Writing Literature Reviews

A Guide for Students of the Social and Behavioral Sciences

SECOND EDITION

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Chapter 6

Synthesizing Literature Prior to Writing a Review

The guidelines in Chapters 4 and 5 have helped you to conduct a literature review. In other words, you have now read and analyzed a collection of research articles, and you have prepared detailed notes that describe discrete parts of these studies. You should now begin to synthesize these elements into a new whole, the sum of which will become your literature review.

The following guidelines will assist you in creating a basic framework within which you will report on the research you have reviewed. In other words, you are now ready to begin the process of writing the literature review. This chapter will help you develop an important product: a detailed writing outline.

✓ Guideline 1: Consider your purpose and voice before beginning to write.

Begin by asking yourself what your purpose is in writing a literature review. Are you trying to convince your professor that you have expended sufficient effort in preparing a term paper for your class? Are you trying to demonstrate your command of a field of study in a thesis or dissertation? Or, is your purpose to establish a context for a study you hope to have published in a journal? Each of these scenarios will result in a significantly different final product, in part because of the differences in the writer’s purpose, but also because of differences in readers’ expectations. Review the descriptions of these three types of literature reviews in Chapter 2, Considerations in Writing Reviews for Specific Purposes.

Once you establish your purpose and your audience, you can decide on an appropriate voice (or style of writing) for your manuscript. You may know what you want to say, but how you say it will vary considerably if you are writing an e-mail message to a friend, a column for a newspaper, or a chapter in a thesis. A writer’s voice, when preparing a literature review, should be formal because that is what the academic context dictates. The traditional voice in scientific writing dictates that the writer de-emphasize himself or herself in order to focus the readers’ attention on the content. In Example 6.1.1, the writer’s self is too much in evidence; it distracts the reader from the content of the statement. Example 6.1.2 is superior because it focuses on the content.
Example 6.1.1

Improper "voice" for academic writing:

In this review, I will show that the literature on treating juvenile murderers is sparse and suffers from the same problems as the general literature on juvenile homicide (Benedek, Cornell, & Staresina, 1989; Myers, 1992) and violent juvenile delinquents (Tate, Reppucci, & Mulvery, 1995). Unfortunately, I have found that most of the treatment results are based on clinical case reports of a few cases referred to the author for evaluation and/or treatment (e.g., see Agee, 1979...). 

Example 6.1.2

Suitable "voice" for academic writing:

The literature on treating juvenile murderers is sparse and suffers from the same problems as the general literature on juvenile homicide (Benedek, Cornell, & Staresina, 1989; Myers, 1992) and violent juvenile delinquents (Tate, Reppucci, & Mulvery, 1995). Most of the treatment results are based on clinical case reports of a few cases referred to the author for evaluation and/or treatment (e.g., see Agee, 1979...). (p. 8)

Notice that academic writers tend to avoid using the first person. Instead, they let the "facts" and arguments speak for themselves. This is not to say that the first person should never be used. It may be appropriate, for example, when relating a personal anecdote that graphically illustrates a point the writer is making. Example 6.1.3 illustrates this. Of course, personal anecdotes should be used sparingly and only when they are directly related to the topic at hand. For Example 6.1.3, the topic was "couples watching television," which is clearly related to the anecdote.

Example 6.1.3

A personal anecdote (use sparingly):

Five years ago, my parents bought a second television set because my mother refused to watch television with my father any longer. "I can't stand the way he flips through the channels," she said. Note that my father actually has the use of the new television, and my mother has been relegated to the den with the older model. Nevertheless, Mother now has

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1 This is a hypothetical example based on Example 6.1.2.
her own set, and conflicts about the remote control device have been reduced considerably. (p. 813)

✓ Guideline 2: Consider how to reassemble your notes.

Now that you have established the purpose for writing your review, identified your audience, and established your voice, you should reevaluate your notes to determine how the pieces you have described will be reassembled. At the outset, you should recognize that it is generally unacceptable in writing a literature review to present a series of annotations of research studies. That would be, in essence, like describing trees when you really should be describing a forest. In the case of a literature review, you are creating a unique new forest, which you will build by using the trees you found in the literature you have read. In order to build this new whole, you should consider how the pieces relate to one another while preparing a topic outline, which is described in more detail under the next guideline.

