Do Representations of Social Groups Differ by Culture?

Qingyang A. Zhang, Ryan F. Lei, Andrei Cimpian

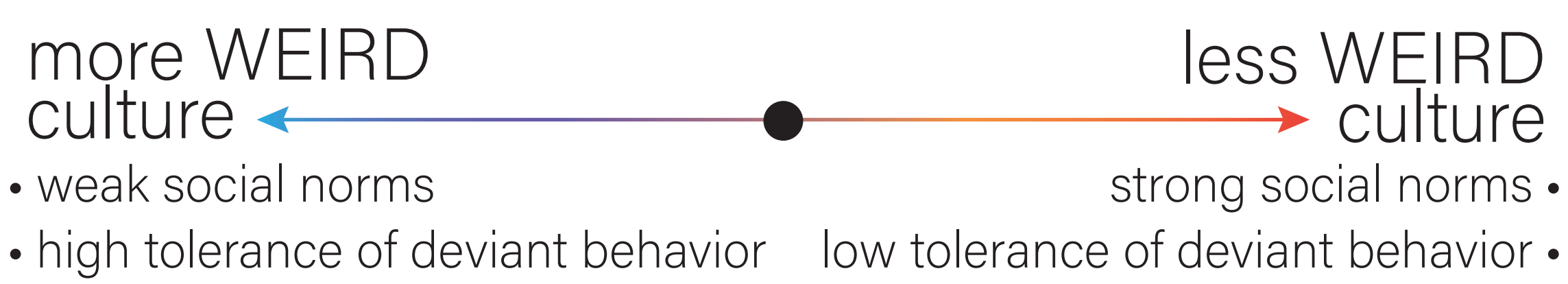Department of Psychology, New York University

Introduction

Previous work from our lab and literature that people have an **intuitive taxonomy of social groups,** which are classified into four types[1]—intimacy groups, task groups , social categories, and loose associations.

However, most of this work has been done on populations that are Western, Educated, Industrialized, Rich and Democratic (WEIRD)[2].

No work has examined how people's group typology might systematically differ as a function of the **cultural** context.

more WEIRD culture → ← less WEIRD culture
- weak social norms
- high tolerance of deviant behavior

strong social norms
low tolerance of deviant behavior

We ask, are there differences in this mind space of social groups between a less WEIRD culture (e.g. India) and a more WEIRD one (e.g. U.S.)?
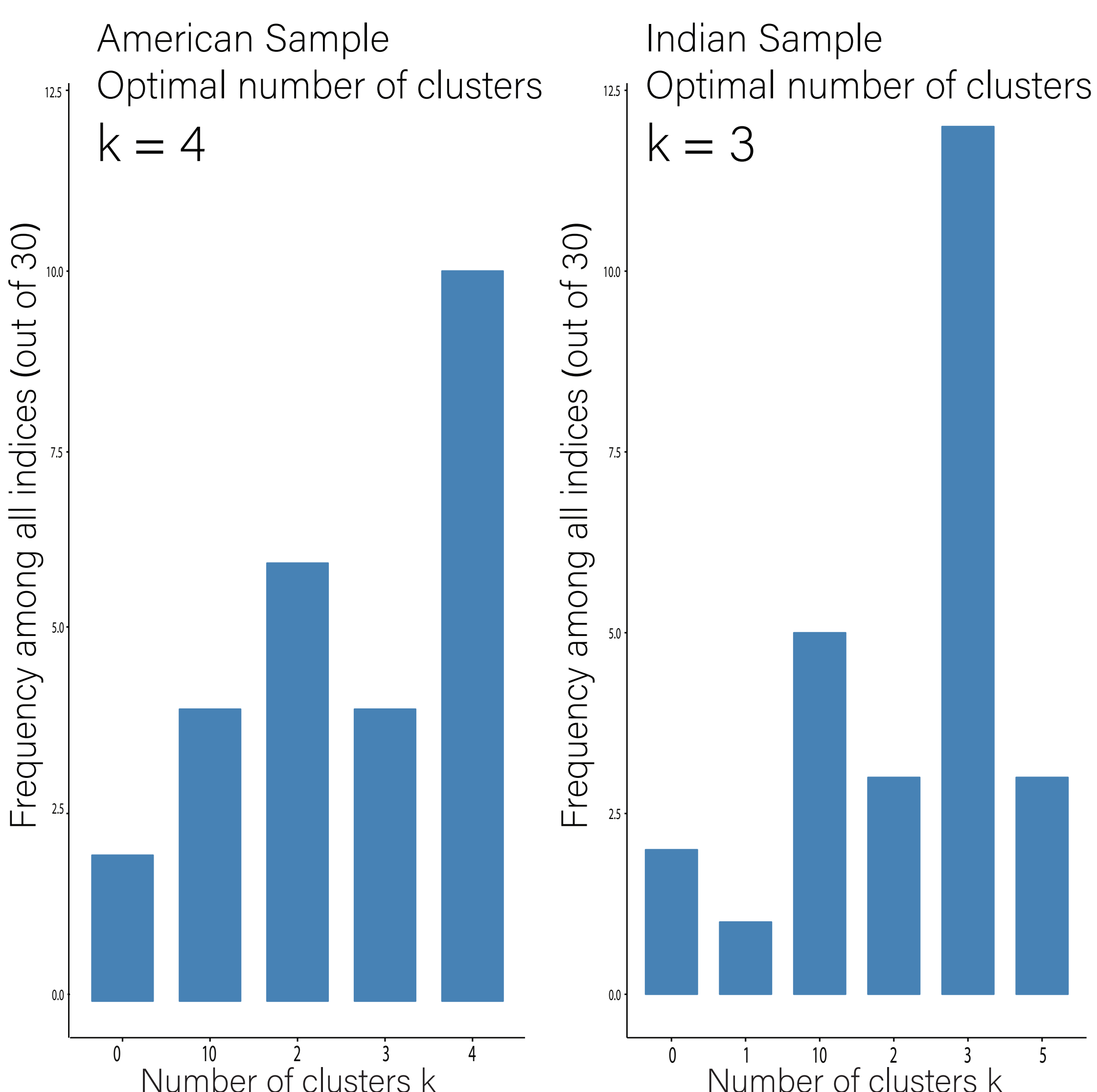
Method

