

DATA ANALYSIS AND INTERPRETATION

By

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Factors to consider in planning a study

- The precise nature of the information that is needed to answer the questions
- The optimal means of obtaining the information
- Awareness of the primary audience to receive the report to ensure that the methods and types of analysis used will be appropriate and understandable.

Kinds of design

- Experimental design
 - Causal-comparative (Ex-post-facto) design
 - Descriptive (Survey) design
 - Naturalistic design
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- The first three require quantitative data and quantitative analysis and interpretation of data
 - Naturalistic design requires qualitative data and qualitative analysis and interpretation of data

RESULTS

QUANTITATIVE STUDIES

- The Results section summarizes the data collected and the statistical or data analytic treatment used.
- Report the data in sufficient detail to justify the conclusions.
- Mention all relevant results, including those that run counter to the hypothesis.
- Do not include individual scores or raw data.
- Discussing the implications of the results is not appropriate here.

Tables and Figures

- To report the data, choose the medium that presents them most clearly and economically.
- Tables commonly provide exact values and, if well prepared, can present complex data and analyses in a format that is familiar to the reader.
- Figures of professional quality attract the reader's eye, provide a quick visual impression, and best illustrate complex relationships and general comparisons but are not intended to be as precise as tables

Tables and Figures (cont.)

- Summarizing the results and the analysis in tables or figures instead of text may be helpful.
- Avoid repeating the same data in several places and using tables for data that can be easily presented in a few sentences in the text.
- When you use tables or figures, be certain to mention all of them in the text.
- Refer to all tables as ***tables*** and to all graphs, pictures, or drawings as ***figures***.
- Always tell the reader to make them readily intelligible.

Tables and Figures

- In the text, refer to every table and tell the reader what to look for.
- Discuss only the table's highlights; if you discuss every item of the table in text, the table is not necessary.
- In the text, refer to the tables by their numbers (... as shown in Table 1... or ... (see Table 2)
- Do not write “the table above” (or below) or “the table on page 12.”
- Number all tables with Arabic numeral; **Do not** use suffix letters to number tables (Table 1.b, etc.)

Reporting Results (Extracted from International Perspectives on Sexual and Reproductive Health, Vol 40, No. 2. June 2014.)

➤ Descriptive

- On average, males and females were similar in age (14.7 vs 14.4)... The proportion of youth in older age categories was higher among males than among females (Table 1, page 70), reflecting the common phenomenon of females leaving the school at an earlier age than males because of family expectations... [N.B. Study was retrospective in nature.]
- Young men were more likely than young women to have had sexual intercourse (56% vs 27%). In addition, a larger proportion of males than females had had sex by age 12 (36% vs 16%) and by age 14 (49% vs 23%)....

Reporting Results

➤ Bivariate

Among both males and females, the odds of sexual debut at a given age were elevated (or the age at first sex was lower) among youth who perceived a small or great risk of contracting HIV (odds ratios, 1.2 – 1.9; Table 3), knew someone who had died of AIDS (1.1. – 1.4), had experienced sexual pressure from a greater number of sources (1.6 – 2.1...; they were reduced among youth with greater knowledge of HIV (0.9 for both). In addition, sexual debut was negatively associated with abstinence self-efficacy among males (0.9), and positively associated with talking to female relatives about HIV and condom-use self-efficacy among females (1.1 for each).

Reporting Results

➤ Multivariate

...Results showed that even after controlling for social, demographic and school- and community-level variables, several indicators were associated with the timing of sexual debut (Table 4, page 73, and Table 5). For example, among both males and females, youth had elevated odds of having ever had sex (or having had sex at earlier age) if they perceived a small (and among females, a moderate) risk of HIV (odds ratios, 1.2-1.3), knew someone who has died of AIDS (1.1-1.2), had experienced higher levels of sexual pressure (1.3 – 1.8), or endorsed a greater number of myths about HIV transmission (1.1 for both)....

SAMPLE REPORT OF RESULTS

- Show Article 1

“University Students’ Reasons for Not Drinking” Relationship to Alcohol Consumption Level”

By Ellen K. Slicker

Ref.

Andrea K. Milinki (Ed.) 2000. A Cross Section of Psychological Research: Journal Articles for Discussion and Evaluation. Los Angeles, CA: Pycszak Publishing

Naturalistic Inquiry: Results and Discussion

- Naturalistic inquiry takes place in a natural setting. The distinctive point of view is that human behavior is best understood in its real-world context. It sees causes and effects as interactive and inseparable.
- The primary instrument for data collection is the human observer because he or she is the most sensitive, insightful, and wide-ranging source of information where complex phenomena are concerned.
- Because of its reliance on human perception, naturalistic inquiry leads to multiple realities - the world as seen through the eyes of more than one beholder.

Naturalistic inquiry...

- Grounded theory that emerges from the data is the trademark of naturalistic inquiry, in contrast to *a priori theory* which cannot anticipate the possible variety of multiple realities that may be forthcoming;
- The preferred mode of reporting is the case study mode, because it is the most adaptable to emergent multiple realities.
- Data interpretations are likely to be *idiographic* (in terms of particulars in each case), rather than *nomothetic* (in terms of law like generalizations across cases).

