the FGD session as quoted hereby;

“Surrealist paintings are very captivating. Things are not as they look in real life, they look a bit unrealistic, but they give a deep message. I keep going back to study these paintings and I keep thinking about them.” (*FGD- Exhibition*)

The findings further show that 78.6% of the respondents expressed very high liking for the paintings in polychrome colour schemes. The participants expressed that the colours used were attractive, but seemed to be more drawn to polychrome schemes. During the FGDs, one respondent remarked;

“The polychrome paintings are very interesting to look at. When you see blood painted red, the pain becomes real and you can connect with the image easily”. (*FGD- Exhibition*)

Another participant also commented on colour schemes of the paintings;

“The colours in all paintings are good, but paintings with many colours (to mean polychrome) make me feel emotional. I would not wish to see someone else go through such pain. I don't ever want to commit crime again”. (*FGD- RSVP*)

Regarding the themes, the highest arousal levels were reported for victim related themes by 62% of the participants. This could explain the occurrence of three victim related themed paintings amongst those ranked highest.

Figure 3.24 presents the digital paintings which had low ratings across all the art measures.



Figure 3.24: The Lowest rated Digital Paintings

Image number 4 represents a realist monochrome painting of a distressed offender in detention, while image 5 also shows realist monochrome painting of a victim silenced during a sexual attack. Image number 11 is a monochrome painting showing a depressed victim on the verge of committing suicide, while image number 12 is a surrealist polychrome painting showing the discrimination directed at an offender's family. Image number 17 shows the victim in agony, disgrace and shame following a sexual attack, while image number 21 depicts an offender's family ruined by poverty and disease.

Overall observations were that, among the six digital paintings with low ratings, there were four (4) monochrome colour schemed paintings against two of polychrome and four realist paintings against two surrealist paintings. In relation to the themes, three were victim based, two family based and one offender based. The realist monochrome paintings under varied themes were ranked lowest. Image number 11 and 21 had low ratings below 3.5 across all the measures, with painting number 21 having the lowest ratings on all the measures. Appendix N provides detailed ratings for all the twenty-four (24) digital paintings.

The data showed high preference for monochrome schemes at 73.3% versus very high preference for polychrome schemes at 78.6%. Similarly, high preference was reported for monochrome paintings at 80.4% versus very high preference for surrealist style at 83.9%. These statistics corroborate with the classification of more monochrome and realist paintings among those with low ratings. The same observation was further confirmed by one participant's narration during the FGD session as given here below;

“The paintings are good, but the monochromes don't excite me much. I get a little bored looking at them. It is like you cannot see anything new, unless you really look carefully.” (FGD- RSVP)

Leder et al. (2004) for example, argued that in the understanding of style and context of the artwork is important for having an aesthetic experience and supports the view by Russell (2003) that part of what makes art viewing enjoyable is the ability to interpret the message and the intentions of the artist. As shown by some earlier studies (Swami, 2013; Locher, Krupinski & Schaefer, 2015), providing information on style, context and affect of the digital paintings during the focus group discussion significantly influenced the participants' understanding and appreciation of the work. Consequently, Surrealist and polychrome paintings were evaluated more favourably as compared to realist and monochrome paintings respectively. As observed by Berlyne (1970) increased preference following subsequent exposures was found for surrealist paintings, which were more complex as compared to realist paintings.

Results showing very high preference for polychrome paintings which were generally brightly coloured resonate with earlier findings by Yanulevskaya et al. (2012) whose investigation on emotional response to paintings revealed a correlation of bright colours with positive emotions. In this study, the digital paintings were expected to encourage positivity about the content hence leading to better attitude scores. Previous studies have linked the emotional impact of an artwork to processing fluency (Graf & Landweher, 2015; Leder, Gergon, Dressler & Schalmann, 2012). Consequently, using figural and representational forms, this study enabled higher processing fluency in accordance with findings by Massandrea, Barlooli & Carcus (2011).

Considering the multi-level nature of the data on ratings with 57 responses for each painting, the frequencies and variations were analyzed to reflect the overall responses for the categories across all the ratings given for all the 24 paintings by all respondents.

Additional ratings were carried out to show the frequencies of the responses, the mean and standard deviation of the scores as measures of central tendencies and dispersion respectively. The summary is presented in Appendix O

In order to assess the variation due to heterogeneity of the ratings given by the respondents across different paintings, an analysis was carried out between groups of respondents across the 24 paintings. On the other hand, homogeneity in the ratings given by the respondents for any given painting was assessed by analyses carried out within groups.

Many respondents commented that the digital paintings enhanced their appreciation of the consequences of sexual crimes and asserted that digital paintings had a positive impact on their attitudes toward the sexual crimes because they felt remorseful while relating to the content in the digital paintings. Consequently, many participants admitted that the art viewing sessions provided a good experience and enabled them to discuss freely and express fears and concerns in a non-judgmental environment. For example, one respondent asserted;

“Although I am not an art professional, I really appreciate these art sessions. I feel relaxed and I am always waiting eagerly for the next opportunity. I can talk freely with my colleagues and express my fears without feeling judged. The digital paintings make me see the need to change and become a better citizen”.

(FGD- Exhibition)

This comment suggested that experience provided by the digital paintings was interesting and of benefit to the participants. It further strengthened their resolve to change view towards sexual crimes and become better citizens.

In one of the FGD session, suggestions were made about broadening the themes explored with digital paintings to capture the hardships faced in prison as part of the consequences

of committing sexual crimes. A 23-year-old participant in the exhibition format explained his view quoted as follows;

“These paintings are good and very informative. I hope in another program like this we will have artwork highlighting our difficulties in prison. We have many problems here. Most people suffer depression because they cannot be with their families; no lawyers want to handle our cases, so it is like we are doomed to rot in here”. (*FGD- Exhibition*)

A few participants however drew mixed reactions upon viewing the digital paintings as expressed by one participant;

“During the viewing sessions, contradictory feelings arise. It feels sorrowful to see the suffering families go through when their family member is convicted of sexual crime. Although beautifully done and visually appealing, I really feel angry looking at some victim related themes, when I remember that it is because of them that we are locked here”. (*FGD- RSVP*)

The viewing sessions were kept brief, lasting 20 minutes and 35 minutes respectively for RSVP and exhibition groups. This was found to result in stronger exposure effects as suggested by Bornstein’s (1989) meta-analysis of research that showed strongest effects with brief exposures. Although some studies have shown weaker exposure effects for paintings, this study found stronger effects and increased preference following delay periods between the first viewing and subsequent viewings, as suggested by Stang (1974) and Bornstein (1989). The delay periods introduced between the presentations of digital paintings were also found to raise the participants’ anticipation for the subsequent sessions.

Based on the precincts of theory (Leder et al., 2004), the participants proceeded to the evaluation stage where the digital paintings were judged according to colour schemes, style, themes and exposure frequency where perceptual analysis was embraced for low-level visual features like shape and colour. Art measures such as visual impact, tonality, content and meaning, compositional clarity and emotional impact were rated at the

advanced phase of processing. Image analysis was based on firmly established empirical methods that predict emotional responses to paintings (Yanulevskaya et al., 2012) or categorize painting styles (Wallraven et al., 2009).

Leder et al. (2004) for example, argued that the understanding of style and the context of the artwork is important for having an aesthetic experience. This is in support of the view by Russell (2003) that, part of what makes art viewing enjoyable is the ability to interpret the message and intentions of the artist. As shown by the earlier studies (Swami, 2013; Locher et al., 2015), providing information on style, context and affect of the digital paintings during the focus group discussion significantly influenced the participants' understanding and appreciation of the work. Consequently, Surrealist and polychrome paintings were evaluated more favourably as compared to realist and monochrome paintings respectively. As observed by Berlyne (1970) increased preference following subsequent exposures was found for surrealist paintings, which were more complex as compared to realist paintings. Surrealist painting style scored highest across all the measures with 83.9% of the participants reporting very high preference.

The findings show that, the polychrome paintings were very highly preferred by 78.6% of the respondents and were rated highest across all the art measures in comparison to monochrome paintings. The high liking for polychrome paintings which tended to be brightly coloured resonates with earlier findings by Yanulevskaya et al. (2012) whose investigation on emotional response to paintings revealed a correlation of bright colours with positive emotions. In this study, the digital paintings were expected to encourage positivity about the content hence leading to better attitude scores. Previous studies have linked the emotional impact of an artwork to processing fluency (Leder, Gergon, Dressler

& Schalmann, 2012; Graf & Landweher, 2015). Consequently, using figural and representational forms, this study enabled higher processing fluency in accordance with the findings by Massandrea, Barloli & Carcus (2011).

While themes touching on the consequences of sexual crimes on the offender were rated highest across all the measures, offender's family themed paintings were reported to be very highly arousing by 60% of the participants. The victim related themes were rated as highly arousing by 62% of the respondents, despite scoring lowest in four out of the five measures except for style. These findings could be linked to the fact that family and victim based themes arguably contained more images of child victims of ostracization, discrimination, poverty and sexual attack. Although viewed in a different context, images of child victims have the ability to create an iconic victim effect, thereby evoking emotions and generating empathy as suggested by Adler-Nissen, Andersen & Hansen (2020).

The capacity for art appreciation can be learned or enhanced through general education, professional training or personal experience. As proposed in the model of aesthetic appreciation and aesthetic judgments (Leder et al., 2004), the digital paintings were processed based on the previous experiences and particular schema held by the viewer. In this study, majority of the participants (91.07%) had no training or art experience prior to participation in the study, while only 8.93% had some prior experience in art. Although minimal differences were noted, this study confirms that processing at explicit classification level where the viewer focused on conceptual artistic factors such as style could have been affected by prior art experience in art as held by theory (Leder et al., 2004). Among the participants with art experience, slightly higher scores were found for surrealist paintings and offender based themes by younger offenders (18-25 years), while older

participants (36-45 years) without art experience scored higher in family related themes. Like in the previous researches, these findings seem to suggest that art-related knowledge and experience influence the ways in which a painting is visually processed (Lin & Yao, 2017). The viewers with art experience tended to find meaning in stylistic transformation, while those without art experience searched for identifiable objects to transfer the visual strategies of ordinary perception to the aesthetic domain. The minimal differences in evaluation of artwork in this study could be linked to the fact that those with art experience did not have advanced professional level of training and experience as was the case in the reviewed art viewing studies.

Although the effect of titles on the processing of artwork is not within the scope of this study, brief titles provided on digital paintings helped the participants to process the paintings in the short viewing sessions. This resonates with observations by Belke, Leder, Strobach and Carbon (2010) that titles facilitate the processing of paintings, resulting in positive evaluation and more enjoyment. Since the viewing times were restricted in conformity to the Mere Exposure conditions (Zajonc, 1968) the short titles provided were deemed helpful in the identification and the classification of the image content as suggested by Leder et al., (2006).

While Leder, Carbon, and Ripsas (2006) found positive impact on understanding of artworks and benefits of longer viewing for those with art knowledge, this study found minimal difference in evaluation of the digital paintings between participants with art experience and those without. This observation can be attributed to the fact that the 8.93 % of the participants who acknowledged having art experience did not study art to professional levels and had only limited exposure prior to the study. This could have

hindered faster processing of content in the artwork, which according to Augustin, Defranceschi, Fuchs, Carbon, and Hutzler (2011) precedes availability of information on style and by extension, other complex details of the artwork under evaluation.

3.7 Summary of the Chapter

The findings offer an empirical footnote for discussions on the assumptions regarding the effect of repeated exposure on participants' responses to visual arts. Results show varied responses across different measures. Key among them is that there was no significant difference in participants' responses to digital paintings based on the formats of exposure. These results present two possible conclusions: The first one is that the exhibition having been traditionally used in museum and gallery presentations remains a reliable method enabling the audience to experience artwork. Secondly, the study also affirms the invaluable place of technology in the presentation of artworks by suggesting RSVP as an alternative format of exposure that could achieve outcome similar to exhibition exposure. Based on the findings, the study proceeded to evaluate if exposure to digital paintings and the responses emanating from it had any effects on offenders' attitudes towards sexual crimes.

CHAPTER 4: ATTITUDES OF MALE SEX OFFENDERS TOWARDS SEXUAL CRIMES AFTER EXPOSURE TO THE DIGITAL PAINTINGS

4.1 Introduction

This chapter presents and analyses data for objective three of the study. Also presented is the interpretation and the discussion of findings for the objective which sought to assess the male sex offenders' attitudes towards sexual crimes after exposure to digital paintings. After assessing the pre-intervention attitudes of male sex offenders towards sexual crimes, the study proceeded to the intervention by exposing the respondents to digital paintings, followed by two post-test assessments of the attitudes. The first post-test assessment was carried out ten minutes after the end of the intervention sessions (post-test1) and the second (posttest 2) two weeks after the first posttest to determine the sustainability of the intervention's effect over time.

Results presented in the first section of the chapter show the post-test 1 and post-test 2 attitude scores for RSVP and the exhibition participants and the overall scores for both groups. The second section presents the comparative scores between the pre-test findings shown earlier in chapter 2 and the post-tests 1 and 2. A comparison between results of the post-test 1 and the post-test 2 are also presented.

4.2 Post Test Measures of Male Sex Offenders' Attitudes towards Sexual Crimes

This section presents the posttest1 and the posttest 2 attitude scores for RSVP and the exhibition participants as well as the overall attitude scores.

4.2.1 The Post Test- 1 Attitude Scores

Figure 4.1 shows a summary of the descriptive statistics of the of the respondents post-test1 attitudes immediately after the intervention. Responses in the attitude questionnaire

were entered in Crime Pics II software to generate the attitude measures from the indicators. The results show post-test1 attitude scores for RSVP and the exhibition participants and the overall post-test 1 attitude scores for both groups.

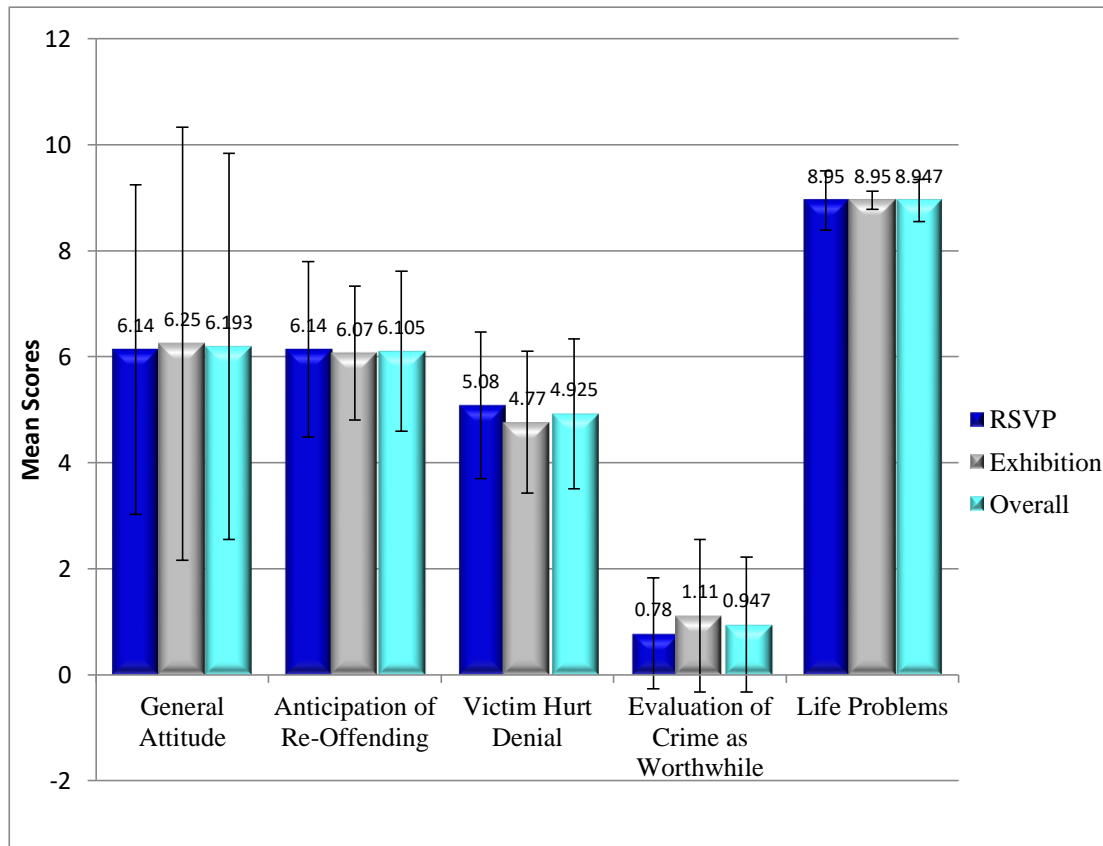


Figure 4.1: Post-test 1 measures of male sex offenders' attitudes towards sexual crimes

The overall results show that, there were minimal differences in the Post-test1 attitudes of those exposed to digital paintings by projection in RSVP and those exposed through viewing in exhibition. However, although the differences are statistically insignificant, a detailed scrutiny of the different dimensions of attitude measured show that exhibition participants scored slightly higher in general attitudes towards offending (G-scale) by 0.11 and in evaluation of crime as worthwhile (E-scale) by 0.67. The RSVP participants on the other hand scored slightly higher in the anticipation of re-offending (A-scale) by 0.07 and in victim hurt denial (V-scale) by 0.31.

4.2.2 The Post Test -2 Attitude Scores

Figure 4.2 shows a summary of the descriptive statistics of the respondents post-test2 attitudes assessed 2 weeks after the intervention. The results are broken down into post-test 2 attitude scores for RSVP and the exhibition participants as well as the overall post-test 2 attitude scores.

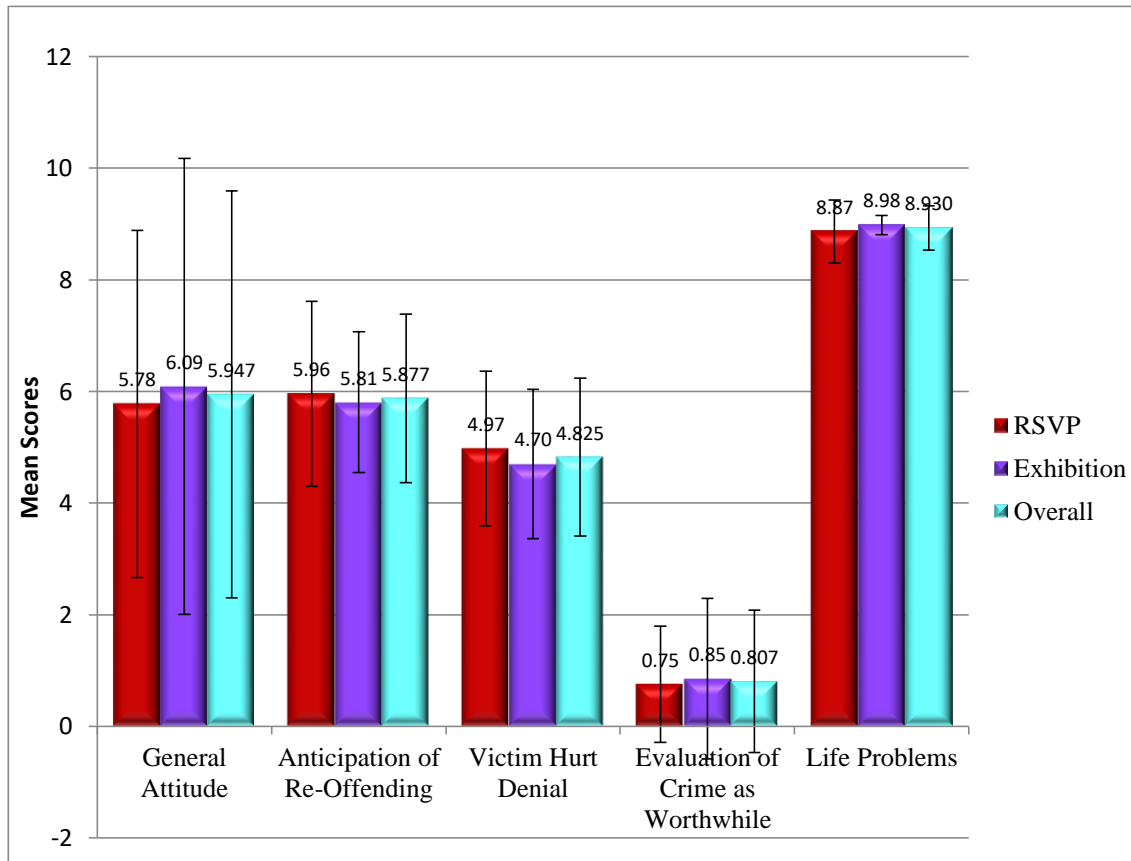


Figure 4.2: Post-test 2 measures of male sexual offenders' attitudes towards crime

The results showed minimal differences in the Post-test 2 attitudes scores between the participants exposed to the digital paintings by projection in RSVP and those exposed by viewing in the exhibition. In a trend similar to posttest 1 scores, the attitude scores of exhibition participants were slightly higher for general attitudes towards offending (G-scale) by 0.31 and in evaluation of crime as worthwhile (E-scale) by 0.1, while the RSVP

participants scored slightly higher in anticipation of re-offending (A-scale) by 0.15 and in victim hurt denial (V-scale) by 0.27. According to the Crime Pics II scale, these variations in mean scores imply that the negative deviation between pre-test and post test scores would be lowered.

4.2.3 Overall Attitude Scores between Post Test -1 and Post Test -2

Figure 4.3 shows a comparative summary of the overall attitude scores between posttest 1 and posttest 2

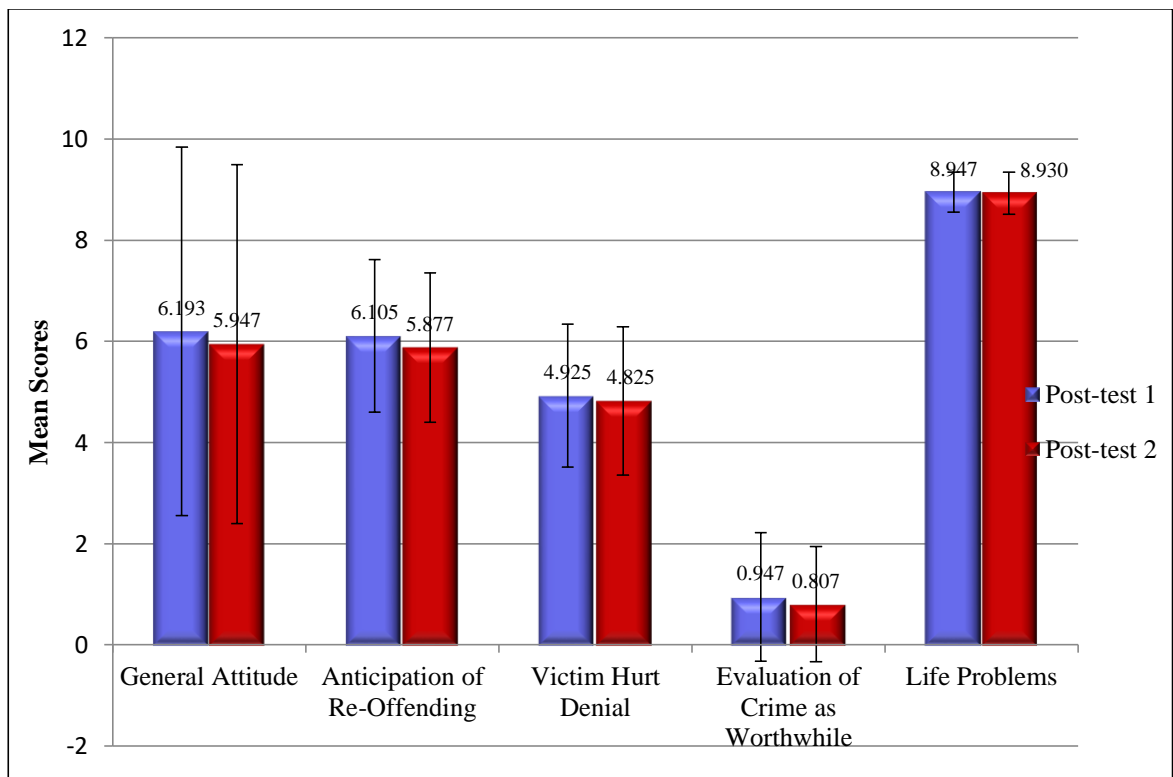


Figure 4.3: Comparative summary of attitude scores between posttest 1 and posttest 2

In order to confirm the improvement in attitude over time after intervention, statistical tests on the differences in attitude scores between post-test1 and post-test 2 were carried out. The results showed that the post-test assessment averages had minimal difference, with post-test 2 averages slightly lower than the post-test1 averages, suggesting sustainability

of attitude improvement (effects). The findings suggest a slight improvement in attitudes after the sex offenders stayed for some time to reminisce over the images on consequences sexual crimes.

