

Doctoral Students' Beliefs About Authorship Credit for Dissertations

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This study used 8 vignettes to investigate the beliefs of 326 doctoral students in school psychology concerning credit for authorship of an article based on the dissertation. The vignettes varied according to who originated the topic of the dissertation (student or advisor) and who wrote an article based on the dissertation and received credit for authorship on that article. Responses to the vignettes indicated that respondents believed it is more desirable and ethical for a dissertation design to be that of the student rather than of the advisor. Respondents also believed that it is more desirable and ethical for the student to be either sole or first author of an article based on the dissertation, regardless of who (student or advisor) originated the topic.

Keywords: authorship credit, dissertation topic, ethics

According to Koocher and Keith-Spiegel (1998), disputes about authorship credit “are among the most common complaints to ethics committees that arise from the academic-scientific sector of psychology” (p. 406). A recent survey of 604 members of the American Psychological Association (APA) found that more than one fourth of respondents believed that they had been involved in unethical assign-

ments involving authorship (Sandler & Russell, 2005). The APA ethics code (American Psychological Association, 2002) states that psychologists should receive credit for authorship only when they have actually contributed to a project and that the person who makes the greater contribution should be listed as the first author. Despite these guidelines, concerns about credit for authorship are prevalent, particularly when the contributors differ in professional status (i.e., professor and graduate student). A survey of graduate students and faculty (Holaday & Yost, 1993) found that graduate students reported significantly more ethical dilemmas associated with authorship credit than did faculty and that authorship concerns of graduate students were especially prevalent when students published a paper with a person of higher status, such as a professor. Bartle, Fink, and Hayes (2000) surveyed faculty and students from APA-accredited psychology programs. Students were more likely than faculty members to believe that professional status should not relate to authorship credit and that students should be the first author of articles on the basis of their master's theses.

Authorship credit is of particular concern when the project is a student's doctoral dissertation. Dissertations are usually collaborative efforts between students and their faculty advisors. Students differ in their need for assistance from their advisors, with some requiring extensive input into the dissertation, whereas others

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need minimal help (Goodyear, Crego, & Johnston, 1992). The 2002 APA ethical Standard 8.12 (c) states, "Except under exceptional circumstances, a student is listed as principal author on any multiple-authored article that is substantially based on the student's doctoral dissertation" (APA, 2002, p. 1070). A survey by Costa and Gatz (1992) found that most graduate students would give faculty advisors first authorship if their input into the dissertation was substantial and that few respondents would give a student sole authorship, even when input from the advisor was quite minimal. In a more recent survey (Rose & Fischer, 1998), graduate students rated the ethicalness of authorship in a vignette in which the student originated the dissertation topic and did most of the work for the project under the advisor's supervision. Both student and advisor did an equal amount of work on the resulting manuscript for publication, but the advisor took principal authorship of the manuscript. Respondents to this survey believed that the advisor's behavior with regard to authorship was highly unethical. In a similar fashion, Louw and Fouche (1999) found that both graduate students and professors believed that when a student initiated a research project, the student should be first author of an article based on the project, even when the student and the supervising professor were equally active in the research and writing of the article.

Our research was an attempt to further clarify the beliefs of graduate students concerning the ethicalness of authorship credit on articles resulting from dissertations. Our study examined the beliefs of doctoral students in school psychology concerning the ethics of publication practices. Although previous research has investigated some aspects of authorship credit for articles based on dissertations, our study varies the origin of dissertation topics and credit for authorship across vignettes in a systematic fashion.

Several studies have indicated a discrepancy between what psychologists believe is ethical and how they actually behave (i.e., Bernard & Jara, 1986; Keith-Spiegel, Tabachnick, Witley, & Washburn, 1998; Smith, McGuire, Abbott, & Blau, 1991). Sometimes unethical behavior may seem more desirable than ethical behavior. For example, it may be considered less ethical for an advisor than for a student to suggest an idea for a dissertation. However, for students who

are at a loss regarding their dissertation, the advisor's suggestion may be highly desirable or attractive. Therefore, our research also investigates the beliefs of doctoral students about the desirability of students' or advisors' claims of first or sole authorship on articles based on dissertations originating from the ideas of students or advisors.

We sampled doctoral students in school psychology who, like their peers, must complete a dissertation to earn their degree. These students have advisor-student power relationships that are similar to those of doctoral students in other fields of psychology.

