Combining Diverse Methods in one Research Program: The Example of Social and

Developmental Psychology

Larisa Heiphetz

Boston College

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Address correspondence to:
Larisa Heiphetz
Department of Psychology
Boston College
140 Commonwealth Avenue
Chestnut Hill, MA 02467
Email: larisa.heiphetz@bc.edu
Phone: 617-552-0240

Abstract

Like many aspects of life, research can be enhanced by using a diversity of theoretical perspectives and methodological techniques. I describe the process of using multiple perspectives (e.g., social and developmental psychology) and methods (e.g., implicit and explicit measures) to answer one's questions and discuss the challenges and benefits of doing so. By likening the research process to an everyday activity—namely, cooking—I hope to elucidate the ways in which a potentially unfamiliar scholarly approach is similar to aspects of life with which readers may have more experience. To provide readers with a behind-the-scenes look at one particular research program, I also describe my experience conducting research at the intersection of social and developmental psychology.

Learning Outcomes

After reading this case study, you should:

- Have a better understanding of the process of combining theoretical perspectives from social and developmental psychology into one research program.

- Have an increased knowledge of the ways in which social and developmental psychology were successfully combined in research programs examining the development of religious cognition and implicit social cognition.

- Be able to discuss the challenges and benefits of using multiple methods to address one's research questions.

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Developmental Psychology

What is the most delicious meal you have ever eaten? Go ahead, close your eyes as you remember it. Bring to mind how the food looked and smelled, the ingredients from which it was made, who was with you while you ate it.

In this essay, I'll tell you about my experience with bringing different theoretical perspectives and methodological techniques to bear on one overarching research question— namely, how children and adults think about religious beliefs. Doing research, especially research using perspectives from different disciples or different areas of the same discipline, is a lot like cooking. Not everybody likes cooking all the time. Sometimes what is really necessary at the end of the day is for someone else to make you a delicious dinner, just as sometimes it is important to be a consumer rather than a producer of research. For example, when you are trying to learn about an area that is completely new to you, it is important to read about research that others have conducted. Other times, all that's needed is one particular kind of food made in a familiar way, just as many important questions require straightforward methods from one specific area of study. Many classic studies in social psychology fall into this category. For example, if you are interested in why so many people collaborated with the Nazis, you can get a lot of traction on your research question by asking adults to ostensibly shock another person, as Stanley Milgram did. If you are interested in why competent adults fail to help those in need, you could observe when participants do and do not offer help, as Bibb Latane and John Darley did.

But putting some extra time and energy into cooking a meal—adding a pinch of cumin or nutmeg where ordinarily you would use salt and pepper, putting together ingredients in new ways, or experimenting with different cooking temperatures and times—can transform the work

of cooking into play and result in flavors that you would never have tasted otherwise. Similarly, experimenting with new techniques or bringing methods together in novel ways can add some spice to the research process by generating novel research ideas and producing new insights, leading to interdisciplinary projects that are greater than the sum of their disciplinary parts. Using multiple perspectives and methods can be especially useful when attempting to answer questions that lie at the boundaries of several fields of inquiry. For example, questions about children's intergroup attitudes can be fruitfully answered by combining developmental methods with social psychological theories concerning intergroup relations. Questions about the neural signatures of memory can be addressed by combining perspectives and methods from cognitive psychology (often used to study memory) and neuroscience (often used to answer questions about the brain).

In The Beginning: Preparing To Make A Meal

When I was an undergraduate, I anticipated going to graduate school to become a traditional social psychologist. I spent several years taking courses in social psychology and working as a research assistant in labs that studied racial and gender-based prejudice. I planned to do more of the same work as a graduate student and beyond.

