This study uses the large Neutron Activation Analysis (NAA) dataset that has been compiled for the Mimbres region in order to conduct Social Network Analysis (SNA) for the Mimbres Classic Period (A.D. 1000–1130). Previous SNA studies in the American Southwest have used ceramic wares to build ties between sites (Mills et al. 2013; Lewandowski 2015). The use of NAA data to build social networks allows for these methods to be used within a region and temporal period that lacked diversity in decorated ceramic wares.

Recent Mimbres NAA and pottery studies provide a context of production, distribution, and social significance from which the social networks can be viewed. NAA studies within the Mimbres region demonstrate that pottery was produced widely across the area and mostly distributed between sites situated near one another (Creel and Speakman 2018). Speakman’s (2013) NAA study of pottery within the Mimbres region identified 33 compositional groups and multiple production localities. The regional distribution of painted Mimbres pottery was bounded and design style was quite homogeneous and embedded with meaning, signaling an acceptance of and belonging within Mimbres society (Hegmon et al. 2021).

**Methods**

I used the NAA data compiled by Speakman (2013) to create the dataset, selecting for sites with > 10 samples of decorated ceramics dating to the Mimbres Classic period (Style IIIb, IIIc, and IIId, and Mimbres Polychrome). Samples with unassigned compositional groups were not included, nor were samples from Macro Group D (Jornada pottery). Additional data was added for the Woodrow site (Sedig 2015). The resulting dataset consists of 1009 ceramic samples across 28 sites, with 25 compositional groups represented.

The SNA was conducted using previously established methods (Mills et al. 2013) and published R scripts (Peeples and Roberts 2013). Similarity scores were calculated in order to create ties between sites. Here, I present the results using a 0.60 similarity score to define ties between sites. Centrality was also calculated in order to identify sites within the Upper Gila, Eastern Mimbres, and Jornada areas. Metric centrality scores of these sites demonstrates their position as consumers and producers within the Mimbres River Valley, as the most central sites within the network. Subregional networks can be identified as sites within the Upper Gila, Eastern Mimbres, and Jornada areas are generally connected more to one another than they are to sites in other subregions. Sample size may be a factor resulting in the isolation of Perrault, West Fork, and Wind Mountain within the current network.

The network configuration shows that sites within the Mimbres River Valley were the most well connected, with Galaz and Cameron Creek being the most central sites within the network. Subregional networks can be identified as sites within the Upper Gila, Eastern Mimbres, and Jornada areas are generally connected more to one another than they are to sites in other subregions. Sample size may be a factor resulting in the isolation of Perrault, West Fork, and Wind Mountain within the current network.

**Conclusions**

The current results using NAA data to generate Mimbres painted pottery social networks during the Classic period align with conclusions drawn by previous Mimbres NAA studies. Creel and Speakman (2018) identified Galaz as a major ceramic production locale during the Classic period. This is reflected here in the high centrality score of Galaz. They also identified the primary factor in the acquisition of pottery was proximity to production sites. The results of the current study support the social and geographic network configurations, as subregional networks can be identified.

**Future Research**

Biases and limitations exist within the current NAA dataset, as some sites and compositional groups have small samples and some production groups remain unidentified. As the NAA dataset continues to grow, additional SNA studies may be conducted. For example, conducting SNA for the Late Pithouse (A.D. 550–1000) period would allow for changes in Mimbres ceramic social networks to be examined across time. The use of NAA data to build social ceramic networks may also allow for differences in painted and utilitarian pottery networks to be examined.

I was unable to create and examine a utilitarian pottery network for the current study due to concerns of temporal control and sample size. Two potential solutions may be selecting for utilitarian ceramic samples that come from excavated dated contexts, or apportioning the utilitarian ceramics into specific intervals (e.g. 50 years).

The results demonstrate the applicability of SNA as an additional tool for examining the production and distribution of pottery within the Mimbres region, as well as the viability of NAA data for building such networks.

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**References Cited**


**Appendix**

A close-up geospatial representation of the network configuration within the Mimbres River Valley.