

**MIXED METHODS DESIGN IN HUMAN SERVICES RESEARCH**

OLUSOLA O KARIMU, PhD

Center for Juvenile &amp; Family Studies Inc., New York, NY

**ABSTRACT**

This study provides a general understanding of quantitative and qualitative research designs in attempt at articulating the usefulness of mixed methods research design in human services fields such as criminal justice and criminology. The study highlights the weaknesses, strengths and assumptions of mixed methods design and identified factors to be taken into consideration when planning mixed methods, such as timing which refers to the time of introduction of both quantitative and qualitative methods, weighting which refers to the priority to be given to each methods and mixing which explains how data to be collected will be merged. This research identified sequential transformative strategy as a viable approach for mixed methods design in human services based research because it has two distinct data collection phases that follow each other. Despite some inherent shortcomings of the mixed methods, this essay concludes that combining or mixing quantitative and qualitative research approaches in a single research enables researchers to be more flexible, integrative, holistic, and rigorous in their investigative techniques as they attempt to address a range of complex research questions (Creswell, 2009; Butt, 2010).

**INTRODUCTION**

The purpose of methodology in research is twofold (Szuchman & Thomlison, 2008). In human services research, when a researcher provides details of the sample and procedures, it makes it possible for future studies to replicate such study precisely or to make clear how they are departing from the procedure (Szuchman & Thomlison, 2008). Once the audience has clear understanding of a study's method, it makes it possible to make an informed decision on the reliability and validity of such research or study.

In most human services research such as criminal justice and criminology, the methodology section helps to explain where a particular study or research is coming from and why such a study is being carry out in a particular way. Everyone connected to a study will all want to be assured that a particular research question is a good question that needs asking, that the chosen approach will answer the question or address research hypothesis and that the chosen approach for the research will deliver the outcomes that study seek.

Additionally, the method section in a research is importance and relevance because when a research is completed, the researcher is expected to provide an explanation of the methodology to enable other researchers to understand the significance of what has been done and make sense of how it all worked. The methodology piece in a research communicate information of what has been done. It also enables the researcher to write about what did not take place in the study and the reasons for this. The methodology section in a study is responsible for informing the audience about the weaknesses or limitations of a research study or project as well as its strengths.

There are three main dominant research designs in the field of human services and they are quantitative, qualitative and mixed methods. Out of the three, both quantitative and qualitative research designs are more popular among students and researchers (Creswell, 2007). Despite the glaring differences between quantitative and qualitative research designs, Creswell (2009) argued that they are not supposed to be seen as separate entities but approaches that represent ends of a continuum. Many researchers accepted that both paradigms were legitimate and useful for providing different perspectives on the same topic (Allen & Barber, 1992; Greene, 2008). Similarly, it has been stated that using quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone would be able to do (Creswell & Plano Clark, 2007, p. 5).

The purpose of the current study is to enhance an understanding of mixed methods research in human services fields such as criminology and criminal justice. The current study may therefore have implications for donors funding research, researchers, policy makers and administrators seeking viable research strategies in attempt at understanding human behavior or to improve service delivery. Therefore, this study contributes to existing literature by seeking to provide a better understanding of mixed methods research design as a viable research design to understand human behavior.

**QUANTITATIVE RESEARCH**

Quantitative research is a means of quantifying relationships between variables. Variables are things like weight, performance, time, and treatment. The aim of researchers utilizing quantitative design is to classify features, count and construct statistical model to explain what has been observed (Patton, 2006). Similarly, in quantitative study all aspects of the study are carefully designed before the collection of data while the researcher also uses tools, such as questionnaires or instruments to collect numerical data. As a result, quantitative design is objective, more efficient and useful in testing hypotheses. Creswell (2007) concluded that researchers utilizing quantitative design are more able to effectively generalize and replicate findings because it has the ability to effectively build against bias.

The three dominant types of quantitative research design are experimental, quasi experimental and descriptive designs. The experimental and quasi-experimental studies are designed to examine cause and effect. It is important to note that these studies are usually conducted to examine the differences in dependent variables thought to be caused by

independent variables (Merriam, 1998). On the other hand, descriptive and correlational studies examine variables in their natural environments and do not include researcher influences. (Babbie, 2007; Creswell, 2007).

