

Psychology 2019 v1.4

IA3 high-level annotated sample response 2

March 2024

Research investigation (20%)

This sample of student work has been published 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).

The sample is an unedited authentic student response produced with permission. Any identifying features have been redacted from the response. It may contain errors and/or omissions that do not affect its overall match to the characteristics indicated.

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 of evidence

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: Interpretation 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 objectives

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>acknowledgement of sources of information through appropriate use of referencing conventions</u>	<u>2</u>
<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

Context

Investigate the following claim:

- There is safety in numbers.

You may identify an alternative claim in consultation with your teacher. This claim must be related to Unit 4 subject matter.

Task

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.

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.

See IA3 sample assessment instrument: Research investigation (20%) (available on the [QCAA Portal](#)).

Sample response

Criterion	Marks allocated	Provisional marks
Research and planning Assessment objectives 2, 5	6	6
Analysis of evidence Assessment objectives 2, 3, 5	6	6
Interpretation and evaluation Assessment objectives 4, 6	6	6
Communication Assessment objective 7	2	2
Total	20	20

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

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

Communication [2]
acknowledgment of sources of information through appropriate use of referencing conventions
The use of in-text referencing fits the purpose of an essay.

Communication [2]
fluent and concise use of scientific language and representations
The response is easily understood, avoids unnecessary repetition.

Research and planning [5–6]
a considered rationale identifying clear development of the research question from the claim
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.

Research and planning [5–6]
a specific and relevant research question
The response clearly defines the research question so sufficient and relevant data can be collected. The research question is connected to the rationale and the topics covered in the unit.

Rationale

The commonly held notion that ‘there is safety in numbers’ has recently been questioned with victims of emergencies going unhelped in the presence of many people (Stalder, 2008). The idea of safety in numbers is thought to have come from the evolutionary advantage of living in groups, particularly as protection against predators (Lehtonen & Jaatinen, 2016). A contradiction to this theory came with Darley and Latane's discovery of the bystander effect in 1968 (Stalder, 2006). In this context, safety refers to being confident that one would receive help in an emergency (Stalder, 2008). The bystander effect first surfaced after 28-year-old Kitty Genovese was stabbed to death with 38 possible witnesses failing to intervene (Darley & Latane, 1968).

Darley and Latane (1968) created a model to outline the stages a bystander experiences when deciding to help, known as the Decision Helping Model (DHM) (Emeghara, 2020). The most widely recognised explanation for the apathy was a diffusion of responsibility (DOR) (Darley & Latane, 1968). DOR occurs when the presence of others leads each bystander to feel less responsible for helping the victim, believing it is another's responsibility to take charge and provide help (Burton et al., 2019). Darley and Latane (1968) concluded that the more bystanders present at an emergency the less likely anyone is to help.

Fischer et al. (2011), expanded on the bystander effect, suggesting that the more dangerous the emergency, the less likely the bystander effect is to occur. In this investigation, emergency situations are defined as situations that are dangerous, are unusual occurrences, are sudden and unexpected, and require immediate action to save the victim's life or wellbeing (Burton et al., 2019). The theory of Fischer et al. (2011) is based on an alternative to the DHM, the cost-reward arousal model suggested by Piliavin et al. (1969). This model suggests helping behaviour is based on an analysis of the potential costs; effort, time, and risk of harm, and rewards; fame, gratitude, and self-satisfaction, of helping (Russel, 2020). Another important influence is the self-perceived competency of the bystander, such as physical strength or knowledge. If bystanders believe they do not have the capacity to help, then they think there is less cost in not helping (Cherry, 2020). Social norms also result in gender playing a role in bystander intervention (Kenneavy et al., 2015). It is thought that men are more likely to help when intervention is dangerous due to the idea that they must be 'heroic and strong' (Eagly, 2009).

The contradicting hypotheses of Darley and Latane (1968) and Fischer et al. (2011) suggest there is controversy around whether the bystander effect is still dominant in emergencies. Therefore, this investigation aims to determine whether a DOR remains in High-danger emergencies (HOE) and whether it continues to deter bystander intervention.

Research question: Does the diffusion of responsibility in emergency situations decrease bystander intervention by adults?

