Rhetorical Analysis of 3 Lab Reports

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Lab reports are essential communication tools in different many different scientific fields, acting as the main way researchers present to others their experimental work and findings. These reports are designed to describe experiment clearly, so that others can understand the work done and repeat the experiments if they want to. The structure of a lab report usually follows a set pattern, starting from the title, abstract, introduction, methods, results, discussion, and conclusion. This format ensures that the audience can follow along and grasp the research steps and outcomes. Every lab report shares differences as well as similarities in the structure, the way the researchers best see fit. The three lab reports, while all addressing the influence of consumer information on fast food choices, differ in clarity, organization, and accessibility, with each employing different strategies to best convey their findings to their intended audiences.

The three lab reports that are going to be rhetorically analyzed share the common theme of fast food. Lab report one (LR1) is "How effective is information provision in shaping food safety related purchasing decisions? Evidence from a choice experiment in Lebanon". In Beirut, Lebanon, a choice experiment, and survey revealed that consumers strongly prefer shawarma sandwiches from food shops with safety certifications (such as ISO 9001 and ISO 22000), especially for food safety, and providing information about these certifications increased their preference, emphasizing the significance of consumers' perceptions of food safety in their choices.

Lab report two (LR2) is "Visual Cues and Optimal Defaults in Fast-Food Combo Meals Benefit Health-Concerned Consumers—A Randomized Scenario-Based Experiment". In a July 2020 experiment involving 636 US adults using a fast-food drive-through simulation, the study explored how low-calorie menu options and visuals influenced feelings and ordering decisions, revealing that optimal (low-calorie) combos negatively affected pleasure and the likelihood of

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ordering, particularly for those less concerned about health, highlighting the importance of considering these effects in menu design.

Lab report three (LR3) is "Changes in the calorie and nutrient content of purchased fast food meals after calorie menu labeling: A natural experiment.". In an observational study conducted across 104 fast-food restaurants in Louisiana, Mississippi, and Texas, researchers investigated the impact of calorie menu labeling initiated by a franchise in April 2017 and nationwide implementation in May 2018, revealing small but consistent decreases in the average calories and nutrients per transaction, indicating modest improvements in meal quality following calorie labeling.

The purpose of the title is to precisely describe the purpose of the practical work. A good title should clearly convey the major focus of the study, utilize words and abbreviations that are familiar to the intended audience, and incorporate keywords for searchability. LR1's title is clear, focused, and context specific. The title is clear because it is straightforward and communicates the study's main subject without using very complex or technical language that might confuse the reader. It directly addresses the central question of the study, and it is also context specific as it includes "Lebanon" which anchors the study to a geographical location. It also specifies the method used in this study as a "choice experiment", providing even more information.

LR2's title conveys the major focus; however, it lacks clarity and can be confusing. The title is straightforward however it is formatted in a way that can be extremely confusing. The title is also extremely packed with specific terms and concepts that, while informative, can easily overwhelm the reader with too much detail at once. Each term ("visual cues," "optimal defaults," "health-concerned consumers") conveys a different aspect to the study and when combined can interfere with the actual clarity of the title. When it mentions "Benefit Health-Concerned

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Consumers" it is unclear on how these benefits are measured or perceived, adding another layer of complexity. The last part mentioning the "Randomized Scenario-Based Experiment." is great because it provides the type of experiment that is conducted within the study.

LR3's title is a great example of an informative, detailed, and concise title. It clearly states what the study is investigating and presents the major focus of the study in very accessible language that is easy to understand. The only problem that this title has is the "A natural experiment" part, which may be misleading because the study presented in the study is more of an observational study rather than an actual experiment being conducted. Experiments are studies that control variables while observational studies are studies that observer what happens naturally and record results.