## **QUALITATIVE RESEARCH**

In quantitative research design the aim of the researcher is complete and detached description of the phenomenon under study. Unlike the quantitative design, the qualitative is often recommended during the earlier phases of a research process. The researcher is the data gathering instrument while data is in the form of words, pictures or objects. Also, in qualitative research the subjective, individual interpretation of events is important to the research because the researcher tends to become subjectively immersed in the subject of the research (Babbie, 2007).

Generally speaking, five major approaches to qualitative research design can be identified and they include case study which has major objective developing an in-depth understanding, description and analysis of a case or multiple case; the grounded theory which involves theory building from data to enable researchers to move beyond description and generate theory that can help to explain social process; phenomenology which describes the structures of experience as they present themselves to consciousness (Creswell, 2007; Harvey, 2010). The ethnography approach on the other hand focuses on describing and interpreting a culture-sharing group (Creswell, 2007).

In-depth Interview is a popular type of data collection in qualitative research and it allows the researcher to ask the respondents to verbally describe their experiences of the phenomenon under study. The research design also makes use of written description which affords the researcher the opportunity to ask the respondents to write descriptions of their experiences of the phenomenon under study. The third important type of data gathering is observation which is the descriptive observation of verbal and non-verbal behavior of the objects of the research study (Creswell, 2007; Moustakas, 1994).

## **PREDISPOSITION OF QUANTITATIVE AND QUALITATIVE MODES OF INQUIRY**

Quantitative research method assumed that social facts have an objective reality and also emphasized primacy of method. The method assumes that variables can be identified and relationship measured (Creswell, 2007). However, qualitative method assumes that reality is socially constructed and emphasizes primacy of subject matter. In addition, qualitative method assumes that variables are complex, interwoven, and difficult to measure unlike in the quantitative method (Patton, 2006). It is equally important to note that in the quantitative research, the researcher has an outside part of the phenomenon being investigated. However, the researcher in a qualitative study has an insider point of view of the phenomenon (Moustakas, 1994).

With regards to approach, quantitative method usually begins with hypotheses and theories while manipulations of research subject are central. This research method use formal instruments, experimentation and deductive method to obtain data. This method also seeks consensus and reduces data for numerical indices while utilizing abstract language in the research process write up (Creswell, 2007). On the other hand, qualitative method ends with hypothesis and grounded theory, and research is often conducted in a naturalistic setting. Qualitative method use inductive method, searches for pluralism, complexity and make minor or seldom use numerical indexes in the process. Generally speaking, write up in qualitative research are most often descriptive (Babbie, 2007).

The researcher role in quantitative method is that of detachment, impartiality and objective portrayal. In qualitative research the researcher is personally involved and as a result there is partiality unlike in quantitative research. Also, the researcher shows emphatic understanding in the process of the research (Babbie, 2007; Creswell, 2009; Patton, 2000).

## **MIXED METHODS DESIGN**

Mixed methods design is a research design that utilized and combines both quantitative and qualitative methods in a research process (Creswell, 2009; O'Cathain, Nicholl & Murphy, 2009). As a result, it usually takes into consideration the philosophical assumptions of both methods. It has also been stated that the major strength of the design lies in the fact that it uses both quantitative and qualitative methods and therefore has the ability to address the limitations that exist in both methods (Creswell & Plano Clark, 2007).

The purposes of utilizing mixed methods research design in human services include but not limited to triangulation which is done to test the consistency of findings of research carried out through different methods; and complementarily which is to clarify and explain results from one method of research with the use of another (Leech & Onwuegbuzie, 2010). Mixed methods design in human services is also useful for initiation, which is the effort at making more vigorous or active new research questions and or to challenge results obtained through one method of research. It is equally useful for what is known as expansion. Expansion is research utilizing mixed method design centered on the objective of providing richness and detail to a research study by exploring specific features of each method (Leech & Onwuegbuzie, 2010).