4.3 Effect of Exposure to the Digital Paintings on Male Sex Offenders' Attitudes towards Sexual Crimes

To confirm the effect of the exposure to digital paintings on the male sex offenders' attitudes towards sexual crimes, a test was carried out to assess the paired differences in attitudes of the sexual offenders before and after treatment. This was done using the overall means for participants in both groups. The tests covered the following domains: general attitude towards offending (G- scale), anticipation for re-offending (A-scale), victim hurt denial (V- scale) and evaluation of crime as worthwhile (E- scale). A paired sample t-test was used since the quasi-experimental design of the study did not consider the control group and intervention groups. Instead, a paired sample of respondents who all participated in the intervention programme were assessed before and after intervention. The paired difference in attitude was determined for each respondent and the significance that the mean of the differences is not equal to zero was tested. The test is based on the assumption that the variable follows a normal distribution, thus an assessment of normality was carried out on the variable before the tests.

4.3.1 The Post Exposure Effects on General Attitudes to Offending

The test on the effect of exposure to the digital paintings on male sex offenders' attitudes was carried out on participants' general attitude to offending as generated from the attitude indicators using Crime Pics II software. Figure 4.4 is a histogram displaying the distributions of the difference between the pre-test and post-test 1 general attitudes to offending.

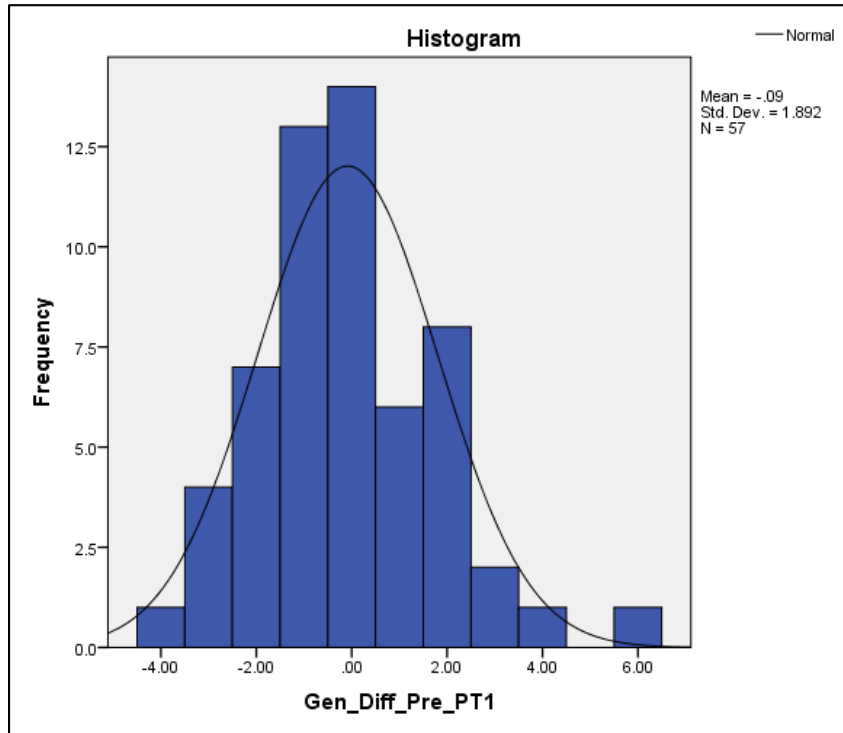


Figure 4.4: Paired differences in General attitudes to offending Between Pre-Test and Post- Test1

The histogram shows a virtually skewed distribution to the left, implying a possible deviation from normality. Further to the histogram for visual depiction of the distribution of the difference variables, Table 4.1 shows the pre and post exposure normality test on the difference in general attitudes towards offending based on the Shapiro-Wilk statistics.

Table 4.1: Pre and post exposure normality test on the difference in general attitudes to offending

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Post-test 1 – Pre-test	0.166	57	0.000	0.955	57	0.034
Post-test 2 – Pre-test	0.137	57	0.010	0.956	57	0.041
Post-test 2 – Post-test 1	0.178	57	0.000	0.917	57	0.001

The table shows the normality test of the paired differences between the pre-test and the post-test1 and post-test 2 and between the two post-tests. The Shapiro-Wilk statistics all

had p-values less than 0.05 implying that they all deviated from normality and did not follow a normal distribution. Due to the violation of the normality assumption of the paired sample t-test, a bootstrap was carried out for the test. Table 4.2 shows the t-tests of paired differences between the assessments of general attitude to offending.

Table 4.2: Pre and Post Exposure T-test on paired difference in general attitude to offending

	Paired differences					Bootstrapped Bias corrected test			
	Mean	Std. Dev.	Std. Error	t	df	Bias	Std. Error	Sig. (2-tailed)	Percentage Change
PsT1 - PrT	-0.965	2.337	0.310	-3.117	56	-0.003	0.312	0.003	-9.852%
PsT2 - PrT	-0.719	2.513	0.333	-2.161	56	0.004	0.329	0.035	-13.222%
PsT2 - PsT1	-0.246	1.405	0.186	-1.32	56	-0.009	0.183	0.213	-3.395%

The results were bootstrapped for bias correction due to the violation of the normality assumption. As shown in the table, the tests on the paired differences were found to be significant between post-test1 and pre-test ($t=-3.117$, $p\text{-value}=0.003$) and between post-test2 and pre-test ($t=-2.161$, $p\text{-value}=0.035$). The p-values of the t-statistics were all less than 0.05. The scores translated to a 9.852% improvement in general attitude towards sexual crimes occurring immediately after the intervention by exposure to the digital paintings.

The results however revealed that the paired differences between post-test 2 and post-test1 were insignificant ($t=-1.32$, $p\text{-value}=0.213$). The p-value was found to be greater than 0.05, The statistics further showed that the difference was higher between post-test 2 and the pre-test than between post-test1 and pre-test. It was also noted that the actual mean scores of the differences between post-test 2 and post-test1 is negative.

The mean attitudes assessed before the intervention, immediately after intervention and two weeks after intervention were plotted with results showing that the mean scores of general attitudes dropped considerably from pre-test to post-test1 but only slightly between post-test1 and post-test 2. The plot is shown in Figure 4.5 below:

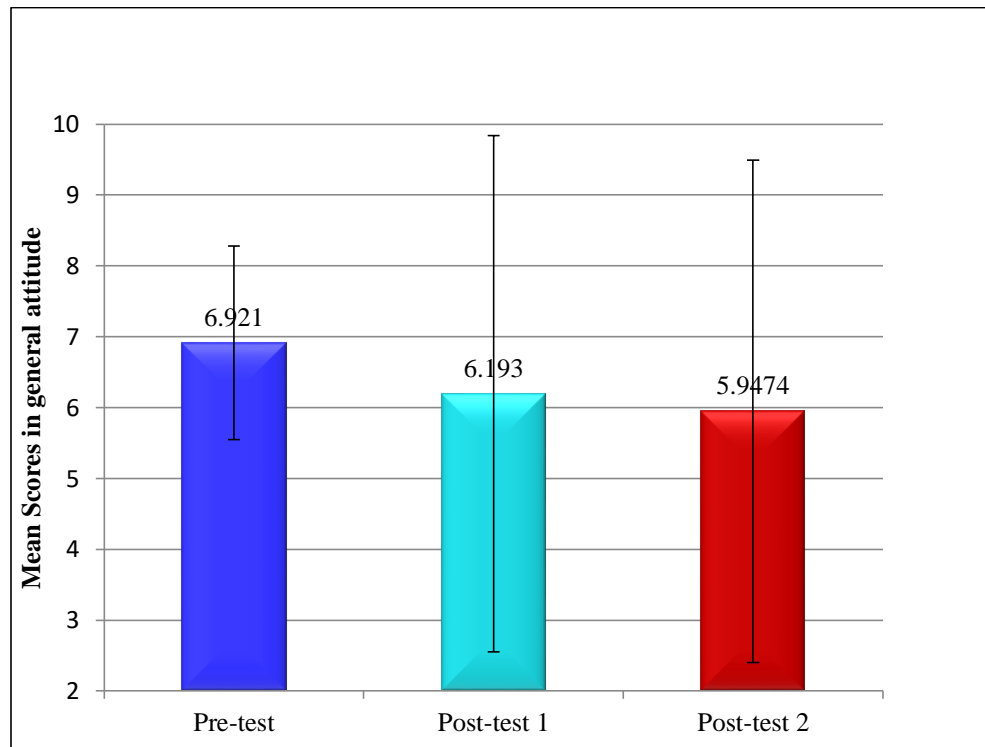


Figure 4.5: Pre and post-tests mean difference plot of general attitudes towards offending

In Crime Pics II, a drop in the attitude score implies an improvement in attitude. The t-test revealed that the drop from the pre-test to the post-test 1 was significant but that between post-test1 and post-test 2 was insignificant.

4.3.2 Post Exposure Effects on the Male Sex Offenders' Anticipation of Re-Offending

Figure 4.6 is a histogram displaying the distribution of the difference between the pre-test and post-test1 attitude of sex offenders towards anticipation of re-offending.

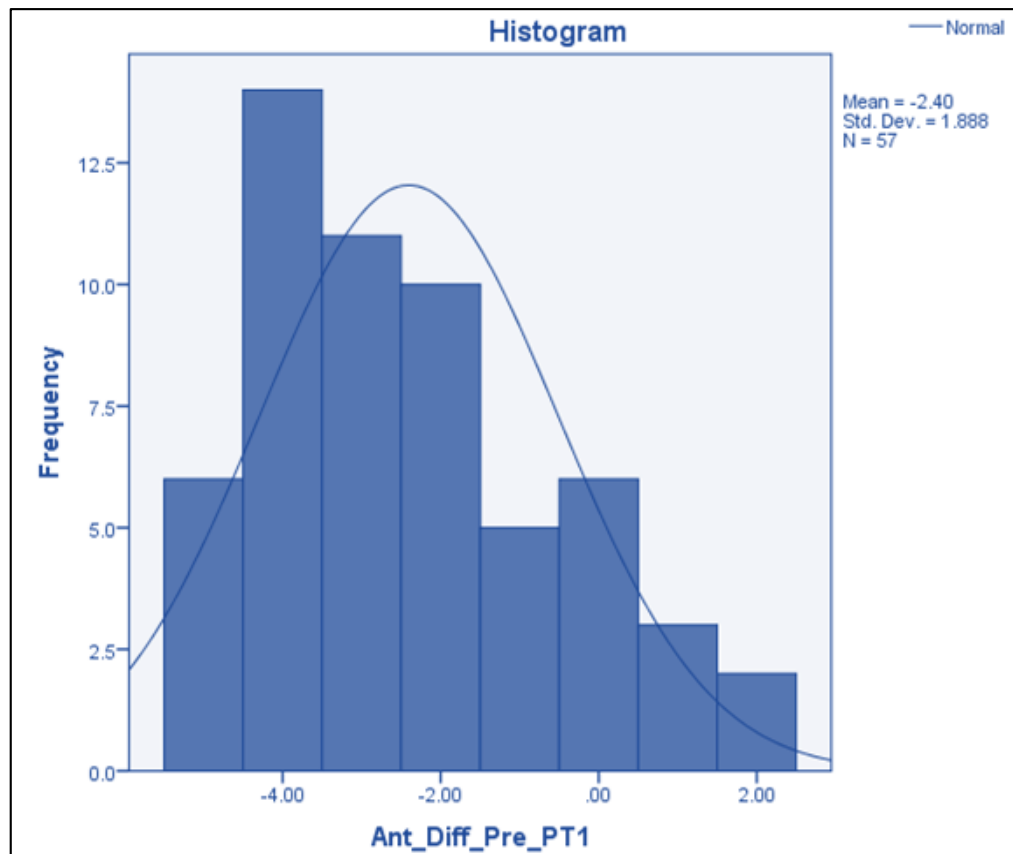


Figure 4.6: Pre-test and post-test -1 paired difference in anticipation of re- offending

The histogram showed a virtually skewed distribution to the left which imply possible deviation from normality. Further to the histogram, normality of the paired differences was assessed and confirmed using Shapiro-Wilk tests. The Table 4.3 shows the normality test of the paired differences between all the three variables; between the pre-test and both post-test1 and post-test 2 and between the two post-tests.

Table 4. 3: Pre and post exposure normality test on difference in anticipation of re-offending

	Statistic	df	Sig.	Statistic	df	Sig.
Post-test 1 – Pre-test	0.168	57	0.000	0.924	57.000	0.001
Post-test 2 – Pre-test	0.146	57	0.004	0.932	57.000	0.003
Post-test 2 – Post-test 1	0.185	57	0.000	0.942	57.000	0.009

The Shapiro-Wilk statistics all had p-values less than 0.05 implying that they all deviated from normality and did not follow a normal distribution. Due to the violation of the normality assumption of the paired sample t-test, a bootstrap was carried out for the test. Table 4.4 shows the t-tests of the paired differences between the assessments of attitude on the male sex offenders' anticipation of re-offending.

Table 4.4: Pre and post exposure T-tests on paired difference in anticipation of re-offending

	Paired differences			Bootstrapped Bias corrected test					
	Mean	Std. Dev.	Change	t	df	Bias	Std. Error	Sig. (2-tailed)	Percentage Change
PsT1 - PrT	-2.175	1.910	0.253	-8.600	56	0.006	0.258	0.001	-30.162%
PsT2 - PrT	-2.404	1.889	0.250	-9.609	56	0.000	0.256	0.001	-33.338%
PsT2 - PsT1	-0.228	1.763	0.234	-0.977	56	-0.008	0.234	0.340	-3.735%

As shown by the table, the tests on the paired differences were found to be significant between post-test1 and pre-test ($t=-8.600$, $p\text{-value}=0.001$) and between post-test2 and pre-test ($t=-9.609$, $p\text{-value}=0.001$). The p-values of the t-statistics were all less than 0.05. The differences between the post-tests 1 and 2 and the pre-test are -30.162% and -33.338% respectively showing lower scores of the sex offenders' anticipation of re-offending after intervention.

The results however revealed that the paired differences between post-test 2 and post-test1 were insignificant ($t=-0.977$, $p\text{-value}=0.234$) with a p-value greater than 0.05. The table 4.4 shows that the difference was higher between post-test 2 and pre-test than between post-test1 and pre-test, while the actual mean of the differences between post-test 2 and post-test1 was negative.

The mean attitudes as assessed before, immediately after intervention and 2 weeks later were plotted as shown in Figure 4.7.

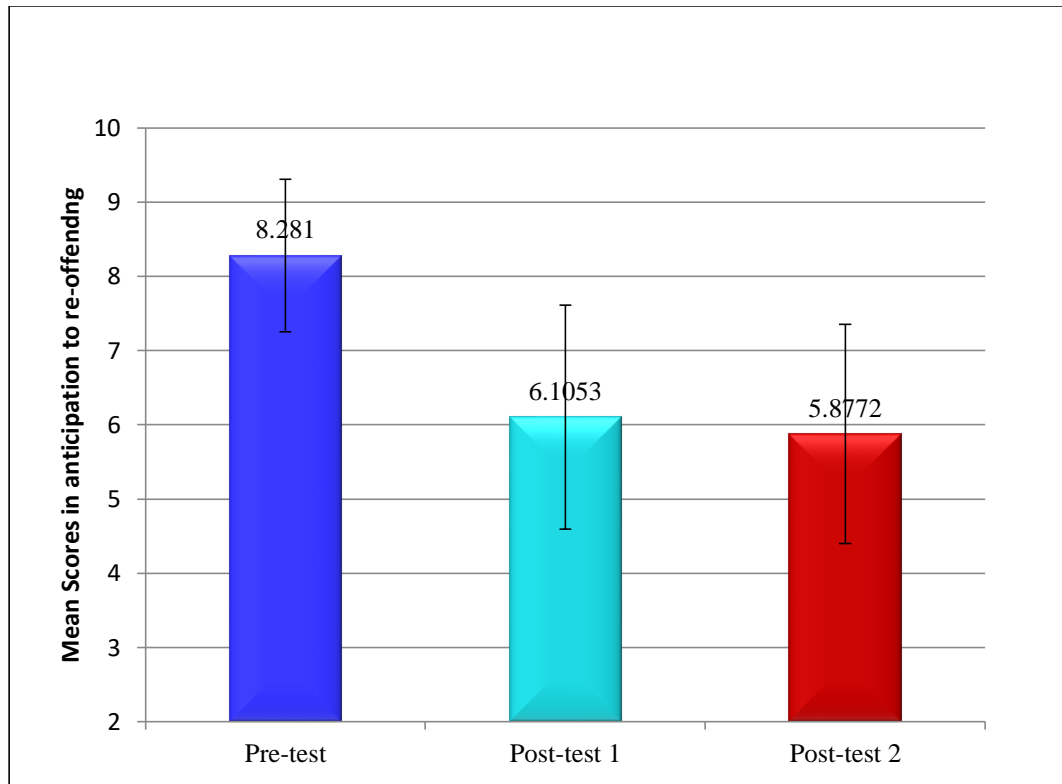


Figure 4.7: Pre- and post-tests mean difference plot of anticipation of re-offending

The figure shows that the mean scores of the sex offenders' anticipation of re-offending dropped considerably from the pre-test to post-test1 but only slightly between post-test1 and post-test 2. The t-test however revealed that the drop from pre-test to the post-tests was significant but that between post-test1 and post -test 2 was insignificant

4.3.3 Post Exposure Effects on Victim Hurt Denial

The test on the effect of exposure to digital paintings on the male sexual offenders' attitudes on victim-hurt denial was also carried out. Figure 4.8 is a histogram displaying the distributions of the paired differences between the pre-test and post-test1 of the sex offenders' victim hurt denial.

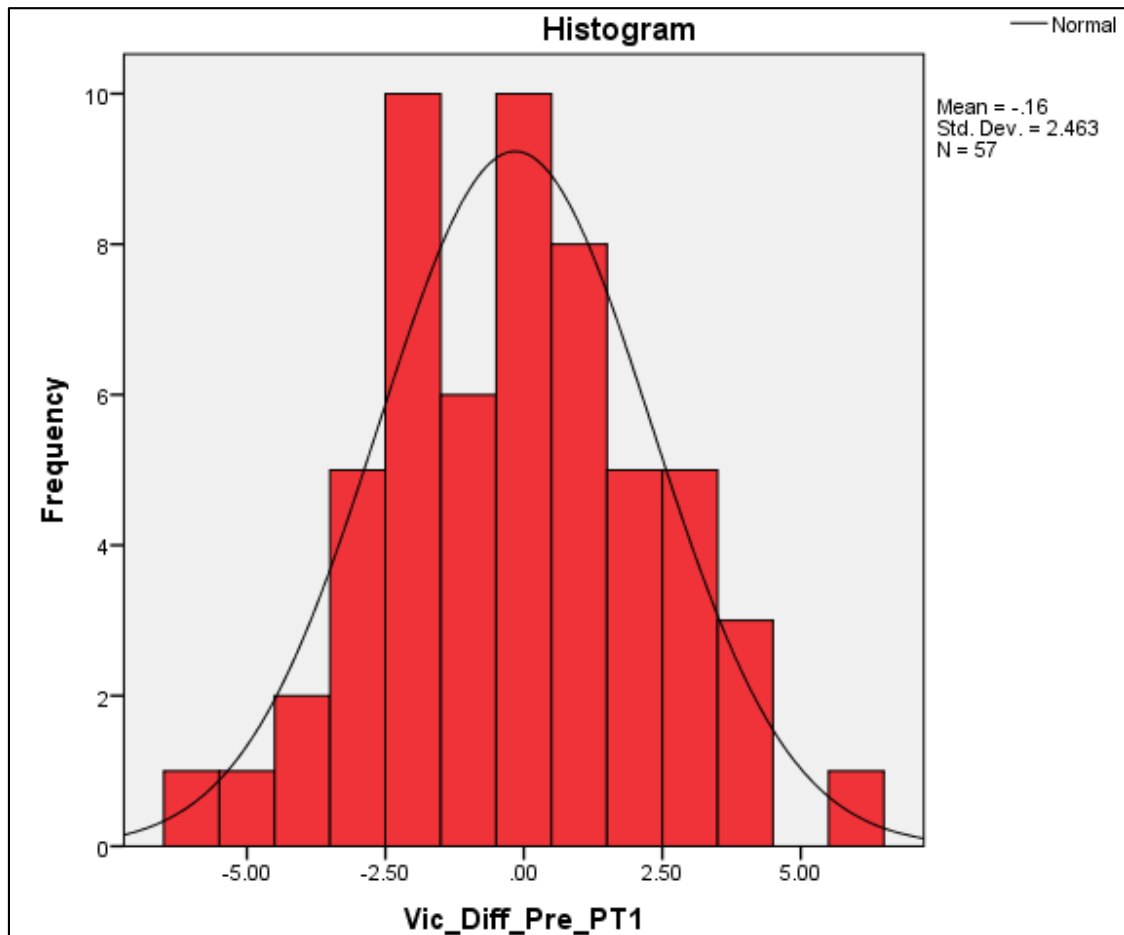


Figure 4.8: Pre-Test and Post-Test 1 Paired Differences in Victim Hurt Denial

The histogram’s visualization portrayed a seemingly normal distribution curve that was not skewed on either sides and possibly not deviating from normality. In addition to the histogram for visual depiction of the distribution of the paired differences, Table 4.5 shows a normality test based on the Shapiro-Wilk statistics.

Table 4.5: Pre and Post Exposure Normality Tests on Difference in Victim Hurt Denial

	Statistic	df	Sig.	Statistic	df	Sig.
Post-test 1 – Pre-test	0.106	57	0.169	0.983	57	0.578
Post-test 2 – Pre-test	0.129	57	0.019	0.963	57	0.077
Post-test 2 – Post-test 1	0.145	57	0.005	0.959	57	0.065

From the results, it was noted that the seemingly normal distribution depicted by the symmetric histogram is confirmed by the Shapiro-Wilk test with test statistics that all had p-values greater than 0.05 implying that they followed a normal distribution. As the assumption of normality was not violated, the paired sample t-test was carried out and results presented without bootstrapping.

