Fall 2023, Volume1, Issue 1

The StatsWhisperer

The StatsWhisperer Newsletter is published by Dr. William Bannon and the staff at StatsWhisperer.™ For other resources in learning statistics visit us on the web at: www.thestatswhisperer.com

The Glory of Mixed Methods Analysis: How to address *the Blind Side* of a Purely Quantitative or Qualitative Research

In the world of data analysis today, most researchers tend to focus solely upon either quantitative or qualitative methods. However, there is a smaller group that employs both quantitative and qualitative methods in their research toward gaining a more comprehensive view of the perspective of study participants.

These researchers are participating in what is commonly referred to as mixed-methods research. In mixed-methods research, quantitative methods are employed to assess statistical relationships among variables, while qualitative methods are used to explore the perspectives of the study participants in relation to certain study constructs.

The decision to employ a mixed-methods design in one's research certainly sounds like a logical, comprehensive, and diligent choice to a great many people. After all, as one peruses the published literature, it soon becomes apparent that that the great many studies focus upon only quantitative or qualitative methods. Seemingly, it would be perfectly permissible to focus upon only one of these methodological areas.

Thus, the researcher employing a mixed-methods study in many cases might be going beyond what is commonly expected. Such a researcher might be going the proverbial "extra mile" to gain a deeper understanding of the relationship(s) between study variables.

Grasp the process of conducting a quantitative study through our textbook **The 7 Steps of Data Analysis** available at:
thestatswhisperer.com/products/books/

Ideal for personal use, as well as classroom teaching.

To learn more about how mixed methods research addresses the blind side of a research study see our six week webinar *The Ideal Qualitative Study with a Quantitative Component* at:

thestatswhisperer.com/webinars-2/the-ideal-qualitative-study-2/

However, there may be reason to believe that in many instances the mixed-methods researcher is not going the extra mile but is perhaps simply approaching his or her research in the most appropriate manner. Specifically, to employ a purely quantitative or qualitative design in one's research study may put that study at risk of missing key perspectives of the study participant.

Those missed perspectives may lead to distorted or incorrect study results. In other words, employing a design that is solely quantitative *or* qualitative may make a research study susceptible to what I like to call the *Blind Side* of data analysis.

Addressing the Blind Side of a Research Study

The Blind Side of Research Studies

In American Football, the blind side has a specific meaning. Specifically, when the quarterback (i.e., the player who throws the football downfield to a receiver) stands in a stationary position and looks downfield for an open receiver to whom he may pass the ball. In that instance, the quarterback is *blind* to members of the other team tackling him from behind. Thus, the side behind him, which he is effectively blind to, is known as his *blind side*.

Some of the worst injuries in the history of American Football have occurred from a quarterback being hit from his blind side since the quarterback is hit in an unexpected manner without any defense. In short, it can be stated that the blind side represents **an area of exceptional vulnerability with the potential of great destruction**.

Just like the quarterback, many research studies have a *blind side* that make the findings vulnerable to drawing the wrong conclusion(s). To put it simply, often the blind side of a quantitative study is the lack of a qualitative component. Likewise, the blindside of a qualitative study is often the lack of a quantitative component. Even under very cursory inspection, it is quite easy to see how a purely quantitative or qualitative study can get the take home message from a research study incorrect due to this blindside.

An Example of the Blind Side of a Purely Quantitative Research Study

I was introduced to the fallibility of employing a purely quantitative or qualitative study design in a foundational research class presented by a very kind professor who would later mentor me on a great many other aspects of research. She described to the class that upon graduating with her PhD, one of her first research jobs was to gather descriptive data from the elderly residents of a retirement home. A central question that was to be addressed concerned the exercise habits of the residents.

For example, she was to gather data that reflected when residents preferred to attend exercise classes so these classes could be scheduled at a time that met these preferences in the future. At the time of her study, residents had a morning and evening exercise class available to them.

Subsequently, she designed a short survey to gather data from residents that included an item that would quantify the number and percentage of residents that attended the morning or evening exercise class (i.e., an item that read *Do you currently attend exercise classes held mostly in the morning or evening?*).

