## Theorizing Optimal Use of Numbers and Anecdotes: The Science of Storytelling in Newsrooms

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**Abstract:** When covering events and issues, the news media often employ both personal accounts as well as facts and figures. However, the process of using numbers and narratives in the newsroom is mostly operated through trial and error. There is a demonstrated need for the news industry to better understand the specific effects of storytelling and data-driven reporting on the audience as well as explanatory factors driving such effects. In the academic world, anecdotal evidence and statistical evidence have been studied in a mutually exclusive manner. Existing research tends to treat pertinent effects as though the use of one form precludes the other and as if a tradeoff is required. Meanwhile, narratives and statistical facts are often combined in various communication contexts, especially in news presentations. There is value in reconceptualizing and theorizing about both relative and collective impacts of numbers and narratives as well as the mechanism underlying such effects. The current undertaking seeks to link theory to practice by providing a complete picture of how and why people are influenced by information conveyed through quantitative and qualitative accounts. Specifically, the cognitive-experiential theory is invoked to argue that humans employ two distinct systems to process information. The rational system requires the processing of logical evidence effortful analytical cognitions, which are affect-free. Meanwhile, the experiential system is intuitive, rapid, automatic, and holistic, thereby demanding minimum cognitive resources and relating to the experience of affect. In certain situations, one system might dominate the other, but rational and experiential modes of processing operations in parallel and at the same time. As such, anecdotes and quantified facts impact audience response differently and a combination of data and narratives is more effective than either form of evidence. In addition, the present study identifies several media variables and human factors driving the effects of statistics and anecdotes. An integrative model is proposed to explain how message characteristics (modality, vividness, salience, congruency, position) and individual differences (involvement, numeracy skills, cognitive resources, cultural orientation) impact selective exposure, which in turn activates pertinent modes of processing, and thereby induces corresponding responses. The present study represents a step toward bridging theoretical frameworks from various disciplines to better understand the specific effects and the conditions under which the use of anecdotal evidence and/or statistical evidence enhances or undermines information processing. In addition to theoretical contributions, this research helps inform news professionals about the benefits and pitfalls of incorporating quantitative and qualitative accounts in reporting. It proposes a typology of possible scenarios and appropriate strategies for journalists to use when presenting news with anecdotes and numbers.

**Keywords:** data, narrative, number, anecdote, storytelling, news

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