The goal of this analysis was to understand the representational architecture of social relationship knowledge. We hypothesized that our concepts of social relationships are organized along multi-dimensional components. We conducted a survey on Amazon Mechanical Turk in which participants were asked to rate 159 social relationships on 30 dimensions derived from theories from the literature on social relationships. Next we conducted a confirmatory factor analysis (CFA) to see if multiple dimensions can be summarized as single latent factors.

We hypothesized that socioemotionality, information exchange, valence evaluation, and monetary exchange would be four latent factors. First we checked to see if a single latent factor existed that could account for all of the relationships between the dimensions of communal sharing, endurance, activity intensity, activeness, uniqueness, attachment, love expression, mating, expected reciprocity, intimacy, importance for individuals involved, occupational, strategic, formality and regulation, spatial distance, synchronicity, conflict, coercion, negotiation, goods exchange, and concreteness. The single latent factor model left a significant amount of variance unexplained (χ2 = 2258.72, *p* < .001), and the comparative fit index (CFI) was 0.513, indicating that the single latent factor is not a good model. The root mean square error of approximation (RMSEA) was 0.262, but the upper limit of the 90% confidence interval was 0.272, further indicating that this is not a good model.

Next we examined, if a multiple latent factor model would be appropriate for this data. We hypothesized three latent factors would be related to their respective dimensions. The socioemotionality factor included the dimensions of communal sharing, endurance, activity intensity, activeness, uniqueness, attachment, love expression, mating, expected reciprocity, and intimacy. The exchange opportunity factor included the dimensions of importance for individuals involved, occupational, strategic, formality and regulation, negotiation, goods exchange, and concreteness. Finally the valence factor included the dimensions of spatial distance, synchronicity, conflict, and coercion. In a four latent factor model, we conducted a non-nested analysis where we split the exchange opportunity factor into two factors of information exchange opportunity (which included the dimensions of important for individuals involved, occupational, strategic, and formality and regulation) and money exchange (which included the dimensions of negotiation, goods exchange, and concreteness.

The three latent factor model left a significant amount of variance unexplained (χ2 = 1909.89, *p* < .001), and the CFI was 0.595, indicating that the three latent factor model is not a good fit. The RMSEA was 0.241, with a 90% confidence interval upper limit of 0.251. The four latent factor model also left a significant amount of variance unexplained (χ2 =1823.86, *p* < .001), and the CFI was 0.614, also indicating that this model is not a good fit. The RMSEA for the four latent factor model was 0.237 with a 90% confidence interval upper limit of 0.247. The multiple latent factor models did perform better than the single latent factor model as the single latent factor model had the highest RMSEA. The four latent factor model performed better than the three latent factor model, as the former had lower Akaike’s information criteria (4-factor = 7186.86, 3-factor = 7257.68) and Bayesian information criteria (4-factor = 6975.11, 3-factor = 7055.14).