Method

Participants

Participants were 326 doctoral students in school psychology who were members of the American Psychological Association of Graduate Students (APAGS). Not all of the participants responded to all demographic questions. The number of people who did not respond ranged from a low of 3 for gender to a high of 18 for ethnicity, and an additional 14 participants did not indicate their years of graduate study. Of those who indicated gender, 84.5% ($n = 277$) were women, and 15.5% ($n = 51$) were men. The average age of the participants was 32.29 years ($SD = 8.17$ years). Respondents had an average of 4.57 years of graduate study ($SD = 2.11$ years). The majority of respondents to the specific demographic questions ($n = 266$) were Caucasian, with the highest percentage (46.5%) residing in the Northeast ($n = 152$). These demographic statistics are similar to those reported by Curtis, Chesno Grier, Walker Abshier, Sutton, and Hunley (2002) for practicing school psychologists. Most respondents were from APA-accredited programs ($n = 287$), had taken an ethics course ($n = 271$), and had published or presented a paper with a faculty member ($n = 198$).

Instrument

The dissertation vignette questionnaires asked each participant to respond to a vignette that described a collaborative process of dissertation between graduate student and advisor. Each questionnaire presented one of eight pos-

sible vignette versions that varied according to who originated the dissertation idea (graduate student or advisor), who wrote and was first author of an article based on the dissertation (graduate student or advisor), and who received second authorship credit for that article (neither of the two parties or either the advisor or the student, who did not write the article). The Appendix presents a key to the content of the eight vignettes. In the Appendix, vignette 1 serves as an example of the vignette formats.

After the vignette, participants rated the desirability of the development of the dissertation idea on a scale from 1 (*very desirable*) to 6 (*very undesirable*) according to the instruction “from the student’s viewpoint, how desirable was the development of the dissertation idea?” They rated the desirability of the vignette outcome on a scale from 1 (*very undesirable*) to 6 (*very desirable*) according to the instruction: “from the student’s viewpoint, how desirable was the outcome of this vignette?” We did not define for participants the term “desirable,” because it seemed to be clear in this context.

Participants then responded on a scale from 1 (*very ethical*) to 6 (*very unethical*) to an item that rated the ethicalness of the dissertation idea. Finally, participants rated the ethicalness of the vignette outcome on a scale from 1 (*very unethical*) to 6 (*very ethical*). We alternated the positive and negative polarities of these items to prevent position response sets by participants. These alternations required careful reading by participants, but when we entered the data, we noticed that individuals alternated their responses accordingly. We also noted that the results of responses to the questionnaires (see Results section below) were logical.

The respondents provided demographic information. They also answered questions about whether they had ever published an article or presented a paper with faculty, and if so, they indicated when they discussed authorship during the process of publication. Students then rated their overall experience while collaborating with faculty on a 4-point scale in which 1 was *excellent* and 4 was *poor*. Students indicated if they had taken an ethics course and whether their school psychology program was APA accredited. At the end of the demographic portion of the questionnaire was an area labeled “comments:” for participants to provide remarks and observations.

To determine whether responses would vary according to the gender of the faculty advisor and the student, we asked participants to respond to four questions after the vignette regarding the gender composition of the faculty member/graduate student dyad: was it male/male, male/female, female/male, or female/female? Instead of keeping the polarities of these four questions the same as they were for the original gender-neutral vignette, we varied the polarities of the possible answers to the four questions for each of the four gender dyads, to prevent position response sets. Unfortunately, this part of the questionnaire proved to be irritating and confusing to respondents. Many indicated that they did not wish to take the time to complete this part of the questionnaire, because the polarities of the answers were not the same as those used for the original vignette. These respondents sometimes wrote that gender did not make a difference in their consideration of authorship credit. Thus, we did not analyze this part of the questionnaire.

Procedure

The APA Research Office sent us mailing labels for 700 randomly selected APAGS doctoral students in school psychology in early September 2001. We sent each graduate student a questionnaire containing one of the eight vignettes in early October. Thus, we sent each vignette to 87 or 88 students. In mid-November, we sent a second mailing of questionnaires to students in the sample who had not responded previously. Of the 700 questionnaires sent, 28 were returned as undelivered. These undeliverable questionnaires reduced the possible sample to 672. The 326 usable responses corresponded to a 47% return rate.