Analysis of evidence [5–6] identification of sufficient and relevant evidence

The evidence is appropriate for the purpose of responding to the research question. It is applicable and directly connected to the formation of the scientific argument.

Analysis of evidence [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.

Analysis of evidence [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. While these limitations do not specifically bear on the research question, they are relevant to the validity of the evidence with respect to the claim.

Interpretation 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.

Interpretation and evaluation [5–6] extrapolation of credible findings of the research to the claim

The response uses the conclusion to the research question to support or refute the claim within the limitations of the evidence identified in the analysis.

Evidence

Fischer and colleagues (2006) investigated how the presence of other bystanders in dangerous emergencies affected bystander helping responses. Participants included 54 females and 32 males, aged 18 to 34 years old. Participants were shown two videos of a simple interaction between a man and woman then one with a petite female verbally and physically harassed by a 'strong-built, thug-like male' either with a confederate present or alone. A helping response included informing the experimenter of the situation or trying to enter the room to help. The participants then answered a questionnaire to measure social responsibility and accepted costs for intervention.

Table 1: Helping behaviour and reaction times in alone compared to bystander condition in HDE

	Helping response (%)	Reaction time (seconds)	p-value
Alone/high danger	44	377	
Bystander/high danger	40	338	p > 0.95

Table 1 suggests that in the presence of a bystander, there is no significant change in a bystander intervention when witnessing HOE ($p > 0.95$). When participants viewed the emergency alone, 44% tried to help, compared to 40% when with another bystander. There is also no significant difference in reaction times ($p > 0.25$). The study found that participant sex and age did not influence helping behaviour or reaction time. The researchers expected men to intervene more in the HOE due to women having less physical strength and competency intervene. However, this lack of association is likely due to participant's ability to simply inform the experimenter about the emergency as a form of helping behaviour rather than physically intervention. The small sample size also inhibits a significant interaction between sex and bystander intervention with only 86 participants decreasing statistical power and thereby internal validity (Suresh & Chandrashekar, 2012).

The study found no significant difference in perceived social responsibility between variables but that participants were willing to accept more costs of helping when in the presence of a bystander. The reliability of the questionnaire is limited by its subjective nature, being more a rationalization of a bystander's reaction (Fischer et al., 2006). Therefore, in terms of the research question, it can be cautiously concluded that increased danger reduces as bystanders perceive the cost of not helping to be greater than that of helping, resulting in intervention. This indicates that in HOE, there is safety in numbers.

In another study, by Liebst et al. (2019), 81 surveillance camera recordings of police-reported public physical violent assaults from Copenhagen between 2010 to 2012 were analysed. A total of 751 individuals were included. Bystanders were defined as those individuals that entered the conflict between two initial parties displaying direct physical violence or non-verbal cues of aggression. Number of bystanders present ranged from 1 to 76, with a mean number of approximately 18.

Analysis of evidence [5–6] identification of sufficient and relevant evidence

The evidence is appropriate for the purpose of responding to the research question. It is applicable and directly connected to the formation of the scientific argument.

Analysis of evidence [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.

Communication [2] appropriate use of genre conventions

In presenting data, the response follows conventions of table construction that fit the purpose of a research investigation.

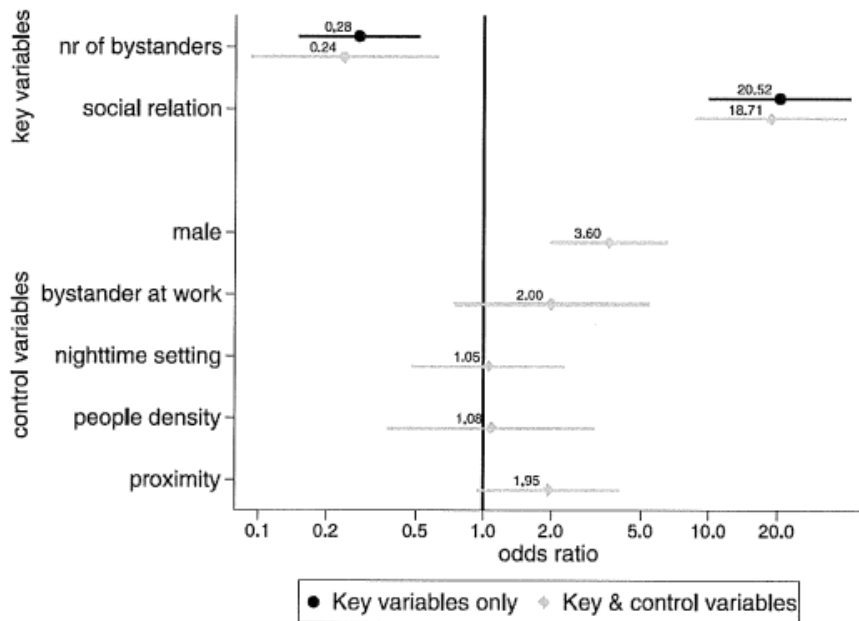
Analysis of evidence [5–6] justified scientific argument/s

