The Research Column

Writing a research abstract

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Gearing up to share your research results

You've finished your research project, packed up the data sheets, and turned in the final report. Finally, after all that work, it's over. I'm sorry to say, "Not quite." The final step in the research process is to share what you have done with others. All too often nurses stop short of letting others know what they discovered in their research. When conducting a literature search and finding little on our topic, we often wonder how many nurses have researched the topic, but just never published their work.

At the end of a study, it is common to feel insecure about communicating your project. Researchers often think, "I don't have the time," "I'm sick of the project," or "It's not good enough." Talking with others about a completed project, we have heard comments such as, "Why did you do it like that?" and "Too bad you didn't collect data from another group as well." These comments reflect study limitations. There is always a give and take when designing a study, and after the study is done, the tradeoffs are evident. But, being aware of the study limitations merely puts the study in its proper perspective. By communicating your project, limitations and all, you not only inform clinical practice, but lay the ground work for future studies.[1]

The purpose of an abstract

An excellent means of disseminating your research results is to present the findings at a conference, such as the ENA Scientific Assembly or Leadership Symposium. Acceptance of your research for presentation depends on a well-written abstract. An abstract is a short summary that communicates the essential elements of the research project.[2,3] After you submit your abstract for a paper or poster presentation, nurse reviewers rate the abstract on the basis of predetermined criteria. Authors with the highest rated abstracts are invited to present their research. In addition, your abstract is reproduced in the conference proceedings. The ENA Scientific Assembly research abstracts are also published in the *Journal of Emergency Nursing.*

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Elements of an abstract

Writing a clear, concise abstract is essential for receiving high ratings. Writing an abstract may be difficult initially, but it becomes easier with experience. Staying focused on the elements of the abstract and avoiding extraneous thoughts and words, helps pull the abstract together. To introduce you to the elements of an abstract and to the process of writing an abstract, the first and final drafts of a simulated study examining nurses calling in sick are provided. Common errors in abstract writing and how to clearly address abstract elements are highlighted in the examples in Figure 1. A description follows for each of the abstract elements required for an ENA Scientific Assembly abstract with reference to the "pitfalls" and "solutions" exemplified in Figure 1. The revised abstract is 311 words, below the current Scientific Assembly limit of 325 words.

Title. The title of an abstract should clearly reflect the study being reported, as well as promote interest in the abstract. The variables and context of the study should be evident. Titles that make a statement about

"The First Draft"	"The Revision"
Sick Calls	**Work-related Stress and Illness in Emergency Nurses**
PURPOSE: Nurse managers always complain that nurses call in sick too much. No one knows for sure why nurses call in ill with the frequency they do. Therefore, this study will find out why.	**PURPOSE**: Little is known about the impact of work-related stress on illness in emergency nurses. The Cole-McLain theory of work-related stress states that the more stress an employee experiences, the more likely that person is to call in ill. Therefore, the research question was, "What is the relationship between work-related stress and work absences among emergency nurses?"
DESIGN: The study design used questionnaires to gather data.	**DESIGN**: A cross-sectional, correlational design was used.
SETTING: The setting for this study was a busy level II trauma center.	**SETTING**: This study was conducted in a 44-bed emergency department of a metropolitan level I county hospital in a southern state with 120,000 visits per year.
SAMPLE: The sample consisted of all nurses who work in the emergency department.	**SAMPLE**: All registered nurses with at least 2 years of emergency nursing experience were eligible to participate. The convenience sample of 66 registered nurses (response rate = 81%) were typically young (mean age = 24 years), female (n = 62), BSN prepared (n = 59), and married (n = 60).
METHODOLOGY: Questionnaires were given to nurses, and all the data entered in a computer and statistically analyzed.	**METHODOLOGY**: At a staff meeting, data were collected by anonymous questionnaire that contained demographic questions and the Cole-McLain Stress Inventory (CMSI). The CMSI measures the level of work stress using 14 items rated on a 5-point scale from "never" to "always." This inventory possesses evidence of construct validity and was supported as internally reliable (alpha = 0.98). Possible scores range from 14 to 70 with higher scores indicating more work-related stress. The number of work absences was collected for all participants from hospital payroll records.
RESULTS: Some nurses reported that they call in sick regularly. The nurses who were unhappy with their nurse manager were found to call in sick more so than the nurses who were happy with their nurse manager.	**RESULTS**: Nurses were out ill an average of 6.4 (SD = 2.1) times in the preceding 2 years. The mean score on the CMSI was 64 (SD = 3.2). A significant (p = 0.004) Pearson product-moment correlation of 0.45 was found between CMSI score and the number of work-related absences in the past 2 years.
CONCLUSION: Just as nurses must remember the customer (patients) in the emergency department, manager's customers are their staff nurses.	**CONCLUSIONS**: Nurses in this study experienced high levels of work stress. Consistent with the theoretical framework, nurses with higher stress levels were out ill more than those with lower stress levels. Stress-reducing interventions can be developed from the areas of stress identified in this study.

Figure 1
Sample draft and revised abstract.

the study findings are especially interesting. In Figure 1, the title was changed from one that only provided a single study variable to one that identified the variables studied, the population studied, and the setting.