Results

Quantitative Data

To analyze the responses to the vignettes, we conducted four 2 (origin of dissertation idea [advisor or student]) \times 4 (authorship credit [advisor-none, student-none, advisor-student, student-advisor]) ANOVAs—one for each of the vignette questions. The reader will recall that, in each vignette, the first author was also the person who wrote the article originating

from the dissertation (see Appendix for vignette contents). To control for Type I error, we used a Bonferroni-corrected p value of .0125 to indicate significance.

As with the demographic items, all participants did not respond to all of the vignette questions. Nine did not rate the desirability of the dissertation idea, seven did not rate the ethicalness of the dissertation idea, seven did not rate the desirability of outcome, and six did not rate the ethicalness of the outcome. The participants who did not respond to particular items were not the same participants; if a specific participant did not respond to one of the vignette items, he or she usually did respond to the other three. The reason for participants skipping a descriptive or vignette item is not known.

Table 1 presents the means and standard de-

viations for all comparisons for each of the four ANOVAs. Doctoral students differed in their ratings on the question regarding the desirability of the development of the dissertation idea, $F(1, 309) = 17.29, p < .001, \eta^2 = .053$, with participants rating vignettes in which the doctoral student suggested the dissertation idea as significantly more desirable than the vignettes in which the advisor suggested the dissertation idea. The boldface portion in Table 1 under the “Desirability of the development of the dissertation idea” gives the means and standard deviations associated with this result. For this item, participants did not differ in their ratings of authorship of the paper, $F(3, 309) = .91, p = .43, \eta^2 = .009$, and no significant interaction was associated with this question, $F(3, 309) = 2.12, p = .10, \eta^2 = .02$.

Table 1
Means and Standard Deviations of Vignettes for Each Statistical Comparison

Desirability of the development of the dissertation idea							
Origin of Idea		First or Sole Authorship of Paper		Origin of Idea (O) X First or Sole Authorship (F)			
Student ($n = 159$)	Advisor ($n = 158$)	Student ($n = 146$)	Advisor ($n = 171$)	Student (O) Student (F) ($n = 72$)	Student (O) Advisor (F) ($n = 87$)	Advisor (O) Student (F) ($n = 74$)	Advisor (O) Advisor (F) ($n = 84$)
$M = 5.23$	$M = 4.68$	$M = 5.06$	$M = 4.86$	$M = 5.49$	$M = 5.02$	$M = 4.68$	$M = 4.69$
$SD = 1.36$	$SD = 1.11$	$SD = 1.12$	$SD = 1.38$	$SD = .93$	$SD = 1.61$	$SD = 1.15$	$SD = 1.08$
Ethicalness of the development of the dissertation idea							
Student ($n = 160$)	Advisor ($n = 158$)	Student ($n = 148$)	Advisor ($n = 171$)	Student (O) Student (F) ($n = 73$)	Student (O) Advisor (F) ($n = 87$)	Advisor (O) Student (F) ($n = 75$)	Advisor (O) Advisor (F) ($n = 84$)
$M = 5.59$	$M = 4.93$	$M = 5.22$	$M = 5.30$	$M = 5.66$	$M = 5.23$	$M = 4.79$	$M = 5.06$
$SD = 1.06$	$SD = 1.27$	$SD = 1.30$	$SD = 1.14$	$SD = 1.06$	$SD = 1.07$	$SD = 1.37$	$SD = 1.17$
Desirability of outcome							
Student ($n = 160$)	Advisor ($n = 159$)	Student ($n = 147$)	Advisor ($n = 172$)	Student (O) Student (F) ($n = 72$)	Student (O) Advisor (F) ($n = 88$)	Advisor (O) Student (F) ($n = 75$)	Advisor (O) Advisor (F) ($n = 84$)
$M = 3.39$	$M = 3.38$	$M = 4.90$	$M = 2.09$	$M = 5.25$	$M = 1.88$	$M = 4.57$	$M = 2.32$
$SD = 2.23$	$SD = 2.10$	$SD = 1.77$	$SD = 1.53$	$SD = 1.54$	$SD = 1.42$	$SD = 1.93$	$SD = 1.62$
Ethicalness of outcome							
Student ($n = 161$)	Advisor ($n = 159$)	Student ($n = 148$)	Advisor ($n = 172$)	Student (O) Student (F) ($n = 73$)	Student (O) Advisor (F) ($n = 88$)	Advisor (O) Student (F) ($n = 75$)	Advisor (O) Advisor (F) ($n = 84$)
$M = 3.02$	$M = 3.00$	$M = 4.26$	$M = 1.93$	$M = 4.50$	$M = 1.78$	$M = 4.03$	$M = 2.08$
$SD = 2.06$	$SD = 1.92$	$SD = 1.82$	$SD = 1.40$	$SD = 1.80$	$SD = 1.32$	$SD = 1.83$	$SD = 1.48$