## **STRENGTHS OF MIXED METHODOLOGY**

The use of mixed methodology design in human services provide some utilities which include high possibility of producing better results in the area of quality and scope (Babbie, 2007). The use of the design has the advantage of motivating researchers in the field to probe the underlying issues assumed by mixed methods. It is important to note that mixed methods research design is more useful and accountable to broader audiences compare to the use of a single research method.

Other usefulness of mixed methods design includes the ability to significantly help to research a problem or phenomenon from all sides with the use of multiple methods. The use of different methods also helps to focus on a single process while at the same time confirming the data accuracy. It is important to note that utilizing a mixed methods design in a research process helps to complement the result of one type of research with another (Creswell, 2007). Researchers such as Babbie (2007) have indicated that the use of mixed methods design provides the opportunity to summarize

positive aspects of the two methods combined (quantitative and qualitative) to produce a highly accurate data. Additionally, the use of both methods in a research process provides the opportunity to use the strengths of information collected and minimized the weak points of each of the methods. It has equally been noted that the use of mixed methods can increase the validity and accuracy of the information obtained (Creswell, 2007).

### **WEAKNESSES OF MIXED METHODS DESIGN**

Mixed methods design is more expensive than a single method approach in terms of time, money and energy needed for the completion of the research study (O'Cathain, Nicholl & Murphy, 2009). The different levels of priority within the research design have the likelihood of resulting in unequal evidence and may prejudice the results. Also, the utilization of mixed methods design suffers from some weaknesses such as the need to transform data that emerged to enable it to be integrated. It is equally important to note that another weakness is that it may not be clear how to resolve discrepancies that could occur between the two types of data in a mixed methodology research design (Creswell, 2007).

Furthermore, in mixed methods design, the researcher has to learn about multiple methods and approaches and the ability to appropriately mix them. As a result, mixed methods design often requires team of researchers. Therefore, many researchers suggest that in mixed methods research it is necessary to work within either quantitative or qualitative paradigm (Babbie, 2007).

### **PLANNING MIXED METHODS PROCEDURES**

Collins, Onwuegbuzie, and Sutton (2006) and Leech and Onwuegbuzie (2010) have pointed out that planning in mixed methods research involves the identification of the goal, objective(s), rationale, purpose, and questions that expected to guide the research process. According to Creswell (2009), factors that are likely to influence the choice of mixed methods research design include the timing which refers to the time of the introduction of both quantitative and qualitative data collection. For example, when data are obtained in phases, refers to as sequential, such as obtaining qualitative data prior to collecting quantitative data enables the researcher to explore the topic with the participants of the study. Obtaining qualitative data first will provide the opportunity to expand the understanding through the second phase which is the quantitative method with large representative of the population (Creswell, 2009).

Weighting which refers to the priority to be afforded each of the methods is the next in the planning stage of mixed methods research design in human services. The usual practice is to give both qualitative and quantitative methods equal weight in the research and as result both methods will support each other (Creswell, 2009). Mixing which refers to how the data to be collected will be merged together and the theoretical perspective expected to guide the study are the other factors that are often considered when using mixed methods design. Most human services based research using mixed methods design often favor mixing of the data collected at the data analysis and interpretation stage of their study. The rationale for the mixing in the research is to maximize appropriateness and utility of the quantitative and qualitative instruments used in the study (Collins, Onwuegbuzie, & Sutton, 2006).

In terms of approaches to mixed methods design in human services based research, there are different approaches frequently utilized by researchers and they include sequential explanatory strategy, sequential exploratory strategy, sequential transformative strategy, concurrent triangulation strategy, concurrent embedded strategy and concurrent transformative strategy (Creswell, 2009). However, sequential transformative strategy is often utilized because it has two distinct data collection phases that follow each other. According to Creswell (2009), the sequential transformative approach is a two phase approach which often ensures that the chosen theory is introduced at the beginning of the study in order to shape the research questions and hypotheses.

In most mixed methods based human services studies, data collection often begin by first collecting qualitative data from the study subjects. Findings from the qualitative phase are often used to test the chosen theory. Qualitative data are often collected in the beginning of such studies especially when available instruments are inadequate, variables are not known, and there is little guiding theory (Creswell, 2009; O'Cathain, Murphey & Nicholl, 2007).