Purpose. Begin the text of an abstract with a brief (one or two sentences) statement of the rationale for the study followed by the study purpose, research question(s), or hypothesis. Include the theoretical or conceptual framework used for the study. Unlike the original purpose statement in Figure 1, the revised statement identifies the problem, the rationale for the study, the theoretical framework, and the research question.

Design. Identify the study design using appropriate terminology. Some examples of study designs are prospective, retrospective, descriptive, qualitative, quasi-experimental, and experimental. In the draft abstract in Figure 1, the type of data collection method (that is, questionnaire) has been confused with design. Questionnaires can be used with many research designs (such as in descriptive, quasi-experimental, and experimental research). In the revised abstract, the reader is informed that the data were collected at one point in time (cross-sectional) and

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that an association between variables (correlational design) is being used.

Setting. Describe the setting as specifically as possible. The setting description in the revised abstract in Figure 1 is comprehensive and allows readers to determine whether the study findings might be applicable in other emergency departments.

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Sample. Describe the procedure for selecting participants (e.g., convenience, consecutive, or random sample). Include the specific inclusion and/or exclusion criteria, as well as the characteristics of the subjects or participants. This information allows readers to decide if the sample is typical or consistent with the patients or nurses in their emergency departments. The applicability of the findings to another group is related to how closely the research sample resembles the group to which the findings might be used. The revised sample discussion in Figure 1 informed the reader that the inclusion criterion was that nurses had to have been employed for 2 years at the hospital's emergency department; by default, nurses who did not meet this criterion would be excluded. The fact that the sample was one of convenience versus a random sample conveys that the results usually are not generalizable to others outside the study. The characteristics of the sample are detailed and clearly allow the reader to determine who participated in the study.

Methodology. Identify the study instruments, procedures, and interventions. Provide evidence of reliability and validity for study instruments. Abstract reviewers always want to know if the instrument consistently measures the topic (reliability) and if it measures what it reports to measure (validity). For qualitative studies, address evidence of auditability, fit, and credibility. In the Figure 1 draft abstract, the author did not indicate important information, such as the topic and content of the questionnaire, and how the questionnaires were distributed. The revised methodology section provides sufficient information for other researchers to evaluate or to replicate the study. It also informs the reader that the instrument used to collect data has evidence of both reliability and validity. Reliability and validity information shows that measurement error was minimal and that the concept under investigation, for example, work stress, was adequately measured.

Results. Provide the data that address the research questions and include the statistical tests used to analyze the data. In the Figure 1 draft abstract, no information was provided on the number of sick calls, the degree of stress in the group, or the statistical test that was used. In the revision, the results of the data analysis are reported, including the mean score, statistical test used, and the findings of the statistical test. Note that interpretation of the results occurs in the conclusion section.

Conclusions. State reasoned conclusions based on the data and the practice implications based on the findings. Avoid restating the results. The temptation in this section is to make generalized or sweeping implications about the research findings, as was done in the draft abstract in Figure 1. The revised conclusions interpret the results, including support for the theoretical framework. The conclusions are specific to this project, setting, and sample. The researcher also has not made statements that cannot be backed up with the study data.

The "Call for Abstracts"

Meetings that include research presentations generally publish a "Call for Abstracts" months in advance. These calls are communicated in nursing newsletters, journals, and professional mailings, and indicate a contact person who will provide abstract guidelines. Included in the "call" are the specific guidelines for formatting abstracts, for example, length, line spacing, font, and margins. It is imperative that researchers follow the guidelines exactly; otherwise, their abstract may not be reviewed or it may receive a low rating. The guidelines also state the deadline for submission and the number of copies to be submitted.

Most calls request a "structured abstract." A structured abstract is one in which the elements of the research project are included as headings in the abstract. The specific sections necessary to communicate each study differ according to the type of study. For brevity, sections may be combined (e.g., Design and Setting: A retrospective chart review at an urban level I trauma center). Alternative section

ENA 1998 Scientific Assembly Abstract Guidelines

- Obtain current abstract guidelines from the ENA National Office (call [847] 698-9400)
- Limit your abstract to no more than 325 words
- Use 10 point or larger, nonstylized font (e.g., Courier, CG Times, or Univers)
- Use double spacing
- Include a title but do not include the author identification on the abstract
- Postmark no later than March 1, 1998
- Submit two copies of the abstract cover sheet
- Submit seven copies of the abstract

Figure 2
Research abstract checklist.

headings are usually allowed (e.g., Procedure rather than Methodology).

The guidelines for research abstracts for the 1998 ENA Scientific Assembly are listed in checklist form in Figure 2. When submitting an abstract, it is important not to place names on the abstract itself because the members of the ENA Research Committee review submitted abstracts by a process called blind review. Blind review allows the reviewer to concentrate on the information in the abstract without the influence of knowing who wrote it. Format guidelines and blinded review promote equal consideration of all abstracts. ENA Research Committee members who submit research abstracts for presentation are excluded from rating abstracts for that year.

Summary

Research abstracts may be difficult to write, especially for novice researchers. Reading abstracts from previous ENA Scientific Assemblies[4] with a critical eye will help you focus on the abstract elements described in this article. Your abstracts should be clear, logical, and grammatically correct. Having others (for example, clinical nurses and a nurse researcher) review your abstract and provide feedback before submission is also helpful. And, after your research abstract has been accepted and presented, it's still not over—the next step is writing the research manuscript!

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