✓ Guideline 3: Create a topic outline that traces your "argument."

Like any other kind of essay, the review should first establish for the reader the line of argumentation you will follow (this is called the thesis in composition classes). This can be stated in the form of an assertion, a contention, or a proposition; then, the writer should develop a traceable narrative that demonstrates that the line of argumentation is worthwhile and justified. This means that the writer should have formed judgments about the topic based on the analysis and synthesis of the research literature.

The topic outline should be designed as a kind of road map of the argument, which is illustrated in Example 6.3.1. Notice that it starts with an assertion (that there is a severe shortage of donor organs, which will be substantiated with statistics, and that the review will be delimited to the psychological components of the decision to donate). This introduction is followed by a systematic review of the relevant areas of the research literature (points II and III in the outline), followed by a discussion of methodological issues in the relevant research (point IV). It ends with a summary, implications, and a discussion of suggestions for future research and conclusions that relate back to the introduction (point I).

Note that the authors of Example 6.3.1 have chosen to discuss weaknesses in research methodology in a separate section (point IV in the outline). Using a separate section for such a discussion is especially appropriate when all or many of the studies suffer from the same weaknesses. If different studies have different weaknesses, it is usually best to refer to the weaknesses when each study is cited (as opposed to discussing them in a separate section of the literature review).
Because the following outline will be referred to at various points throughout the rest of this chapter, please take a moment to examine it carefully. Place a flag on this page or bookmark it for easy reference to the outline when you are referred to it later.

Example 6.3.1

Sample topic outline:


I. Introduction
   A. Establish importance of the topic (cite statistics on scarcity of organs).
   B. Delimit the review to psychological components of decisions.
   C. Describe organization of the paper, indicating that the remaining topics in the outline will be discussed.

II. Individual decisions regarding posthumous organ donation
   A. Beliefs about organ donation.
   B. Attitudes toward donating.
   C. Stated willingness to donate.
   D. Summary of research on individual decisions.

III. Next-of-kin consent decisions
   A. Beliefs about donating others' organs.
   B. Attitudes toward next-of-kin donations.
   C. Summary of research on next-of-kin consent decisions.

IV. Methodological issues and directions for future research
   A. Improvement in attitude measures and measurement strategy.
   B. Greater differentiation by type of donation.
   C. Stronger theoretical emphasis.
   D. Greater interdisciplinary focus.

V. Summary, Implications, and Discussion
   A. Summary of points I–IV.
   B. Need well-developed theoretical models of attitudes and decision making.
   C. Current survey data limited in scope and application points to need for more sophisticated research in the future.
   D. Need more use of sophisticated data analysis techniques.
   E. Conclusions: Psychology can draw from various subdisciplines for an understanding of donation decisions so intervention strategies can be identified. Desperately need to increase the available supply of donor organs.

✓ Guideline 4: Reorganize your notes according to the path of your argument.

The topic outline described in the previous guideline describes the path of the authors' argument. The next step is to reorganize the notes according to the

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outline. Begin by coding the notes with references to the appropriate places in the outline. For example, on the actual note cards write an “I” beside notations that cite statistics on the scarcity of donated organs, a “II” beside notations that deal with individual decisions about organ donations, a “III” beside notations that deal with next-of-kin decisions, and a “IV” beside notations that pertain to methodological issues. Then, return to the topic outline and indicate the specific references to particular studies. For example, if Doe and Smith (2004) cite statistics on the scarcity of donated organs, write their names on the outline to the right of point I.

✓ **Guideline 5: Within each topic heading, note differences among studies.**

The next step is to note on your topic outline the differences in content among studies. Based on any differences, you may want to consider whether it is possible to group the articles into subtopics. For example, for “Beliefs about organ donation” (point II.A. in Example 6.3.1), the literature can be grouped into the five subcategories shown in Example 6.5.1.

**Example 6.5.1**

**Additional subtopics for point II.A. in Example 6.3.1:**

1. Religious beliefs
2. Cultural beliefs
3. Knowledge (i.e., beliefs based on “facts” people have gathered from a variety of sources)
4. Altruistic beliefs
5. Normative beliefs (i.e., beliefs based on perceptions of what is acceptable within a particular social group)

These would become subtopics under point II.A. (“Beliefs about organ donation”) in the topic outline. In other words, your outline will become more detailed as you identify additional subtopics.

