

Psychology 2019 v1.3

IA3 high-level annotated sample response

August 2018

Research investigation (20%)

This sample has been compiled by the QCAA to assist and support teachers to match evidence in student responses to the characteristics described in the instrument-specific marking guide (ISMG).

Assessment objectives

This assessment instrument is used to determine student achievement in the following objectives:

2. apply understanding of social psychology, interpersonal processes, attitudes or cross-cultural psychology to develop research questions
3. analyse research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology
4. interpret research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology
5. investigate phenomena associated with social psychology, interpersonal processes, attitudes or cross-cultural psychology through research
6. evaluate research processes, claims and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology
7. communicate understandings and research findings, arguments and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology.

Note: Objective 1 is not assessed in this instrument.

Instrument-specific marking guide (ISMG)

Criterion: Research and planning

Assessment objectives

2. apply understanding of social psychology, interpersonal processes, attitudes or cross-cultural psychology to develop research questions
5. investigate phenomena associated with social psychology, interpersonal processes, attitudes or cross-cultural psychology through research

The student work has the following characteristics:	Marks
<ul style="list-style-type: none"> • informed application of understanding of social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by a considered rationale identifying clear development of the research question from the claim • effective and efficient investigation of phenomena associated with social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> – a specific and relevant research question – selection of sufficient and relevant sources. 	5–6
<ul style="list-style-type: none"> • adequate application of understanding of social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by a reasonable rationale that links the research question and the claim • effective investigation of phenomena associated with social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> – a relevant research question – selection of relevant sources. 	3–4
<ul style="list-style-type: none"> • rudimentary application of understanding of social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by a vague or irrelevant rationale for the investigation • ineffective investigation of phenomena associated with social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> – an inappropriate research question – selection of insufficient and irrelevant sources. 	1–2
<ul style="list-style-type: none"> • does not satisfy any of the descriptors above. 	0

Criterion: Analysis and interpretation

Assessment objectives

3. analyse research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology
4. interpret research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology

The student work has the following characteristics:	Marks
<ul style="list-style-type: none"> • systematic and effective analysis of qualitative data and/or quantitative data within the sources about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> - the identification of sufficient and relevant evidence - thorough identification of relevant trends, patterns or relationships - thorough and appropriate identification of limitations of evidence • insightful interpretation of research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by justified scientific argument/s. 	5–6
<ul style="list-style-type: none"> • effective analysis of qualitative data and/or quantitative data within the sources about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> - the identification of relevant evidence - identification of obvious trends, patterns or relationships - basic identification of limitations of evidence • adequate interpretation of research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by reasonable scientific argument/s. 	3–4
<ul style="list-style-type: none"> • rudimentary analysis of qualitative data and/or quantitative data within the sources about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> - the identification of insufficient and irrelevant evidence - identification of incorrect or irrelevant trends, patterns or relationships - incorrect or insufficient identification of limitations of evidence • invalid interpretation of research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by inappropriate or irrelevant argument/s. 	1–2
<ul style="list-style-type: none"> • does not satisfy any of the descriptors above. 	0

Criterion: Conclusion and evaluation

Assessment objectives

4. interpret research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology
6. evaluate research processes, claims and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology

The student work has the following characteristics:	Marks
<ul style="list-style-type: none"> • insightful interpretation of research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <u>justified conclusion/s linked to the research question</u> • critical evaluation of the research processes, claims and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> – <u>insightful discussion of the quality of evidence</u> – <u>extrapolation of credible findings of the research to the claim</u> – <u>suggested improvements and extensions to the investigation, that are considered and relevant to the claim.</u> 	5–6
<ul style="list-style-type: none"> • adequate interpretation of research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by reasonable conclusion/s relevant to the research question • basic evaluation of the research processes, claims and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> – reasonable description of the quality of evidence – application of relevant findings of the research to the claim – suggested improvements and extensions to the investigation, that are relevant to the claim. 	3–4
<ul style="list-style-type: none"> • invalid interpretation of research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by inappropriate or irrelevant conclusion/s • superficial evaluation of the research processes, claims and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by <ul style="list-style-type: none"> – cursory or simplistic statements about the quality of evidence – application of insufficient or inappropriate findings of the research to the claim – ineffective or irrelevant suggestions. 	1–2
<ul style="list-style-type: none"> • does not satisfy any of the descriptors above. 	0