The scientific argument uses a process of sound reasoning and draws upon valid and reliable evidence.

Interpretation 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.

Figure 1: Odds Ratios of bystander intervention given exposure to key and control variables (Liebst, et al., 2019)



Control variables included the male bystanders, bystanders at work (a bouncer), night-time drinking setting, people density and proximity. These variables were included to account for confounding variables; however, only gender was significant, with men being 3.6 times more likely to intervene than women as shown in figure 1.

Table 2: Odds ratio, confidence interval and p-value for number of bystanders variable

Number of Bystanders	Key Variables Only			Key and Control Variable		
	OR*	95% CI	p-value	OR	95% CI	p-value
	0.28	0.15-0.52	<0.001	0.24	0.09-0.62	<0.01

*OR= odds ratio: the odds that an outcome will occur given a particular exposure compared to in the absence of the exposure (Szumilas, 2010)
*CI = Confidence interval

Table 2 suggests that the number of bystanders is negatively associated with bystander intervention with an odds ratio of 0.28. This means as the number of bystanders increases, the likelihood of intervention significantly decreases ($p < 0.001$). It also shows that the confounding variables are almost negligible, as even when accounted for, the odds ratio only differs from 0.28 to 0.24 and remains statistically significant ($p < 0.01$). This conclusion is further supported by Faul, Aikman and Sasser (2016) who found that bystanders were less likely to engage in helping behaviour at the scene of a medical emergency when it occurs on a public street, highway or in a public building as these locations have a greater number of bystanders. Liebst et al. (2019) also found that the relationship between number of bystanders and intervention is 'curvilinear', as described by a greater reduction in likelihood of intervention from 2 to 3 bystanders than from 12 to 13. This apathy observed when there are many bystanders at an emergency indicates a DOR. Therefore the data suggests that a DOR occurs in public physical assault, resulting in decreased intervention of adults.

Analysis of evidence [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.

Interpretation and evaluation [5–6] insightful discussion of the quality of evidence

The discussion shows understanding of the features of the evidence that affect its ability to be used to respond to the research question.

Interpretation and evaluation [5–6] suggested improvements and extensions to the investigation that are considered and relevant to the claim

The suggestions are connected to the claim and take into account the limitations of the evidence.

Interpretation and evaluation [5–6] insightful discussion of the quality of evidence

The discussion shows understanding of the features of the evidence that affect its ability to be used to respond to the research question.

Interpretation and evaluation [5–6] extrapolation of credible findings of the research to the claim

The response uses the conclusion to the research question to support or refute the claim within the limitations of the evidence identified in the analysis.

The data does not include information about the age of the bystanders, limiting extrapolation to the research question which refers to adults. However, it can be assumed majority of the subjects are adults due to 71% of situations occurring at a night-time drinking setting (Liebst et al., 2019).

Evaluation

Both articles are peer-reviewed and conducted by university professionals with doctorates in psychology and sociology, increasing credibility. Whilst Leibst et al. (2019) is a correlational study, meaning causation cannot be assigned to the independent variable, the use of an inferential statistical test increases reliability as it suggests strong correlations and therefore repeatability. The study is the largest data set of captured real-life dangerous conflicts, furthering its reliability and external validity. However, Fischer et al. (2006) has decreased reliability due to small sample size, with only about 21 participants in each condition.