Table 4.6 shows the t-tests of the paired differences between the assessments of the sexual offenders' attitude on victim hurt denial.

Table 4.6: Pre and Post Exposure T-tests on Paired Difference in Victim Hurt Denial

	Paired Differences			t	df	Sig. (2-tailed)	Percentage change
	Mean	Std. Dev.	Std. Error				
PsT1 - PrT	0.017	2.594	0.343	0.051	56	0.959	0.355%
PsT2 - PrT	-0.157	2.462	0.326	-0.484	56	0.630	-3.278%
PsT2 - PsT1	-0.175	1.743	0.230	-0.76	56	0.451	-3.500%

As shown in the table, the tests on the paired differences were all found to be insignificant between post-test1 and pre-test ($t=0.051$, $p\text{-value}=0.959$). Insignificant differences were also found between post-test 2 and the pre-test ($t=-0.484$, $p\text{-value}=0.630$). Similarly, no significant difference was found between post-test 2 and post-test1 ($t=-0.760$, $p\text{-value}=0.451$). The p-values of the t-statistics were all greater than 0.05.

The difference was higher between post-test 2 and pre-test than between post-test1 and the pre-test. The actual mean of the differences between post-test 2 and post-test-1 was negative. The mean attitudes as assessed before intervention, immediately after treatment and 2 weeks after treatment were plotted as shown in Figure 4.9

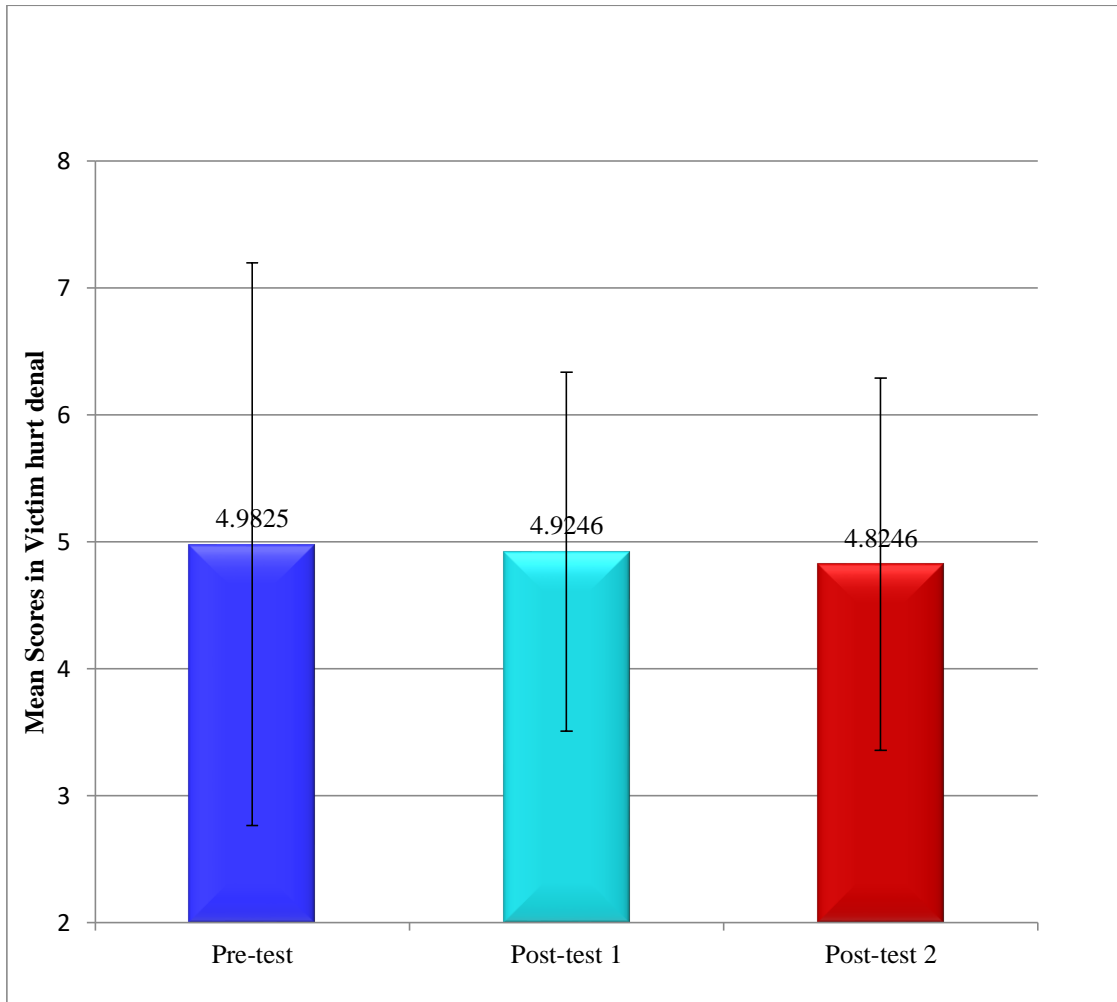


Figure 4.9: Pre-Test and Post-Tests Mean Difference Plot of Victim Hurt Denial

The figure shows that the mean scores of victim hurt denial slightly increased immediately after exposure but tended improve considerably slower when tested 2 weeks after exposure. The t-test however revealed that the improvement from pre-test to the post-tests as well as between post-test1 and post-test 2 were all insignificant.

4.3.4 Post Exposure Effects on Male Sex Offenders' Evaluation of Crime as Worthwhile.

Figure 4.10 is a histogram displaying the distribution of the difference between the pre-test and post-test1 attitudes of sex offenders towards evaluation of crime as worthwhile.

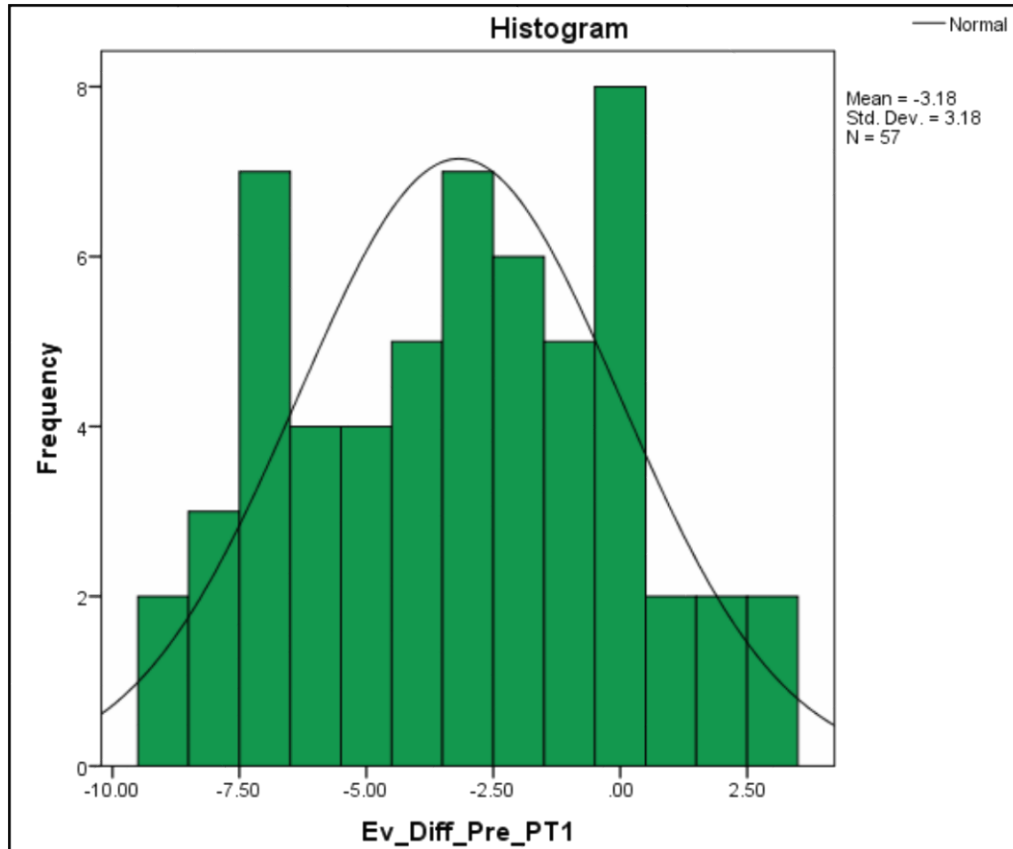


Figure 4.10: Histogram on Paired Differences in Evaluation of Crime as Worthwhile between Pre-Test and Post-Test1

The histogram shows a virtually skewed distribution to the left which implied a slight possible deviation from normality. Normality of the paired differences was assessed and confirmed using Shapiro-Wilk tests. Table 4.7 shows the normality test of the paired differences between all the three variables; between pre-test and both post-test1 and post-test 2 and between the two post-tests.

Table 4.7: Pre and Post Exposure Normality Test on Difference in Evaluation of Crime as Worthwhile

	Statistic	df	Sig.	Statistic	df	Sig.
Post-test 1 – Pre-test	0.096	57	.200*	0.966	57	0.106
Post-test 2 – Pre-test	0.101	57	.200*	0.967	57	0.121
Post-test 2 – Post-test 1	0.096	57	.200*	0.966	57	0.106

The Shapiro-Wilk statistics all had p-values greater than 0.05 implying that there were no deviations from normality and that the differences followed a normal distribution. Table 4.8 shows the t-tests of paired differences between the assessments of attitude on the sex offenders' evaluation of crime as worthwhile.

Table 4.8: Pre and post exposure T-test on paired difference in evaluation of crime as worthwhile

	Paired Differences			t	df	Sig. (2-tailed)	Percentage Change
	Mean	Std. Dev.	Std. Error				
PsT1 - PrT	-3.175	3.180	0.421	-7.539	56	0.000	-53.395%
PsT2 - PrT	-3.035	3.190	0.423	-7.183	56	0.000	-55.859%
PsT2 - PsT1	-0.140	1.274	0.169	-0.832	56	0.409	-14.784%

As shown by the table, the tests on the paired differences were found to be significant between post-test1 and the pre-test ($t=-7.539$, $p\text{-value}=0.000$) and between post-test 2 and the pre-test ($t=-7.183$, $p\text{-value}=0.000$) with the p-values of the t-statistics all less than 0.05. The differences between post-tests 1 and 2 and the pre-test were -53.395% and -55.859% respectively showing lower scores of the male sex offenders' evaluation of crime as worthwhile after the intervention.

The results however revealed that the paired differences between post-test 2 and post-test1 were insignificant ($t=-0.832$, $p\text{-value}=0.409$) with the p-value greater than 0.05. The difference was higher between post-test 2 and the pre-test than between post-test1 and the pre-test. The actual mean difference between post-test 2 and post-test1 was found to be negative. The mean attitudes as assessed before intervention, immediately after and 2 weeks later were plotted as shown in Figure 4.11.

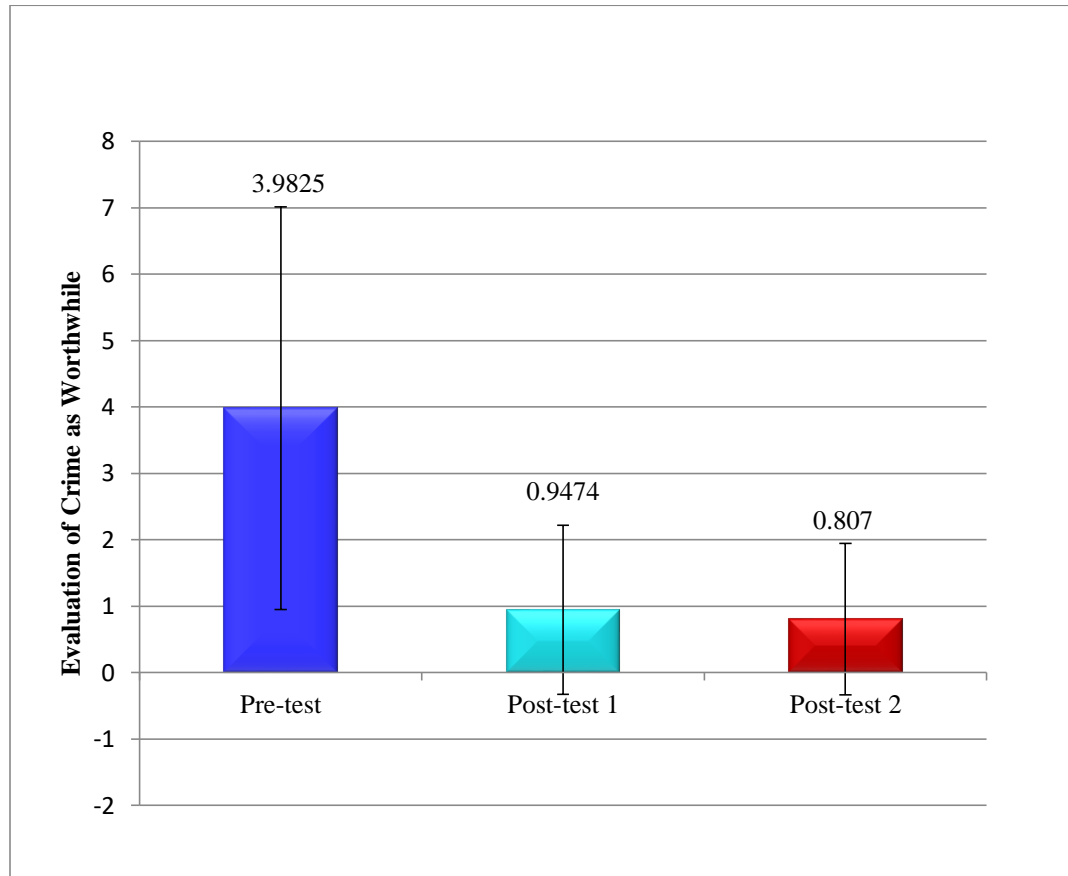


Figure 4.11: Pre-test and post-tests mean difference plot on evaluation of crime as worthwhile

The figure shows that the mean scores of the sex offenders' evaluation of crime as worthwhile reduced considerably and was higher from pre-test to post-test1, but only slightly different between post-test1 and post-test 2. The t-test revealed that the improvement from the pre-test to the post-tests was significant but that between post-test1 and post-test 2 was insignificant.

4.3.5 Post Exposure Effects on Male Sex Offenders' Perception Towards Life Problems

The test on the effect of exposure to digital paintings on male sex offenders' attitudes was also carried out on their perceptions towards life problems. Figure 4.12 is a histogram

displaying the distributions of the paired differences between the pre-test and post-test1 of the sex offenders' perceptions towards life problems.

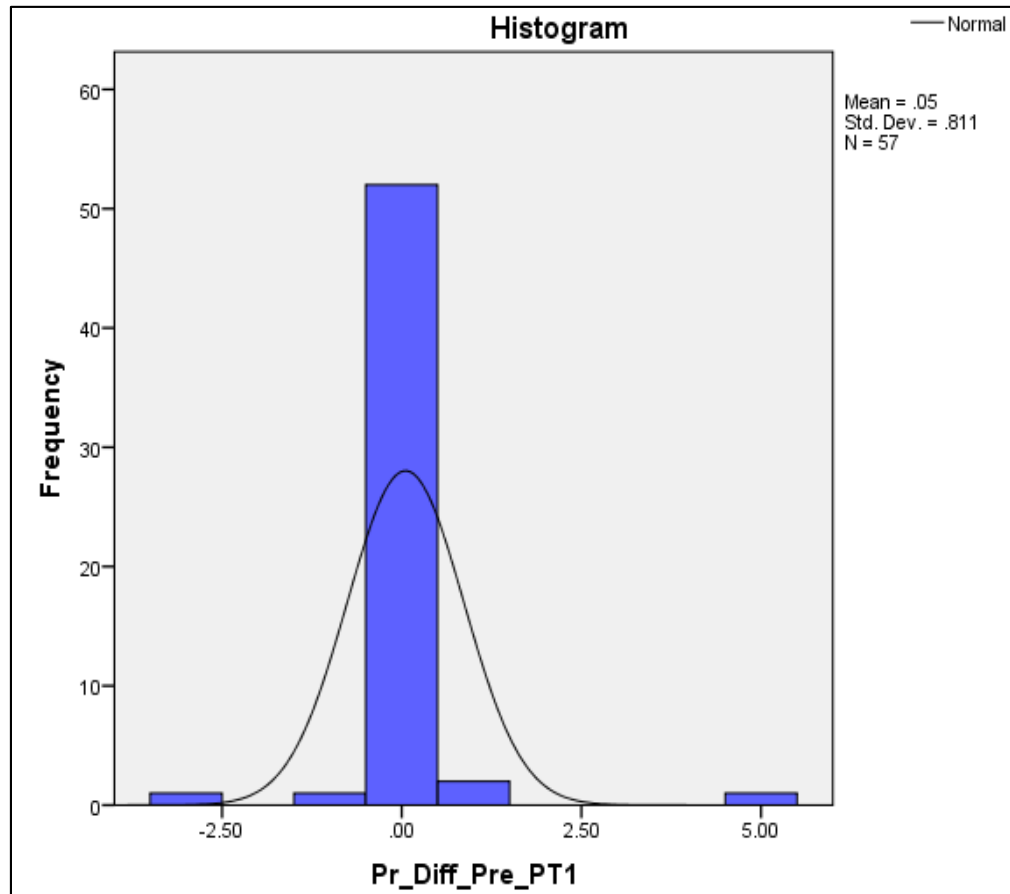


Figure 4.12: Histogram on paired differences in perception towards life problems between pre-test and post-test 1

The histograms show a virtually skewed distribution to the right to imply possible deviation from normality. Table 4.9 shows a normality test based on the Shapiro-Wilk statistics.

Table 4.9: Pre and Post Exposure Normality Test on Difference in Life Problems perception

	Statistic	df	Sig.	Statistic	df	Sig.
Post-test 1 – Pre-test	0.473	57	0.000	0.317	57	0.000
Post-test 1 – Pre-test	0.482	57	0.000	0.28	57	0.000
Post-test 2 – Post-test 1	0.535	57	0.000	0.114	57	0.000

From the results, it was noted that despite the seemingly normal distribution depicted by the symmetric histogram, the Shapiro-Wilk statistics all had p-values less than 0.05 implying that they all deviated from normality and did not follow a normal distribution.

Due to the violation of the normality assumption of the paired sample t-test, a bootstrap was carried out for the test.

Table 4.10 shows the t-tests of the paired differences between the assessments of the sexual offenders' attitude on perceptions towards life problems.

Table 4.10: Pre and Post Exposure T-Test on Paired Difference in Life Problems Perception

	Paired differences				Bootstrapped Bias corrected test				
	Mean	Std. Dev	Std. Error	t	df	Bias	Std. Error	Sig. (2-tailed)	Percentage Change
PsT1 - PrT	0.070	0.799	0.106	0.51	56	.0046	.1072	.568	2.100%
PsT2 - PrT	0.018	0.132	0.018	0.322	56	.0098	.0136	.111	0.540%
PsT2 - PsT1	-0.053	0.811	0.107	-0.626	56	.0022	.1083	.685	-0.592%

As indicated in the table, the tests on the paired differences were all found to be insignificant between post-test1 and the pre-test ($t= 0.51$, $p\text{-value}=0.568$). Post-test 2 and the pre-test ($t= 0.322$, $p\text{-value}=0.111$) and the post-test 2 and post-test1 ($t= -0.626$, $p\text{-value}=0.685$) also presented insignificant paired differences. The p-values of the t-statistics were all greater than 0.05. The mean attitudes on the sex offenders' perceptions towards life problems as assessed before intervention, immediately after intervention and 2 weeks after were further plotted as shown in Figure 4.13.

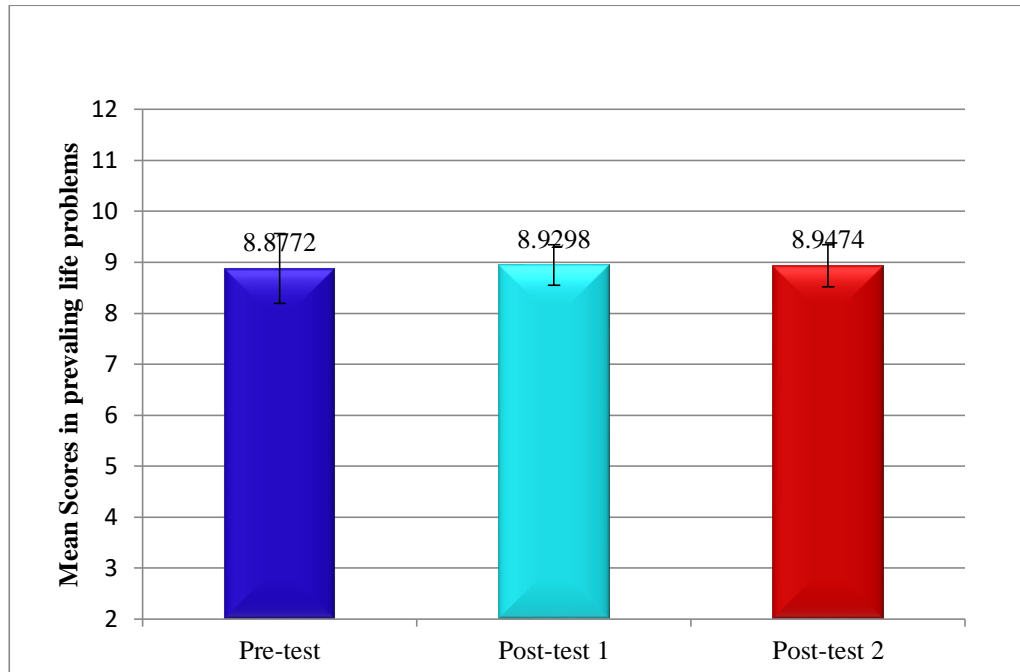


Figure 4.13: Pre-test and post-tests mean difference plot on perception of life problems

The figure shows that the mean scores of perceptions towards life problems increased from the pre-test to post-test1 but only a very slight drop was reported between post-test1 and post-test 2. The t-test however revealed that the difference in mean scores from the pre-test to the post-tests and between post-test1 and post-test 2 were insignificant.

The assessment of normality histograms of the generated differences between the pre-test and post-test 2 and that between post-test1 and post-test 2 on all the four attitude domains and the perception of life problems are shown in Appendix P.

4.3.6 Attitude Differences in Male Sex Offenders based on Format of Exposure

The study further assessed post intervention differences in the attitudes of the sex offenders exposed to digital paintings by projection in Rapid Serial Visual Presentation and by viewing in the exhibition. Figure 4.14 shows the profile plot of attitude mean scores based on format of exposure for the two groups.