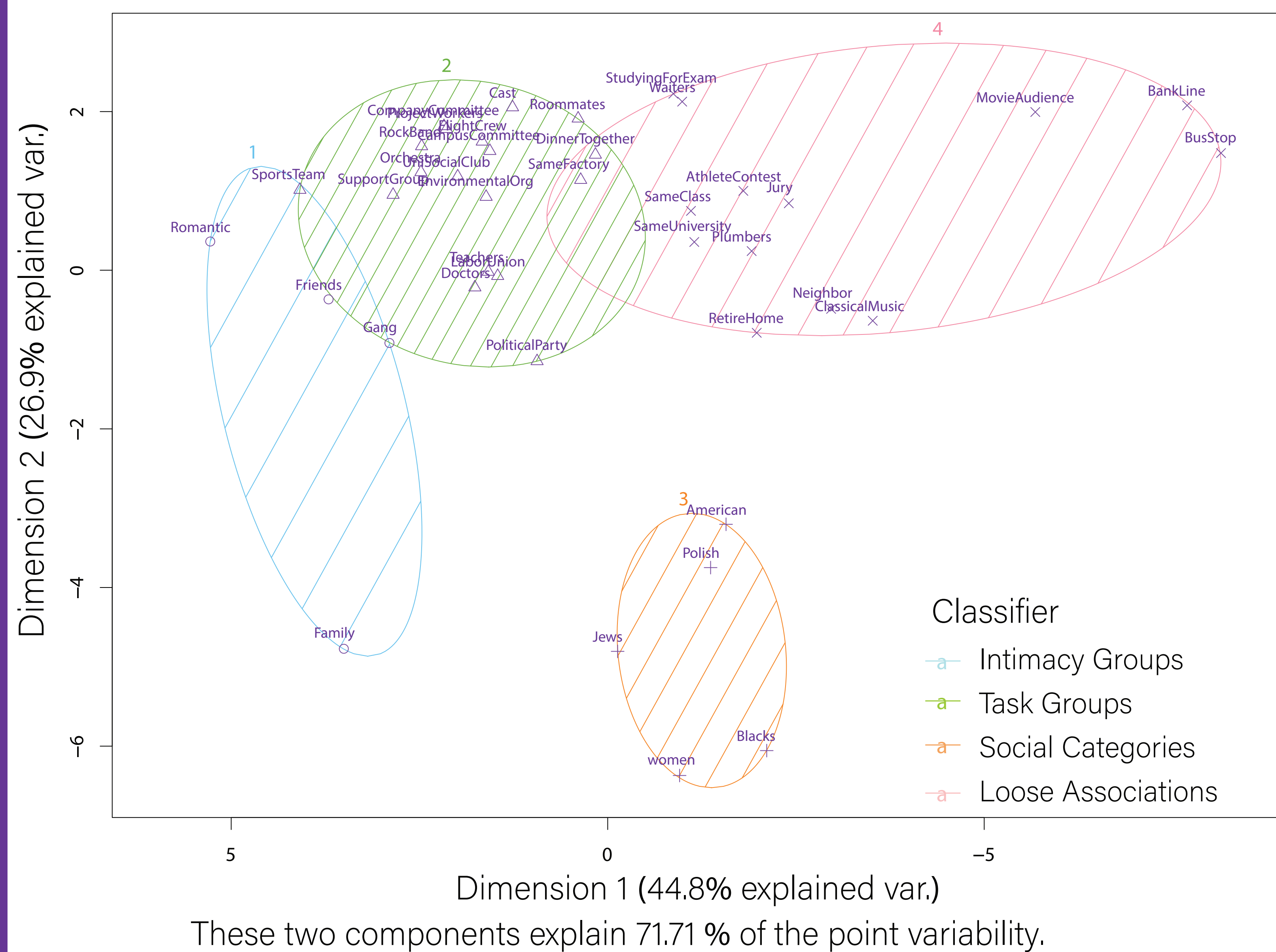N = 391 from the United States and N = 352 from India.