Criterion: Communication

Assessment objective

7. communicate understandings and research findings, arguments and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology

The student work has the following characteristics:	Marks
<ul style="list-style-type: none">• effective communication of understandings and research findings, arguments and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by<ul style="list-style-type: none">- <u>fluent and concise use of scientific language and representations</u>- <u>appropriate use of genre conventions</u>- <u>acknowledgment of sources of information through appropriate use of referencing conventions.</u>	2
<ul style="list-style-type: none">• adequate communication of understandings and research findings, arguments and conclusions social psychology, interpersonal processes, attitudes or cross-cultural psychology demonstrated by<ul style="list-style-type: none">- competent use of scientific language and representations- use of basic genre conventions- use of basic referencing conventions.	1
<ul style="list-style-type: none">• does not satisfy any of the descriptors above.	0

Task

Context
<p>Investigate one of the following claims:</p> <ul style="list-style-type: none">• Gender is a social construct.• Social media is changing the nature of relationships.• Violent media causes violent behaviour. <p>You may identify an alternative claim in consultation with your teacher. This claim must be related to Unit 4 subject matter.</p>
Task
<p>Gather secondary evidence related to a research question in order to evaluate the claim. Develop your research question based on a number of possible claims provided by your teacher.</p> <p>Obtain evidence by researching scientifically credible sources, such as scientific journals, books by well-credentialed scientists, and websites of governments, universities, independent research bodies or science and technology manufacturers. You must adhere to research conventions.</p>

Sample response

Criterion	Marks allocated	Result
Research and planning Assessment objectives 2, 5	6	5
Analysis and interpretation Assessment objectives 3, 4	6	6
Conclusion and evaluation Assessment objectives 4, 6	6	6
Communication Assessment objective 7	2	2
Total	20	19

The annotations show the match to the instrument-specific marking guide (ISMG) performance-level descriptors.

Key: Research and planning Analysis and interpretation Conclusion and evaluation Communication

Note: Colour shadings show the characteristics evident in the response for each criterion.

<p>Research and planning [5–6]</p> <p><u>a considered rationale identifying clear development of the research question from the claim</u></p> <p>The rationale shows evidence of careful, deliberate thought. The sequence of ideas involved in the development of the research question from the claim is easily seen.</p> <p>Communication [2]</p> <p><u>acknowledgment of sources of information through appropriate use of referencing conventions</u></p> <p>The use of in-text referencing fits the purpose of an essay.</p>	<p>Claim: Violent media causes violent behaviour.</p> <p>Rationale:</p> <p>Violent media is often blamed after senseless mass shootings. A recent report about the Sandy Hook Elementary School shooting in the USA, highlighted that the perpetrator played both violent and non-violent video games (<u>Sandy Hook Elementary School Shooting 2017, March 11</u>). This is not the first instance where violent media have been said to be the cause of violent behaviour.</p> <p>Violence is defined as rough or injurious action (Macquarie 2017), and is usually observed in response to a perceived injustice, insult, or wrongdoing on behalf of the perpetrator. Violence is often portrayed as an extreme type of aggression. In psychology, aggression is defined as the emotional drive to attack, or an offensive mental attitude (<u>Macquarie 2017</u>). For the purpose of this investigation, the term aggression will include aggressive behaviour, thoughts, feelings, and anger. As aggressive behaviour is difficult to study in laboratory settings, due to ethical restraints, psychologists often study different types of aggression (e.g. thoughts and feelings) and extrapolate the findings in order to explain aggressive acts in the real world. In order to do this, researchers must ensure that the conditions of the experiment mimic elements of the real world closely.</p> <p>Violent media can include movies, news items, cartoons and video games. To narrow the focus of this investigation, and to address the debate that ensued after the Sandy Hook Elementary School shooting, video games will be the type of media investigated. The term video game covers a broad range of products that can be played on a range of devices, including arcade machines to computers, home consoles, and mobile</p>
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Research and planning [3–4]

a relevant research question

The research question is developed from the claim and connected to the topics covered in the unit. However, it is not clearly defined.

Analysis and interpretation [5–6]

identification of sufficient and relevant evidence

The evidence in the response draws upon the available qualitative and quantitative data to respond to the research question. It links directly to the research question.

devices. This investigation will focus primarily on console based games. In order to classify video games as violent, they must depict intentional attempts by individuals (including non-human cartoon characters) to inflict harm on others (Bushman and Anderson 2002). There is currently no agreed international classification of violence for video games (e.g. 18+).