The abstract should clearly present the problem the study addresses, describe the research approach, outline key results and conclusions, and highlight the study's significance, all while ensuring it's understandable for those who haven't read the full report. LR1 fulfills the qualities for a fantastic abstract as it contains all the necessary information listed above for a standard abstract. It states the problem, it summarizes the approach, summarizing the key results and conclusions, indicating a strong preference for certified shawarma sandwiches. It also mentions broader implications that people's views on food safety are more important than their background when choosing what to eat. This abstract is short and concise with a length of only 249 words, and although it uses very technical vocabulary it isn't excessive.

LR2 is another great example of the standard abstract as it also has all the necessary information required to give a brief overview of the report. It states the problem and summarizes the approach, key results, and conclusions. It briefly discusses the implications for menu design, considering the influence of healthier menu options and visual cues on customer choices. All this

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information is stated in 249 words and are sectioned off in sub sections with headings. This is great because instead of the standard paragraph format you can easily search for the information you are looking for based on the headings. The language isn't very technical, making it accessible for the average reader as well.

The abstract of LR3 is written clearly, however it is a bit lengthy. It has all the necessary information addressing the problem that the impact of calorie labeling on meal purchases hasn't been studied since its nationwide implementation. It summarizes the approach, provides key results and conclusions. It also briefly describes the implications stating that calorie labeling is a promising strategy to improve meal quality, but only modest effects, implying that additional interventions may be needed. Although it has all this information it is lengthy with around 675 words with maybe too much information for an abstract. It orghelpses its abstract into subsections which help the abstract in terms of organization making it easier for the reader to search for specific information.

All three lab reports have the required information of an abstract, but each presents their information in their own way. LR1 and LR2 share a similar word count of around 250 keeping their abstracts short, concise, and compact while LR3 is lengthier being at 675 words which may be too much information for an abstract which is supposed to summarize. LR2 and LR3 use subheadings for their abstract making it very easy to search for information while LR1 has all the information into a clear concise paragraph. Both ways of structuring the abstract are great as they all follow an organized structure.

The purpose of the introduction is to introduce the topic and purpose of the practical work and narrow down to the hypothesis. LR1 has a great introduction but also lacks some content that could make it even better. It provides relevant research on food safety and explains

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how the study contributes to the field, and the main purpose to examine the purchasing behavior concerning food safety certification. The part that is lacking in the introduction is the clarity of the methods. It is supposed to briefly describe the methods that will be used in the study however it only mentions the use of a choice experiment and doesn't state how the research was carried out. A clearer, more direct description of the methods would help this introduction.

LR2 is very informative but dense. It contains all the necessary information for a good abstract as it reviews the research, explains the contribution and, clearly states the purpose which is to evaluate the effect of visual cues and optimal defaults on anticipated pleasure and briefly mentions the methods providing an outline, describing the randomized scenario-based experiment. The introduction is through and provides a lot of context and background making it informative, however it contains a lot of information presented in a compact format making it dense and possibly overwhelming for the reader to process all at once.

LR3 introduction contains some of the required information, but it also lacks crucial information that would make this introduction great. It provides research relevant to the study and explains how the study will contribute to the field. The main purpose of the study was hinted at however it wasn't clearly stated as it implies that the study aims to understand the impact of nationwide calorie menu labeling on meal purchases and the methods are also not described in this section. It only refers to using sales data to analyze the changes in calorie and nutrient content but doesn't provide a brief description of how this data will be used.

LR2 effectively contains all the required information for a good introduction LR1 lacks some information, and LR3 lacks the most. LR3 also has a very short introduction in comparison to LR1 and LR2 with both following a similar format of a lengthier structure as well as being compact and dense with information.

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The purpose of the method section is to describe the actions that were taken during the practical work in a way that someone from the field would have enough information to replicate the process to achieve a similar result. LR1 has an extremely informative methods section. It is lengthy; however, it provides all the necessary information for a methods section. It provides a detailed description regarding choice experiments. The information is structured logical order first describing the choice experiment, addressing potential biases, detailing survey design, and concluding with the statistical model used for analysis. There are subheadings that are numbered making it very organized and easy to navigate. Figures, tables, and complex equations are provided giving a visual representation to aid the content. The language is very technical, but highly detailed for those familiar with the field.