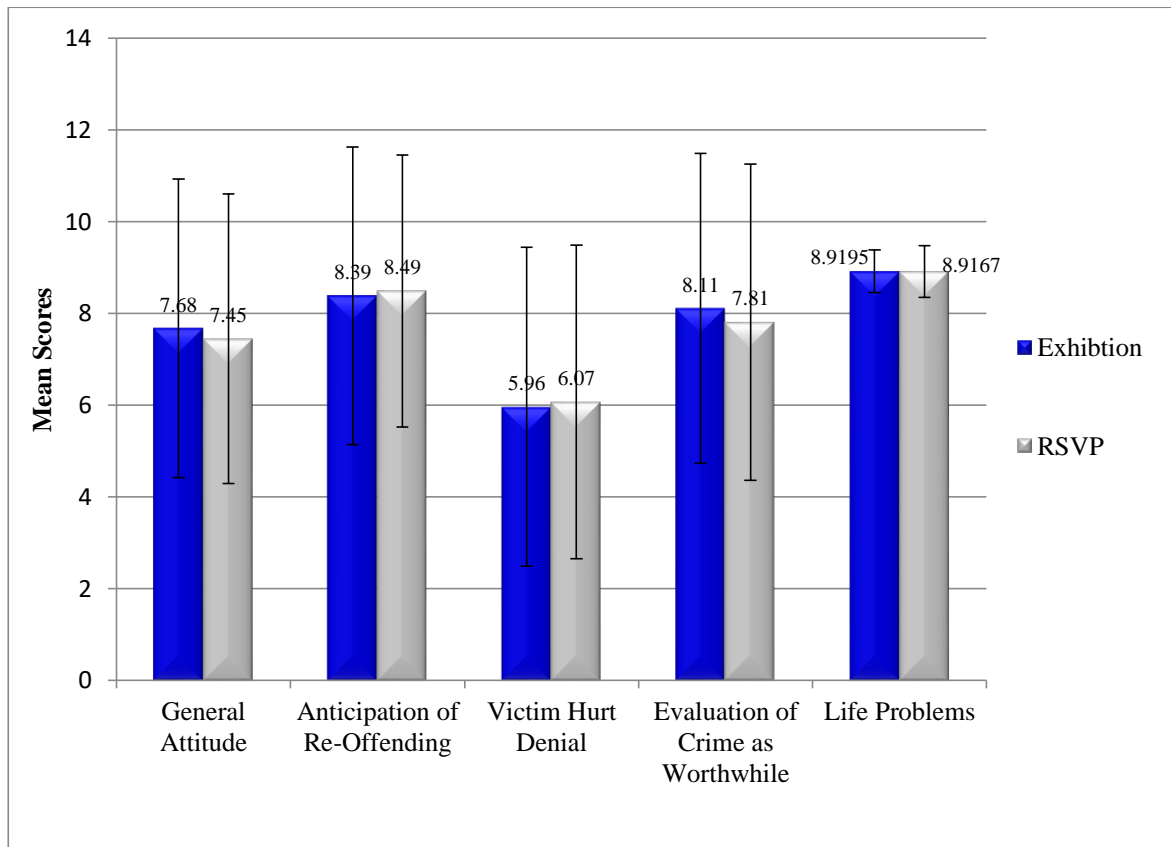


Figure 4.14: Profile plot of attitude mean scores based on formats of exposure

The two groups of participants had alternating highest level of attitude on the different attitudinal measures. The group exposed by viewing in the exhibition had a virtually higher mean in general attitude, evaluation of crime as worthwhile and life problems while the group exposed by RSVP virtually seemed to have higher means in victim hurt denial and anticipation of re-offending. Figure 4.15 further showed that the attitudinal levels varied randomly but had virtually very minimal differences between the two groups on all the attitudinal measures.

A repeated measure test was carried out to assess the between subjects effect of formats of exposure on the attitude towards sexual crimes. Table 4.11 shows the results of the repeated measures of between subject effects test.

Table 4.11: Attitudinal Difference Test between Formats of Exposure

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1141.075	1	1141.075	97.201	.000
Format of Exposure	42.759	1	42.759	3.642	.059
Error	1314.805	112	11.739		

The F-statistic of the binary categorical variable is 3.642 with a p-value of 0.059, which is greater than 0.05

4.4 Interpretation and the Discussion of Findings

The third objective of the study sought to determine the effect of exposure to digital paintings on the male sex offenders' attitudes towards crime. The post intervention stage involved two post-test assessments, one carried out immediately at the end of the last exposure session and a second one done two weeks after the intervention. The evidence of change in attitude scores was assessed by subjecting the data to statistical tests. A paired sample of respondents who all participated in the intervention program and were assessed before and after intervention. A paired sample t-test was deemed suitable, considering that the quasi-experimental design used in the study did not consider a control group and treatment group.

The findings showed that repeated exposure sparked a cognitive process that enabled efficient processing of the digital paintings, leading to improved attitude scores among the male sexual offenders. A detailed analysis for each attitude domain found significant improvement from pretest to post-tests in general attitudes toward offending (G scale), anticipation of re-offending (A scale) and evaluation of crime as worthwhile (E scale). The p-value of the t-statistics of the paired differences for G scale, A- scale and E scale were all found to be less than 0.5 between the pre- test and the post-tests 1 and 2.

This indicated that there were significant differences before and after intervention in the male sexual offenders' general attitudes to offending, their anticipation of re-offending and their evaluation of crime as worthwhile. In all the three scales, the differences were higher between the post-tests 2 and the pre-test as compared to the post-tests 1 and the pre-test. The tests reported a drop in scores in the crime Pics II scale, which implied an improvement in attitudes towards crime. These findings suggested interdependency between improved attitude scores and repeated exposure to digital paintings. Unlike Feasey and Williams (2009) who reported improved attitude scores across all scales, the current study reported improved post -test scores in only three attitude domains.

The p-value statistics for scales G, A and E were however found to be greater than 0.05 between the post-test 2 and post-test 1. This implied that there were no significant differences in the overall attitudes of the offenders as assessed immediately after the intervention and two weeks later. The lapse in time had no significant effect on the attitudes. This meant that the improvement of the attitudes was sustained two weeks after the intervention as indicated by findings of the second post-test. This contrasts with Williamson et al.'s (2018) study where the change proved difficult to sustain with significant variations in terms of which attitudinal indices were best sustained. The current study, like Williamson et al. (2018) however reported positive impact on the attitudes of the participants after the intervention by exposure to digital paintings.

The victim hurt denial (V scale) and the perception of life problems (P scale) however registered insignificant improvement, with p-values greater than 0.5. The paired differences were all insignificant, implying that the intervention resulted in no significant improvement in the sex offenders' attitudes concerning victim hurt denial and their

perceptions towards life problems. Like this study, Williamson et al. (2018) similarly reported lower scores in scale V.

The ratings of the perception of life problems found no significant changes in the pretest and the post-test scores across the groups of participants. Compared to the pretest score of 8.87, mean scores in the problem inventory recorded a slight increase of 8.92 for post-test 1 and 8.94 for post-test 2. These findings are not unique given that Williamson et al. (2018) acknowledge that there is no simple relationship between life problems and offending. They argued that, a factor beyond the impact of an individual's thought and action would be in play despite the positive changes in attitudes and thinking patterns which may enhance the coping capacity and the raise in positive life chances. This study posits that personal resources impact how offenders manage what they consider to be a significant or non-significant problem in their lives. The t-tests further revealed that the difference in mean scores from pre-test to the post-tests and between post-test1 and post-test 2 were insignificant. This implied that exposure to digital paintings illustrating the consequences of sexual crimes neither resulted in any significant effects on the offenders' scores in scales V and P two weeks later.

While the key objective of Feasey and Williams' (2009) Sycamore Tree programme was to improve the participants' attitudes towards the victims of their criminal behaviour, the interest of the current study covered all the four attitude dimensions and did not specifically target the scale V. This could explain the insignificant change reported in the scale V. This trend could also be attributed to the sensitivity of sexual offending as the crime under study as opposed to Feasey and Williams (2009) whose focus was on various types of offenders. This view gains support from Williamson et al. (2018) who acknowledged the authors of

Crime Pics II suggestion that the nature of offence is likely to have an impact on the scoring in this scale.

In focusing their analysis on scale V and scale E, Feasey and Williams (2009) found 15.1% improvement in scale V and 9.5% improvement in scale A. Williamson et.al (2018) found significant changes ranging from 54% improvement in general attitudes to offending to a 16.2% improvement in the level of life difficulties reported. This implied that, apart from the improved attitude scores, there was a reduction in their self-perceived difficulties. Similarly, the current study reported an improvement of 71.13% in the evaluation of crime as worthwhile, 26.09% in anticipation of re-offending and 10.55% in general attitudes to offending. Like Williamson et al. (2018), scores for evaluation of crime as worthwhile (scale E) and anticipation of reoffending (scale A) were higher than those for general attitudes to offending (scale G). However, contrary to the findings by Williamson et.al, (2018) who also reported minimal change, this study found an insignificant improvement of only 1.2% for post-test 1 and 3.5% for post-test 2 in scale V. This observation may not be unique to this study because sex offenders are commonly known to show low levels of empathy for their victims (Fischer, Beech & Browne, 1999). The study also did not find a reduction in the level of life difficulties or the problems reported as was the case in Williamson's study. Instead, the level of the perceived difficulties and problems increased by 0.5% and posttest 1 and 0.72% for posttest 2.

The results arising from the various attitude measures were used to test the second hypothesis of the study:

H₀₂: There is no significant difference in the male sex offenders' attitudes towards crime after exposure to the digital paintings.

The analysis carried out to assess the differences in the sex offenders' attitudes before

and after exposure to the digital paintings was based on a t-test on the paired differences between the pre-test and the post-test attitudes. The p-value of the statistics of the paired differences between pre-test and post-test levels were found to be less than 0.05 for general attitudes towards offending (G-scale), anticipation for re-offending (A-scale) and the evaluation of crime as worthwhile (E-scale). The null hypothesis was thus rejected and the study deduced that there is a significant difference in the male sex offenders' attitudes towards sexual crimes after exposure to the digital paintings. The implication was that exposing male sex offenders to digital paintings illustrating the consequences of sexual crimes had a significant effect on their attitudes towards the crimes.

The theory of Cognitive Dissonance (Festinger, 1957) explains the inconsistencies which occurred when information contrary to the offenders' beliefs were shown in the digital paintings. The theory posits that whenever there is a shift that results in the discrepancy between attitudes or behaviors, dissonance must be taken care of by aligning one of the elements. The theory of Cognitive Dissonance (Festinger, 1957) also supports the notion that when people express their views, they expose their attitudinal framework. In this study, cognitive dissonance was regarded as a phenomenon occurring in the post-exposure stage, where respondents faced the actual effect of the content in the digital paintings compared to their existing attitudes and beliefs, thereby feeling a duality or a mental discomfort. Upon exposing existing cognitive dispositions, intervention by exposure to digital paintings was envisioned to create inconsistencies; hence participants would be expected to put in place a drive toward consistency. This motivated the offenders to reduce the dissonance by changing attitudes, thus explaining the differences in attitude scores observed between the pre-test and the post-tests.

The identified effects of this study also confirm the literature-derived hypothesis, which revealed that repeated exposure to visual stimuli such digital paintings was an intervening factor that helped in the positive evaluation of the stimuli and thus facilitated the improvement in attitudes. The study further tested for the effects of the exposure format on attitudes of the participants. The results were used to test the second hypothesis of the study:

H₀₃: There is no significant difference in attitudes of male sex offenders arising from the context of exposure.

The analysis carried out showed that the F-statistic of the binary categorical variable had a p-value greater than 0.05 implying that there were no significant attitudinal differences arising from the format of exposure. The study thus failed to reject the null hypothesis and concluded that the different formats of exposure result in no significant difference in attitude scores of the male sex offenders.

The beneficial effect of exposure to digital paintings was reported by 87% of the respondents who acknowledged that experience had changed their views towards sexual crimes. A further 89% of the respondents recommended the use of digital paintings to educate other offenders who did not participate in the study. During the FGDs, it was indicated that most of the participants appreciated the information passed on to them using the digital paintings. The unique experience provided by participation in this study caused respondents to think differently about sexual crimes. A 25-year-old convict of rape said as quoted below;

“The paintings have communicated consequences of crime and enabled me to connect with my inner feelings by simply thinking or talking about them. I believe I will be a better citizen in the future.”

The participants appreciated the paintings showing consequences of crime on the offender and felt touched directly, leading to the acknowledgement that communication through visual aids like digital paintings had enabled them appreciate the magnitude of their offence and the willingness to change upon release from prison. One participant expressed his feelings s given here below;

“I can now relate to what I see in the paintings showing the offender being punished. The paintings cause me to fear for what could have happened to me if I was not saved by the police. The crowds could have hurt me badly or maybe killed me. I survived narrowly. I don’t think I ever want to try crime again; it is risky”.

The participants expressed gratitude that at least sexual offenders were receiving unique attention which they rarely did. They felt discriminated in prison and were often tagged as soft offenders”. One participant highlighted this as expressed by what he said;

“I am glad that we as sex offenders are finally receiving the attention we deserve. I think our type of crime is unique and has many underlying issues. The digital paintings have taught me many things. I wish I could show the paintings to my children so that they don’t get into trouble like I did”.

In using digital paintings as a means of intervention with sex offenders, this study builds on the findings by other scholars who have investigated the use of arts in the offender rehabilitations. For instance, like in the current study, Brewster (2014) also found positive impact of prison art programs on attitudes inmates. However, unlike the current study which only focused on using visual art in the form of digital paintings, Brewster (2014) experimented with different creative arts including music, poetry, painting and theatre. Unlike Cheliotis and Jordanoska (2016) who reported increased empathy as one of the improvements following the offenders’ participation in an art programme, the current study reported minimal change in the victim empathy scores on V-scale.

Despite the insignificant changes on victim empathy (scale V) after viewing the digital

paintings repeatedly, some of the respondents reported that they felt sorry about the crime committed. This explains the improved attitude scores in the various measures of attitude.

The explanation provided during the FGDs was as expressed here below;

“After viewing the paintings repeatedly, I feel bad about my offending behaviour. I wish I can be forgiven so that I can go back to society and educate others who might think of committing sexual crimes. I now fear that my child or sister could become a victim of sexual crime”.

Additionally, the images showing the consequences of sexual crimes on the family suffering reminded the convicts of their children and how deprived they were as they were growing up without parental guidance. Moreover, some feared the possibility of losing their family in case they truly faced the predicaments expressed in the paintings as captured by the statement below expressed by one convict;

“It is sad to see family suffering. Those paintings make me remember my children and I really feel bad. I wish I could change things; I would never have committed the crime”.

Although this study focused on the male sex offenders’ attitudes towards crime, the positive results compare with Brewster (2014) who found that 75% and 80.6% of the participants in Arts Corrections programs at two facilities in California had less disciplinary infringements. The positive findings of this study also compare to related creative art based offender interventions in African prisons by Wainaina & Kuria (2019), Chinhanu (2016) and Twani (2011). Although these studies explored theatre (Chinhanu (2016) and music (2011) with non-sexual offender groups, their success is a pointer to the fact that art based interventions can work in Africa as is the case elsewhere around the world.

Whereas previous the studies using arts in offender rehabilitation by (Brewster 2014;

Turner 2016; Takkal et al., 2017) explored active participation where participants produce the artwork, the current study explored passive participation involving the viewing of prepared artwork. Additionally, this study unlike other studies using arts in the rehabilitation of offenders in the west, used a single modal approach where only one type of creative art was used. The study however compares to related studies in Africa which also use one type of creative art.

4.5 Summary of the Chapter

The present study focused on the use of digital paintings in as an intervention for the male sex offenders to deter them from re-offending. The novel result of the study was that the male sexual offenders' attitudes improved following exposure to the digital paintings illustrating the consequences of sexual crimes. However, the overall significant improvement was only reported across three attitudinal indices with minimal change in victim-hurt denial and perceived problems scale. The findings suggest interdependency between improved attitudes towards crime and art viewing. While the present study expands on the previous research and literature on art-based offender rehabilitation, focus has been shifted to the underexplored area of art viewing and its effects among the prisoner population.

CHAPTER 5: A MODEL FOR UTILIZING DIGITAL PAINTINGS TO FOSTER NEGATIVE ATTITUDES TOWARDS SEXUAL CRIMES AMONG MALE SEX OFFENDERS.

5.1 Introduction

This chapter details the presentation, analysis, interpretation and the discussion of findings for objective four of the study, which sought to propose a model for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders.

5.2 An integrated Account of the Effects of Exposure to Digital Paintings on Attitudes Scores

This study was designed to investigate the effect of exposure to digital paintings on male sex offenders' attitudes towards crime. Although exposure to digital paintings was found to significantly improve the respondents' attitudes towards sex crimes, the effects of the intervention were only found for three attitude measures. Significant effects were found for general attitude towards crime (G-scale), anticipation of re-offending (A- scale) and evaluation of crime as worthwhile (E- scale). There were no significant effects found for victim hurt denial (V- scale) and perception of life problems (P-scale). A model was thus fitted for the attitude outcomes which were affected by exposure to the digital paintings in order to determine the components of digital paintings and the exposure frequencies that could positively affect attitudes towards sexual crimes.

5.3 Regression Analysis

A regression analysis was conducted to project the relationship between the independent variable of exposure to digital paintings and the dependent variable of attitudes towards crime. To generate the model detailing the effects of various factors including colour scheme, themes, mode of exposure, style of paintings, test order and the frequency of exposure on the post-test attitudes, the study used a statistical linear regression technique.

A model was fitted to explain the effect of each independent factor on attitude. The independent factors were measured categorically while the outcome variable change in attitude was considered as a continuous measure of the attitude elements generated from Crime Pics II software. The linear regression was fitted based on Ordinary Least Squares (OLS). It is a regression technique that minimizes the variance (least squares) due to the error.

To explore the possibility of normality of the model residuals, a histogram was used to show a possible normal distribution of the residuals as assumed for linear models. Figure 5.1 shows a histogram of the model residuals generated from the model fitted.

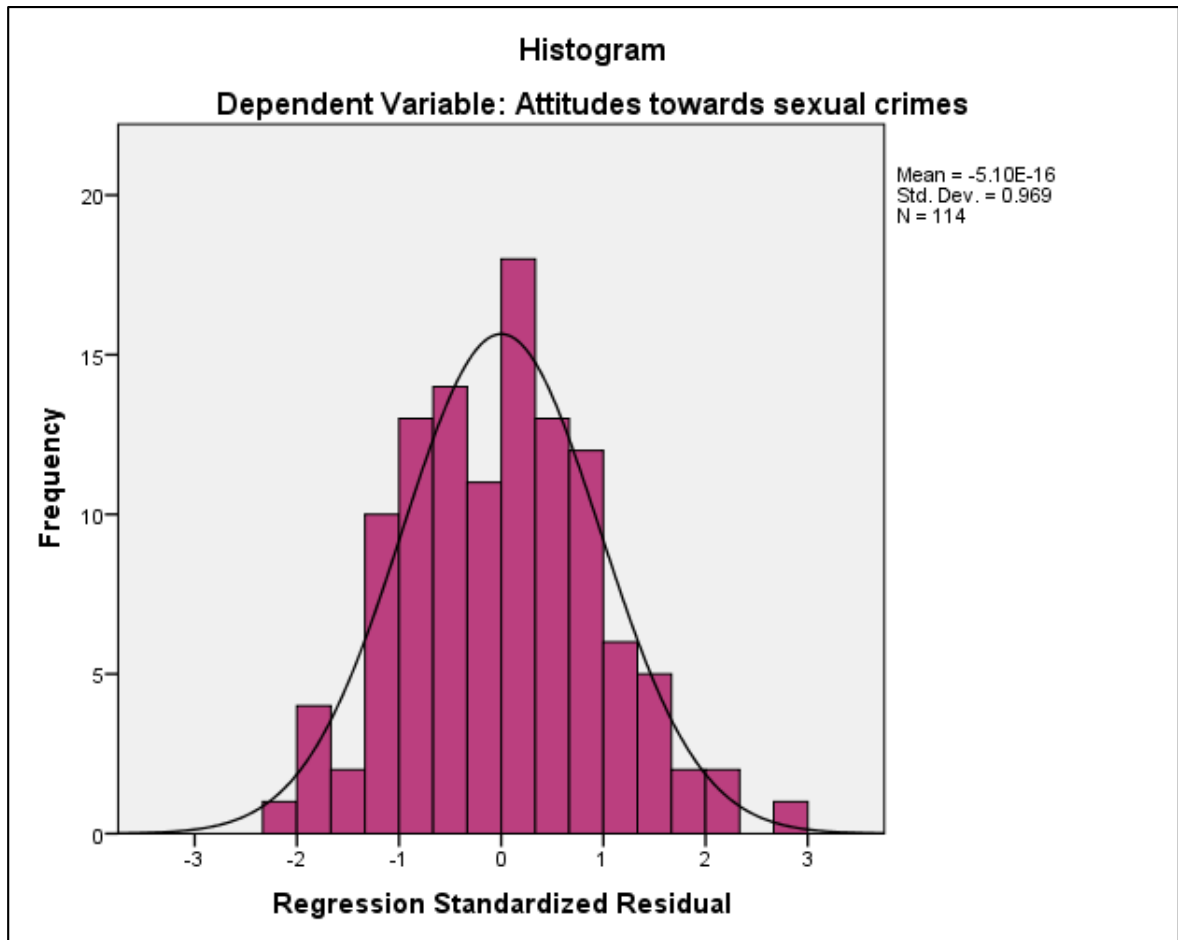


Figure 5.1: Histogram on the Normality Model Residuals

Further to the visualization assessment of the assumption on the normality of the model residuals based on the histogram, a visualization scatter plot of model residuals against the predicted values of attitudes was created as shown in figure 5.2.

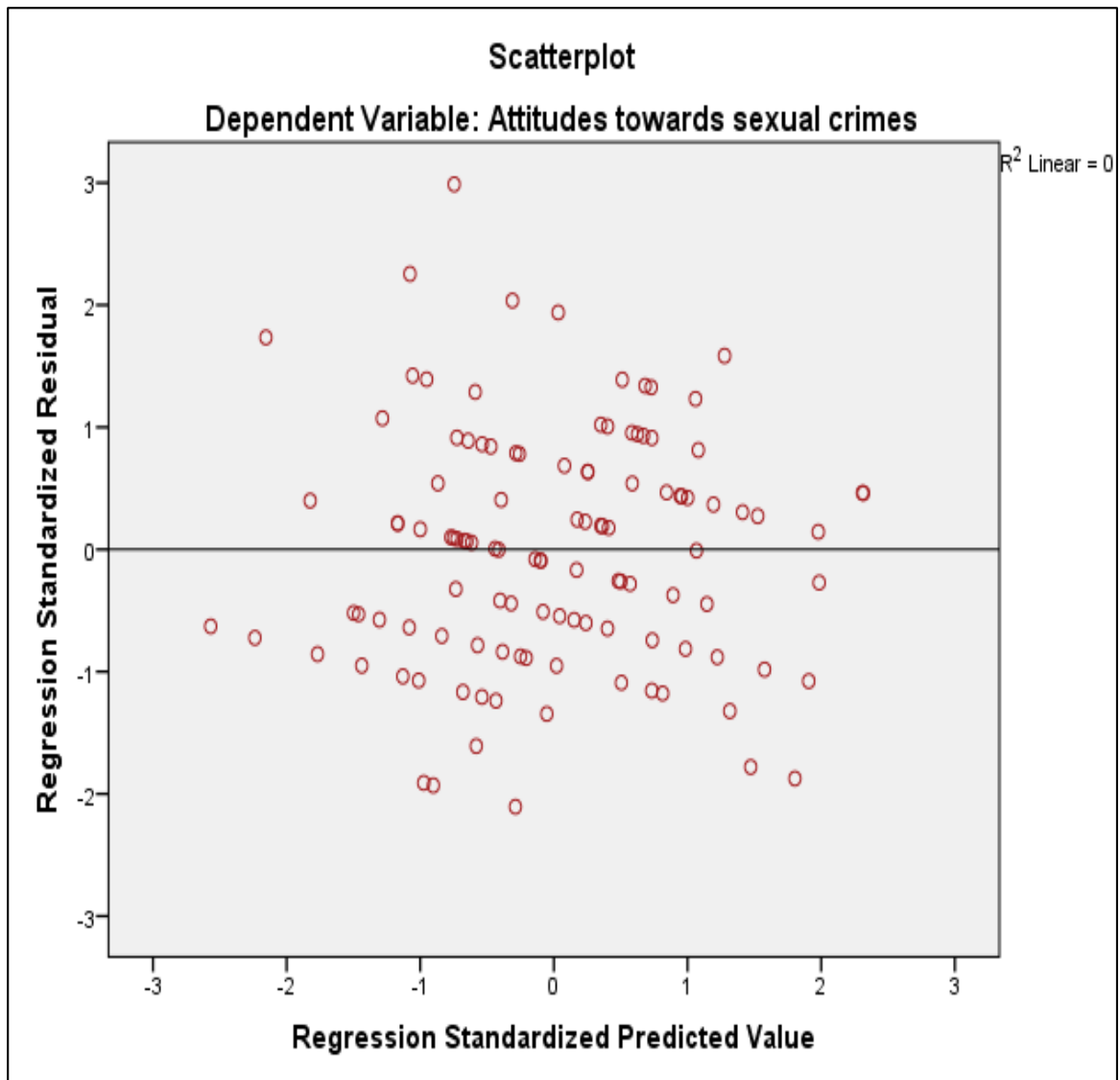


Figure 5.2: The Visualization Scatter Plot of the Model Residuals

The scatter plot was created to visually assess the homogeneity of the model residuals. OLS models assume that the model residuals are homoscedastic that is; they have a constant variance and not heteroscedastic. Heteroscedasticity, which is a violation of

homoscedasticity is attributed to a scatter plot with increasing or decreasing patterns. The scatter plot generated for the models fitted in this study as shown in the Figure 5.3 does not exhibit any kind of patterns but are randomly distributed about zero as is expected for homogeneity.