During a semester when I had some leeway in my course schedule, I enrolled in a class on early Judaism. Thanks to a topic that was already interesting to me and a wonderful professor who let me write a final course paper on scholars' understanding of why Jesus had to get baptized (this was a puzzle to me because I had learned that baptism is supposed to allow people to draw closer to God by cleansing them of their sins, and I had also learned that Jesus was supposed to be sinless), I found myself thinking a great deal about how religious ideas might impact the lives of ordinary people. Of course, "Why did Jesus get baptized?" is not a question

that psychology can answer. But plenty of related questions—like, "Why do people kill each other over disagreements about who Jesus was?"—seemed ripe for scientific investigation.

With this in mind, I applied to graduate programs in social psychology, hoping to study religious prejudice among adults. The idea that such prejudice might form before the age of 18 did not cross my mind. In one of our first meetings, however, my advisor suggested that I might better understand adults' attitudes and behaviors if I knew something about their origin. *How* did adults come to think and behave the way they did, and what did that process reveal about human minds more generally? Exploring these questions led me to combine social and developmental perspectives in my research, join a developmental lab in addition to a social one, and ultimately gain a better understanding not only of religious cognition but of how the mind works more broadly. It turned out that developmental psychology was just the added flavor my work needed.

Let The Earth Bring Forth Grass: Preparing The Ingredients

The beginning of a delicious meal lies before the first vegetable comes out of the refrigerator, even before the cook enters the kitchen. A good meal starts with good ingredients— fresh produce, grains that have not been excessively tampered with, perhaps meat from animals that have themselves been well-fed. Who would want to eat a gourmet hamburger that had come from a cow with Mad Cow Disease or face a Thanksgiving table laden with salads and side dishes made from rotten vegetables?

Similarly, the beginning of an impactful research project lies in those moments before the experimenter ever sets eyes on her first participant. It lies in those moments when the researcher furrows her brow and says, "Hmmm, I don't understand why. . ." It lies in those moments when the researcher looks to previous literature to answer her question and comes up empty-handed. And it especially lies in the many thousands of moments when the researcher thinks about how

to test her question, decides that her original method leaves an important question unanswered or an interesting alternative unexplored, and sets about adapting the research design to better capture the glorious richness of the world.

My own research started with the following observation: Adults go through life making decisions about people based on the groups to which those people belong. White adults are likely to befriend, marry, and hire other Whites and to injure, incarcerate, or ignore Blacks. These biases lie deep. Using a task known as the Implicit Association Test (IAT), Brian Nosek and his colleagues found that Whites are faster to pair White faces with good words like "nice" and Black faces with bad words like "mean" rather than making the reverse pairing, suggesting that Whites favor other Whites on an implicit, unconscious level. On this same task, people who are currently able-bodied as well as people with disabilities are faster to pair images suggesting able-bodied-ness with good words and images suggesting disabled-ness with bad words; both women and men are faster to pair female names with words denoting housework and male names with words denoting careers; and people of all ages are faster to pair younger people's faces with good words and older people's faces with bad words. But what about religious bias? I wondered whether adults might also prefer some people over others based on the religious beliefs and identities espoused by those other people, and, if so, how and when these biases might emerge.

To answer the first part of my question, concerning adults, my collaborators—Mahzarin Banaji and Elizabeth Spelke—and I ran a study using methods that were very familiar to me from my years working as a research assistant in social psychology labs. We recruited college students and other community members to participate in a study on "people's opinions." In one part of the study, we asked participants to read two short stories, one about a Jewish character and the other about a Christian character, and then answer questions like, "Which of these

children do you think is nicer?" In another part of the study, participants took a computer-based version of the IAT. During one section of this task, participants pressed one key on the computer keyboard any time they saw good words (e.g., marvelous, superb) or Christian words (e.g., church, priest) and a different key any time they saw bad words (e.g., tragic, horrible) or Jewish words (e.g., synagogue, rabbi). During a different section, the pairings were flipped; now participants pressed one key any time they saw good words or Jewish words and a different key any time they saw bad words or Christian words. We measured how long participants took to press a key each time they saw a word.

Unsurprisingly, adults did not report preferring either of the characters—when asked questions like which character they thought was nicer, they chose each character about half the time. These same participants, however, responded much more quickly to Christian + good / Jewish + bad pairings than the reverse.