Sample Results and Discussion of Grounded Theory Study

- Present the study

“Pregnancy Termination among South African Adolescents”

By Christine A. Varga

In *Studies in Family Planning*, Vol. 33. No. 4, December 2002, pp

DISCUSSION

- After presenting the results, evaluation and interpretation of the implications as well as drawing inferences follow.
- When the discussion is relatively brief and straightforward, some authors prefer to combine it with the previous, Results section, yielding Results and Discussion or Results and Conclusions.

DISCUSSION

- Open the Discussion section with a clear statement of support or nonsupport for your original hypothesis.

*The purpose of this study was to investigate the relationship between Native American cultural identity and the home environment of Native American adolescent parents. **The results of this study show significant support for the hypothesis which related high Native American cultural identity with low verbal responsivity and the provision of learning materials...***

[Extracted from “Chickasaw Native American Adolescent Mothers: Implications for Early Intervention Practices, Milinki (2000) p. 36]

Discussion

- Bring back the purpose of the study in the opening paragraph of the discussion

Although sexual abstinence remains an important HIV-prevention strategy among youth in Sub-Saharan Africa, this behavior is not yet fully understood. Previous studies failed to capture the complexity of delaying sexual intercourse because they examined only individual-level variables.^{4,13,15,18} This study fills an important gap by identifying school and community-level variables associated with timing of sexual debut among school-going youth. The finding that some youth in Nyanza (36% of males and 16% of females) began sex by 12 is consistent with studies showing that youth initiate sexual activity earlier in this province than in other Kenyan provinces,⁶ the gender difference is consistent with data showing that early sexual experience is more common among males than females.³⁸

Discussion

- *As expected, the results of this study were consistent with clinical models of moral effect (Lewis, 1971, 1987). Lindsay-Hartz (1984) and others (Harder and Zalma, 1990), for instance, claimed that feelings of shame about one's self may be related to self-consciousness over others' evaluation of one's self and experiences of anxiety in social and interpersonal contexts that may, in turn, elicit a social avoidance response. **Participants in this study reported an association between shame effect and fear of negative social evaluation as well as social anxiety and interpersonal avoidance....***

[Extracted from ""Understanding Shame in Adults: Retrospective Perceptions of Parental Bonding During Childhood (Milinki, Ed, 2000) p. 41]

Discussion

- Similarities and differences between your results and the work of others should clarify and confirm your conclusions.

*Moreover, this study confirmed empirically a link between perceptions of inadequate personal responsiveness during childhood and self-reported shame affect by adults (Kohus, 1978). The moral affect of shame was associated with memories of one's parents as demanding, overcontrolling, and nonnurturing... **These results were consistent with theoretical formulations suggesting that parental perceptions may be central to the formulation of the self and that early parenting experiences dispose one to anomalies in self-perception and psychopathology (Grinker, 1955:Lewinsohn and Rosenbaum, 1987).***

Discussion

- Acknowledge limitations, and address alternative explanations or results.

*Of course, this study does contain several **methodological limitations**. All participants were college students, raising the possibility that results may not be generalizable to other populations, Also, no questions were asked about blended families, number of siblings, or birth order.... Participants were required to recall past experiences with their parents, raising the possibility of selective memories in their retrospective reports. These results may simply reflect the fact that some people were more willing than others to acknowledge negative events and experiences....*

Discussion

➤ Identify issues, and gaps to be addressed by future researches.

...(T)his study raised some interesting issues concerning social anxiety/avoidance, recollections of perceived parental bonding, and shame affect in adulthood. Clinicians should be attentive to information regarding client's avoidance of social interactions because social evaluation apprehension and avoidance were predictive of shame... Further research is needed to clarify further the antecedents and consequences of shame as a negative moral affect with clinical participants.

Discussion

... Future studies should conduct more in depth, longitudinal assessments into different family structures and with participants from different age levels. Parental influences should be recorded from actual parent-child interactions, and measures of social desirability should be obtained.

Discussion

➤ Draw implications

... The results of this project demonstrated that telecommunications technology can be used successfully to induce behavior change....Thus, IT, and other telecommunications technology could play an exciting role in the preservation of the client-therapist relationship. Therefore, our results have significant implications for a medium that has previously been used primarily to support clinical teaching, consultation, and teleconferencing... Future research should continue to focus on innovative applications of this technology to the problems of obesity treatment and other prevention.

EXERCISES

The following are excerpts from studies published in international journals. Identify the part of the study where each is found.

Extract 1:

One of the world's largest databases on human sexuality was used to investigate whether lesbians, like homosexual me, have a later birth order relative to heterosexual comparisons. No relationship was found...

Exercise

- Extract 2

Birth order was quantified using Berglin's (1982) index, (older siblings + 0.5 (total sibling +1), a metric that controls for family size. The index expresses birth order as a quantity between 0 and 1, with higher values indicating a later birth order. Berglin's index for heterosexual women, 0.486 (SD = 0.250), did not differ significantly from that for lesbians, 0.486 (SD = 0.250), $t(5263) = 0.11$, $p = .911$. Note that this and all remaining statistical tests are two-tailed.

Exercise

Extract 3

- *Characteristics of study participants at baseline are shown in Table 1 by treatment group. Subjects were on average about 45 years old, relatively well educated, almost exclusively white, and approximately three-fourths female.*

Extract 4

- *This study found that a behavioral weight-control program conducted over interactive television technology was as effective for inducing weight loss as a standard behavior therapy intervention. Subjects in both conditions lost significant and comparable amounts of weight and both groups made significant and positive changes in eating and exercise behavior.*

THANK YOU