LR2 has a very detailed and thorough methods section. It contains all the necessary information describing the equipment being used, like an online survey platform called Qualtrics. The procedures are described in great detail, the design, experiment, type of combo meals was thoroughly outlined. It doesn't mention any problems encountered or solutions, but they may have just not encountered any problems during their study. The information is ordered very logically going from research design to participant recruitment, procedure and materials, measurements, and finally data analysis. It is structured extremely well with bold subheadings for each section as well as a larger font making it obvious the location of each subsection. There are also visual graphs when describing the layouts of the experiment that are very easy to follow giving the reader the perspective of what the participants would have seen.

LR3 also has a detailed methods section. Since this lab report is more of an observational study the specific materials and equipment aren't listed in a traditional sense, but the data sources are clearly outlined, which in this context serve as the "materials" for the research. The

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procedures are described in detail, including how data was collected and processed and the information is presented in a logical order, beginning with the strategy, data collection and processing, explaining outcomes, and concluding with statistical analysis methods. There are bold headings that separate the methods section into subsections that are easily noticeable and keep everything organized.

All three lab reports contain all the necessary information required for their respective studies and all information is explained thoroughly and in detail. The differences lie within formatting. All three lab reports are structured logically and include subheadings to divide and organize their methods into different subsections. LR1 and LR2 contain figures of graphs and tables that help the reader better understand the methods as the data is being represented visually. LR3 does not have any tables or graphs which may hinder the understanding of the reader as it is extremely dense.

The purpose of the results section is to summarize data relevant to the question or hypothesis, exclude data not applicable, emphasize important trends and patterns, use text and graphics to present data concisely, and avoid speculating data. LR1 adheres to most of the requirements for a great results section, however it combines the discussion section with results. Instead of splitting the sections apart like the standard format it has combined the two together. The results section is supposed to avoid analyzing data, but the results are combined with discussion, which typically includes interpretation and analysis of data. It still contains all the required data for a results section. It also contains graphs to present data that is thoroughly explained, making it much easier to read. It follows the same formatting structure as the methods section with subheadings helping with organization. It is structured logically starting from model selection to preference estimates, willingness-to-pay values, overall impact, and analyzing the

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determinants. Each part builds on the previous, leading the reader through a logical progression of information.

LR2 is very organized and detailed. It summarizes the results in a very organized manner presented in multiple graphs. Each figure is explained in a lot of detail both in the result section as well as under the figure. The three figures mentioned in the section all have a paragraph under them explaining how to read the graphs of data which is extremely helpful with understanding them. The information is also organized in a logical manner starting with defaults' effects, to the moderating effects of visual cues and health concerns. This section however does go into some interpretive language, especially under "Moderated Moderation of Visual Cues" section which might be more appropriate for the discussion section. Formatting wise it continues with the bolded subheadings in a larger font aiding in organization.

LR3 is also very detailed and has a great results section. It focuses on the specific data relevant to the study's hypothesis. The information is presented in a logical order from number of items purchased to calorie content and other nutrients. It then progresses to discuss the effects of labeling at both franchise and nationwide levels. This section has five figures with tables and graphs that all have descriptions and is extremely dense with numbers. All figures are thoroughly explained with descriptions. There are no subheadings which does make it a bit disorganized.

All three lab reports follow a structure of organizing the information in a logical way. LR1 is very lengthy in comparison to LR2 and LR3 but that is because the discussion section is combined with the results. All three lab reports also contain figures of graphs and tables displaying the data with detailed explanations making them easy to read. LR1 and LR2 contain subheadings breaking the section into organized parts, while lab report three doesn't have any subheadings making it more disorganized.

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The purpose of the discussion section is summarizing the key results, unexpected results, and explain how the results relate to the hypothesis. LR1 as mentioned before combined the discussion section with the results section but overall, it still has a great discussion section. It combines detailed statistical analysis (results) with interpretations and implications of those findings (Discussion). As a result of this you get lengthy paragraphs and an overall long section. This section, however, does include all the content required for a discussion, presenting the results in context, explaining their significance, acknowledging limitations, and places the study within the broader research landscape.