This result was unsurprising given previous findings showing that adults who are unable or unwilling to report their true attitudes—for example, because they've learned that it's socially unacceptable to appear biased—nevertheless display strong implicit preferences. My collaborators and I wondered how children might respond to these tasks. In some previous work conducted by Andrew Baron and Mahzarin Banaji, 6-year-old White children had been faster to pair White faces with good words and Black faces with bad words, like adults. Unlike adults, however, White children had also said that they preferred White peers, potentially because 6-year-olds had not yet learned that explicit racial animus is frowned upon in American culture. Would this same pattern emerge for religion?

To find out, we recruited 6- to 8-year-old children to participate in our study. To do this, we called parents who lived near our lab and who had previously indicated an interest in

participating in research. Many of these parents were willing to bring in their children to help us answer our research question. When the families arrived, a trained experimenter explained the study to the parents and spent some time with the child, giving him or her the chance to get used to our laboratory and become acquainted with the experimenter. After this initial warm-up, the experimenter introduced the child to a game that the two of them would play together. This game was very similar to the tasks adult participants had done in our earlier study. In the first part of the game, the experimenter read the child a story about characters who were different religions and asked the child questions about which character they preferred. In the second part, children completed a computerized version of the IAT, which was different from the adult version in only a few ways. For example, because young children have different reading abilities, we set up the computer to read words out loud rather than having participants respond to written words. Importantly, the IAT was originally developed and used by social psychologists, and nearly a decade passed between the time that the IAT became a common tool in social psychology and the time that developmental scientists started using the IAT with children.

What we found surprised us. It turned out that when we read children stories that emphasized differences between religious groups—for example, by saying that the two characters referred to God in different ways—we found the same patterns seen earlier in the domain of race. Christian children were faster to make Christian + good / Jewish + bad pairings rather than the reverse, and they reported preferring the Christian character. But when we changed the stories to emphasize similarities between groups—for example, by saying that both characters attended worship services once per week—we found something quite different. Children continued to respond faster when Christian was paired with good and Jewish was paired with bad, but they no longer reported preferring either character. In other words, when we

emphasized similarities between the two characters, the children we tested started to respond like adults!

Unlike adults, however, we did not think children were failing to report a preference because they were concerned about looking prejudiced. If this explanation accounted for our data, children probably would not have reported preferences when the stories emphasized differences between the characters. Additionally, if 6-year-olds in general are worried about appearing prejudiced, White children of that age probably would not report preferring White peers, yet in previous work, that is exactly what they had done. Instead of reflecting socially desirable responding, we thought children's responses might indicate their difficulty with reporting preferences when similarities between groups are highlighted. We reasoned that children may experience difficulty articulating their preferences when the two characters seemed relatively similar. Participants may have shown implicit pro-Christian preferences regardless of what story we told them because they did not have to articulate their attitudes on the IAT; they simply had to press different buttons as quickly as possible. Thus, our results indicated that children and adults may sometimes respond in similar ways (e.g., failing to report explicit preferences while showing strong implicit preferences) for different reasons. It would not have been possible to reach this conclusion by studying children or adults in isolation; instead, it was necessary to compare children and adults using the same paradigm.

Trials and Tribulations: Potential Pitfalls In Cooking And Research

Cooking doesn't always go according to plan. The grocery store is sold out of the key ingredient for your favorite meal; the phone rings while you are trying to keep a sauce from separating; the new oven you're cooking in turns out to heat things a little too well. Similarly,

research that utilizes perspectives and methods from multiple disciplines or sub-disciplines comes with a unique set of challenges.