Research question:

As such, this investigation proposes the following research question:

Do violent video games cause aggression?

Evidence:

Professor Craig Anderson has spent his career investigating the relationship between violent video games (VVGs) and aggression. In 2002, he and a colleague Brad Bushman aimed to investigate the relationship between exposure to VVGs, and aggression. To do this, participants were randomly assigned to play a violent or a non-violent video game, and then asked to complete three ambiguous story stems related to the main character in the game, which ended with the question, “What happens next?” Participants then indicated what the main character would do, say, think or feel (Bushman and Anderson 2002).

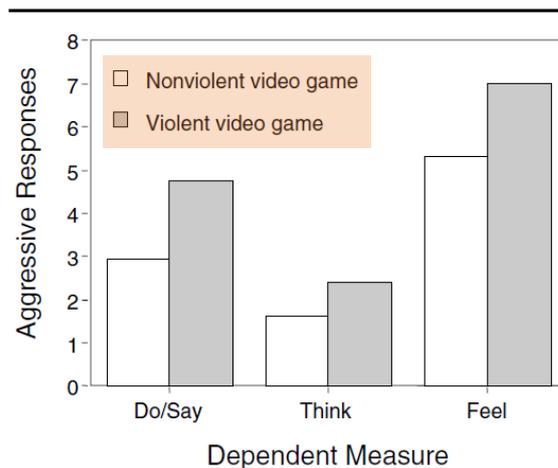


Figure 3 Number of aggressive responses for each dependent measure as a function of type of video game.

Figure 1. Mean differences in responses between violent and nonviolent video game play (Bushman and Anderson 2002).

As shown in Figure 1 there were differences in mean aggression responses between participants who played the nonviolent and violent video games, with those who played the violent video game, having higher aggressive responses on average. To further analyse their data, researchers used inferential statistics and found statistically significant results for two categories. Participants who play violent video games were more likely to predict that the main characters will behave (do/say) aggressively ($p < .005$), and feel angry and aggressive ($p < .02$). However, this affect was not observed for aggressive thoughts and ideas ($p < .06$), where a non-significant result was found.

Analysis and interpretation [5–6]

thorough and appropriate identification of limitations of evidence

The response identifies limitations of evidence that affect how well it can be used to develop a response to the research question.

justified scientific argument/s

The interpretation of the evidence shows an understanding of the process used to select evidence to construct a scientific argument. The scientific argument communicates sound reasoning and draws upon valid and reliable evidence.

Conclusion and evaluation [5–6]

justified conclusion/s linked to the research question

The response uses sound reasoning and valid and reliable evidence to support conclusions that directly respond to the research question.

Analysis and interpretation [5–6]

thorough identification of relevant trends, patterns or relationships

The response identifies relationships in a way that is not superficial or partial. Identified relationships are applicable and directly connected to the formation of the scientific argument.

A limitation of this evidence is that participants in the study were not pre-tested on individual characteristics (such as, baseline aggression) that may have confounded the results of the experiment. Random allocation was undertaken to game play condition which may have controlled for this somewhat, but not fully.

A further limitation was that participants were asked to complete story stems, and their answers were deemed to be a measure of aggression caused by the video game play. Due to the use of an unrealistic self-report method, this experiment lacked ecological validity. It would be difficult for researchers to generalise their findings to real world contexts based on their methodology.

Although the research recorded a statistically significant result for aggressive feelings, the same cannot be said for aggressive thoughts. This may be due to the limitations stated above. As such it is inconclusive as to whether violent video games cause an increase in aggression.

Further research into violent video games was conducted by Unsworth, Devilly and Ward (2007). They sought to investigate whether playing violent video games led to increased anger. Anger is defined as a strongly felt displeasure aroused by real or supposed wrongs (Macquarie 2017). For the purposes of this investigation, anger is seen as an expression of aggression. Researchers asked adolescents to play a violent video game (Quake II) and took measurements of anger both before, during and after game play. The results are shown in Table 1.

Table 1. Summary of differences in anger between participants at pre- and post-game-play.

Difference in state anger between pre- and post- game play	Increase (N = 22)	Decrease (N = 8)	No change (N = 77)
Mean (\bar{x})	11.54	-8.75	0.53
Standard Deviation (s)	5.96	3.06	1.64

NB: Results in Table 1 have been adapted from the results section in the paper by Unsworth, Devilly and Ward (2007).

