

## Research Literacy Activity Answer Key

### 1) Is this study an example of applied research or basic research? How do you know and what evidence do you have to support your claim?

**Answer:** Applied Research—which is defined in your textbook as “research that has the primary goal of solving problems or improving the human condition” (Levine & Munsch, 2017, pg. 66).

With applied research, scientists are conducting studies that intend/have the potential to make changes that will ‘immediately’ impact people’s lives. In this case, the study involves an intervention that is designed to make ‘immediate’ changes in the lives of female youth from juvenile delinquent centers.

The authors state things such as, “the intervention was developed to actively intervene with girls’ proximal social environments to change the conditions of their lives with the aim of decreasing risk and increasing protective factors” (page 138)

### 2) Does this study use a correlational or experimental design? How do you know?

Explain a major limitation of the design used in this study. *Hint: the authors do explicitly discuss this limitation somewhere in the study. However, you should also be able to identify the limitation/criticism simply by correctly identifying the design.*

**Answer: Correlational.** Although this is an intervention study, the authors did not randomly assign participants to treatment and control groups.

Based on the correlational nature of this study, we know that we cannot infer causation. In other words, we cannot determine that the intervention caused changes in self-efficacy and resilience (among other outcomes)—but rather that the intervention was associated with these positive outcomes.

Though you can determine the limitation from our discussion of correlational designs in class and in your textbook, the authors also explicitly state this limitation regarding lack of random assignment in the ‘Present Study’ section on page 142, when they state:

**“The lack of RCT design in this study cannot rule out threats to internal validity and we caution readers to refrain from making causal attributions.”**

In the Strengths and Limitations section on page 156, they also state:

**“The current study did not employ a control group design or random assignment to groups due to limited resources, decreasing our ability to make causal inferences about the effects of the GAP on girls’ risk and protective factors. Future research can undoubtedly help strengthen the evidence base by employing a more rigorous methodological design including random assignment to the intervention condition.”**

This is the biggest *\*weakness/limitation/disadvantage\** associated with correlational designs, and we must therefore be careful to avoid causal language when communicating the results of this study (and other correlational studies).

*\*Keep in mind that weakness, limitation, and disadvantage are often used interchangeably in scientific papers and are all intended to mean the same thing: the flaws of a research study, design, etc.*

**3) Does this study use a developmental design? If so, which developmental design and what evidence do you have to support which design was used?**

**Answer:** Yes, this study does use a developmental design. The specific type of developmental design is longitudinal.

The authors specifically mention this design in the **‘Setting and Participants’** section of the Method on page 143, when they state: “In total, 51 girls and their respective parents/guardians (98%) agreed to participate in research, and 47 (90%) successfully completed the program and the longitudinal evaluation in its entirety.” They also use the term prospective in the title.

You can also determine that they used a longitudinal design based on their overall description of how the study was laid out. For example:

- “The evaluation of the GAP was conducted using a **prospective** design, limiting threats of recall bias and allowing for risk and protective factors to be assessed systematically before, during, and after the intervention.”
- “The use of several **prospective** indicators and multiple measures provides compelling evidence and allows for a fair investigation of changes in girls’ risk and protective factors over time.”
- The GAP was developed, manualized (Javdani & Allen, 2012), and prospectively evaluated for three cohorts of girls with disruptive behavior problems.”
- When talking about the measures, the same measures were given to participants at three time points (T1, T2, T3): before being assigned to an advocate (T1), completed a subset of these questionnaires in the middle of their intervention (T2), and completed a final full set of questionnaires upon completion of the program (T3).

One other thing to note: Although the authors mention three cohorts, they looked at all of these cohorts in a longitudinal way and used this cohort approach to avoid historical effects on the intervention. Prospective means that these participants were followed across time, so the

use of this terminology indicates that each group (cohort) of adolescents was followed longitudinally.

Some of you may have confused this information to indicate cross-sectional research since we discussed the concept of cohort effects in class. However, cohort effects only come into play when we are assessing more than one cohort at a single time-point to then infer age related differences. As a quick refresher, cohort effects are “differences between groups [in a cross-sectional or sequential study] that are attributable to the fact that participants have had different life experiences” (Levine & Munsch, 2017, pg. 93).