Note. Areas in boldface are associated with significant findings.

Participants also differed significantly in their ratings on the ethicalness of the suggestion of the dissertation topic, $F(1, 311) = 26.96, p < .001, \eta^2 = .08$, rating vignettes in which the student suggested the dissertation idea as more ethical than vignettes in which the advisor suggested the idea. The boldface portion of Table 1 under "Ethicalness of the development of the dissertation idea" presents the means and standard deviations associated with this finding. Participants did not differ significantly in their ratings of authorship associated with this item, $F(3, 311) = 1.28, p = .28, \eta^2 = .01$. The interaction effect for this analysis was also not significant, $F(3, 311) = 1.62, p = .19, \eta^2 = .02$.

There was a significant interaction effect for the desirability of outcome of the vignettes, $F(3, 311) = 3.71, p = .012, \eta^2 = .035$. The boldface portion of Table 1 under the "Desirability of outcome" presents the vignette means associated with the origin of idea X first or sole authorship interaction. A follow-up ANOVA was significant, $F(3, 315) = 81.91, p < .001, \eta^2 = .438$, with post hoc Tukey honestly significant difference comparisons showing that participants rated vignettes in which the student both originated the dissertation idea and was either sole or first author of the paper as more desirable than the vignettes in which the advisor originated the idea and the student was either first or sole author. However, participants rated both of these vignettes as more desirable than the vignettes in which either the student or the advisor originated the idea but the advisor was first or sole author of the paper. These latter alternatives did not differ significantly from each other. The main effect for desirability of outcome for authorship was also significant, $F(3, 311) = 77.79, p < .001, \eta^2 = .429$, with participants rating vignettes with the student as first or sole author as more desirable than vignettes with the advisor as first or sole author. Table 1 presents the means and standard deviations under the "Desirability of outcome" associated with this authorship main effect in boldface. Participants did not differ in their ratings of the desirability of the outcome associated with this item, $F(1, 311) = .35, p < .56, \eta^2 = .001$.

There was a significant main effect for ethicalness of outcome, $F(3, 312) = 61.33, p < .001, \eta^2 = .371$, with participants rating vignettes in which the student was the first or sole

author of the paper based on the dissertation as more ethical than the vignettes in which the advisor was either the first or sole author. Table 1 presents the means and standard deviations associated with this analysis in boldface under "Ethicalness of outcome." The interaction between the origin of the dissertation idea and authorship of the paper and originator of the dissertation idea, $F(3, 312) = 3.39, p < .019, \eta^2 = .032$, approached significance but did not reach the corrected p value of .0125. Participants did not differ in their ratings of the ethicalness of the outcome associated with this item, $F(1, 312) = .74, p = .40, \eta^2 = .002$; thus, these ratings were not significant.

Participants who had written papers or articles with faculty rated their collaborative experiences as generally good ($M = 1.66, SD = .73$, on a 4-point scale where 1 was *excellent* and 4 was *poor*). Seventy-two percent ($n = 143$) of the 198 students who responded said that they discussed authorship with the faculty member, with 68 (34%) of these students indicating that this discussion took place before the research project began.

Qualitative Data

More than one third of the respondents (36.2%, $n = 118$) provided a total of 141 comments. Two doctoral students in school psychology categorized the responses as indicated in Table 2. These students had a 91% agreement for category assignment of responses, $\kappa = .83$.