Learning two or more sets of theoretical perspectives and methodologies can be challenging for many researchers. This can be particularly tricky for people who already know one perspective or method well because combining different perspectives and methods can require researchers to un-learn some of what they already know. For example, before I started doing developmental work, I had learned to think like a social psychologist. Social psychologists often use written measures, like scales or descriptions for participants to read, which are not practical to include in research with young children. Additionally, due to children's limited attention span, studies with children are typically much shorter than studies with adults. This means that there is less room in the design for long measures or for multiple measures intended to provide information about similar processes. When designing adult studies, it can be tempting to include as many dependent variables as possible. Perhaps an additional scale will shed light on the question of interest, or maybe measuring bias in two slightly different ways will clarify the relationship between different forms of prejudice. However, when designing studies for children, it is necessary to keep experiments as short and fun as possible so that participants do not get tired or bored. Instead of asking what additional measures could be included, developmental researchers often ask which measures can be removed or shortened. Additionally, because children's understanding often diverges from adults', it is necessary to carefully create stimuli that children will understand in the way intended by the researcher.

This challenge is well-illustrated in the design of the Child IAT developed by Andrew Baron and Mahzarin Banaji. As discussed above, the IAT was originally designed for use with adults. To study children's implicit attitudes, it would not have been prudent to give them exactly

the same test given to adults. Instead, the researchers had to determine which aspects of the test were crucial and could not be changed, and which aspects could be altered to better fit children's abilities. Thus, the Child IAT, like the IAT intended for adults, requires participants to respond as quickly as possible because children are capable of responding quickly and because the test would no longer be a measure of implicit bias if participants could take all the time they wanted. On the other hand, the Child IAT does not require any reading skills (unlike most IATs used with adults, the Child IAT is programmed so that the computer reads words aloud to children, who then categorize those words as good or bad) to account for the fact that children of different ages have different reading skills. Notice that the researchers who created the Child IAT did not simply add a method from social psychology (the IAT) and a method from developmental psychology (testing children). Instead of requiring children to perform tasks designed for adults, the researchers incorporated aspects of both social and developmental psychology to create a novel measure.

Of course, there are many ways to combine different approaches into one research program, and not all of these combinations will involve studies with children. The broader point, however, is still applicable. Trying to add a new perspective or method to an already-developed skill set can require researchers to learn to think about their work in different ways. Instead of directly carrying over approaches from one discipline into another, researchers must carefully consider how to best combine different perspectives and methods, often resulting in a product that is more than just the sum of its parts.

The Fruit Of Your Labor: Benefits Of Combining Multiple Approaches

Given the challenges described above, why would anyone want to use multiple perspectives and methods in their research? Why not stick with one favorite approach?

As you can imagine if you've ever eaten a meal where the fish has been seared and the rice has been boiled, combining different methods to create one final product has numerous benefits. Below I outline several benefits of combining multiple approaches to answer one scholarly question:

- The researcher benefits by learning multiple ways to approach one topic. After I started learning developmental psychology, I felt less constrained by methodological limitations when thinking about what questions I wanted to pursue. For example, as a traditional social psychologist, I was unable to answer questions about *how* adults came to have their religious biases or the role of social experience (e.g., attending worship services) in the emergence of their social preferences. As I learned developmental methods, I was able to answer more of the questions that interested me.

- Each of the sub-disciplines that you are bringing together benefits from an exposure to other sub-disciplines. Hearing about your work may encourage others to look at questions in a new way, to adopt a method that might be better suited to their particular question, or to investigate connections between their own work and work in a related field. For example, my interactions with researchers who had more experience combining social and developmental psychology sparked my interest in the intersection of these fields and helped me generate research ideas.

- The larger scholarly community also benefits from an increase in knowledge. Using multiple perspectives and methods to approach the study of one topic can result in knowledge that would not have been available using any one approach

alone. For example, without studying children's implicit attitudes, researchers would not know that the strength of such attitudes remains surprisingly consistent across development. Such knowledge can be of both theoretical importance (e.g., studying children's implicit attitudes illuminates the nature of the mind more generally) and practical significance (e.g., knowing that implicit attitudes emerge very early in development is a useful piece of information if one is interested in designing interventions to reduce prejudice).