- a. Explain any evidence of how one of the major disadvantages/weaknesses of this developmental design (as discussed in your book/class) was evident in this study. For example, what is the disadvantage you identified and what do the authors say about it?

**Answer:** One of the major limitations of longitudinal studies is attrition. Your textbook mentions this in detail on page 91. I would have also accepted sample bias.

The authors state on page 143: **“3 youth were not able to complete the full program because of longer term incarceration in the department of corrections for crimes committed prior to their enrollment in the GAP.”**

Attrition refers to the loss of participants over time in a longitudinal study, and as mentioned in your book, there are likely specific and systematic reasons that people drop out of a longitudinal study. The textbook, for example, talks about difficulty retaining children and families who are from lower socioeconomic backgrounds, less healthy, or more prone to get in trouble/be absent from school. In class, we also talked about household chaos.

Stemming from attrition (loss of participants), the sample can become biased over the course of a longitudinal study because of the factors pertaining to drop out that make them different from the rest of the sample. Thus, the sample becomes less representative than it was at the start of the study. This limitation, known as sample bias, is another acceptable answer for this question, though less obviously stated by the authors in-text.

- 4) Describe any aims, research questions, or hypotheses of the study. What were the researchers trying to assess?** Indicate any strategies you used to identify these elements.

the GAP intervention is associated with reductions in risky sexual behavior (not supported).

A primary goal of this article is to describe a new curriculum based on evidence-based practices (e.g., community-based advocacy, Davidson & Rapp, 1976; Sullivan

& Bybee, 1999) and guidelines set forth by the Office of Juvenile Justice and Delinquency prevention (e.g., the National Girls Institute) addressing an urgent social issue.

**5) Who is the sample? Based on this sample, to whom can these findings be generalized?**

*Female adolescents (13-18) from juvenile delinquent systems.*

**6) What stage(s) of development are represented in this study?**

There was one stage of development represented in this study—adolescence. According to your book, adolescence encompasses children ages 12-18.

The sample for the current study included females ages 13-18 (*Mean* = 15.2), as described in the ‘**Setting and Participants**’ sub-section of the Method section on page 143.

**7) How did the researchers ensure the ethical treatment of children as research participants? Describe and provide evidence of what procedures they used.**

- a. Based on your textbook and our class discussions, do you feel their steps were adequate (if applicable)? What, if anything, do you think they should have added?

**Answer: The researchers discussed the ethical treatment of participants on page 146, within the Procedures section.**

**They talked about the following:**

- Procedures and measures approved by the Institutional Review Board (IRB)
- Parent Consent/Adolescent Assent
  - Documents reviewed with and signed by families
- Adolescent and parent informed that participation was voluntary
  - Would not affect whether they could receive intervention services
- Surveys at each time point voluntary
- Survey responses confidential
- Interviews conducted by highly trained project staff, not the advocates who were implementing the intervention

**They did not address the following:**

- How the data would be kept confidential after being collected (e.g., encrypted hard drive, locked filing cabinet) or how their identity would be protected.

- They did not discuss whether or not there were any threats to the adolescents' well-being during the study and how they addressed them if they occurred.
- Note that some of these things are not always explicitly mentioned in a scientific article, but they are things that your book mentions that they did not explicitly address.

Overall, I do believe the treatment of participants was ethical, even though there are additional things I would want to know (e.g., things they did not address as described above). The IRB is responsible for ensuring the ethical conduct of research and we can assume that the IRB made certain that all proper procedures were laid out and followed.

**8) What types of measures were used in this study (e.g., interviews, standardized assessments, self-reports, physiological measures, etc.)? You should list all types of measures and approaches used in the study.**

- a. Describe how you identified these measures and any overall strengths or weaknesses of the types of methods they used. *Hint: It is possible for a measure to fall under more than one category. See the Active Learning on activity page 83 of your book for an example of this and practice identifying measure types.*

**9) Describe three variables the researchers studied and how they were operationalized.**

- a. **Bonus:** Tell me if each one is an independent or a dependent variable (e.g., predictor or outcome).

There are various answers to this question and individualized feedback will be given in your exam document. I am providing the most commonly reported variables below, along with their operational definitions and whether they were independent or dependent variables.