Soon she had a stack of completed surveys, which were promptly entered into a statistical analysis software program. Upon descriptive analysis, it became evident that most residents attended the exercise program held in the evening. Thus, in her final report to the management of the facility, she reported that the residents preferred to exercise in the evening.

Prior to submitting the report to management, she gave a copy of the report to each resident and asked them to point out any findings within the report that were inconsistent with their feelings or beliefs.

Addressing the Blind Side of a Research Study

Soon she was contacted by several residents, each of whom told her that her findings regarding their preferred time to exercise were incorrect. Specifically, she was told that residents generally preferred to exercise in the morning. However, the residents preferred to attend classes with the instructor who conducted the evening classes rather that the instructor that held the morning classes.

She soon realized that if she had entered room for qualitative response next to the quantitative item (*Do you currently attend exercise classes held mostly in the morning or evening?*), she would have better captured the perspectives, desires, and truth of the situation regarding the residents and the time of day they preferred to exercise.

In fact, it was quite apparent that the absence of this room for a qualitative response almost led to her reporting findings that were in direct opposition to the reality of the situation.

Thus, the lack of a qualitative element in her study design was the *Blind Side* in her research study. The lack of a qualitative element in her research represented a perspective of the study participant that she could not see (i.e., a blind side) that lead to incorrect findings. If reported to management, these findings would have had a more destructive consequence rather than a constructive element for the residents of the facility.

A very pertinent question here might be to ask how many times purely quantitative findings like these are reported with deleterious effects that may have been remedied with a small open-ended qualitative item on the survey.

The Blind Side of a Purely Qualitative Research Study

Qualitative research studies also have a *Blind Side*. What one might consider particularly interesting is that the blind side or a qualitative study may be addressed with the small addition of a quantitative element. This is quite similar to our example in the prior section, where the blind side of the quantitative study was addressed with the small addition of a qualitative element.

A blind side of a qualitative study that might be addressed with a qualitative element might be the general tendency within qualitative studies to report what general themes emerged within the qualitative data, which are supported purely by the mention of two or three comments enclosed within quotations.

For example, a qualitative study that examined general concerns among Americans that involved 50 study participants might report:

A common theme emerged that revealed many Americans were concerned about the future of the US economy. Statements related to this theme included comments such as "The size of the national debt has me worried" and "The offshoring of US jobs is bound to result in economic hardship."

This style of reporting is common within qualitative studies, but this method leaves us with a significant blind side. Specifically, the reader is left wondering just how many study participants made statements that were related to the theme mentioned (i.e., Americans were concerned with the future of the US economy). Of the 50 study participants, did 10 or 20

Addressing the Blind Side of a Research Study

make comments that related to this theme? Perhaps, all 50 made comments that related to concern of the future of the US economy.

Doubtlessly, the number and percentage of study participants that made such thematic comments reflects the degree of concern and the seriousness of this concern within the sample. Thus, the question becomes why not report the number and percentage of study participants that made such comments within the qualitative data?

Of course, when we suggest that the number and percentage of study participants be counted, we are suggesting that the quantitative method known as a frequency count be conducted. The inclusion of this simple quantitative technique within the qualitative study remedies the blind side where we cannot identify the seriousness of the theme identified due to our inability to identify how many study participants voiced this concern.

In Summary

Research conducted with human study participants most often involves gathering the detailed perspective of the study participant, as well as the perspective of the full sample of study participants as a group.

This task leaves the researcher to ponder if these perspectives can be comprehensively captured using a purely quantitative or qualitative research design. Upon reflection, this might suggest that perhaps mixed-methods research should be a bit more common to the research literature.

We have only explored a few general examples in this newsletter. However, these examples may serve as food for thought that illustrate that both qualitative and quantitative designs may incorporate inherent blind sides that each at least partially is addressed by the other.

To learn more about how mixed methods research addresses the blind side of a research study see our six week webinar *The Ideal Qualitative Study with a Quantitative Component* at:
thestatswhisperer.com/webinars-2/the-ideal-qualitative-study-2/

Thanks for your interest in our newsletter!

Contact us at: wb2005@caa.columbia.edu *with any questions or to be added to our newsletter list.*

For books visit:

thestatswhisperer.com/products/books/

For additional newsletters, webinars and more resources visit our homepage at:
thestatswhisperer.com

STATS WHISPERER