Table 2 also quotes representative comments for each category. Table 2 shows that the first category, "Comments about survey content," had the most number of responses: 18 of the 34 comments addressed the changing polarities of responses (first comment in Table 2), 15 comments indicated that respondents believed the vignettes should have contained more information (second comment), and 1 respondent stated that the questionnaire did not address ethical "issues of greatest concern" and did not elaborate. With regard to the gender issue, 28 of the 29 comments reflected that gender is "unimportant," "irrelevant," or "shouldn't play a role" in ethics of dissertation, as illustrated in the quote presented in the table. However, one respondent indicated that people would probably respond to questions on gender in a more

Table 2
Categories of Comments With Examples

Category	<i>n</i>	Sample comment
Comments about survey content	34	"The changing nature of your scale is interesting-makes it a bit difficult to fill out the survey." "The vignette doesn't address whether the student wanted to do that research or was compelled to by pressure from faculty. Surprisingly, I have found that some students, even on the Ph.D. level, welcome doing the faculty research as opposed to coming up with their won ideas, entailing more works."
Gender issues	29	"The gender of advisor and student seems immaterial to me."
Negative experience working with faculty	17	"I was promised authorship on something that was published but was dropped from the list as not a significant enough participant. I must have put 100 hours of work into the project, maybe more."
Comments about authorship order	16	"The professor generally gets to decide whose name goes first-that's the reality. Some professors usually put the student's name first; others usually put their own name first." "I plan on publishing and presenting my own dissertation when I complete it. I expect to be first author."
Best wishes/good luck	15	"Great information to publicize! Good luck"
Positive experience working with faculty	8	"I have had very positive experiences collaborating with faculty."
Dissertation status	8	"Just finished dissertation."
Miscellaneous	8	"My responses are based on my experience with one faculty member."
Neutral experience working with faculty	4	"It is difficult to rate overall experience because, for example, I had one 'fair' experience and one 'good-excellent' experience."
Accreditation status	2	"The clinical program is APA accredited; my program is not."

stereotypic fashion if gender were included as part of the vignettes.

Of the 17 responses to the category, "Negative experience working with faculty," 16 were about authorship and were typical of the quote presented in Table 2. The second quote indicated that faculty members are often insensitive to the workloads of graduate students. In the next category, "Comments about authorship order," all 16 responses dealt with beliefs and expectations, rather than experiences, of authorship when working with faculty, as illustrated by the two comments presented. Seven of these comments indicated negative expectations, 7 were positive, and 2 indicated that order of authorship depended on the faculty member. Of the 8 positive experiences given in the category of working with faculty, 5 were specifically about authorship, and 3 were general comments about good experiences working with faculty.

Discussion

Responses by doctoral students in school psychology to vignettes that vary in the origin of dissertation ideas and authorship credit of a paper resulting from the dissertation showed

that these participants believed it is both desirable and ethical for doctoral students to develop their own dissertation ideas and to be either first or sole author on any paper submitted for publication that is based on the dissertation, even if their advisors originated the dissertation idea or wrote the paper, or both. Although we collected data just before the most recent publication of APA's *Ethical Principles of Psychologists and Code of Conduct* (2002), the results agree with 2002 Standard 8.12 (c) cited in the introduction. Thus, the wording of the 2002 ethical standard is more reflective of these students' beliefs than that of the 1992 standard 6.23 (c), which indicated only that a student is *usually* listed at first author on articles resulting from the dissertation (APA, 1992).

Goodyear et al. (1992) stated that problems with authorship of articles based on dissertations arise from "assumptions about what a dissertation is or should be" (p. 208). They commented that, unlike practitioner training for which APA provides extensive guidelines, there are few rules regarding research training. As a result, some students arrive at the dissertation with substantial experience in research and can conduct relatively independent research,

whereas some students have much less experience in research and require considerable contribution to the dissertation from their advisors. Sometimes advisors end up making a much greater scientific contribution to the dissertation than doctoral students and may believe that they, not the students, should have first authorship on resulting articles. Goodyear et al. (1992) suggested that APA guidelines for research preparation would be helpful to address this problem.

Students may also lose motivation to prepare their dissertations for publication, particularly if extensive revisions are required. Keith-Spiegel (1994) indicated that some students "may not be interested in pursuing further outlets for the work but would readily agree to junior authorship if the professor offers to shepherd the project through publication" (p. 367). In cases such as this, she suggested that future APA ethics codes allow for students and their advisors to make "different decisions that are instigated by or agreeable to the student" (p. 367).