Asked to evaluate a sample of 40 groups that encompasses a broad range on 19 different dimensions of group functioning.
The sample of groups was obtained from the top 40 most familiar items in a norming test to each population.

To avoid participant fatigue, each participant sees a random selection of 10 dimensions; and for each dimension, each participant see a random selection of 10 groups.
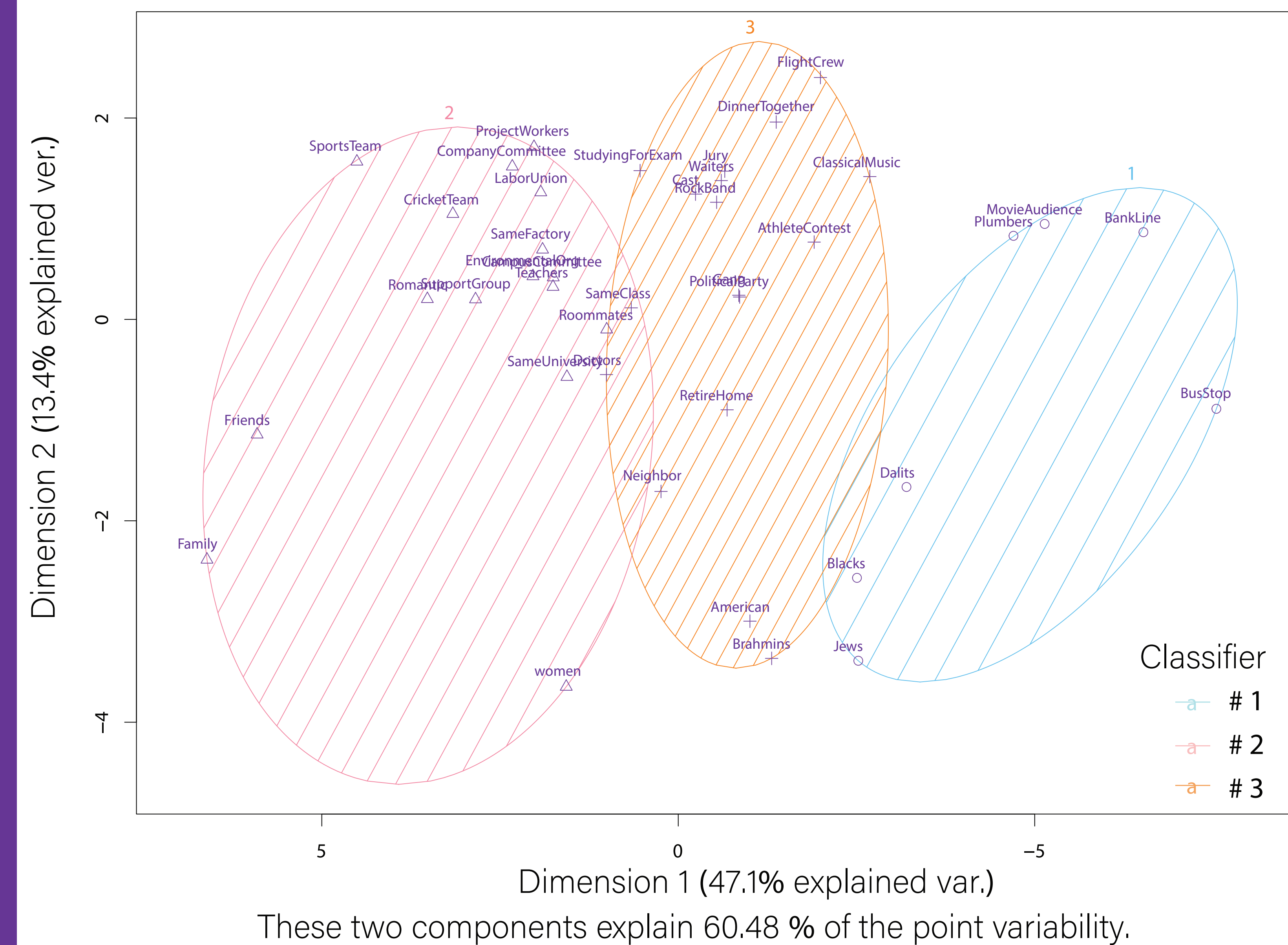
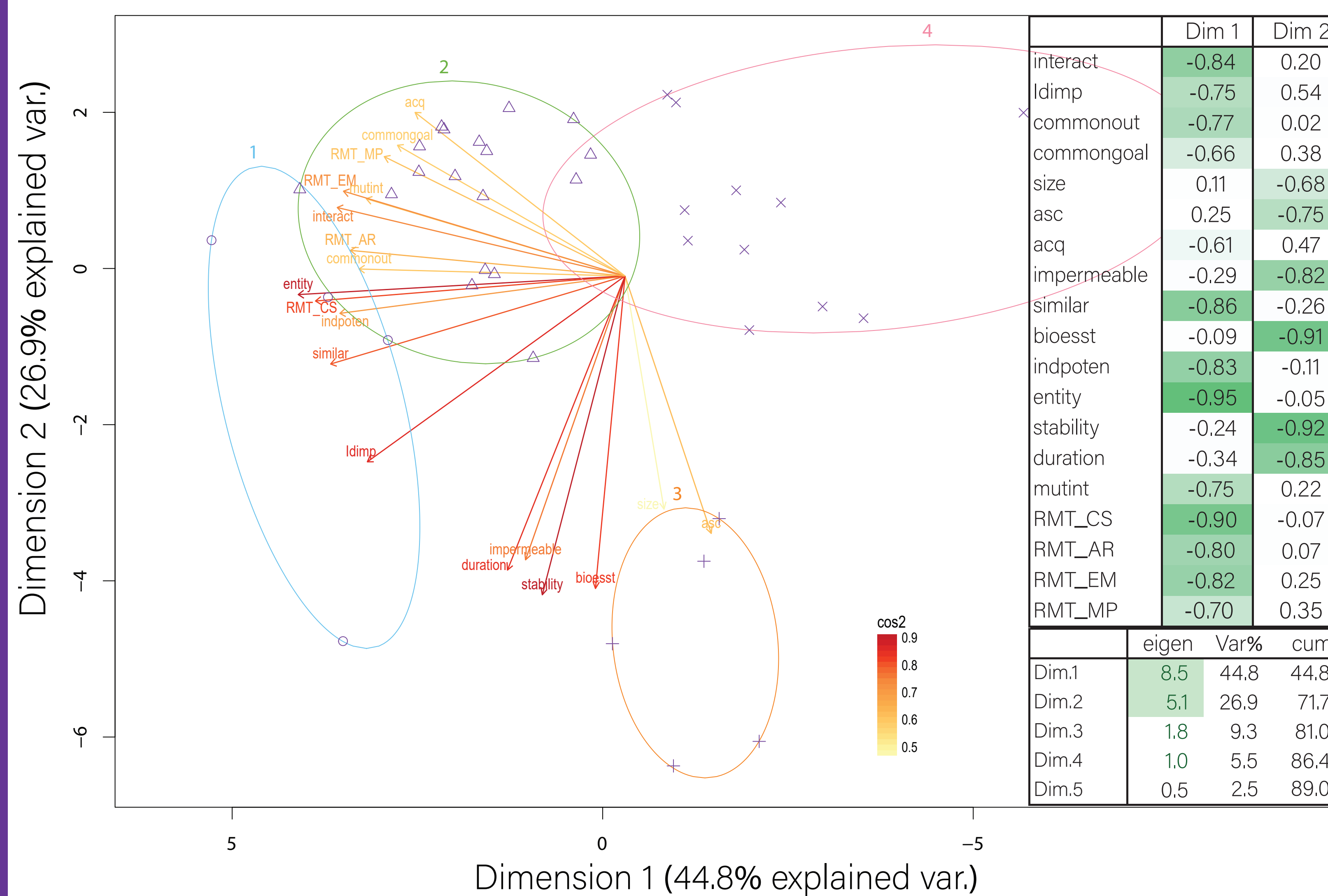To determine the optimal number of clusters for cluster analysis, use NbClust package[4] in R