The other type of difference you will want to consider is the consistency of results from study to study. For example, the reviewers on whose work Example 6.3.1 is based found three articles suggesting that there are cultural obstacles that reduce the number of organ donations among Hispanics, while one other article indicated a willingness to donate and a high level of awareness about transplantation issues among this group. When you discuss such discrepancies, assist your reader by providing relevant information about the research, with an eye to identifying possible explanations for the differences. Were the first three articles older and the last one more current? Did the first three use a different methodology for collecting the data (e.g., did those with the negative results
examine hospital records while the one with a positive result use self-report questionnaires? Noting differences such as these may give you interesting issues to discuss when you write your literature review.

✓ Guideline 6: Within each topic heading, look for obvious gaps or areas needing more research.

In the full review based on the topic outline in Example 6.3.1, the reviewers noted that whereas much cross-cultural research has been conducted on African Americans, Asian Americans, and Hispanics, only a few studies have focused on Native Americans. Thus, any conclusions may not apply to the latter group. In addition, this points to an area that might be recommended for consideration in planning future research.

✓ Guideline 7: Plan to discuss how individual studies relate to and advance theory.

The importance of theoretical literature was discussed in Chapter 1. You should consider how individual studies, which are often narrow, help define, illustrate, or advance theoretical notions. Often, researchers will point out how their studies relate to theory, which will help you in your considerations of this matter. Specify that theory will be discussed in your literature review by including it in your topic outline, which was done in point V.B. in Example 6.3.1, which indicates that the reviewer will discuss the need for well-defined theoretical models.

If there are competing theories in your area, plan to discuss the extent to which the literature you have reviewed supports each of them, keeping in mind that an inconsistency between the results of a study and a prediction based on theory may result from either imperfections in the theoretical model or imperfections in the research methodology used in the study.

✓ Guideline 8: Plan to summarize periodically and, again, near the end of the review.

It is helpful to summarize the inferences, generalizations, and/or conclusions you have drawn from your review of the literature in stages. For instance, the outline in Example 6.3.1 calls for summaries at two intermediate points in the literature review (i.e., points II.D. and III.C.). Long, complex topics within a literature review often deserve their own separate summaries. These summaries help readers to understand the direction the author is taking and invite readers to pause, think about, and internalize difficult material.

You have probably already noticed that the last main topic (Topic V) in Example 6.3.1 calls for a summary of all the material that preceded it. It is usually
appropriate to start the last section of a long review with a summary of the main points already covered. This shows readers what the writer views as the major points and sets the stage for a discussion of the writer’s conclusions and any implications he or she has drawn. In a very short review, a summary may not be needed.

✓ Guideline 9: Plan to present conclusions and implications.

Note that a conclusion is a statement about the state of the knowledge on a topic. Example 6.9.1 illustrates a conclusion. Note that it does not say that there is “proof.” Reviewers should hedge and talk about degrees of evidence (e.g., “it seems safe to conclude that...”, “one conclusion might be that...”, “there is strong evidence that...”, or “the evidence overwhelmingly supports the conclusion that...”).

Example 6.9.1

In light of the research on cultural differences in attitudes toward organ donation, it seems safe to conclude that (emphasis added) cultural groups differ substantially in their attitudes toward organ donation and that effective intervention strategies need to take account of these differences. Specifically,...

If the weight of the evidence on a topic does not clearly favor one conclusion over the other, be prepared to say so. Example 6.9.2 illustrates this technique.

Example 6.9.2

Although the majority of the studies indicate Method A is superior, several methodologically strong studies point to the superiority of Method B. In the absence of additional evidence, it is difficult to conclude that (emphasis added)....

An implication is usually a statement of what people or organizations should do in light of existing research. In other words, a reviewer usually should make suggestions as to what actions seem promising based on the review of the research. Thus, it is usually desirable to include the term “implications” near the end of a topic outline. Example 6.9.3 is an implication because it suggests that a particular intervention might be effectively used with a particular group.

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5 The three examples for this guideline are hypothetical.
Example 6.9.3

The body of evidence reviewed in this paper suggests that when working with Asian Americans, Intervention A seems most promising for increasing the number of organ donations made by this group.