LR2's discussion section contains all the required information in a detailed manner. It connects back to the initial research question, explores the implications of the findings, positions the study within the wider field, and discusses less favorable or problematic results. Overall, this lab report has a very good discussion section that was easy to understand.

LR3 is a great standard discussion section structurally. It contains all the necessary information as it addresses each aspect with data and literature support, addressing both positive and negative findings of the research. There are also no subheadings however it may benefit to label each section as it is very lengthy and dense with text. It will help organize the content into a clearer structure which can help the readers follow the analysis and locate information easily.

Content wise all three lab reports fulfill the necessary information for a good discussion section, properly analyzing the data found in the results and relating it back to the hypothesis. LR1 differs the most as it doesn't split the results and discussion and immediately discusses the results presented. This might be overloading information for the reader as they need to both process the data as well as analyze it right after. LR2 and LR3 follow the standard structure of splitting it into two sections which allows the readers to view and process data first then have a

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new section analyzing what they have just seen. LR3 has a very easy discussion section to follow, as it is linear in comparison to LR1 and LR2.

The purpose of the conclusion is to summarize the report focusing more on the significance and relevance of the results in relation to the aim of the experiment. LR1 has a great conclusion section as it briefly reviews the purpose of the experiment by mentioning that it aims to open new avenues in food safety marketing research relevant to the MENA region. It also summarizes the important implications of the findings and does not introduce new information focusing on discussing the implications of the findings. It is lengthy for a conclusion almost reaching up to 500 words, however it contains all the necessary information described in detail.

LR2 does not have a designated conclusion section but instead has a simple paragraph at the end of the discussion section. Even though it isn't in a new section it is an extremely effective conclusion that is concise and wraps up the study nicely. It reviews the purpose of the research by discussing its theoretical and practical contributions to the literature on nudge theory and menu design as well as summarizes the important implications of the findings.

LR3 also does not have a new section for the conclusion but a paragraph that is short and concise. It reviews the purpose of the research and summarizes the important implications of findings, indicating a small decrease and calories in nutrients. It effectively describes the key results and their significance, and points toward future research directions.

LR1 differs from two and three as it is the only one with a separate conclusion section as well as having a much longer conclusion. This structure allows for a much more thorough and detailed explanation in the conclusion. Although they have different formatting all three lab reports have an effective conclusion that summarizes their report following a similar structure.

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The purpose of references is to cite the sources that are being used in the report and the appendices section contains material that is too detailed to include in the main report, such as tables of raw data or detailed calculations. All three lab reports contain a references section with only lab report three using appendices. In terms of formatting LR1 lacks in comparison as it doesn't have numbered references with no spaces in between each reference. LR2 and LR3 on the other hand both organize their references using numbers, making it much easier for the reader to look through them. Only LR3 has a section for appendices, used to provide documents for information that are too long to be included within the report like the pre-analysis plan. LR1 and LR2 do not have an appendices section and all their information is within the report.

The outlined comparison across three lab reports highlights different approaches to presenting research findings in the fields of food safety, consumer behavior, and public health policy. Each lab report had their own way of displaying their information to their target audience.

LR1 was the most technical out of the three as the intended audience was catered towards academic professionals. It has an extremely well-defined focus and would be particularly useful for those who are deeply engaged with the subject. However, it might not be as accessible to a broader audience due to its complex language. LR2 has a very strong structure as it has well-organized sections that are reader friendly and a more straightforward language in comparison to lab report ones, which could make it appealing to a wider audience. LR3 is in the middle as it is thorough and detailed, it is also quite technical and may be best suited for an audience with a strong background in statistical analysis. Each lab report uses specific strategies like subheadings, figures of graphs and tables, as well as presenting their information in a logical manner to format a strong structured lab report to cater to its intended audience.

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