Behavioral frequency questions require respondents to summarize their experiences over time with a single estimate. These questions place substantial demands on cognitive processing and these demands may be greater in a telephone interview which offers few interactional supports, no visual aids and a fast_pace. Decomposition or division of a single, global frequency question into two or more less cognitively taxing questions is a promising technique for improving reporting quality. We examine accuracy in reports about child support from three different telephone surveys. Analyses indicate that decomposing questions about payments based on their frequency, regularity, and similarity yield the most accurate reports. We develop a model that predicts respondents will be less accurate when events are complex, indistinct from like events, and emotionally neutral and examine the degree to which these predict errors net of other factors (e.g. memory decay, demographics, social desirability, and motivation). Results indicate that response effects are reduced using decomposition.