Further to the visualization graphs used to depict the element of normality and homoscedasticity of the model residuals, all the classical linear regression assumptions were diagnosed including the assumption of normality of the residuals, homoscedasticity of the model residuals, non-autocorrelation of model residuals and non-multicollinearity of model predictors as shown in Table 5.1 below.

Table 5.1: Model Diagnostic Tests

	Test	Statistic	P-value		Conclusion	
Normality	Kolmogorov-Smirnov	0.052	.200		Not violated	
	Shapiro-Wilk	0.991	0.687		Not violated	
Homoscedasticity	BP-LM	5.396	0.145		Not violated	
Non-Autocorrelation	Durbin-Watson	2.070			Not violated	
		Predictor	VIF	Tolerance		
Non-multicollinearity		Mode of exposure	1.828	0.547	Not violated	
	Variance inflation factors		Test Order	1.000		1.000
			Style	1.311		0.763
			Colour scheme	1.402		0.713
			Theme 1	1.383		0.723
			Theme 2	1.898		0.527
		Exposure Frequency	1.745	0.573		

As shown by the Table 5.1, normality was also confirmed based on the Shapiro-Wilk normality test of the model residuals. The Shapiro-Wilk statistic has p-values greater than

0.05 implying that the model residuals follow a normal distribution and do not violate the assumption of normality.

The Breusch-Pagan test for homogeneity of variance was carried out to ascertain that the model residuals were homoscedastic as implied by the residuals scatter plot. The P-value of the Breusch–Pagan Lagrange multiplier (BP-LM) Chi-square statistic was found to be 0.067 which is greater than 0.05.

The linear model assumption of autocorrelation was also tested on the residuals of the model used to evaluate the effect of differentiation strategy on performance. Autocorrelation is the process by which the measurement of a variable (residual) is the function of other consecutive values of the same variable. The autocorrelation of the model residuals implied that successive values of the residuals could be used to predict other values of the residual term. The Durbin-Watson test (d) was used to assess the presence of autocorrelation of the residuals. The small values of the DW statistics indicated the correlation of consecutive error terms. As shown in the results, the calculated DW number (2.070) was greater than the tabulated upper value (1.832) from the Durbin-Watson tables shown in Appendix Q. The tabulated upper value for a model with 8 predictors and a sample size of 114 responses was less than the calculated D-W which is an indication that the residuals were not serially related thus the non-autocorrelation assumption was met.

Also incorporated is an Analysis of variance (ANOVA) which demonstrated the significance of the model by determining whether the variance defined by the regression model was statistically significant. A presentation of the coefficient estimates of each factor and an assessment of the significance of each factor in the variance of attitudes arising from the exposure to the digital paintings was also given.

5.3.1 A Model applicable to Digital Paintings for General Attitudes to Offending

The summary in Table 5.2 shows the OLS model results with the general attitude as the outcome variable. The table presents the model's explanatory power (R-square) and the significance of the model based on Analysis of Variance (ANOVA). The table also presents the coefficient estimates, which are the parameters of the modeled equation.

Table 5.2: Model Applicable to Digital Paintings for General Attitudes to Offending

Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
.691a	0.477	0.437	1.8143		
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	315.534	8	39.442	11.982	.000b
Residual	345.624	105	3.292		
Total	661.158	113			
Coefficients					
	Unstandardized Coefficients		Standardized Coefficients		
Variable	B	Std. Error	Beta	t	Sig.
(Constant)	42.125	8.370		5.033	0.000
Mode of exposure	-0.212	0.361	-0.044	-0.588	0.557
Test Order	-0.335	0.377	-0.070	-0.888	0.376
Style	-1.485	0.738	0.032	-2.010	0.047
Colour scheme	-20.388	4.533	-0.362	-4.498	0.000
Theme 1	-36.706	19.897	-0.198	-1.845	0.068
Theme 2	-6.639	18.674	-0.027	-0.356	0.723
Theme 3	-15.591	17.154	-0.068	-0.909	0.365
Exposure Frequency	-6.280	1.970	-0.336	-3.188	0.002

The coefficient of determination (R-square) was found to be 0.477 which is the explanatory power of the model. The R-square showed that 47.7% of the variation in the improvement of the general attitude of the sexual offenders was explained by the variation of predictors in the regression model. The difference (52.3%) is the portion of variance in general

attitudes explained by other factors which have not been included in this model. The Analysis of Variance (ANOVA) showed a breakdown of the variance in change in the general attitudes to offending from to exposure to digital paintings due to the multiple regression model predictors and also due to the model residuals. ANOVA also tested the general significance of the model and that the estimated coefficients of the model were jointly not equal to zero. The p-value of the F-statistic was less than 0.05, which showed that the model is generally significant and that some of the model predictors significantly influenced the change in attitude scores as a result of exposure to the digital paintings.

The model generated from the results is given by the equation below:

$$Y = 42.125 - 1.485X_3 - 20.388X_4 - 6.280X_6 + \varepsilon$$

The table also detailed the coefficient estimates of the model predictors. The results showed that the offenders' ratings of the style of painting ($\beta = -1.485$, $t = -2.010$, $p\text{-value} = 0.047$), the colour scheme of the paintings ($\beta = -20.388$, $t = -4.498$, $p\text{-value} = 0.000$) and the more frequently viewed paintings ($\beta = -6.280$, $t = -3.188$, $p\text{-value} = 0.002$) significantly influenced the difference in their general attitudes to offending.

5.3.2 A Model Applicable to Digital Paintings for Anticipation of Re-Offending

The summary in Table 5.3 shows the Ordinary Least Square (OLS) model results with anticipation of re-offending as the outcome variable. The table presents the model's explanatory power (R-square) and the significance of the model based on the Analysis of Variance (ANOVA). The table also presents the coefficient estimates, which are the parameters of the modeled equation.

Table 5.3: Model Applicable to Digital Paintings for Anticipation of Re-Offending

Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
.524a	.275	.220	1.9090		
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	145.134	8	18.142	4.978	.000b
Residual	382.656	105	3.644		
Total	527.789	113			
Coefficients					
Variable	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	19.512	9.036		2.159	.033
Mode of exposure	.197	.382	.046	.517	.606
Test Order	-.426	.395	-.099	-1.080	.282
Style 1	10.553	3.671	.256	2.875	.005
Colour scheme1	-14.681	4.651	-.297	-3.157	.002
Theme 1	-28.747	21.309	-.162	-1.349	.180
Theme 2	-14.325	20.422	-.062	-.701	.485
Theme 3	-6.633	18.373	-.031	-.361	.719
Exposure Frequency1	-3.937	1.912	.235	-2.059	.042

The coefficient of determination (R-square) was found to be 0.275, which shows that 27.5% of the variation in drop in the male sexual offenders' anticipation of re-offending was explained by the variation of predictors in the regression model. The difference (72.5%) is the portion of variance in general attitudes explained by other factors which were not included in this model. The Analysis of Variance (ANOVA) showed a breakdown of the variance in the change in the offenders' anticipation of re-offending from to exposure

to digital paintings due to the multiple regression model predictors and due to the model residuals. ANOVA also tested the general significance of the model that the estimated coefficients of the model were jointly not equal to zero. The p-value of the F-statistics was less than 0.05 which indicated that the model is generally significant and that at least some of the model predictors significantly influenced the change in attitude as a result of exposure to the digital paintings. The model generated from the results is given by the equation below:

$$Y = 19.512 - 10.553X_3 - 14.681X_4 - 3.937X_6 + \varepsilon$$

The table also details the coefficient estimates of the model predictors. The results showed that the male sexual offenders' ratings of the style of painting ($\beta = -10.553$, $t = -2.875$, $p\text{-value} = 0.005$), the colour scheme of the paintings ($\beta = -14.681$, $t = -3.157$, $p\text{-value} = 0.002$) and the more frequently viewed paintings ($\beta = -3.937$, $t = -2.059$, $p\text{-value} = 0.042$) significantly influenced the change in their anticipation of re-offending.

5.3.3: A Model applicable to Digital Paintings for Evaluation of Crime as Worthwhile

The summary in Table 5.4 shows the OLS model results with evaluation of crime as worthwhile as the outcome variable. The table presents the model's explanatory power (R-square) and the significance of the model based on the Analysis of Variance (ANOVA). The table also presents the coefficient estimates, which are the parameters of the modeled equation.

Table 5. 4: Model applicable to digital paintings for Evaluation of Crime as Worthwhile

Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
.684a	.468	.428	2.5888		
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	619.400	8	77.425	11.552	.000b
Residual	703.722	105	6.702		
Total	1323.123	113			
Coefficients					
	Unstandardized Coefficients		Standardized Coefficients		
Variable	B	Std. Error	Beta	t	Sig.
(Constant)	79.665	12.254		6.501	.000
Mode of exposure	-.948	.518	-.139	-1.831	.070
Test Order	-.426	.535	-.063	-.796	.428
Style	-10.267	4.979	-.157	-2.062	.042
Colour scheme	-30.799	6.307	-.393	-4.883	.000
Theme 1	-7.512	28.897	-.027	-.260	.795
Theme 2	-28.412	27.694	-.078	-1.026	.307
Theme 3	-82.407	24.915	-.244	-3.307	.001
Exposure Frequency	-6.888	2.710	-.260	-2.541	.013

The coefficient of determination (R-square) was found to be 0.486, which is the explanatory power of the model. The R-square showed that 48.6% of the variation in the improvement (change) in general evaluation of crime as worthwhile was explained by the variation of predictors in the regression model. The difference (51.4%) is the portion of variance in the attitudinal change explained by other factors that have not been included in this model. The Analysis of variance (ANOVA) showed a breakdown of the variance in the change in evaluation of crime as worthwhile from to exposure to the digital paintings due to the multiple regression model predictors and due to the model residuals. ANOVA

also tested the general significance of the model that the estimated coefficients of the model were jointly not equal to zero. The p-value of the F-statistic was less than 0.05, which revealed that the model is generally significant and that at least some of the model predictors significantly influenced the change in attitude as a result of exposure to the digital paintings. The model generated from the results is given by the equation below:

$$Y = 79.665 - 10.267X_3 - 30.799X_4 - 6.888X_6 + \varepsilon$$

The table also detailed the coefficient estimates of the model predictors. The results showed that the male sexual offenders' ratings of the style of painting ($\beta = -10.267$, $t = -2.062$, $p\text{-value} = 0.042$), the colour scheme of the paintings ($\beta = -30.799$, $t = -4.883$, $p\text{-value} = 0.000$) and the more frequently viewed paintings ($\beta = -6.888$, $t = -2.541$, $p\text{-value} = 0.013$) significantly influence the change in their attitudes.

5.4 Interpretation and the Discussion of Findings

The study, while examining the effect of exposure to digital paintings on attitudes of male sex offenders found that exposure to the digital paintings significantly improved the male sex offenders' attitude scores. Improvements were found for the general attitudes to offending (G- scale), anticipation of re-offending (A-scale) and evaluation of crime as worthwhile (E-scale). No significant effects were found for victim hurt denial (V-scale) and perception of life problems (P-scale). The study further found that only certain attributes of the digital paintings influenced this change. From the results of the regression analysis, the model considered surrealist style, polychrome colour schemes and exposure frequency as the key components which influenced the improvement in attitude scores. Only family based themes were considered having posted p- value statistics less than 0.005.

To use Ordinary Least Square (OLS) as a regression technique in fitting the model and reliably depend on the estimates as reliable effects on post exposure attitude scores, the analysis requires that the diagnostics on the model assumptions on which OLS is based be met. Without meeting the assumptions, the model fitted based on OLS cannot be considered as a reliable estimation of the factors influencing the change in attitude scores. The OLS models are fitted based on the classical linear regression assumptions about the residual model term and the predictor variables (independent variables). The residual term is the variance of the attitude change that is caused by other factors which were not considered in this study. The residuals are generated as the difference between the model estimate of the attitude change and the actual attitude change.

A number of assumptions were tested for the regression models fitted. First was the normality of the residual term, which is an assumption that the model residuals follow a normal distribution and are not skewed. The study additionally tested the homoscedasticity of the residual term which is an assumption that the model residuals are homogeneous i.e. have a constant variance. The Breusch-Pagan test for homogeneity of variance returned a p value greater than 0.05 indicating that the model residuals did not exhibit heteroscedasticity but were homoscedastic, hence the model met the homoscedasticity assumption.

Non-autocorrelation of the residual term, which is an assumption that the cases for each respondent are independent of other cases and have no correlation with the other respondents was also tested. Finally, the study tested non-multicollinearity of independent variables in the model which is an assumption that the predictor variables are all independent of each other and do not have linear relationships with each other. Various

statistical techniques were used to test and diagnose each assumption and to confirm with statistical significance that the regression models fitted met the assumptions for the reliability of the model estimates.

The non-multicollinearity of the model predictors was assessed by generating the variance inflation factors (VIFs) of each predictor. Multicollinearity that is not desired is attributed to high variance inflation factors which are above 2. Since all the VIFs were less than 2, it implied that the models fitted exhibited non-multicollinearity and thus the assumption was not violated. Following the presentation of the model diagnostics, which confirmed that the regression analysis of the model fitted, met all the assumptions of linear regression based on OLS, the results from the regression models fitted depicting the effects of the factors on attitudes towards crime were presented and considered reliable estimates of the model. The models as presented depicted the analyses which were carried out for each dimension of attitude that was affected by exposure to digital paintings as reported in chapter 4. The results presented for each dimension included the presentation of the R-square which is a measure of the variance in attitudinal scores explained by the factors included in the model.

The results of the model predictors showed that the p-value of the t-statistics of coefficient estimates for painting style, colour scheme and exposure frequency were less than 0.05. The format of exposure, the test order, and the ratings of the painting themes all had p-values greater than 0.05 and were therefore considered insignificant in the models applicable to digital paintings for general attitudes to offending, anticipation of re-offending and evaluation of crime as worthwhile. However, only family based themes under evaluation of crime as worthwhile with p value statistics less than 0.005 were

considered in the model. The model was therefore fitted for the attitude outcomes as affected by exposure to digital painting themes, style, exposure frequency and family themes.

For many years, the theoretical understandings of sexual offending have considerably been based on the clinical observations Jewkes (2012). New developments suggest that there is a need to move beyond some of the models that have dominated the field of offender rehabilitation including the Risk-Need Responsivity model (Andrews, Bonta & Hoge, 1990) and the Good Lives Model (Ward & Gannon, 2006). Other theoretical perspectives need to be embraced, including the contribution of multi-disciplinary models in the rehabilitation of sexual offenders. Out of the desire to emphasize the place of visual arts and its interrelatedness to the focus on the attitudes in offender rehabilitation, this study proposed an additional model.

A series of regression analyses were conducted on the study constructs and a multi-factor model was hypothesized based on the findings of the study. The model showed the output for the attributes of digital painting which resulted in the improved attitude scores. The model further indicated the length and frequency of exposure which was deemed effective for RSVP and the exhibition formats of exposure. According to the model constructs, surrealist paintings, polychrome colour schemes and themes expressing the consequences of sexual crimes on the offender's family led to improved attitude scores in general attitudes to offending (G-scale), anticipation of re-offending (A-scale) and evaluation of crime as worthwhile (E-scale). The cognitive dissonance theory (Festinger, 1957) explains this as the output of the reduced dissonance and the inclusion of the new cognitions consistent with the content of the digital paintings. The proposed model presented a clear

connection between the inputs (surrealist style and polychrome colour scheme which form the digital paintings), process (Exposure by RSVP and exhibition) and the output (improved attitude scores).

As proposed by Andrews, Bonta and Wormith (2011) in one of the principles of the Risk-Need Responsivity model which is considered effective in reducing re-offending for difficult groups like sex offenders, the model developed in this study considered that the mode and style of intervention fitted the sex offenders' abilities and environment. The use of simplistic images ensured that participants related to the digital paintings and processed the information in subsequent stages as proposed by Leder et al.'s (2004) model of aesthetic appreciation.

Regarding the explanatory power of the model, the coefficient of determination (R-square) shows that 47.7% of the variation in the improvement for G-scale (general attitudes to offending), 27.5% for A-scale (anticipation of re-offending) and 48.6% for E-scale (Evaluation of crime as worthwhile) is explained by the variation of predictors in the regression model. This suggests that if the model predictors are changed, it can be generalized to another population.

The model constructs suggested that voluntary enrollment, active participation and the successful completion of the intervention program in this study conform to the signaling perspective model, which has important implications for prison art programs and outlines these as indicators of desistance trajectory by offenders (Bushway & Apel, 2012). One art intervention model proposed by Shenaar-Golan and walter (2018) suggested that art intervention activities in group settings sharpen the conscious and unconscious processes. Although the art intervention model by Shenaar-Golan and walter (2018) was intended for

teaching group work using art, the model in this study focused on improving attitude scores for male sexual offenders using an art based intervention.

5.5 Summary of the Chapter

There is a considerable need to undertake more research to deepen the understanding of sexual offending in a broader range of settings. Comparative methodologies are needed to enable the study and the comparison of attitudinal factors as related to sexual offending. The proposed model concludes that the exposure to digital paintings affects attitudes. The model further postulates that a change in attitude scores is a function of painting style, colour scheme, and exposure frequency. In using digital paintings with sex offenders, consideration should be given to surrealist style and polychrome colours which proved to have more effect on attitudes G -scale (general attitude to offending), A-scale (anticipation for re-offending) and E- scale evaluation of crime as worthwhile.

CHAPTER 6: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the summary of the study findings. It further presents the conclusions, implications of the findings and the recommendations based on the analysis of results.

6.2 Summary of Study Findings

The Key findings of the study are summarized in relation to the response rate and the offenders' attitudes before and after exposure to digital paintings. Also presented is the summary of findings on sex offenders' responses to the digital paintings illustrating the consequences of sexual crimes as well as the recommended model for utilizing digital paintings for fostering negative attitudes towards sexual crimes among male sex offenders.

6.2.1 The Response Rate

This study sought to investigate the effect of exposure to digital paintings on male sex offenders' attitudes towards sexual crimes. The digital paintings utilized for the study illustrated the consequences of sexual crimes on the offender, the victim and the offender's family. The study targeted convicts of rape and defilement in Nairobi West Prison, aged between 18-45 years. Of the 61 participants sampled, only 57 were able to participate fully in the entire process of the study. Four targeted participants were unable to fully participate and were therefore removed from the study, resulting to a response rate of 93.44% which is considered adequate by Edward et al. (2002) who argued that a response rate of below 60% is considered poor while that of up to 60%, 80% and above are adequate. According to Akinci and Saunders (2015) higher response rates provide greater credibility to the value of research findings.

There were cases of random missing information from a few of the questionnaires filled by the retained 57 respondents; however, none of them was deleted. With less than 10% of the missing information from the few questionnaires, the proportion was considered too low as a proportion of the entire set of information required hence were retained. According to Cohen et al. (2003), a threshold of below 10% of the missing information of all the required information is not considered a large amount of missing data to require deletion of the cases. The elements of missing in the data set after entry was observed to be due to missing at random cases (MAR) thus multiple imputation was employed for data cleaning and to ensure the completeness of the data. Missing at random (MAR) cases in dataset refers to the scenarios of systematic dependence of the missing cases on the observed data but not on other missing information which can be cleaned using multiple imputation (Young & Johnson, 2015).

The first objective of the study sought to assess the male sex offenders' attitudes towards crime before intervention by exposure to the digital paintings. Crime Pics II scale was applied to identify the attitudes that require attention and areas which presented problems for the sexual offenders. Crime Pics II scale, a self-report instrument for assessing offending-related attitudes has been proven to have good internal consistency and test-retest reliability, as well as evidence of construct, concurrent, discriminant, and predictive validity in studies by Williamson et al. (2018). Findings in studies which have utilized Crime Pics II scale after a treatment (McDougall et al., 2009; Sadlier, 2010) suggested positive impact on the participants' attitudes.

6.2.2 Male Sex Offenders' Attitudes before Exposure to Digital Paintings

The study presented attitude scores before the commencement of intervention by exposure

to digital paintings. A higher score in each of the Crime Pics II correlates represents higher offending-related attitudes and problems, while a lower score represents lower or reduced offending related attitudes. At pretest, the study found that G- scale (general attitudes to offending) had an attitude measure of 6.921, A-scale (anticipation of reoffending) 8.281, V- scale 4.9825(victim hurt denial) and E- scale (evaluation of crime as worthwhile) 3.982. A Problem inventory (P- scale) used to measure offenders' views towards life problems had a measure of 8.877 at pre-test.

On the problem inventory, the majority of the respondents identified three issues as a big problem. Poor parenting was a leading problem with a percentage of 85.96 of the male sex offenders under study. Negative media influence was also reported as a big problem by 68.42% of the respondents. Other issues that featured prominently as big problem were poverty (66.70%) and lack of self-control (66.67%). Poor judgment, peer pressure and lack of knowledge on sexual offence laws were all reported as big problems by 63.16% of the respondents. In looking at factors that led to offending, respondents in this study reported alcohol and substance abuse (39.02%) as the main cause of offending, supporting statistics in the problem inventory. Hostility (17.09%) and self-gratification (17.05%) were also reported as key factors leading to offending.