The results show that the majority of participants experienced no change ($\bar{x} = 0.53$, $s = 1.64$) in anger after playing a violent game. The no change group also had the lowest standard deviation suggesting little variability between participant responses in this group. To further analyse their data, researchers used correlational analysis. The results determined a correlation coefficient from .00 to -.14. This result shows a low to no correlation between the two variables, as it obtained a correlation coefficient below $r = .1$.

Analysis and interpretation [5–6]

thorough and appropriate identification of limitations of evidence

The response identifies limitations of evidence that affect how well it can be used to develop a response to the research question.

Conclusion and evaluation [5–6]

justified conclusion/s linked to the research question

The response uses sound reasoning and valid and reliable evidence to support conclusions that directly respond to the research question.

Communication [2]

appropriate use of genre conventions

In presenting data, the response follows conventions of table construction that fit the purpose of an essay.

Limitations of this study are that the researchers only used one type of violent video game (Quake II), limiting the conclusions that can be drawn due to not having a control for comparison. The game play only lasted for 20 mins, and was conducted in a laboratory setting, which would have further reduced the ecological validity of the study. Lastly, the use of a correlational research method only shows whether two variables are associated, and as such causal conclusions cannot be drawn from the findings of this study as researchers cannot rule out alternative variables or explanations, such as individual differences in anger, and situational variables that may have affected the results.

Thus, due to the low to no correlation observed, it could be concluded from the evidence presented in this study that violent video games do not cause an increase in aggression. However, the use of a correlational research method, and the limitations stated above, limit the certainty of these findings.

Lastly, Ferguson and Rueda (2010) sought to investigate the relationship between violent video games and aggressive behaviour. Participants were initially given a frustration task and then randomly assigned to either the no, nonviolent, or violent game (antisocial violent, prosocial violent) conditions. Following the game play, participants completed questionnaires measuring trait aggression and hostile (aggressive) feelings, and a task that measured the intensity and duration of a noise blast given to an opponent (said to be a degree of aggressive behaviour). The results are shown in Table 2.

Table 2. Group means for video game groups.

Condition	Aggressive behaviour
Hitman (antisocial violent)	6.03 (1.95)
Call of duty 2 (prosocial violent)	6.02 (2.05)
Madden 07 (nonviolent)	5.89 (2.03)
No-game control	6.52 (2.24)

NB: Results in Table 2 have been adapted from the results section in the paper by Ferguson and Rueda (2010).

Note. Standard deviations are in parentheses.

The results in Table 2 show that there was very little difference observed between group means for aggressive behaviour. To further analyse their data, researchers used inferential statistical analysis. The results indicated no difference between type of game play and aggressive behaviour, ($p > .05$), and hostile feelings ($p > .05$).

Analysis and interpretation [5–6]

thorough and appropriate identification of limitations of evidence

The response identifies limitations of the evidence that are not superficial or partial. The limitations are suitable for determining the reliability of the evidence in responding to the research question.

justified scientific argument/s

The interpretation of the evidence shows an understanding of the process used to select evidence to construct a scientific argument. The scientific argument communicates sound reasoning and draws upon valid and reliable evidence.

Conclusion and evaluation [5–6]

justified conclusion/s linked to the research question

Throughout the response, the response uses sound reasoning and valid and reliable evidence to support conclusions that directly respond to the research question.

insightful discussion of the quality of evidence

The discussion communicates understanding of the features of the evidence that affect how well it can be used to respond to the research question.

A limitation of the study was that the sample comprised of primarily university students with a Hispanic ethnicity. Thus, care must be taken in generalising these results beyond this participant group. A strength of the methodology was that aggression was measured at pre-game play, with participants randomly allocated based on this characteristic, limiting it as a confounding variable. However, as the study was conducted in a laboratory, using a noise blast to represent aggressive behaviour, and self-report techniques to assess hostile feelings, the research lacks ecological validity. This is because in both instances they are artificial measures that are extrapolated to thoughts and feelings in the real world. Low ecological validity limits the ability to generalise the results to settings outside the research itself.

Since the result of this study was not statistically significant, it can be concluded that playing violent video games does not cause an increase in aggression. Evidence from the no-game control group (highest measured aggression score) further suggests that there could be an additional, unmeasured (confounding) variable that may be the cause of aggression. However, due to the limitations of the methodology, it is difficult to generalise these results with certainty.