When advisors believe that they have done most of the work on the dissertation and papers based on dissertations, they may think that they are justified in being listed as the first author. APA ethical standards seem to offer conflicting guidance on this issue. APA Ethical Standard 8.12 (c) indicates that students should be first authors of articles resulting from dissertations, but Standard 8.12 (b) states that "principal authorship and other publication credits accurately reflect the relative scientific or professional contributions of the individuals involved, regardless of their relative status" (APA, 2002, p. 1070). APA does not define what scientific or professional contributions merit first authorship. Several authors have conducted surveys of psychologists to determine what research activities merit authorship (Bridgewater, Bornstein, & Walkenbach, 1981; Spiegel & Keith-Spiegel, 1970). Most recently, Bartle et al. (2000) found that both faculty members and students from APA-accredited psychology programs rated the development of the topic for research as most important in assignment of authorship credit. This task was followed by the development of the research design and hypotheses, and the writing of the draft of the article. Respondents did not consider the professional status of the contributors or the task of data collection as

important in the assignment of authorship credit.

Winston (1985) proposed a point system to decide the order of authorship credit. He began by assigning weights to 11 different activities involved in conducting and publishing research. The activities were both creative (i.e., development of the research idea) and time consuming (i.e., collection of data). He assigned the weights on the basis of "the quality of the contribution (of each activity) and how essential it was to the successful accomplishment of the task" (p. 63). After determination of these weights, each potential author assigns points that reflect each person's contribution to each activity. For example, if development of the research idea had a weight of 50, the person who suggested the idea might receive 30 points and the person who refined the idea into a researchable project might receive 20 points. Total points from the 11 categories for each person determine the order of authorship, with the person with the highest total being listed first.

Because of the complexities associated with authorship credits, it is important that doctoral students and their advisors discuss this at the very beginning of the dissertation process. Several authors (Arthur, Anchan, Este, Khanlou, Kwok, & Mawani, 2004; Oberlander & Spencer, 2006) indicate that faculty-student authorship discussions should begin early in the project and allow for flexible negotiations. Discussions should include a review of APA standards and a commitment by both parties concerning who will do what activities and what will happen if either party fails to follow through on his or her obligations (Oberlander & Spencer, 2006). Preferably, this agreement would be documented in writing (Hopko, Hopko, & Morris, 1999; Oberlander & Spencer, 2006). For a thorough discussion of issues concerning graduate students as authors, not just of papers based on their dissertations, we encourage readers to consult Oberlander and Spencer (2006).

Our study had several shortcomings. The most serious of these was that the survey alternated polarities of alternatives to prevent a response set. Although this method perhaps solved one problem, it created another by requiring participants to attend very closely to response alternatives. Several respondents com-

mented that this alternation made it difficult to respond to the survey. These alternations may have affected the validity of the data.

Our research investigated doctoral students' opinions about authorship based only on who developed the dissertation idea and who wrote the resulting article. As indicated above, more activities are involved in a dissertation than just these two tasks. Future research should examine students' views on the importance of these other activities, such as statistical analyses, in determining authorship. Our study used only graduate students in school psychology. Future research should also include students from different disciplines of psychology to determine if a specific field affects students' beliefs on authorship credit and to ensure generalizability of results.

Our survey did not define the term "desirable," leaving it to the interpretation of the participants. Future studies should provide precise definitions of terms to clarify what is being asked. In the survey we used, the person who wrote the article was also listed as either first or sole author. Future surveys should separate these characteristics, which would allow investigation, for instance, of the ethicalness of one person writing the article and listing the other person as first or sole author.

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Appendix

Vignette Key

Vignette No.	Suggested Idea	Wrote Article (First Author)	Second Author
1	Advisor	Student	None
2	Advisor	Advisor	None
3	Advisor	Student	Advisor
4	Advisor	Advisor	Student
5	Student	Advisor	None
6	Student	Advisor	Student
7	Student	Student	None
8	Student	Student	Advisor

Dissertation Vignette 1:

A graduate student and the student's advisor meet to discuss a dissertation topic. Building on the advisor's research, the advisor suggests an idea that the student adopts for the dissertation. The student successfully proposes the research to the student's dissertation committee. The student supervises all data collection and analyses. The student successfully defends the dissertation and graduates. The student writes a paper on the basis of the dissertation and submits it for publication, listing the student as the only author.

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