Internal validity of the study by Fischer et al. (2006) is limited by the presence of only one bystander in the bystander condition. Studies have found a correlation between increasing number of bystanders and likelihood to intervene, therefore a single bystander may not induce the bystander effect (Hortensius & Gelder, 2014; Brody & Vangelisti, 2016). Leibst et al. (2019) examined situations with an average of 18 bystanders, including a range of 1-40, strengthening the correlation as there is greater confidence that DOR occurs between multiple bystanders. Therefore, this investigation considers Leibst et al. (2019) to have produced more valid correlations than Fischer et al. (2006) in terms of the effect of a DOR. However, the number of bystanders at each incident is undisclosed, decreasing inter-rater reliability. A suggested improvement to this investigation to better address the DOR aspect of the research question and the 'numbers' aspect of the claim would be to investigate multiple trials with a systematic increase in number of bystanders. This could allow more detailed conclusions to be made around when a DOR occurs and when the bystander effect is most prominent.

The influence of gender is confounding to bystander effect research. In Fischer et al. (2006) the confound of competency associated with increased physical strength of men is somewhat eliminated as females were able to 'help' without physical intervention. However, this decreases ecological validity as cost of intervention is unrealistically decreased, limiting the accuracy of the conclusion. Whilst Leibst et al. (2019) accounted for gender in the control variables and found it had no significant overall impact on the OR, the investigation of only physical altercations was shown to favour male intervention due to greater competency than women and social norms of heroism (Liebst, et al., 2019). This decreases internal reliability as participants do not contribute equally to the results and external validity as the extrapolation to female intervention is limited. However, this increases ecological validity, allowing the correlations to be extrapolated to the bystander effect in actual dangerous situations.

Interpretation and evaluation [5–6]
suggested improvements and extensions to the investigation that are considered and relevant to the claim

The improvements address the limitations associated with the evidence.

Interpretation 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.

Interpretation and evaluation [5–6]
suggested improvements and extensions to the investigation that are considered and relevant to the claim

The extensions identify modifications that would complement the findings of the investigation and have the potential to provide new evidence that could be used to evaluate the claim further.

An improvement to this investigation could include controlling the genders of the victims or by examining studies with a variety of emergencies, such as medical emergencies that lend themselves to more equal possibility of intervention despite strength or social norms to increase internal validity and internal reliability.

Internal validity is questioned in both studies as there is no definite way to link the number of bystanders to a DOR. Fischer et al (2006) inquired about participants' sense of responsibility which led to an insignificant difference in reported social responsibility. An improvement to this investigation could include examining change in physiological activity when observing an emergency in the presence of bystanders. For example, analysing EEGs and neural imaging to investigate how bystanders affect the processing of the outcome of actions and experiences of agency (Beyer, et al. 2016; Hortensius & Gelder, 2014).

Conclusion

The results from Fischer et al. (2006) suggest that the presence of a bystander in an emergency does not induce a DOR, leading to no significant difference in bystander intervention ($p > 0.095$). Conversely, Leibst et al. (2019) suggest that an increase in the number of bystanders is correlated with a decrease in the likelihood of bystander intervention, suggesting responsibility to intervene is diffused amongst the crowd ($p < 0.001$). The validity and reliability of Fischer et al. (2006) is questioned due to the small sample size, presence of only one bystander and low ecological validity. Whilst Leibst et al. (2019) is limited by the scenarios favouring male intervention and the correlational design limiting causation, it has greater reliability and ecological validity. Therefore, in response to the research question, the data overall suggests that a diffusion of responsibility in emergency situations is correlated with a decrease in bystander intervention by adults. Overall, the evidence failed to support the research claim There is Safety in Numbers.

Extensions

To better answer the claim 'there is safety in numbers' it would have to be investigated how often victims actually receive help. This investigation has shown that while a diffusion of responsibility may decrease each individual's likelihood to intervene, research suggests that intervention from at least one bystander is significantly more common than no intervention in emergency situations (Levine, Philpot, & Kovalenko, 2019). Therefore, an extension could include follow up investigation of victims of emergencies and how safe or helped they felt with multiple bystanders around.

Another extension could include specific investigation into how a bystander's cost-benefit analysis changes when with other bystanders. This could provide more evidence on whether the increased danger decreases the bystander effect, thereby increasing 'safety in numbers'.

Word Count: 2000

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.

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.

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