6.2.3 Male Sex Offenders 'Responses to Digital Paintings based on the different Formats of Exposure

The participants were exposed to digital paintings under two conditions; namely Exhibition Viewing and projection in Rapid Serial Viewing Presentation (RSVP) respectively. The study findings showed that majority of the participants (91.07%) had no training or art experience prior to participation in the study, while only 8.93% had some prior experience in art. Digital paintings were rated on measures such as visual impact, tonality, content and

meaning, compositional clarity and emotional impact. The study found that most of the respondents had higher preference for polychrome paintings as compared to monochrome paintings. Polychrome paintings were rated highest in all aspects with visual impact recording the highest mean, while monochrome paintings rated lowest across all measures. Higher ratings were also registered for surrealist paintings, with visual impact scoring highest among other aspects. The study further found that themes touching on the offender were rated highest across all the measures with the highest rating on visual impact, while victim related themes scored lowest in most aspects except for content and meaning.

The study also registered higher ratings for digital paintings which were exposed at higher frequencies as compared to the six (6) paintings introduced only once at the rating phase in both formats of exposure. The delay periods introduced between the presentations of digital paintings were found to raise the participants' anticipation for the subsequent sessions. The brief exposure sessions lasting 35 minutes for the exhibition participants and 20 minutes for the participants in RSVP and a period of delay between the presentations were found to result in stronger exposure effects. The study however found no significant difference in the mean responses between the participants in the exhibition and RSVP. The findings suggest that the format of exposure used had no significant effects on the male sex offenders' responses to digital paintings.

6.2.4 Post Test Attitudes of the Male Sex Offenders

The study participants were subjected to two posttests after exposure to digital paintings. The first posttest was conducted immediately after the last viewing session, while the second one was conducted two weeks after. The study found significant improvement in the male sex offenders' attitudes towards sexual crimes after exposure to the digital

paintings following two posttests. The study also found that exposure of the male sex offenders to digital paintings illustrating the consequences of sexual crimes had a significant effect on their attitudes towards sexual crimes regardless of the format of exposure used. Minimal difference was found in the post-test assessment averages with post-test 2 averages slightly lower than the post-test1 averages suggesting the sustainability of attitude improvement (effects) long after intervention. Despite these findings, statistical tests showed no significant difference in the V scale (victim hurt denial) scores between pretest and posttests. Exposure to the digital paintings also had no significant effect on the offenders' perceptions towards life problems with statistical tests showing minimal changes in the pretest and the posttest scores across the groups of participants.

6.2.5 The Model for Utilizing Digital paintings to Foster Negative attitudes Towards Sexual Crimes Among Male Sex Offenders

A regression analysis was carried out to project the relationship between the independent and dependent variables. The study findings identified surrealist style and polychrome colour schemes as having impacted greatly on the male sex offenders' attitudes towards crime. The exposure frequency was also found to result in the positive evaluation of the paintings, thereby influencing attitudes. The study however found that only three measures of attitude were affected by the exposure to digital paintings. These are G- scale (general attitudes to offending), A- scale (anticipation of reoffending) and E- scale (evaluation of crime as worthwhile).

Consequently, the study proposed a model for fostering negative attitudes towards sexual crimes among the male sex offenders after exposure to digital paintings which illustrate the consequences of sexual crimes. The model was presented in three levels, the first one

presenting the components of digital paintings that affected male sex offenders' attitudes, namely the surrealist style and the polychrome colour schemes. The second level presented the exposure concept with exposure frequency and duration playing key roles creating a positive evaluation of the digital paintings. The last level of the model showed improvement in attitudes at G-scale (general attitudes to offending), A-scale (anticipation of re-offending) and E-scale (evaluation of crime as worthwhile).

6.3 The Conclusion

The purpose of this study was to investigate the effect of exposure to digital paintings on male sex offenders' attitudes towards sexual crimes within the context of a quasi-experimental study. The study concluded that before intervention, attitude scores of the participants were high. This implied that there was a greater identification with the attitude indices under study. This raised the need to explore the utilization of arts in order to supplement the rehabilitation programs in Kenya prisons.

Visual art offers a good platform through which sensitive and emotional topics related to sexual offending can be discussed because it allows the viewer to become emotionally involved and memories from visual stimuli are maintained over longer periods. In selecting themes for digital paintings for use with sex offenders, the study found the importance of considering the type of content and the age of the offender in order to gauge whether exposure to such artwork would be beneficial. This helped the current research to achieve relevance.

The study found that repeated confrontation with digital paintings led to increased liking and appreciation of the messages portrayed. This study assessed the effect of exposure as measured in a more natural setting and focused on mere exposure as indexed by the

frequency with which the digital paintings appeared on display. The delay periods between exposures were found to lead to stronger effects with raised interest and anticipation for future sessions in the participants

More significantly, the study found that participation by simply viewing an artwork, resulted in improved attitudes among the participants. This contributes to the literature on art participation and confirms the place of nominal participation as a possible method that can be used, when time and resources do not allow for active collaborative participation. The study however found no significant difference in the male sex offenders' responses to digital paintings based on exposure by exhibition and Rapid Serial Visual Presentation.

While the overall results indicate that the sex offenders responded positively to the digital paintings, higher ratings were found for paintings with higher exposure frequencies. Surrealist and polychrome paintings were also rated highly with significant effects found for visual impact and emotional impact in all digital painting categories. The style of rendering the digital paintings and colour were found to have more effect on the attitudes than the themes of the paintings. Themes touching on the offender and offender's family were found to be highly arousing. Judging the artwork independent of its function to attitude, victim related themes reported to be highly arousing did not influence the way most respondents felt about the victim. Although most participants had no experience of art before participating in this study, their responses provide an insight to scholars seeking to use visual arts and in particular digital paintings in rehabilitating offenders.

The novel result of the study was that the male sex offenders' attitudes improved following exposure to the digital paintings illustrating the consequences of sexual crimes. The study findings suggest interdependency between improved attitude scores and exposure to digital

paintings. Detailed analyses for each domain found significant improvement in general attitudes to offending, lower anticipation for re-offending and a lower evaluation of crime as worthwhile. The presents study expands on previous research and literature on art based offender rehabilitation by focusing on the use of digital paintings in rehabilitating sex offenders.

A further common place is that attitude has cognitive, affective and behavioral components and it is a response to stimulus. The study therefore held that a positive response to information in the digital paintings was deemed as important in securing an improvement in attitudes towards crime. This according to the Cognitive Dissonance theory involved reducing dissonant attitude by embracing information that supports the new attitude. These results appear to support prior studies which suggest that participation in art is beneficial in offender rehabilitation. This study also converges with attitudinal evidence of the positive effects of repeated exposure to visual stimuli

The findings demonstrated positive and measurable attitudinal changes across a range of indices. The findings of this study have provided a blueprint for further interdisciplinary research between the arts and justice sector and by extension informing decisions regarding the design, development and the delivery of best-practices for visual art interventions throughout the prisons in Kenya.

In conclusion, this study presents a strong case for the utilization of digital paintings and visual arts in general in sex offender rehabilitation in Kenya.

6.4 The Recommendations of the Study

The current study was intended to provide an understanding of attitude related the effects of exposure to visual arts and in particular digital paintings. Recommendations are drawn for future research and for policy implementation by Kenya Prisons

6.4.1 General Recommendations

The first recommendation and the main contribution of the study to knowledge is a model for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders. Figure 6.1 presents the model recommended based on the findings of the study.

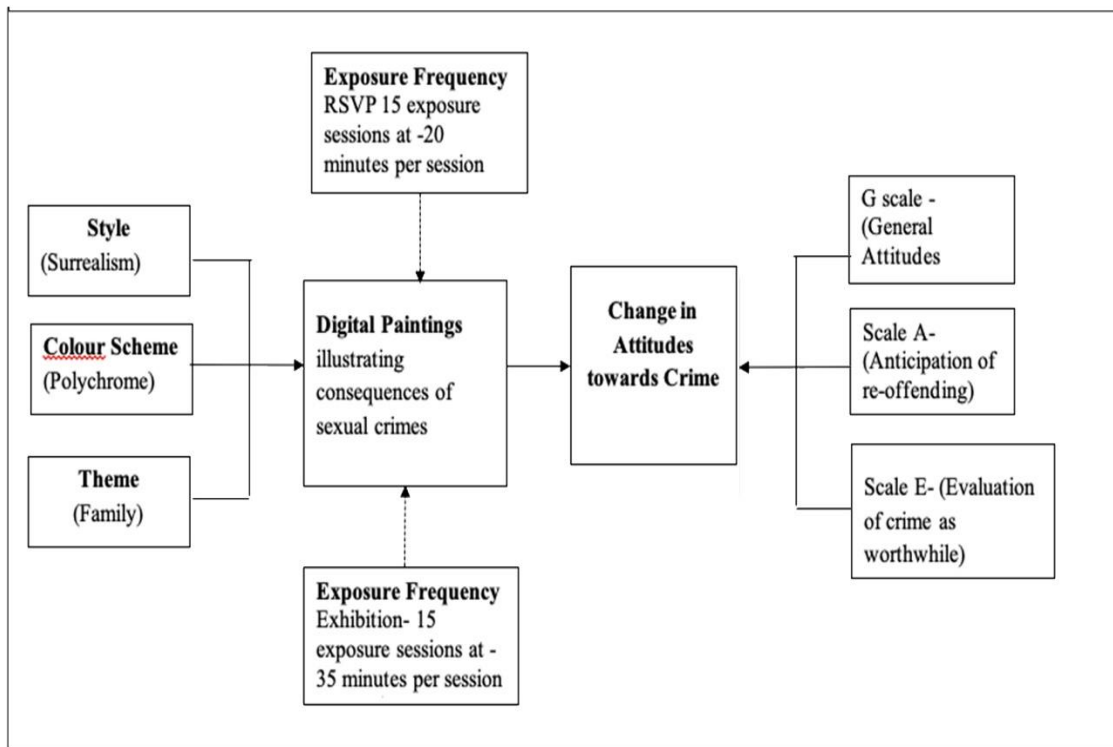


Figure 6.1: Model for utilizing digital paintings to foster negative attitudes towards sexual crimes among male sex offenders

Source: Researcher's Design (2020)

The model illustrates the key factors to consider when selecting the digital paintings for use in a study. The attitude effects of exposure to art, including the exposure frequency, the exposure duration and the responses emanating from analysis and the evaluation of the art work are also presented. In the recommended model, three items serve as indicators of digital paintings which affect the attitude measures following higher exposure frequencies. The model suggests that exposing male sex offenders to surrealist paintings, polychrome colour schemes and themes expressing the consequences of sexual crimes on the offender's family are likely to lead to improved attitude scores which signify a change in attitudes. The model also presents the response variable identified as the three attitude measures affected by exposure to the digital paintings. These include the improved scores for general attitudes to offending (G- scale), anticipation of re-offending (scale) and evaluation of crime as worthwhile (E-scale).

The exposure frequencies represent the intervening variable. Brief repeated exposures of up to 15 sessions increase chances of appreciation and favourable responses to the digital paintings. To reduce the chances of boredom, the exposure sessions should be kept brief at 20 and 35 minutes for RSVP and exhibition participants respectively. The arrows linking the variables imply a hypothesized direct effect between the variables. The study recommends the use of this model by other scholars seeking to use digital paintings for offender rehabilitation.

The study also recommends the use of polychrome surrealist paintings with offenders aged between 18-45years. In addition, the study recommends repeated exposures with brief durations and breaks in between exposure sessions for maximum effect.

Finally, the research findings can be used in policy evaluation and subsequent policy improvements within the justice sector.

6.4.2 Recommendations for policy implementation

An accurate measurement of an offender's attitudes towards crime could be used to help criminal justice professionals identify the critical factors in rehabilitating offenders and provide corresponding services to overcome offensive attitudes.

Clear policy guidelines for art based rehabilitation programs for sex offenders in prisons in Kenya should be drawn by the ministry of Interior. These policy guidelines could provide direction for researchers and practitioners working on offender rehabilitation programs in relation to the type of artistic engagements that work best, under what conditions and types of setting and with what category of offenders.

Policy implementation could focus on training prisoner artists on production of visual art material with a special focus on changing attitudes and behavioural tendencies of offenders. The prison rehabilitation departments could also collaborate with institutions of higher learning in order to benefit from research work and knowledge that can supplement their rehabilitation efforts.

6.4.3 Areas of further research

The findings of this study could inform future research studies intending to use visual arts in offender rehabilitation by exploring a number of directions. To generate more insights, further studies should manipulate specific contextual features to explore other consequences of sexual crimes not covered in this study.

If visual art exposure by passive viewing has been shown to improve attitudes towards crime, it may be beneficial to try exposure by active participation where offenders take part in production of the art work. Comparative studies should be carried out using different participatory approaches in arts.

Future research could pursue the utilization of other forms of visual arts as a tool for practitioners to improve offending related attitudes among other types of offenders. It would be beneficial to know whether repeated exposure to digital paintings could benefit juvenile and female sex offenders or male and female offenders convicted of other crimes.

Post-test measurements were only taken upon completion of the art exposure sessions and two weeks after. Due to the short duration of the study and restricted access to the prison, it was not possible as part of this study to report fully on participants' sustained attitudinal changes over longer periods of time. This gap is worthy of attention in a future research study. Future studies need to follow-up participants and ascertain whether attitude improvements arising from repeated exposure to digital paintings can be sustained for longer periods of time.

Despite the ever-growing scholarly interest in crime desistance after release from custody, there is very little information on the impact, if any, that rehabilitation programs in Kenya may have on participants after release from prison and are faced with the multifarious challenges upon re-entry into the community. It may be of interest for future studies to explore the effects of exposure to digital paintings beyond the period of imprisonment.

The inclusion of pre- and post- testing is an indicator of good practice in program delivery,

however, the scores for the V scale (Victim hurt denial) were lowest at pre and post -test score across the four scales and showed no significant change. This observation supporting the possibility of future research on how attitudinal impact related to this attitude measure could be improved.

Future research may also need to focus on life problems as issues that lead to offending. In particular, for the sexual offenders in this study, poor parenting, alcohol and substance abuse which were listed as major problem areas may be of interest in research touching on sex offenders.

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APPENDICES

Appendix A : Interview Schedule for the Artist

Dear Sir/ Madam,

This interview schedule aims at gathering information on your understanding of the type of Art work required for this research. All information provided in this process will be treated as confidential and used for research purposes only.

1. What is your name?
2. How long have you practiced as a painter?
3. Is the information on the expected content of the artwork for this research clear to you?
4. Explain your understanding of the requirements?
5. Do you have any difficulties or challenges that may interfere with your work?
6. What will be your procedure in developing the digital paintings?
7. How do you intend to make your message clear to the audience?
8. What other considerations will you make in the process of developing the digital paintings?
9. What should the Audience expect from your production?
10. As a digital painter, explain the technical aspects involved in producing the work?

Appendix B: Focus group discussion Offenders

To the respondent,

This questionnaire is used for academic purposes only. The researcher seeks to collect data on effects of Mere Exposure to digital paintings on male sex offenders' attitudes towards sexual crimes. Provision of the required information is voluntary and your anonymity as a respondent is assured. Please answer all questions as candidly as possible using a (√) or by giving your opinion where applicable.

Thank you.

Respondent's Research Identification Number

--

Part 1: Demographic Information

(Please indicate your response by ticking (√) where applicable)

1. Age category

18-24 years	25-30 years	31-35 years
36-40 years	41-45 years	

2. Marital status

Married	Single
Divorced	Widowed

3. Highest Level of Education

Primary	Secondary
College certificate	University graduate

Postgraduate studies	Other(Specify)
----------------------	-----------------

4. Do you have any child/ children?

Yes	No
-----	----

5. State your occupation before imprisonment?

Student	Employed
Self -employed	Unemployed

Other Specify.....

6. Indicate your upbringing

both parents	Single parent
Step parents	Relative
Orphanage	Street child

7. Did you receive guidance and advice against criminal behavior from your parents or guardian as a child?

Yes	No
-----	----

8. Please specify whether you have been imprisoned for any criminal offence before

Yes	No
-----	----

9. If yes, please specify the number of times you have been imprisoned

Once	Twice
------	-------

Thrice	Other (Specify).....
--------	----------------------

10. Please specify whether you have been convicted for sexual offence before

Yes	No
-----	----

11. If yes, please specify the number of times you have been convicted of sexual offence

Once	Twice
Thrice	Other (Specify).....

12. Specify the type of sexual offence for which you have been convicted

Defilement	Rape
------------	------

13. Please specify the duration in years of sentence you were handed for the current conviction

14. Please specify the age of the victim you offended

Child below 10 years	Child 11-17 years	Adult 18-25 years	Adult above 25 years
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15. Identify any factors that led you to commit the specified offence

1.	Revenge
2.	Anger
3.	Hostility
4.	Self-gratification

6.	Show of control over victim
7.	Drug influence
8.	Exploiting opportunity

Other Specify.....

16. Indicate your Expected Possible Date of Discharge (EPDD)

...../...../20.....

Part 2: Instrument for Determining Sexual Offenders' Attitudes towards Sexual Crimes

	To what extent do you agree or disagree with the following statements?	1 -Strongly Disagree	2 -Disagree	3 -Neutral	4 -Agree	5-Strongly agree
S1	Sexual offence is a serious issue.					
S2	Sexual crime has no serious effects on the victim					
S3	I definitely will not commit a sexual crime in future					
S4	I now hate sexual crimes following my imprisonment					
S5	Sexual offence restores self esteem					
S6	Feelings of low self-worth because of my conviction cannot deter me from future offending					
S7	I don't see myself as real criminal					
S8	Increased social rejection will deter me from offending					

S9	There is no justifiable reason for re-offending					
S10	sexual crimes are totally unacceptable					
S11	There is exaggerated social stigma surrounding sexual crimes					
S12	I worry about missing employment opportunities in future because of conviction for sexual crime					
S13	Victims of sexual crimes should always report to the police after criminal attack					
S14	Sexual crimes pose a security threat in society					
S15	I am not affected by separation from my family					
S16	Being tagged as a sexual offender does not really bother me					
S17	I do not have to feel remorse over sexual crime(s) committed					
S18	Victims should understand that sexual offenders have no control over the crimes committed					
S19	Time served in prison could change the way I view sexual crimes					
S20	I deserve the sentence I was handed					

Part 3: Perception of Current Life Problems (Please tick (√) where applicable)

	Current life problems are perceived to lead to sexual offending. Rate the extent to which the following are/ were a problem to you:	1- A big problem	2-A problem	2- Small problem	4-No problem
1	Lack of knowledge on law of sexual offences				
2	Poor parenting				
3	Dysfunctional family unit				
4	Poverty resulting from unemployment				
5	Illiteracy/ lack of education				
6	Peer pressure				
7	Negative influence of media and technology				
8	Alcohol and substance abuse				
9	Lack of self-control				
10	Being idle				
11	Lack of guidance and counseling				
12	Deprived neighborhood				
13	Income disparity and inequality				
14	Poor judgment				
15	Lack of proper role models				

If you have any comment or issue you feel is particularly important, please use this section of the questionnaire for your comments.

Thank you for your participation and cooperation.

Appendix C: Art Response Questionnaire for Offenders

Respondent's Research Identification Number

Part 1: Response to Digital Paintings

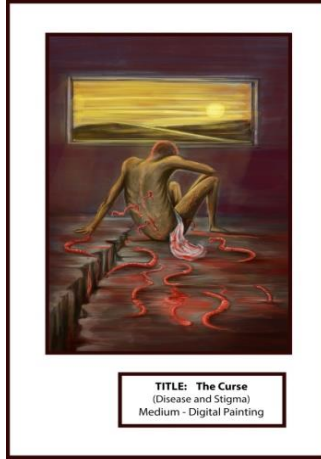
Please rate your agreement on the following statements relating to the Digital paintings.

	To what extent do you agree with the following Statements on Digital Paintings	1-Strongly Disagree	2-Disagree	3-Neutral	4-Agree	5-Strongly Agree
1	The intention of the artist is in illustrating the consequences of sexual crimes through digital paintings is clear					
2	Knowledge that has been shared through Digital Paintings is useful to me					
3	Digital Paintings have touched me positively					
4	The viewer is able to connect with the digital paintings well					
5	Information in the Digital Paintings has improved my understanding of consequences of sexual crimes					
6	The new visual experience provided by the art work is good					
7	The Digital paintings are easy to interpret					
8	Emotional provocation by the art work makes me regret my actions					
9	Digital paintings provide an easy means of dialogue on consequences of sexual offences					
10	The digital paintings express the magnitude of sexual crimes					
11	The digital paintings are captivating					
12	The paintings cause feelings of guilt					
14	The digital paintings are aesthetically appealing					
15	The digital paintings maintain my attention					
16	The digital paintings communicate consequences of sexual offending effectively					

Part 2: Image Rating for Digital Paintings

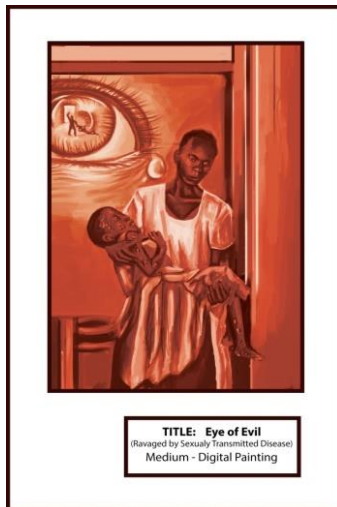
Please rate the artwork by ticking (✓) where applicable

1



RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2



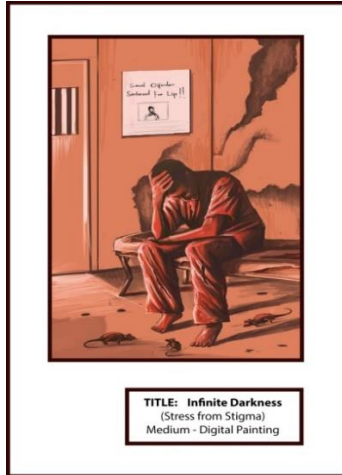
RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3



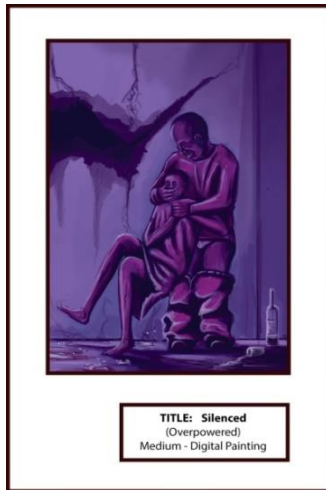
RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4



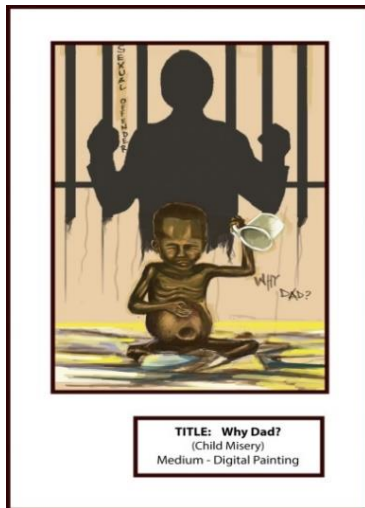
RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5



RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6



RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

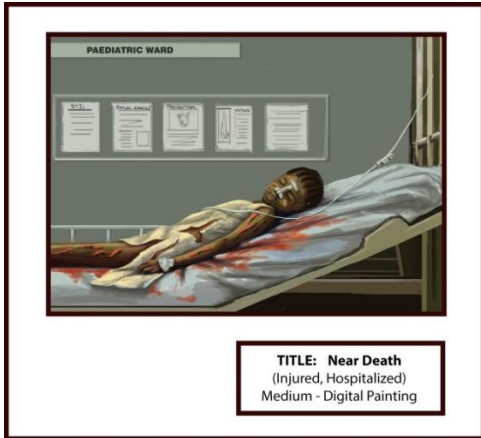
7



TITLE: Wrath of Justice
(Public Shaming)
Medium - Digital Painting

RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8



TITLE: Near Death
(Injured, Hospitalized)
Medium - Digital Painting

RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

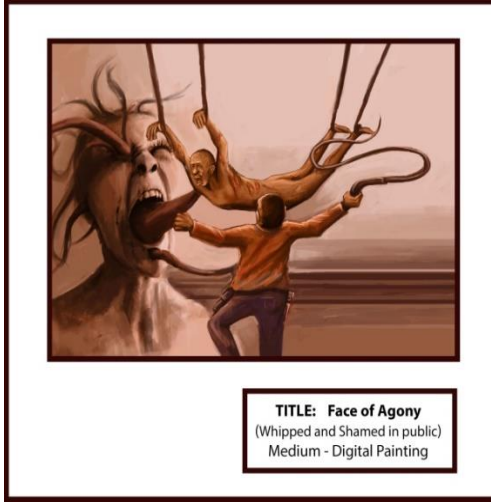
9



TITLE: Dead End
(Dreams Shattered)
Medium - Digital Painting

RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10



RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11



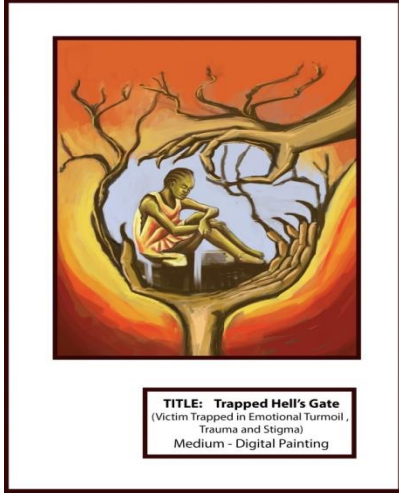
RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12



RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

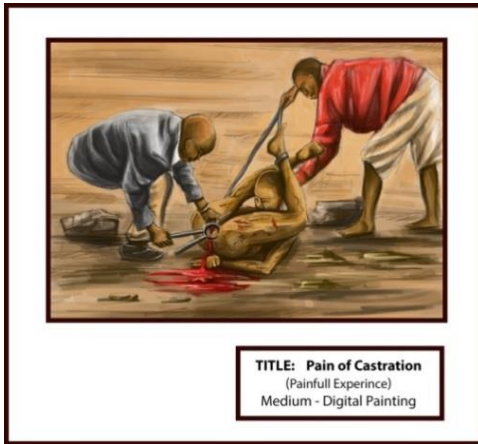
13



RATE THE PAINTING

	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

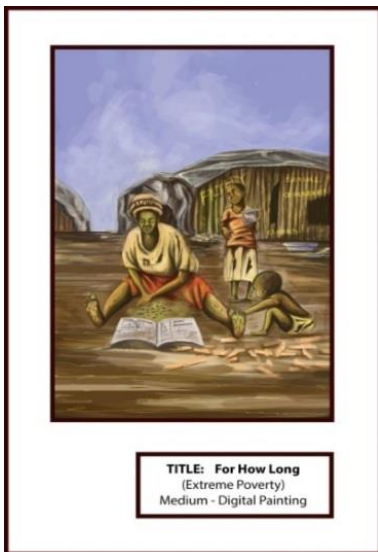
14



RATE THE PAINTING

	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15



RATE THE PAINTING

	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16



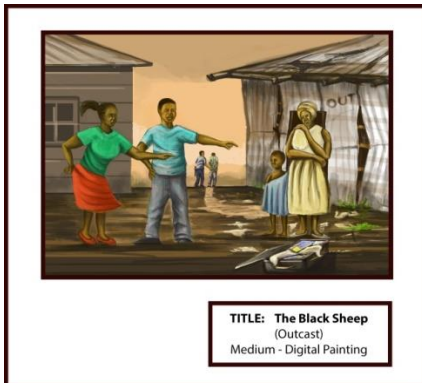
RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17



RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18



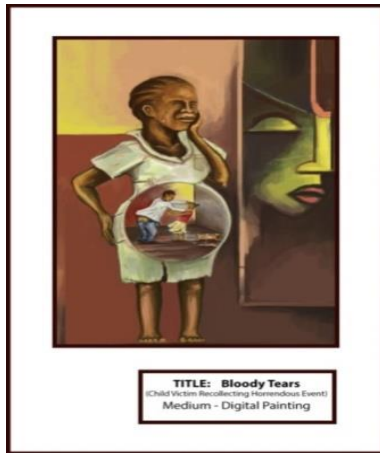
RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19



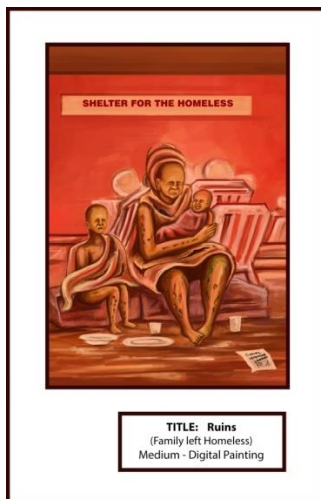
RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20



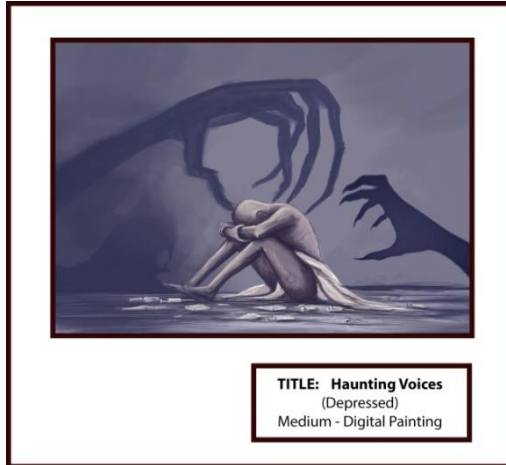
RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21



RATE THE PAINTING					
	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

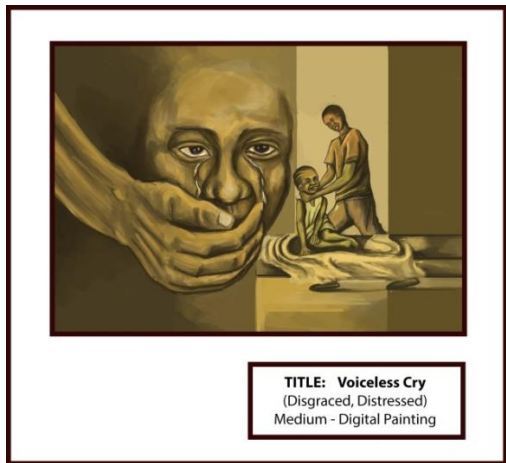
22



RATE THE PAINTING

	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

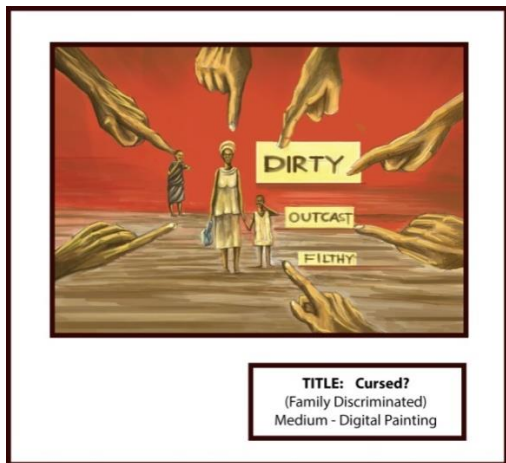
23



RATE THE PAINTING

	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24



RATE THE PAINTING

	Very Good	Good	Neutral	Bad	Very Bad
Visual Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content & Meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compositional Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part 3: Ratings for theme, style and colour schemes.

Please indicate your preference for the following:

1. Polychrome paintings

- No at all Very low liking Low preference High preference Very high preference

2. Monochrome Paintings

- No at all Very low liking Low preference High preference Very high preference

3. Realist paintings

- No at all Very low liking Low preference High preference Very high preference

4. Surrealist paintings

- No at all Very low liking Low preference High preference Very high preference

5. Themes relating to effects of crime on offender

- No at all Very low arousal Low arousal High arousal Very high arousal

6. Themes relating to effects of crime on offender's relations

- No at all Very low arousal Low arousal High arousal Very high arousal

7. Themes relating to effects of crime on victim

- No at all Very low arousal Low arousal High arousal Very high arousal

8. To what extent did the digital paintings change your views towards sexual offending?

- No at all minimally Average Very much

9. Would you recommend the use of digital paintings with other offenders not participating in this study?

- No at all Not sure Yes

10. State whether you have any art training/ experience?

- No Yes

If you have any comment or issue you feel particularly important in the context of Mere Exposure to Digital Paintings, please use this section of the questionnaire for your comments

Thank you for your participation and cooperation

Appendix D: Focus group discussion Offenders

Facilitator's welcome, introduction and instructions to participants

- How do you feel about sexual offending?
- Do you feel sorry for the victim?
- What challenges did you experience while growing up?
- Do you think society understands sexual offenders?
- Do you think the sentence handed to sexual offenders is just?
- Do you regret committing crime?
- Do you get sufficient support and programmes for sexual offenders in this prison?
- How do you feel about this programme?
- What is your opinion on the use of digital paintings in illustrating the consequences of crime?
- Which digital painting/s drew the positive/negative reaction?
- If negative, how could it be rectified?
- What do you think about introducing use of visual arts in offender rehabilitation?
- What are your thoughts on the colour use in the digital paintings?
- What are your thoughts on the styles of the digital painting?
- What theme makes you feel very bad about the crime you committed
- Did you like the mode of presentation? (Exhibition or RSVP)
- Are the digital paintings easy to understand?
- What are the barriers/ enablers to understanding messages in the digital paintings?
- Did you feel comfortable viewing the digital paintings in a group?
- How did you feel about sexual crimes before viewing the digital Paintings?
- How do you feel now after viewing the paintings?

Appendix E: Opinionnaire for Psychology Experts

Dear Sir/ Madam,

The following statements are on the attitude questionnaire for male sexual offenders

		3	2	1
		A	U	D
1	The language of the questionnaire is simple.			
2	The length of the questionnaire is appropriate for the targeted respondents			
3	The ordering of items in the questionnaire is fine			
4	Spaces provided for answering are adequate			
5	The questions in G scale purported to measure general attitude to offending are adequate			
6	The questions in A scale purported to measure anticipation for re-offending are adequate			
7	The questions in V scale purported to measure victim hurt denial are adequate			
8	The questions in E scale purported to measure evaluation of crime as worthwhile are adequate			
9	Problems included in P scale meet the purpose of the study			
10	Adequate provisions have been made for additional comments			

KEY

A- Agree (3) ; U- Undecided (2); D- Disagree(3)

Appendix F: Checklist for validity of Art Response questionnaire by Art Experts

Dear Sir/ Madam,

The following statements are on the art response questionnaire for male sexual offender

		3	2	1
		Y	Nt	N
1	Content of questionnaire is relevant to the study			
2	Placement of art work within the questionnaire is good			
3	The ordering of items in the questionnaire is fine			
4	The questionnaire interrogates the digital paintings well			
5	The art terminology used in the questionnaire is appropriate			
6	The length of the questionnaire is reasonable			
7	The questionnaire can extract useful information from the respondents			
8	The questionnaire is well ordered			
9	The instructions are clear			
10	There is adequate space provided for feedback			

KEY

Y- Yes (3); Nt- Neutral (2); Y- No (3)

Appendix G: Opinionnaire for Art Experts

Dear Sir/ Madam,

The following statements are from the opinionnaire on digital paintings produced for use in examining attitudinal effects of exposure on male sexual offenders.

		3	2	1
		A	U	D
1	Specified themes are clearly expressed in the paintings.			
2	The content of the artwork is relevant for the research			
3	The quality of the work is good in terms of use of elements are principles of art			
4	The art work communicates effectively			
5	The artist has used the specified technique and media competently			
6	The colour choice and use is appropriate for the expressions			
7	The painting styles are well executed			
8	The artwork is powerful and can capture viewers' attention			
9	The digital paintings can provide a new visual experience to the viewers			
10	The artwork can enhance understanding of the consequences of crime			
11	Psychological impact of digital paintings is strong.			
12	Emotional provocation provided by the art work is sufficient for the purpose of the study.			
13	The digital paintings simplify the understanding of consequences of crime			
14	The digital paintings produced for the study correspond to the requirements in the brief.			

KEY: A- Agree (3); U- Undecided (2); D- Disagree (3)

Appendix H: Ethics Clearance



Kenyatta University
P.O Box 43844-00100
Nairobi-Kenya

REF: KU/ERC/APPROVAL/VOL1/1

Date: 28th October, 2019

Adhiambo Benta
P.O Box 43844-00100
NAIROBI

Dear Ms. Adhiambo,

RE: APPLICATION NUMBER: PKU/2003/I1151 EFFECT OF MERE EXPOSURE TO DIGITAL PAINTINGS ON MALE SEXUAL OFFENDERS' ATTITUDES TOWARDS CRIME: A CASE OF NAIROBI WEST PRISON, NAIROBI COUNTY, KENYA

This is to inform you that **KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE** has reviewed and approved your above research proposal. Your application approval number is **PKU/2003/I1151** The approval period is **28th October, 2019-28th October, 2020**.

This approval is subject to compliance with the following requirements;

- i. Only approved documents including (informed consents, study instruments, MTA) will be used
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by **KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE**.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE** within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to **KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE** within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to **KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE**.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Judith Kimiywe', written over a horizontal line.

Prof. Judith Kimiywe

CHAIRPERSON- KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE.



Appendix I: NACOSTI Research License

REPUBLIC OF KENYA
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION
Ref No: 689420

RESEARCH LICENSE



This is to Certify that Ms. Benta Adhiambo of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: EFFECT OF EXPOSURE TO DIGITAL PAINTINGS ON MALE SEXUAL OFFENDERS' ATTITUDES TOWARDS CRIME: A CASE OF NAIROBI WEST PRISON, NAIROBI CITY COUNTY, KENYA, for the period ending : 28/November/2020.

License No: NACOSTI/P/19/2733

689420

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Appendix J: Letter of Clearance from Commissioner of Prisons

**OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL
GOVERNMENT.
KENYA PRISONS SERVICE**

Telegrams: "COMPRISONS", Nairobi
Telephone: +254022722900-6.
Email: propriprisons@gmail.com
When replying please quote



PRISONS HEADQUARTERS
P.O. BOX 30175-00100
NAIROBI

PRIS I/21 VOL.V/88

10th October, 2019

Kenyatta University
Department of Fine Art and Design
P.O BOX 43844-00100
NAIROBI

ATT: Ms Benta G.A.Ogunda-0720597870

REF: APPLICATION TO CONDUCT ACADEMIC RESEARCH

We acknowledge receipt of your letter requesting to conduct an academic research titled "Effect of Exposure to Digital Paintings on male sexual offenders Attitudes towards crime at Nairobi West Prison"

1. 26th November, 2019 - Pre-Test Experiment
2. 28th November, 2019 to 27th December, 2019 - Exposure to Digital Paintings. Three (3) sessions per week
3. 28th December, 2019 -Post Test Experiment

You are expected to adhere to the prison rules and regulations during your research period. You are also required to provide the prison headquarters with a copy of your research findings at the end of your research.

By a copy of this letter, the Officer in Charge Nairobi West Prison, is requested to accord you the necessary assistance during your research period.

D.O. OGORE, ndc (K), OGW, DCP
FOR: COMMISSIONER GENERAL OF PRISONS
CC
RC Nbi
Officer In Charge Nairobi west prison

Appendix K: Consent Form for the Participants

CONSENT FORM FOR PARTICIPANTS

My Name is Benta Grace Adhiambo. I am PHD student from Kenyatta University. I am conducting a study on "Effect of Exposure to Digital Paintings on Attitudes towards Crime Among Male Sexual Offenders in Nairobi West Prison, Nairobi City County". The information will be used by the Ministry of Interior and Coordination of National Government to supplement existing rehabilitation programs in Male prisons in Kenya.

Procedures to be followed

Participation in this study will require that fill some questionnaires and also view a display of digital paintings illustrating the consequences of sexual crimes on the offender, offender's family and the victim. The questionnaires will be filled before and after viewing the digital paintings.

You have the right to refuse participation in this study. You will be subjected to the same treatment whether you agree to join the study or not and your decision will not change the treatment you will receive from the prison officers in Nairobi West Prison.

Please remember that participation in the study is voluntary. You may ask questions related to the study at any time.

You may refuse to respond to the questionnaires and you are at liberty to withdraw from the study any time without any consequences to the treatment you receive from officers in Nairobi West Prison or other organizations now or in the future.

Discomforts and risks

Some of the questions you will be asked are sensitive and may be embarrassing or make you uncomfortable. If this happens, you may refuse to answer these questions if you choose so. You may also experience discomfort when viewing some of the paintings. You are allowed to refrain from viewing in case this happens. The study sessions may interfere with your regular routine.

Benefits

If you participate in this study you have a new experience with digital paintings illustrating how sexual crimes affect the offender, the offender's family and the victims. The information gathered will also supplement existing rehabilitation programs in Kenya Prisons and help change the way sexual offenders view sexual crimes.

Reward

If you agree to participate in this study, a certificate of participation will be presented to you.

Confidentiality

The study session will be conducted within the premises of Nairobi West Prison. Questionnaires will be answered privately without consulting or discussing with other participants. Where need be, assistance and interpretations will be provided by the researcher and research assistants in confidence. You will be provided with a participant identification number and your name will not be recorded on the questionnaire. The questionnaires will be kept in a locked cabinet for safe keeping at Kenyatta University. Everything will be kept private.

Contact information

If you have any questions you may contact Dr. George Vikiru- (Supervisor 1) On 0733725604 or Dr. Christine Wasanga – (Supervisor 2) On 0721 355108 or the Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke

Participant's statement

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that I will be subjected to the same treatment by prison Officers at Nairobi West Prison whether I decide to leave the study or not and my decision will not be used to disadvantage me at any other time.

Code of participant.....

.....

Signature or thumb print

.....
Date

Investigator's statement

I, the undersigned, I have explained to the volunteer in a language he understands, the procedures to be followed in the study and the risks and benefits involved.

Name of Investigator.....

.....

Investigator's signature

.....
Date

Appendix L: Pre-Test Perception on Life Problems

	No problem	Small problem	A problem	A big problem	Mean	Std. dev
Poor parenting	0.00%	0.00%	14.04%	85.96%	3.860	0.350
Dysfunctional family unit	7.02%	3.51%	31.58%	57.89%	3.404	0.863
Poverty resulting from unemployment	8.77%	7.02%	17.54%	66.67%	3.421	0.963
Illiteracy/ lack of education	12.28%	7.02%	29.82%	50.88%	3.193	1.025
Peer pressure	5.26%	5.26%	26.32%	63.16%	3.474	0.826
Feeling of rejection	8.77%	1.75%	35.09%	54.39%	3.351	0.896
Negative influence of media and technology	3.51%	7.02%	21.05%	68.42%	3.544	0.781
Alcohol and substance abuse	5.26%	8.77%	15.79%	70.18%	3.509	0.869
Lack of self-control	5.26%	10.53%	17.54%	66.67%	3.474	0.908
Poor judgment	1.75%	5.26%	29.82%	63.16%	3.561	0.708
Deprived neighbourhood	8.77%	8.77%	31.58%	50.88%	3.263	0.973
Idleness	5.26%	14.04%	22.81%	57.89%	3.351	0.935
Income disparity and inequality	10.53%	8.77%	24.56%	56.14%	3.281	1.031
Lack of knowledge on law of sexual offences	14.04%	8.77%	14.04%	63.16%	3.281	1.130
Lack of proper role models	8.77%	1.75%	33.33%	56.14%	3.386	0.921

Appendix M: Contingency tables on Exhibition mode of exposure against RSVP

		1	2	3	4	5	Total	Chi-square	Sig.
Presentation vs RDP2	Exhibition	0	0	4	10	14	28	3.414a	0.332
	RSVP	0	1	5	14	8	28		
	Total	0	1	9	24	22	56		
Presentation vs RDP2	Exhibition	0	0	3	11	15	29	.325a	0.850
	RSVP	0	0	4	9	15	28		
	Total	0	0	7	20	30	57		
Presentation vs RDP3	Exhibition	0	0	1	12	15	28	1.142a	0.565
	RSVP	0	0	0	10	16	26		
	Total	0	0	1	22	31	54		
Presentation vs RDP4	Exhibition	0	0	3	9	17	29	4.214a	0.239
	RSVP	0	1	0	11	16	28		
	Total	0	1	3	20	33	57		
Presentation vs RDP5	Exhibition	0	0	1	10	18	29	1.095a	0.578
	RSVP	0	0	0	11	16	27		
	Total	0	0	1	21	34	56		
Presentation vs RDP6	Exhibition	0	1	1	10	17	29	.983a	0.805
	RSVP	0	0	1	10	17	28		
	Total	0	1	2	20	34	57		
Presentation vs RDP7	Exhibition	0	0	4	5	19	28	.234a	0.890
	RSVP	0	0	3	6	19	28		
	Total	0	0	7	11	38	56		
	Exhibition	0	1	1	13	13	28	3.908a	0.272

Presentation vs RDP8	RSVP	0	0	1	7	19	27		
	Total	0	1	2	20	32	55		
Presentation vs RDP9	Exhibition	0	0	3	12	14	29	1.455a	0.483
	RSVP	0	0	1	10	17	28		
	Total	0	0	4	22	31	57		
Presentation vs RDP10	Exhibition	0	0	6	6	16	28	1.533a	0.465
	RSVP	0	0	4	10	14	28		
	Total	0	0	10	16	30	56		
Presentation vs RDP11	Exhibition	0	1	5	10	13	29	2.660a	0.447
	RSVP	0	0	2	13	13	28		
	Total	0	1	7	23	26	57		
Presentation vs RDP12	Exhibition	0	0	3	14	12	29	3.709a	0.157
	RSVP	0	0	0	12	16	28		
	Total	0	0	3	26	28	57		
Presentation vs RDP13	Exhibition	0	0	3	12	14	29	1.059a	0.589
	RSVP	0	0	4	8	16	28		
	Total	0	0	7	20	30	57		
Presentation vs RDP14	Exhibition	0	2	1	11	15	29	3.304a	0.347
	RSVP	0	0	0	10	18	28		
	Total	0	2	1	21	33	57		
Presentation vs RDP15	Exhibition	0	0	1	9	19	29	1.559a	0.459
	RSVP	0	0	2	5	21	28		
	Total	0	0	3	14	40	57		