At first, some novice writers feel that they should describe only “facts” from the published research and not venture to offer their own conclusions and implications. Keep in mind, however, that a person who has done a thorough and careful job of reviewing the literature on a topic has, in fact, become an expert on it. To whom else should we look for advice on the state of a knowledge base (conclusions) and what we should do to be more effective (implications) than an expert who has up-to-date knowledge of the research on a topic? Thus, it is appropriate for you to express your conclusions.

✓ Guideline 10: Plan to suggest specific directions for future research at the end of your review.

Note that in the outline in Example 6.3.1, the reviewers plan to discuss future research in point V.C. As you plan what to say, keep in mind that it is inadequate to simply suggest that “more research is needed in the future.” Instead, you should make specific suggestions. For instance, if all (or almost all) the researchers have used self-report questionnaires, you might call for future research using other means of data collection. If there are understudied groups such as Native Americans, you might call for more research on them. If almost all the studies are quantitative, you might call for additional qualitative studies. The list of possibilities is almost endless. Your job is to suggest those that you think are most promising for advancing knowledge in the area you are reviewing.

✓ Guideline 11: Flesh out your outline with details from your analysis.

Now comes the final step before you will begin to write your first draft. You should go back over your outline and flesh it out with specific details from your analysis of the research literature. Make every effort, as you expand the outline, to include enough details to be able to write clearly about the studies you are including. Make sure to note the strengths and weaknesses of studies as well as the gaps, relationships, and major trends or patterns that emerge in the literature. At the end of this step, your outline will be several pages in length, and you will be ready to write your first draft.

Example 6.11.1 illustrates how a small portion of the topic outline in Example 6.3.1 (specifically, point II.A.1. in Example 6.11.1) would look if it were fleshed out with additional details.
Example 6.11.1

Part of a fleshed-out outline:

II. Individual decisions regarding posthumous organ donation
   A. Beliefs about organ donation (Research can be categorized into 5 major groupings.)
      1. Religious beliefs
         a. Define the term “religious beliefs”
         b. Religions that support organ donation
            (1) Buddhism, Hindu (Ulshafer, 1988; Woo, 2002)
            (2) Catholicism (Ulshafer, 1988)
            (3) Judaism (Bulka, 1990; Cohen, 1988; Pearl, 1990; Weiss, 1988)
            (4) Protestantism (Walters, 1988)
            (5) Islam (Gatrad, 1994; Rispler-Chaim, 1989; Sachedina, 2003)
         c. Religions that do not support it
            (1) Jehovah’s Witnesses (Corlett, 2003; Pearl, 2004)
            (2) Orthodox Judaism (Corlett, 2003; Pearl, 2004)
         d. Other sources that have commented on religion as a barrier (Basu et al., 1989;
            Gallup Organization, 1993; Moore et al., 2004)

Notice that several of the references in Example 6.11.1 appear in more than one place. For instance, Corlett’s 2003 report will be referred to under a discussion of both Jehovah’s Witnesses and Orthodox Judaism. This is appropriate because a reviewer should not be writing a series of summaries in which Corlett’s study is summarized in one place and then dropped from the discussion. Instead, it should be cited as many times as needed, depending on how many specific points on which it bears in the outline.

Activities for Chapter 6

Directions: Refer to the four review articles in the Supplementary Readings section near the end of this book while answering the following questions.

1. Reread Review B, Individual Differences in Student Cheating, and answer the following questions.
   - What categories were used by the authors to group the articles they reviewed?
   - Describe one case in which the authors have identified a gap in the literature.
   - Note another example in which the authors explicitly comment about other kinds of relationships between studies (i.e., similarities, differences, etc.).

2. For each of the four reviews, answer the following questions.
   - Do the writers use an academic or a casual “voice”?
   - Is their writing formal or informal?
• Are all of them organized around topics (as opposed to being a series of summaries of studies)?