A Recipe For Success: Practical Suggestions For Combining Approaches

While developing my research program, I received much helpful advice about how to combine approaches from social and developmental psychology. Below I offer some suggestions for doing so in one's own research.

- **Read the literature.** It is important to be well-versed in each of the areas one is trying to investigate. For example, it would be difficult to combine social and developmental psychology if you knew the ins and outs of every social psychological theory but could not tell the difference between words that would be familiar to a three-year-old toddler and words that would be familiar to a ten-year-old child. Other scholars have thought deeply about aspects of the work you are trying to do, and often they have also solved certain problems for you (e.g., the CHILDES database can be very helpful when trying to learn which words are frequently used by children of different ages). Ignore them at your peril.

- **Avoid over-reading.** There are at least two ways in which over-reading can be problematic. First, there will always be more articles to read. It is important to avoid reading articles at the expense of producing new scholarship of one's own. After all, no

one has ever produced a delicious meal simply by reading a cookbook. Second, spending too much time reading others' work can lead to research myopia. Much creative scholarship comes from living, from wondering why an apple fell on your head or why you only see people who are the same race as you in church. Finding and answering such questions often leads to interesting and creative science, but the questions themselves can remain hidden from those who never lift their eyes from their computer screens.

- **Find mentors in each area you want to study.** When you're trying to learn something new, it's often important to have a guide who can show you the way. Because combining different perspectives and methods requires a deep knowledge of each, it is crucial to receive feedback and advice from people who are deeply immersed in each area you are trying to study.

- **Find a scholarly community.** This is an extension of the previous piece of advice. Scholarship does not happen in isolation. It happens when one person has an idea and then shares it with other people, whether via informal conversation, professional talks, or publishing in scholarly journals. One of the wonderful things about communities is that they bring together the skills and perspectives of their individual members. Though any given individual may not be an expert on all topics related to your research, a strong community can include individuals whose expertise complements your interests in a variety of ways. Such communities serve both a professional purpose (it can be very helpful to receive feedback from colleagues) and a personal purpose (humans are social creatures, and it can be trying to labor on one's work in isolation). The flavor of even the best meal can be enriched by sharing it with friends.

Conclusion

Though I entered graduate school intending to specialize in social psychology and limit my studies to adult samples, I quickly became convinced of the importance of incorporating developmental methods into my research program. Combining these two sub-disciplines of psychology helped me see the importance of working with multiple perspectives and methods more broadly. Working with more than one approach creates a unique set of challenges, such as the difficulty of learning multiple techniques and potentially un-learning some of what one already knew. In my view, these challenges are far superseded by the numerous advantages afforded by working with multiple approaches, including individual, scholarly, and societal benefits.

Discussion Questions

- I began this chapter by highlighting the ways in which one of my research projects combined approaches from social and developmental psychology to investigate religious cognition. What can we learn from the results of this project that we could not have learned from using just one perspective or method?

- This chapter uses the example of social and developmental psychology to discuss how to combine approaches from different disciplines or sub-disciplines. What are some other methods or theoretical perspectives whose combination might provide a fruitful way to approach a research question?

- How might the process of comparing different theoretical perspectives, disciplines, or research methods (e.g., qualitative and quantitative methods or approaches from the humanities and sciences) be similar to the examples used here?

- How might the process of comparing different theoretical perspectives, disciplines, or research methods be different from the examples used here?

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Contributor Biography

Currently a post-doctoral fellow in the Morality Lab at Boston College, Larisa Heiphetz received her BA in 2008 (Psychology, The Pennsylvania State University) and her PhD in 2013 (Psychology, Harvard University). Her dissertation, entitled "The Influence of Beliefs on Children's and Adults' Cognition and Social Preferences," combined approaches from social and developmental psychology to investigate the development of reasoning about beliefs—especially religious beliefs—and the impact of such reasoning on intergroup bias. This research was funded by the American Psychological Association, the National Academy of Education, the National Science Foundation, and the Spencer Foundation and received a student research award from the Association for Psychological Science.