American Sample
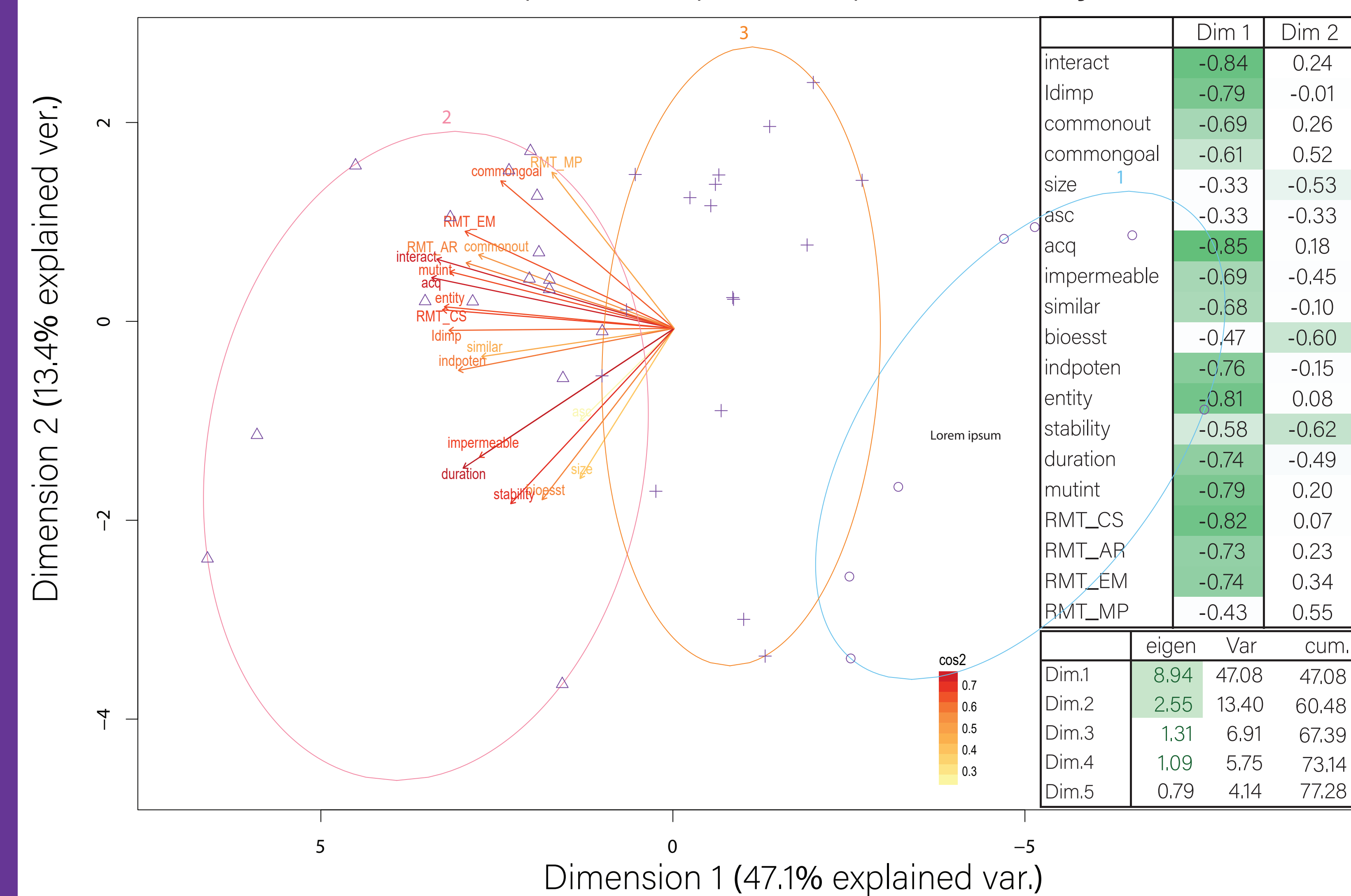Optimal number of clusters
k = 4

Indian Sample
Optimal number of clusters
k = 3

American Sample Cluster Plotting

These two components explain 71.71 % of the point variability.