**10) Name at least one domain of development the researchers assessed and how you identified this domain.**

**11) In what way do the authors mention the four contexts of development we learned about in class (unit 1)?** *Hint: These are explicitly discussed in the paper at least once—though the exact terminology may be different for one of the contexts (e.g., they use a synonym).*

“proximal social environments (family, schools, communities) as well as distal environments (socio-cultural realities, policies, economic realities).”

Discussion section, where they talk about:

Contextual Competence—page 154: “This process has been termed ‘contextual competence,’ and refers to the extent to which youth are actively involved in home, peer, school, community, and cultural contexts (Seidman & Pedersen, 2003), a process linked to decreased violence at the community level (Zeldin, 2004). **Higher engagement in a greater breadth of contexts, in turn, is associated with greater self-esteem and lower depression among at-risk youth** (Pedersen et al., 2005).”

- a. Tell me where each of these contexts fit within the theory that they use to guide their paper (see next question for clarification). For example, what system?

**12) What theory that we discussed in class do the researchers describe as a framework for their study? Who developed that theory?**

- a. In what way(s) do you find their description and use of this theory helpful in setting up their study?

They used Bronfenbrenner’s bioecological model as one of the frameworks for their study.

For the second portion of this question, there was not necessarily a correct answer and I was looking for you to think critically about how context matters for this study and can help us better understand the design of their intervention and specific aims they had for conducting their research. Individualized feedback will be provided for this question in your exam document.

**13) Name an individual characteristic/trait that was measured in this study.**

**14) Briefly describe the meaning of ecological validity in your own words and tell me who coined the term.**

- a. In what way does this study address ecological validity?

*Ecological validity is the extent to which research findings can be generalized to real-world contexts. This term was coined by Bronfenbrenner as a criticism to laboratory assessments and experiments in child development research and highlights his strong belief that we should study children within the complex, dynamic, and everyday contexts in which they develop.*

*Therefore, based on an understanding of this term, we can deduce that this study addresses ecological validity by implementing an intervention within the real-world context of females who were part of the juvenile delinquent system, rather than in a laboratory setting.*

**15) Based on our class discussion, what other theory that we learned about (aside from the one you should have listed above) might apply to this study or be useful in thinking about the study? Briefly explain your response.** *Hint: There is not necessarily a right answer, but you might want to consider how they use the terms resilience and/or pathway. They also mention the terms proximal and distal somewhere in the paper.*

*You could have talked about developmental psychopathology and/or the transactional model here based on what evidence you provide. I will provide individualized feedback for these questions.*

**16) In what ways do the authors discuss issues of validity and/or reliability (not 17) The direct interactions between advocates who administered the intervention and the participants receiving the intervention (see page 143/145) would be an example of what system of the bioecological model?** *Here, we are considering the participant to be at the center of the model. Justify your answer.*

*This would be an example of the microsystem, because the participants are having direct, face-to-face interactions with the advocates during the course of the intervention. You can think about this similarly to the examples we've talked about with a student and teacher.*

**18) In what journal is this article published?** *(Hint: you can find the journal title in the article itself)* *Feminist Criminology*

- What is the journal's most recent impact factor? 1.750 (5 year is 2.329)*
- What is this journal's ranking? Criminology & Penology 24 out of 65 (21 out of 65 five year).*
- Who is the primary editor? Kristy Holtfreter*
- Is this journal peer reviewed? How do you know? YES, this information is explicitly stated in the author instructions/guidelines on the website and can be inferred from editorial board and things they discuss on their website. How else might you be able to tell?*

*You should start to get comfortable digging for information and thinking critically about where you might be able to find it, a skill that is useful in all aspects of life.*

**Bonus Questions:**

- e. *What is the main aim(s) and main focus of this journal? For example, what topics does it cover, what types of papers does it publish?*

<https://journals.sagepub.com/aims-scope/FCX>

- f. *Is this journal associated with any professional societies? If so, what?*

Yes, it is the official journal of the Division on Women and Crime of the [American Society of Criminology](#). This might be an interesting society for those of you in this field to look into further.

This information is stated in multiple places on the journal website.

- 19)** Based on the information you gathered above, what is your overall opinion on this journal as a scholarly source? *You may want to consider whether you think this journal has highly specified content and how that could affect metrics listed above.*
- 20)** What did you take away or learn from this article/portion of the exam?