3. Consider again Review B in the Supplementary Readings. In a paragraph, describe the authors' main points. In your opinion, have these points been made effectively? Explain.
Review B

Individual Differences in Student Cheating

There can be little doubt that cheating occurs among college students. There is a long history of studies on the frequency of cheating in the United States (see Davis, Grover, Becker, & McGregor, 1992, for a review), and this research has recently been extended into the United Kingdom (Franklyn-Stokes & Newstead, 1995). No precise figures can be given as to incidence because this depends on how cheating is defined and how it is measured. However, the American research has repeatedly shown that more than half of university students indulge in some form of cheating behavior during their undergraduate years, and the British studies suggest that the figure is not markedly different in the United Kingdom. Although such figures are surprising and perhaps disturbing, from a psychological perspective the more interesting questions surround the factors that influence cheating behavior and the reasons why some students cheat more than others.

The research literature on cheating has tended to be largely descriptive, so that we now know much about the incidence and correlates of cheating and much less about the reasons for the observed differences. A possible conceptual framework can be provided by considering two factors that seem inherently likely to be implicated in explaining cheating behavior: motivation and morality. The contribution of each of these will be considered in turn.

With respect to motivation, there is evidence that those with high achievement motivation are more likely to cheat than those with lower levels. Type A behavior (Friedman & Rosenman, 1959), which involves high striving for achievement, has been found to correlate positively with both observed and reported cheating (Perry, Kane, Bernesser, & Spicker, 1990; Weiss, Gilbert, Giordano, & Davis, 1993). However, the full picture is almost certainly more complicated than this because it seems likely that only some forms of achievement motivation might lead to cheating. Dweck (1986) has drawn the distinction between students with performance goals (those who wish simply to achieve good grades in their courses) and students with learning goals (those who wish to learn from their studies). Related, though not identical, distinctions have been made by Ames (1984) between ability and mastery goals and by Nicholls (1984) between ego involvement and task involvement. Individuals with learning goals are more likely to persist in challenging tasks and may even seek them out, and it is reasonable to suggest that such students will be less likely to resort to cheating as a way of coping with a challenging situation. There is little direct evidence on this issue, though Weiss et al. (1993) found that those who studied to learn (as measured by Eison’s [1981] scale) rather than to obtain a good grade were less likely to cheat.

Turning now to morality, once again the direct evidence is sparse, but there is an indication that moral development is related to cheating. It has been found that scores on moral reasoning tests correlate negatively with the occurrence of cheating (Grimm, Kohlberg, & White, 1968; Malinowski & Smith, 1985). Note, however, that cheating in these studies involved cheating on experimental tasks, not on assessments. Other research

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has indicated that students who cheat in the classroom tend to "neutralize" (rationalize) their behavior, blaming it on the situation rather than on themselves (e.g., Haines, Diekhoff, LaBeff, & Clark, 1986). Neutralization involves denial of responsibility, condemnation of condemners, and appeal to higher authorities; all these are ways of protecting the individual from blame and, hence, from moral disapproval. Neutralization, however, is likely to be a consequence rather than a cause of cheating.

While the literature relating cheating to both motivation and morality is not voluminous, these two concepts provide a useful perspective from which to view the existing research on cheating. Most of this research is descriptive and focuses on group differences in the incidence of cheating. These differences, which have included dimensions such as gender, age, academic achievement, and discipline studied, are reviewed and, where appropriate, related to the concepts of motivation and morality.

**Gender**

There is considerable evidence in the literature that females report less cheating than males. This was found to be consistently the case by Davis et al. (1992) in their survey of more than 6,000 students and has also been reported by many other researchers, including Baird (1980) and Calabrese and Cochran (1990). There are, however, a number of exceptions to this finding. Haines et al. (1986) and Houston (1983) found no differences between the sexes. Jacobson, Berger, and Millham (1970) even found that females cheated significantly more often than males.

Gender differences in motivation may help explain these findings since it has been found that female university students tend to be more intrinsically motivated than male students (Vallerand et al., 1992). Intrinsically motivated students are studying for the pleasure and satisfaction of doing so and, hence, seem unlikely to cheat. Gender differences might also be related to differences in moral reasoning, though the evidence that females have a better developed sense of moral responsibility is controversial (see, for example, Thoma, 1986). There is some evidence that females admit to as much cheating as males when this is of an altruistic nature, that is, is done to help another student (Calabrese & Cochran, 1990).