Conclusion:

The research evidence from Bushman and Anderson (2002), contradicts that from Unsworth, Devilly and Ward (2007) and Ferguson and Rueda (2010). These researchers found a low to no correlation and a non-significant effect between playing violent video games and an increase in aggression. Additionally, Bushman and Anderson (2002) had a mixed statistical result with a significant effect observed for behave aggressively and feel angry and aggressive and a non-significant result for aggressive thoughts and ideas. The findings from all three researchers suggest that further investigation is needed into the effect of violent video games and behaviour before a conclusion can be drawn with confidence.

However, the research evidence presented in this essay suggests that playing violent video games does not cause an increase in aggression in comparison to nonviolent video games in users.

Evaluation:

In order to determine the quality of the evidence, the appropriateness of the method used, the rigour employed when controlling the variables, and the parameters under which the data was intended to be applied, will be discussed. Improvements and extensions to the research will also be suggested.

Firstly, the methodologies used by researchers to measure aggression were flawed, as in most instances they were highly artificial (e.g. noise blast as a measure of aggressive behaviour) and/or used self-report measures (e.g. questionnaires). Artificial measures lead to a decrease in ecological validity, and self-report measures are criticised within psychology as they are open to participant bias. As such, an improvement would be to use supporting measures such as teacher, peer, and/or parent ratings, or neuroimaging of brain functionality, to improve the ecological validity and add credibility to the research findings. These improvements would allow researchers greater confidence to extrapolate their findings to serious acts of aggression or violence, like seen in the Sandy Hook shooting.

Conclusion and evaluation [5–6]

suggested improvements and extensions to the investigation that are considered and relevant to the claim

The response uses the analysis of the investigation's limitations to inform suggested improvements and extensions that are connected to the claim.

extrapolation of credible findings of the research to the claim

The response identifies believable outcomes of the research and then applies them to the claim.

Communication [2]

fluent and concise use of scientific language and representations

The response is easily understood, avoids unnecessary repetition and meets the required length.

Research and planning [5–6]

selection of sufficient and relevant sources

Sources are related to the topics covered in the unit and are adequate for the development of a scientific argument that responds to the research question.

Communication [2]

acknowledgment of sources of information through appropriate use of referencing conventions

The use of a referencing system fits the purpose of an essay.

Secondly, the methodologies used by researchers did not screen for, and as such did not control, possible confounding participant variables (e.g., behaviour disorders and/or aggressive personality traits). Only Ferguson and Rueda (2010) attempted to control for natural participant variation in aggressive tendencies by having a pre-test, but their sample was unrepresentative as it contained primarily university students with a Hispanic ethnicity. An improvement would be to pre-screen participants for disorders known to enhance aggressive tendencies, use a stratified-random sampling technique, and a matched-participants design to limit confounding participant variables. These improvements would increase the population validity and credibility of the conclusions made about video games and their influence on aggression.

Lastly, extrapolating the results of the research to long term gamers (like the Sandy Hook perpetrator) is limited as researchers only looked at the short term effects (e.g. maximum game play was 45 minutes) of playing violent video games on aggression. As such, the research above cannot establish whether repeated, long term exposure has an effect on aggression. An extension to the research, would be to conduct follow-up or longitudinal research studies where participants are assessed on various measures of aggression over a period of time (i.e. 5 years or more). To do this, researchers could use measures such as forensic history, academic records, and/or history of self-injurious behaviour. This extension would allow researchers to draw conclusions about the long term effects of violent video games on aggression.

The evidence obtained in this investigation concludes that playing violent video games does not cause an increase in aggression in users, and as such does not provide support to the claim that 'violent media causes violent behaviour'. However, due to the limitations of evidence and the methodological processes, caution should be taken in generalising the findings from this investigation to other forms of violent media, and other types of violent behaviour.

Word count: 1995

Reference List:

Bushman, B. J. & Anderson, C. A. (2002). Human aggression. *Personality and Social Psychology Bulletin*, vol. 28, no. 12, pp. 1679 – 1686.

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Unsworth, G., Devilly, G., and Ward, T. (2007). The effects of playing violent video games on adolescents: Should parents be quaking in their boots? *Psychology, Crime and Law*, 13, 383-385.