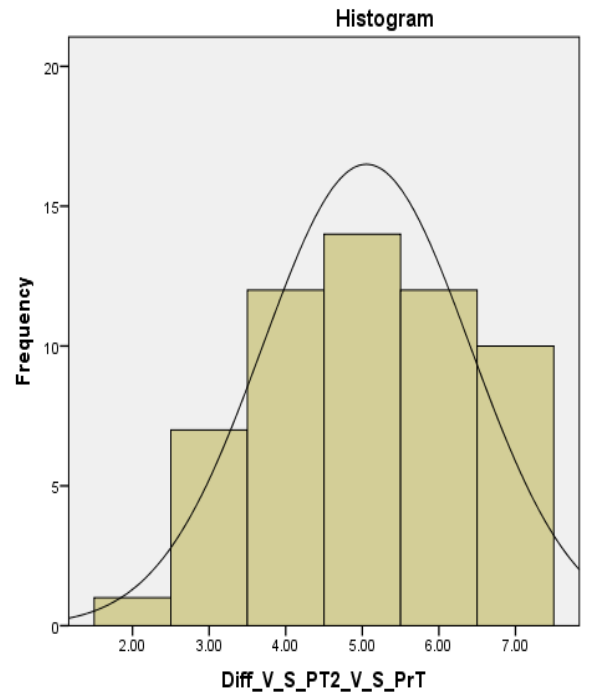
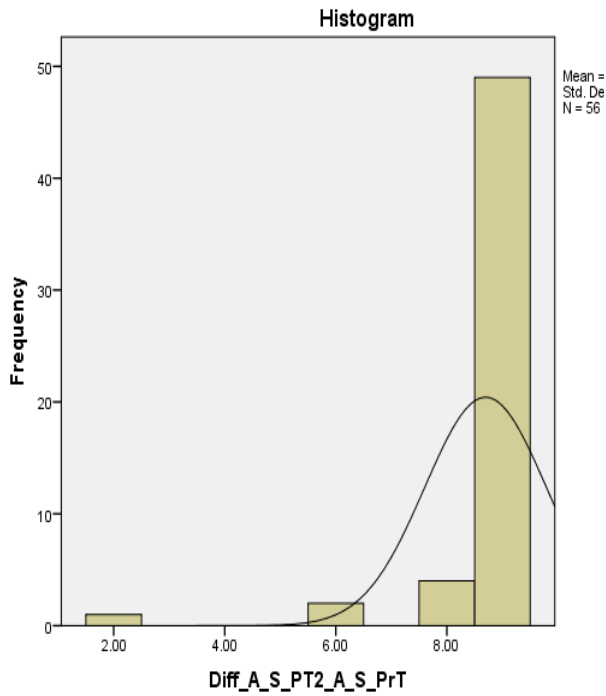
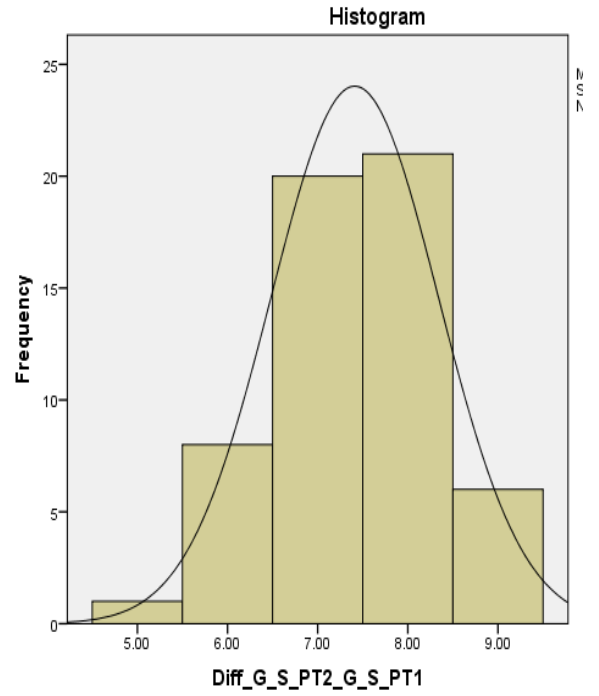
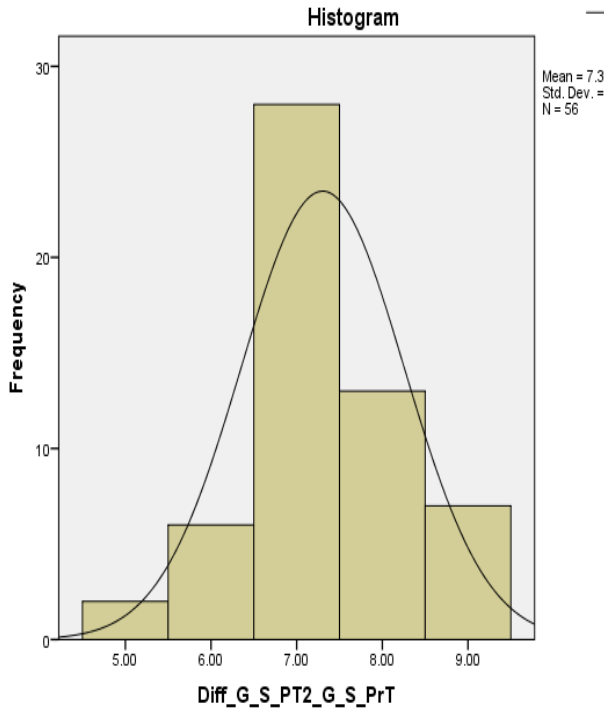
Appendix N: Detailed Ratings for individual Digital Paintings

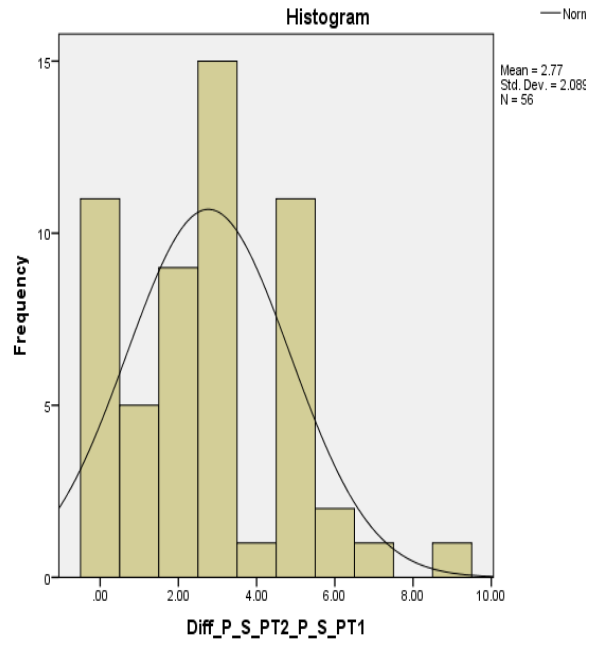
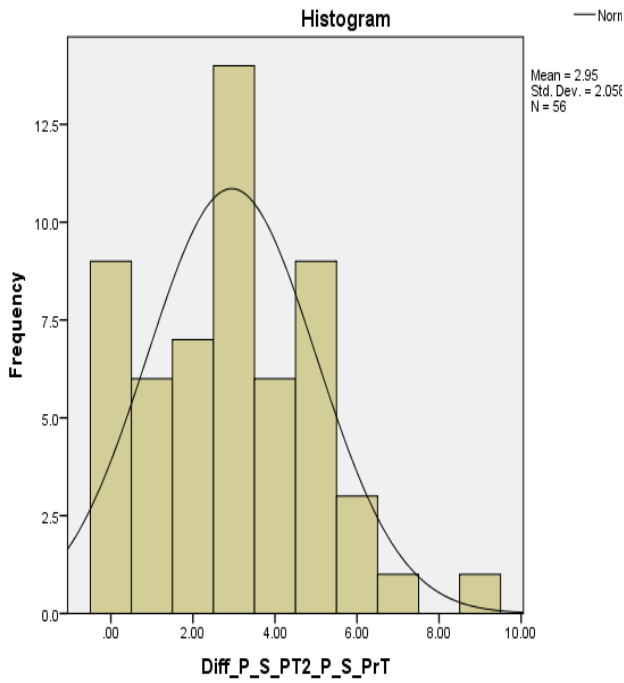
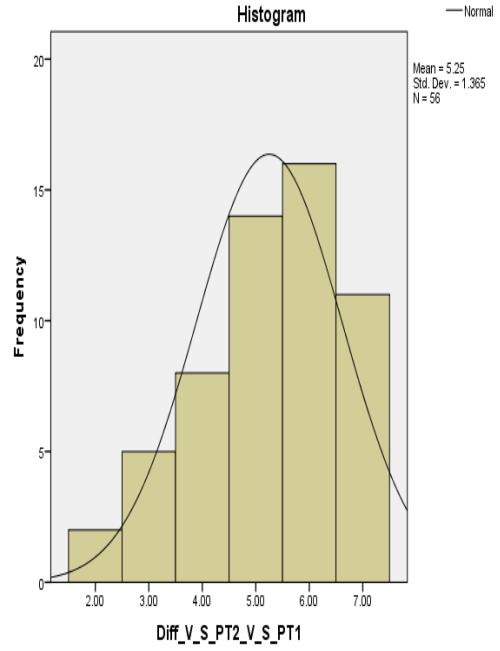
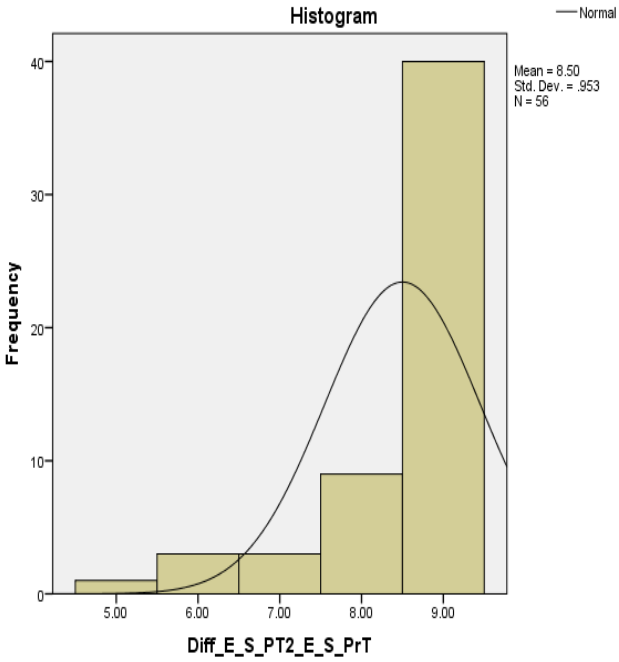
Painting	Visual Impact	Tonality	Content & Meaning	Composition clarity	Emotional impact
1	4.875	4.786	4.661	4.893	4.891
2	4.982	4.571	4.821	4.893	4.893
3	4.196	3.929	3.964	4.089	4.125
4	3.684	3.500	3.518	3.333	3.404
5	3.807	3.825	3.821	3.804	3.684
6	4.877	4.464	4.807	4.895	4.965
7	4.807	4.140	4.228	4.754	4.895
8	4.333	3.825	3.842	3.877	3.789
9	4.930	4.386	4.737	4.965	4.947
10	4.649	4.018	4.596	4.667	4.719
11	3.368	3.316	3.351	3.054	3.053
12	4.070	3.895	3.709	3.228	3.632
13	4.877	4.895	4.649	4.895	4.982
14	4.965	4.895	4.842	4.842	4.909
15	4.772	4.544	4.228	4.825	4.825
16	4.386	3.930	4.193	3.982	4.158
17	3.737	3.632	3.386	3.214	3.035
18	4.596	4.421	4.125	4.684	4.719
19	4.702	4.105	4.263	4.561	4.737
20	4.912	4.877	4.737	4.807	4.895
21	3.509	3.421	3.400	3.143	3.088
22	4.842	4.070	4.702	4.877	4.930
23	4.930	4.491	4.786	4.965	4.982
24	4.982	4.842	4.772	4.930	4.930

Appendix O: Summary Statistics on Ratings of digital paintings

			1-VB	2-B	3-N	4-G	5-VG	Total	Mean	SD
Visual Impact	Overall	Freq.	1	6	155	363	840	1365	4.491	0.716
		Percent	0.07	0.44	11.36	26.59	61.54	100		
	Between (n=24)	Freq.	1	5	14	24	24	68		0.524
		Percent	4.17	20.83	58.33	100	100	283.33		
Tonality	Overall	Freq.	1	12	219	614	517	1363	4.199	0.737
		Percent	0.07	0.88	16.07	45.05	37.93	100		
	Between (n=24)	Freq.	1	7	22	24	24	78		0.487
		Percent	4.17	29.17	91.67	100	100	325		
Content & Meaning	Overall	Freq.	1	18	238	473	627	1357	4.258	0.794
		Percent	0.07	1.33	17.54	34.86	46.2	100		
	Between (n=24)	Freq.	1	9	23	24	24	81		0.520
		Percent	4.17	37.5	95.83	100	100	337.5		
Composition Clarity	Overall	Freq.	2	18	269	294	778	1361	4.343	0.847
		Percent	0.15	1.32	19.76	21.6	57.16	100		
	Between (n=24)	Freq.	2	5	16	24	24	71		0.694
		Percent	8.33	20.83	66.67	100	100	295.83		
Emotional Impact	Overall	Freq.	5	35	228	262	832	1362	4.381	0.877
		Percent	0.37	2.57	16.74	19.24	61.09	100		
	Between (n=24)	Freq.	5	8	14	24	24	75		0.710
		Percent	20.83	33.33	58.33	100	100	312.5		
Within	Percent	1.76	7.68	28.59	19.23	61.17	32		0.534	

Appendix P: Normality histograms for Difference between Pretest and Posttests





Appendix Q: Durbin Watson tables

Durbin-Watson "d" statistic: Significance points of dL and dU at 0.05 level of significance

k'=number of explanatory variables excluding the constant term

ob s.	k'=1		k'=2		k'=3		k'=4		k'=5		k'=6		k'=7	
	dL	du	dL	du	dL	du	dL	du	dL	du	dL	du	dL	du
6	0.6 10	1.4 00	-	-	-	-	-	-	-	-	-	-	-	-
7	0.7 00	1.3 56	0.4 67	1.8 96	-	-	-	-	-	-	-	-	-	-
8	0.7 63	1.3 32	0.5 59	1.7 77	0.3 68	2.2 87	-	-	-	-	-	-	-	-
9	0.7 24	1.3 20	0.6 29	1.6 99	0.4 55	2.1 28	0.2 96	2.5 88	-	-	-	-	-	-
10	0.8 79	1.3 20	0.6 97	1.6 41	0.5 25	2.0 16	0.3 76	1.4 14	0.2 43	2.8 22	-	-	-	-
11	0.9 27	1.3 24	0.6 58	1.6 04	0.5 95	1.9 28	0.4 44	2.2 83	0.3 16	2.6 45	0.2 03	3.0 05	-	-
12	0.9 71	1.3 31	0.8 12	1.5 79	0.6 58	1.8 64	0.5 12	2.1 77	0.3 79	2.5 06	0.2 68	2.8 32	0.1 71	3.1 49
13	1.0 10	1.3 40	0.8 61	1.5 62	0.7 15	1.8 16	0.5 74	1.0 94	0.4 45	2.3 90	0.3 28	1.6 92	0.2 30	2.9 85
14	1.0 45	1.3 50	0.9 05	1.5 51	0.7 67	1.7 79	0.6 32	2.0 30	0.5 05	2.2 96	0.3 89	1.5 72	0.2 86	1.8 48
15	1.0 77	1.3 61	0.9 46	1.5 43	0.8 14	1.7 50	0.6 85	1.9 77	0.5 62	2.2 20	0.4 47	2.4 72	0.3 43	2.7 27
16	1.1 06	1.3 71	0.9 82	1.5 39	0.8 57	1.7 28	0.7 34	1.9 35	0.6 15	2.1 57	0.5 02	2.3 88	0.3 96	2.6 24
17	1.1 33	1.3 81	1.0 15	1.5 36	0.8 97	1.7 10	0.7 79	1.9 00	0.6 64	2.1 04	0.5 54	2.3 18	0.4 51	2.5 37
18	1.1 58	1.3 91	1.0 46	1.5 35	0.9 33	1.6 96	0.8 20	1.8 72	0.7 10	2.0 60	0.6 03	2.2 57	0.5 02	2.4 61

19	1.1 80	1.4 01	1.0 74	1.5 36	0.9 67	1.6 85	0.8 59	1.8 48	0.7 52	2.0 23	0.6 49	2.2 06	0.5 49	2.3 96
20	1.2 01	1.4 11	1.1 00	1.5 37	0.9 98	1.6 76	0.8 94	1.8 28	0.7 92	1.9 91	0.6 92	2.1 62	0.5 95	2.3 39
21	1.2 21	1.4 20	1.1 25	1.5 38	1.0 26	1.6 69	0.9 27	1.8 12	0.8 29	1.9 64	0.7 32	2.1 24	0.6 37	2.2 90
22	1.2 39	1.4 29	1.1 47	1.5 41	1.0 53	1.6 64	0.9 58	1.7 97	0.8 63	1.9 40	0.7 69	2.0 90	0.6 77	2.2 46
23	1.2 57	1.4 37	1.1 68	1.5 43	1.0 78	1.6 60	0.9 86	1.7 85	0.8 95	1.9 20	0.8 04	2.0 61	0.7 15	2.2 08
24	1.2 73	1.4 46	1.1 88	1.5 46	1.1 01	1.6 56	1.0 13	1.7 75	0.9 25	1.9 02	0.8 37	2.0 35	0.7 51	2.1 74
25	1.2 88	1.4 54	1.2 06	1.5 50	1.1 23	1.6 54	1.0 38	1.7 67	0.9 53	1.8 86	0.8 68	2.0 12	0.7 84	2.1 44
26	1.3 02	1.4 61	1.2 24	1.5 53	1.1 43	1.6 52	1.0 62	1.7 59	0.9 79	1.8 73	0.8 97	1.9 92	0.8 16	2.1 17
27	1.3 16	1.4 69	1.2 40	1.5 56	1.1 62	1.6 51	1.0 84	1.7 53	1.0 04	1.8 61	0.9 25	1.9 74	0.8 45	2.0 93
28	1.3 28	1.4 76	1.2 55	1.5 60	1.1 81	1.6 50	1.1 04	1.7 47	1.0 28	1.8 50	0.9 51	1.9 58	0.8 74	2.0 71
29	1.3 41	1.4 83	1.2 70	1.5 63	1.1 98	1.6 50	1.1 24	1.7 43	1.0 50	1.8 41	0.9 75	1.9 44	0.9 00	2.0 52
30	1.3 52	1.4 89	1.2 84	1.5 67	1.2 14	1.6 50	1.1 43	1.7 39	1.0 71	1.8 33	0.9 98	1.9 31	0.9 26	2.0 34
31	1.3 63	1.4 96	1.2 97	1.5 70	1.2 29	1.6 50	1.1 60	1.7 35	1.0 90	1.8 25	1.0 20	1.9 20	0.9 50	2.0 18
32	1.3 73	1.5 02	1.3 09	1.5 74	1.2 44	1.6 50	1.1 77	1.7 32	1.1 09	1.8 19	1.0 41	1.9 09	0.9 72	2.0 04
33	1.3 83	1.5 08	1.3 21	1.5 77	1.2 58	1.6 51	1.1 93	1.7 30	1.1 27	1.8 13	1.0 61	1.9 00	0.9 94	1.9 91
34	1.9 93	1.5 14	1.3 33	1.5 80	1.2 71	1.6 52	1.2 08	1.7 28	1.1 44	1.8 08	1.0 80	1.8 91	1.0 15	1.9 79

35	1.4 02	1.5 19	1.3 43	1.5 84	1.2 83	1.6 53	1.2 22	1.7 26	1.1 60	1.8 03	1.0 97	1.8 84	1.0 34	1.9 67
36	1.4 11	1.5 25	1.3 54	1.5 87	1.2 95	1.6 54	1.2 36	1.7 24	1.1 75	1.7 99	1.1 14	1.8 77	1.0 53	1.9 57
37	1.4 19	1.5 30	1.3 64	1.5 90	1.3 07	1.6 55	1.2 49	1.7 23	1.1 90	1.7 95	1.1 31	1.8 70	1.0 71	1.9 48
38	1.4 27	1.5 35	1.3 73	1.5 94	1.3 18	1.6 56	1.2 61	1.7 22	1.2 04	1.7 92	1.1 46	1.8 64	1.0 88	1.9 39
39	1.4 35	1.5 40	1.3 82	1.5 97	1.3 28	1.6 58	1.2 73	1.7 22	1.2 18	1.7 89	1.1 61	1.8 59	1.1 04	1.9 32
40	1.4 42	1.5 44	1.3 91	1.6 00	1.3 38	1.6 59	1.2 85	1.7 21	1.2 30	1.7 86	1.1 75	1.8 54	1.1 20	1.9 24
45	1.4 75	1.5 66	1.4 30	1.6 15	1.3 83	1.6 66	1.3 36	1.7 20	1.2 87	1.7 76	1.2 38	1.8 35	1.1 89	1.8 95
50	1.5 03	1.5 85	1.4 62	1.6 28	1.4 21	1.6 74	1.3 78	1.7 21	1.3 35	1.7 71	1.2 91	1.8 22	1.2 46	1.8 75
55	1.5 28	1.6 01	1.4 90	1.6 41	1.4 52	1.6 81	1.4 14	1.7 24	1.3 74	1.7 68	1.3 34	1.8 14	1.2 94	1.8 61
60	1.5 49	1.6 16	1.5 14	1.6 52	1.4 80	1.6 89	1.4 44	1.7 27	1.4 08	1.7 67	1.3 72	1.8 08	1.3 35	1.8 50
65	1.5 67	1.6 29	1.5 36	1.6 62	1.5 03	1.6 96	1.4 71	1.7 31	1.4 38	1.7 67	1.4 04	1.8 06	1.3 70	1.8 43
70	1.5 83	1.6 41	1.5 54	1.6 72	1.5 25	1.7 03	1.4 94	1.7 35	1.4 64	1.7 68	1.4 33	1.8 02	1.4 01	1.8 37
75	1.5 98	1.6 52	1.5 71	1.6 80	1.5 43	1.7 09	1.5 15	1.7 39	1.4 87	1.7 70	1.4 58	1.8 01	1.4 28	1.8 34
80	1.6 11	1.6 62	1.5 86	1.6 88	1.5 60	1.7 15	1.5 34	1.7 43	1.5 07	1.7 72	1.4 80	1.8 01	1.4 53	1.8 31
85	1.6 24	1.6 71	1.6 00	1.6 96	1.5 75	1.7 21	1.5 50	1.7 47	1.5 25	1.7 74	1.5 00	1.8 01	1.4 74	1.8 29
90	1.6 35	1.6 79	1.6 12	1.7 03	1.5 89	1.7 26	1.5 66	1.7 51	1.5 42	1.7 76	1.5 18	1.8 01	1.4 94	1.8 27

95	1.6 45	1.6 87	1.6 23	1.7 09	1.6 02	1.7 32	1.5 79	1.7 55	1.5 57	1.7 78	1.5 36	1.8 02	1.5 12	1.8 27
10 0	1.6 54	1.6 94	1.6 34	1.7 15	1.6 13	1.7 36	1.5 92	1.7 58	1.5 71	1.7 80	1.5 50	1.8 03	1.5 28	1.8 26
15 0	1.7 20	1.7 46	1.7 06	1.7 60	1.6 93	1.7 74	1.6 79	1.7 88	1.6 65	1.8 02	1.6 51	1.8 17	1.6 37	1.8 32
20 0	1.7 58	1.7 78	1.7 48	1.7 89	1.7 38	1.7 99	1.7 28	1.8 10	1.7 18	1.8 20	1.7 07	1.8 31	1.6 97	1.8 41