**Age**

Previous research has suggested that university students are less likely to cheat than those in high school (Davis et al., 1992). Some studies have found that students in the later years of their degree course are less likely to cheat than those in their early years (e.g., Bowers, 1964; Baird, 1980), though other studies have found little difference in relation to year of study (Stern & Havlicek, 1986). These differences between students of differing experience may be attributable to the fact that the more experienced students were slightly older; alternatively, they may be related to the different cultures and opportunities present in the different years of study, or to the fact that some of the weaker students, who may be more likely to cheat, have been weeded out during the early years of their course.

There is relatively little research that has looked directly at the effects of age, although this is a dimension that is becoming increasingly important in higher education as the proportion of mature and nontraditional students increases. Haines et al. (1986) found that there was a negative correlation between age of student and reported incidence of cheating; indeed, this variable was the most powerful of the many predictors of cheating that they studied in their research. Franklyn-Stokes and Newstead (1995) found in their first study that students aged 25 years or older were perceived by other students and lecturers to cheat less often than those aged either 21–24 or 18–20 years. Their second study found that both the older age group and the youngest students reported cheating less than the 21–24 year olds. This is clearly an area in which further data are required.

Motivational differences seem a plausible candidate for explaining the effects of age. There is considerable evidence that older students may be studying for more intrinsic, personal rewards than those who go straight to
university from school (see Richardson, 1994, for a recent review). Explanations of age differences in terms of moral development cannot be ruled out, because there is considerable evidence for age-related development in moral reasoning, even over the short period of a degree course (Murk & Adelman, 1992; Rest & Thoma, 1985), though this may be due to the influences of education rather than age itself.

**Academic Achievement**

In general, it seems that more successful students are less likely to cheat. This conclusion emerges from studies that have correlated grade point average (GPA) with observed and reported incidence of cheating. Hetherington and Feldman (1964) found that student cheating in experimentally contrived situations was higher for students with low GPAs. Similarly, Bowers (1964) and Haines et al. (1986) found that GPA correlated negatively with the extent to which students reported cheating.

The achievement of high grades is, not surprisingly, related to motivation (see, for example, Pintrich & Garcia, 1991). However, it is possible that high achievers also have a better developed sense of moral responsibility and, hence, explanations in terms of both motivation and morality are possible.

**Discipline Studied**

A wide variety of disciplines has been studied in previous research, but it is not easy to compare such studies because they have typically used tailor-made questionnaires; therefore, direct comparisons of the frequencies of cheating are invalid. Relatively few studies have systematically compared the incidence of cheating in different disciplines. The most important study to date of interdisciplinairy differences was carried out some years ago in the United States by Bowers (1964). In a national survey involving over 5,000 students in 11 different majors, he found that certain disciplines were associated with more cheating than others: Business and engineering were associated with the highest rates of cheating; education, social science, and science were in the middle; and arts and humanities had the lowest rates. It is not easy to relate these differences to either motivation or to morality. It is possible that business and engineering students tend to have performance goals whereas arts and humanities students have learning goals, but there is little direct evidence on this.

It is clear from the existing research that there are many issues requiring further clarification and elaboration. In the present research, we investigated differences in cheating as a function of gender, age, academic achievement, and discipline studied. In addition, we used a measure of the extent to which students adopted high academic standards and asked students to indicate their reasons for studying for a degree; both of these were intended to obtain insights into students' motivation.

The present research involved the use of a questionnaire designed to elicit self-reported frequency of 21 different cheating behaviors. In addition to indicating whether they had indulged in cheating, respondents were also asked to give their reasons for cheating or not cheating. Reasons for not cheating seem not to have been studied before, despite their potential theoretical and practical implications. There are, however, a number of studies that have investigated reasons for cheating and that provide indications as to what to expect. The received wisdom is that the major factors are time pressure and the competition to get good grades (e.g., Barnett & Dalton, 1981). Reasons for cheating are of particular interest because of the potential light they can shed on theories of cheating behavior: They provide information both on students' motivation and on their morality.

We designed Study 1 to investigate the incidence of a number of different cheating behaviors. This enabled us to relate this incidence to gender, age, academic achievement, academic standards, and discipline studied. By examining the reasons given for cheating and not cheating, we hoped to shed some light on the underlying causes of cheating and to relate these to current theories of motivation and moral development.