### **SAMPLING METHODS**

In mixed methods study, researchers often utilized the use of survey design for the quantitative aspect of the research while phenomenology design is favored for the qualitative aspect. According to Creswell (2009), survey designs typically provide a quantitative or numeric description of trends, attitude, or opinions of a population by studying a sample of that population, while also enabling the researcher to make generalizations about the general population. Merriam and Associates (2002) model of the phenomenological research design is often used for the qualitative method in mixed method research. The purpose of the phenomenological approach is to study experience from the perspectives of the individuals or subject. In the human sphere, phenomenological research translates to gathering deep information and perceptions through inductive, qualitative methods such as interviews, discussions, and participant observation from the perspective of the research participants (Creswell, 2007; Fashoranti, 2005).

### **IMPLICATIONS FOR PRACTICE**

The main objective of utilizing mixed methods design is to strengthen the reliability of data, validity of the findings and recommendations, and to broaden and deepen our understanding of the processes through which program outcomes and impacts are achieved, and how these are affected by the context within which the program is implemented (Bamberger, 2012). It has now become a usual occurrence among researchers studying human behavior, administrators and program evaluators to utilize mixed methods in their research and program evaluation. Additionally, many evaluators have incorporated and utilized the full potentials of mixed methods (Bamberger, 2012).

It is important to note that despite the fact that mixed methods can be utilized as part of a large and well-funded impact evaluation, the methods have the flexibility to be equally useful for the many nonprofit organizations or non-

governmental organizations in different parts of the world that seek credible evaluations of their programs, but whose resources and expertise for conducting impact evaluations are limited (Bamberger, 2012).

## CONCLUSIONS

The present research shows that combining or mixing quantitative and qualitative research approaches enables researchers, including researchers from the human services fields such as criminal justice and criminology to be more flexible, integrative, holistic, and rigorous in their investigative techniques as they attempt to address a range of complex research questions. More specifically, mixed research helps those in these fields and more specifically, those studying factors relating to human behavior to attain participant enrichment, instrument fidelity, treatment integrity, and significance enhancement (Collins, Onwuegbuzie, & Sutton, 2006).

The use of a single methodology has been advocated by many researchers with supporting argument that include time constraints, the need to limit the scope of a study, and the difficulty of publishing the findings (Collins, Onwuegbuzie, & Sutton, 2006; Creswell, 2009). However, as shown in the current study, both the mixed methodology research design and the single methodology approaches (qualitative only and quantitative only) have strengths and weaknesses. Therefore, by using a combination of methodologies, the researcher can focus on each methodology's strengths in order to enhance research quality.

Additionally, the current study has shown that using mixed methods makes it possible to produce a final product that will highlight the significant contributions of both to the issues involved in a research, especially research in human services related fields (Collins, Onwuegbuzie, & Sutton, 2006; Creswell, 2009). For example, it has been highlighted in the current study that among others, a sequential mixed methods design can provide an avenue that enables qualitative data to support and explicate the meaning of quantitative research.

This research has also shown that by adopting some of the assumptions associated with mixed methods design while gathering data in human services related fields, there is a high possibility that the final product will maximize the strengths of a mixed methods approach. Introducing qualitative method as the first part to the mixed methods approach allows the researcher to develop an overall picture of the subject under investigation, something that may help guide the initial phases of the research (Collins, Onwuegbuzie, & Sutton, 2006; Creswell, 2009). Similarly, using quantitative analysis as the second component to a mixed methods approach, may be more appropriate to assess behavioral or descriptive components in any given human services related research.

It is important to note that the aim of this research is not to suggest that a mixed methodology is the only suitable research design for human services related field such as criminal justice. The argument is that it is an appropriate and at times a desirable design for those seeking explanation for a particular human behavior (Lockyer, 2006). It should however be noted that a mixed methods design has a number of advantages in human services disciplines, and may be able to enhance the quality of these professionals in such ways as have been outlined throughout this study.

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