Classifier
- Intimacy Groups
- Task Groups
- Social Categories
- Loose Associations

Indian Sample Cluster Plotting

These two components explain 60.48 % of the point variability.

Classifier
- #1
- #2
- #3

American Sample Principal Component Analysis

	Dim 1	Dim 2
interact	-0.84	0.20
ldimp	-0.75	0.54
commonout	-0.77	0.02
commongoal	-0.66	0.38
size	0.11	-0.68
asc	0.25	-0.75
acq	-0.61	0.47
impermeable	-0.29	-0.82
similar	-0.86	-0.26
bioesst	-0.09	-0.91
indpoten	-0.83	-0.11
entity	-0.95	-0.05
stability	-0.24	-0.92
duration	-0.34	-0.85
mutint	-0.75	0.22
RMT_CS	-0.90	-0.07
RMT_AR	-0.80	0.07
RMT_EM	-0.82	0.07
RMT_MP	-0.70	0.35

	eigen	Var%	cum.
Dim.1	8.5	44.8	44.8
Dim.2	5.1	26.9	71.7
Dim.3	1.8	9.3	81.0
Dim.4	1.0	5.5	86.4
Dim.5	0.5	2.5	89.0

Indian Sample Principal Component Analysis

	Dim 1	Dim 2
interact	-0.83	0.24
ldimp	-0.79	-0.01
commonout	-0.69	0.26
commongoal	-0.61	0.52
size	-0.33	-0.53
asc	-0.33	-0.33
acq	-0.85	0.18
impermeable	-0.69	-0.45
similar	-0.88	-0.10
bioesst	-0.47	-0.60
indpoten	-0.76	-0.15
entity	-0.81	0.08
stability	-0.58	-0.62
duration	-0.68	-0.49
mutint	-0.79	0.20
RMT_CS	-0.82	0.07
RMT_AR	-0.73	0.23
RMT_EM	-0.74	0.34
RMT_MP	-0.43	0.55

	eigen	Var	cum.
Dim.1	8.94	47.08	47.08
Dim.2	2.55	13.40	60.48
Dim.3	1.31	6.91	67.39
Dim.4	1.09	5.75	73.14
Dim.5	0.79	4.14	77.28

Discussion

The present study conceptually replicated the typology model proposed by previous literature in a WEIRD culture (U.S.) with more recent statistical methods and larger sample sizes.

Moreover, the clustering analysis results seemed to suggest that the way people from different cultures organize their mental space of social grouping might fundamentally vary.

The results of Principal Component Analysis suggested that the way American sample classified is defined by two dimensions of groups, two dimensions of groups: one that is more focused on the function of groups, and the other, the form of groups. In contrast, the clustering results of Indian sample seemed to be primarily typified by one dimension, which may reflect collectivism.

Future Directions

Further work should look at what factor that Indian consider when organizing their mental space of social groupings. Methods of supervised machine learning (e.g., LASSO regression) should be considered.

Notes

1. Lickel, B., Hamilton, D. L., Wieczorkowska, G., Lewis, A., Sherman, S. J., & Uhles, A. N. (2000). Varieties of groups and the perception of group entitativity. *Journal of personality and social psychology, 78*(2), 223.
2. Henrich, J., Heine, S. J., & Norenzayan, A. (2010). Most people are not WEIRD. *Nature, 466*(7302), 29.
3. Gelfand, M. J., Raver, J. L., Nishii, L., Leslie, L. M., Lun, J., Lim, B. C., ... & Aycan, Z. (2011). Differences between tight and loose cultures: A 33-nation study. *Science, 332*(6033), 1100-1104.
4. Charrad, M., Ghazzali, N., Boiteau, V., Niknafs, A., & Charrad, M. M. (2014). Package 'nbclust'. *Journal of statistical software, 61,* 1-36.