Exercise walk-through

4.2
HL: technology and behaviour

International Baccalaureate · IB Diploma · Psychology · HL

Technology and behaviour

- Many people believe social media makes teenagers unhappy.
- Orben and Przybylski (2019) analysed three large data sets with more than 350,000 teenagers.
- Technology use did have a negative link with well-being, but it explained at most 0.4% of the differences in well-being, about as much as eating potatoes did.
- The data were correlational, so they cannot show the direction of cause: unhappy teenagers may also use more social media.

Paper 3: worked example

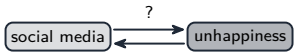
- The claim: *"The use of technology in school may have a negative effect on students' mental health."* Two of the sources are shown below.
- *Two practice sources: a group comparison and a correlation*
- **1.
- Explain one issue that limits the interpretation of the data in Source A.** (3 marks)

Sources for this lesson (2)

- M. Lepper, D. Greene and R. Nisbett, "Undermining children's intrinsic interest with extrinsic reward", *Journal of Personality and Social Psychology* (1973); E. Deci and R. Ryan, ***Self-Determination Theory*** (2017).
- A. Orben and A. Przybylski, "The association between adolescent well-being and digital technology use", *Nature Human Behaviour* (2019); A. Ward and others, "Brain drain", *Journal of the Association for Consumer Research* (2017).

Exercises 2.1·2.2

2.1 Explain why correlational data cannot show that social media causes unhappiness. [2]

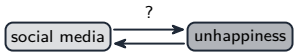


2.2 Orben and Przybylski (2019) found that technology use explained at most 0.4 % of the differences in teenagers' well-being. Explain what this means for the claim that social media makes teenagers unhappy. [3]



Exercises 2.1·2.2

2.1 Explain why correlational data cannot show that social media causes unhappiness. [2]



2.1

a correlation only shows that the two variables move together; unhappy teenagers may use social media more (reverse direction), or a third variable such as loneliness may affect both

2.2 Orben and Przybylski (2019) found that technology use explained at most 0.4 % of the differences in teenagers' well-being. Explain what this means for the claim that social media makes teenagers unhappy. [3]



2.2

the link is real but very small: more than 99 % of the differences in well-being come from other factors; about the same as eating potatoes, so it is not a major cause; and the data are correlational, so even this small link may not be cause

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Exercise 2.3

2.3 *(Section A style.)* Describe **one** study of how smartphones affect cognition. [4]

desk bag other room

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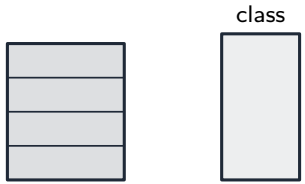
desk bag other room

2.3

Ward et al. (2017); students did working-memory tests with their phone on the desk face down and silent, in a bag, or in another room; they did best with the phone in another room, although they did not use it; suggests the phone's presence uses up attention; later studies did not always repeat the effect

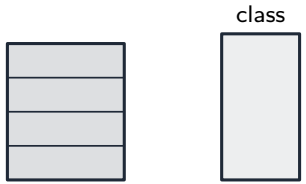
Exercise 2.4

2.4 *(Section B style.)* A school plans to ban phones from classrooms to improve learning. Using research, explain whether this plan is likely to help. [6]



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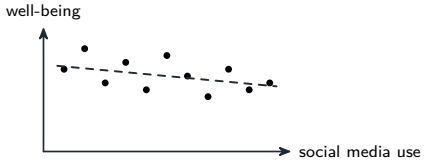


2.4

award up to [6]: Ward et al. (2017): working memory was best with the phone in another room; so phones kept outside the room may free attention for learning; but later studies did not always repeat this, so the effect may be small or uncertain; Sparrow et al. (2011): people remember less when they expect to look things up, so less reliance on phones in class could help memory; but phones can support learning, e.g. dictionaries and calculators; the school should test the ban, e.g. compare results before and after, and involve students (autonomy)

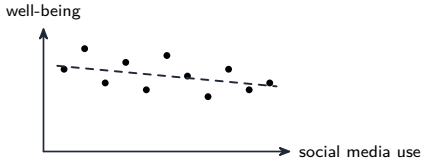
Exercise 3.1

3.1 *(Section C style.)* "Social media harms teenagers' well-being." Evaluate this claim with reference to the concept of **causality**. [15]



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3.1

Mark with the markbands: [13-15] focused on the claim, accurate knowledge, evidence used to build an argument, the concept used to evaluate throughout, a supported conclusion; [10-12] mostly focused, evidence used, some evaluation through the concept; [7-9] relevant knowledge but mostly description; [4-6] limited knowledge, little evaluation; [1-3] little that is relevant. Points that may be included: Orben and Przybylski (2019): a negative link, but at most 0.4 % of the variation; large samples give confidence that the link exists but show it is small; causality: correlational data cannot show direction: unhappy teenagers may use more social media; third variables such as sleep, loneliness or family problems could affect both; experiments that reduce use for a short time could test cause, but they are short and participants know the aim; measurement: self-reported hours are often inaccurate, and "social media" covers many different activities; the effect may differ between individuals: harmful for some, helpful for others; conclusion: the evidence supports a small link for the average teenager, but not a strong causal claim