theories; several of the persuasion theories cluster together around the origin; and the three theories composing the interpretive effects model create a clear cluster in the upper-right quadrant. As in Table 2, the MCA plot does not produce a coherent cluster for the societal and media theories, again because articles utilizing these theories tend not to cite each other.

But what about the pattern of linkages between the hypothesized clusters themselves? Here, as depicted in Figure 4, is an intriguing surprise. We ran another series of clustering and plotting algorithms that display the labeled clusters in a two-dimensional space to graphically illustrate the relative strengths of association. In these plots, the closer two variables are to each other the more highly correlated they are, the more distant they are indicates statistical independence. We utilized the Euclidian Distance Modeling utility in SPSS, a variant of multidimensional scaling and smallest space analysis routines. Specifically, we used ALSCAL, first standardizing our variables using z-scores to prevent distortions, and then creating Euclidean distances for our measures of association.[7]

It became evident that the lack of correlation between the HCI literature and the others dominated the plotting with HCI in one corner and the others arrayed across the other corner. The new media theory literature, of course, is the most recent literature and because it did not exist for most of the 50-year period, it could not, by definition, have been cited by any of the earlier publications (and in turn, because it

deals primarily with the mediation of interpersonal communication, it has not until recently cited the media effect literatures). So we set the new media cluster aside to examine the pattern of cocitation for the remaining five.

We puzzled over the resulting graphic a bit in hopes of interpreting the pattern and perhaps labeling the dimensions in theoretically meaningful terms. One possible interpretation, as our labeling suggests, is that those theories of a psychological bent that focus on the individual unit of analysis may help to explain the distance of the persuasion and interpretive clusters from the others—the vertical dimension. And, in turn, the horizontal dimension may reflect the emphasis on persuasion/attitude change as opposed to more recent emphasis on interpretation and cognitive structuring of message elements. The need for theoretical integration across natural tensions of these analytic dimensions is important, of course, but not exactly a new revelation. We recognized that McLeod and associates had been calling for just such an effort for several decades (McLeod, Kosicki, & Pan 1991; McLeod & Reeves, 1980). These scholars label the vertical dimension micro versus macro and the horizontal dimension attitudinal versus cognitive.