

Are animal like us? Stereotype dimensions of animal species

Néstor Cano & Verónica Sevillano
Universidad Autónoma de Madrid

Introduction

Social stereotype content

Within the studies of stereotypes has recently appeared and interest in the study of its content; that is, the characteristics that form them

Stereotype Content Model (SCM) Fiske et al., 2002

A groups-oriented model, with a structural approach, and identifying **warmth** (group to group intentions) and **competence** (capacity to accomplish that intentions) as the basic dimensions of social perception (theoretical approach)

The "Big Two" Abele & Wozniak, 2007

Oriented to interpersonal interactions, and identifying **communion** (orientation to others) and **agency** (dominance or ambition)

ABC Model Koch et al., 2016

With a sociological focus, differences between **agency** (A, socio-economic success, status) and **beliefs** (B, conservative-progressive) as the main dimensions; and **communion** (C, identified as warmth) as an emergent quality in the two-dimensions space (spontaneous judgments approach)

Stereotype concept applied to animals

Stereotypes are socially shared beliefs about characteristics or attributes of a group or a person

Recent studies emphasize the possibility of understanding the animals as social objects on which society develops stereotypes Sevillano & Fiske, 2016a

From an applied perspective, the study of animal stereotypes could possibly benefit conservation strategies Sevillano et al., 2017

Stereotype dimensions applied to animals

Size and Ferocity (from basic psychology) Tenney, 1968

Size and Degree of predacity (from biology) Rips et al., 1979

Intentions and Capabilities (from social psychology) Sevillano & Fiske, 2016b; SCM

Aim

Identify the relevant dimensions of animal species stereotypes using spontaneous judgments

Methods

Statistic approximation: Multidimensional Scaling (MDSAL)

A widely used procedure in social psychology for the identification of dimensions underlying the interpretation of different objects

Koch et al., 2016; Rusbult et al., 1982; Ward & Russel, 1961; Prentice, 1967

Participants: students from UAM

Studies:

Pilot study - Identify relevant animal species, N = 81

Study 2 - Similarity ratings on grouping task, N = 57

Study 1 - Similarity ratings on Likert-type scale, N = 108

Study 3 - Dimensions interpretation through multiple regression, N = 47

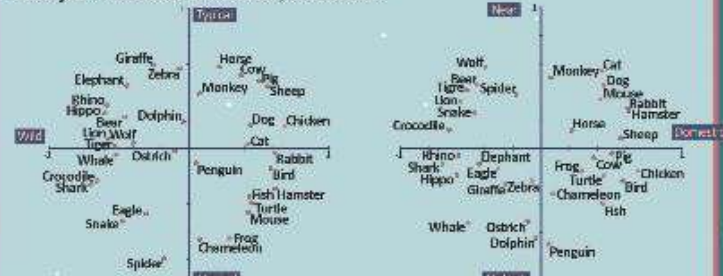
References:

- Abele, A. E., & Wozniak, E. (2007). Agency and communion: The big two dimensions of social perception. *Journal of Personality and Social Psychology*, 93(2), 291-301.
- Abele, A. E., & Wozniak, E. (2010). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 98(2), 291-301.
- Abele, A. E., & Wozniak, E. (2012). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 102(2), 291-301.
- Abele, A. E., & Wozniak, E. (2014). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 106(2), 291-301.
- Abele, A. E., & Wozniak, E. (2016). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 110(2), 291-301.
- Abele, A. E., & Wozniak, E. (2018). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 115(2), 291-301.
- Abele, A. E., & Wozniak, E. (2020). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 118(2), 291-301.
- Abele, A. E., & Wozniak, E. (2022). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 121(2), 291-301.
- Abele, A. E., & Wozniak, E. (2023). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 124(2), 291-301.
- Abele, A. E., & Wozniak, E. (2024). The big two dimensions of social perception: Agency and communion. *Journal of Personality and Social Psychology*, 127(2), 291-301.

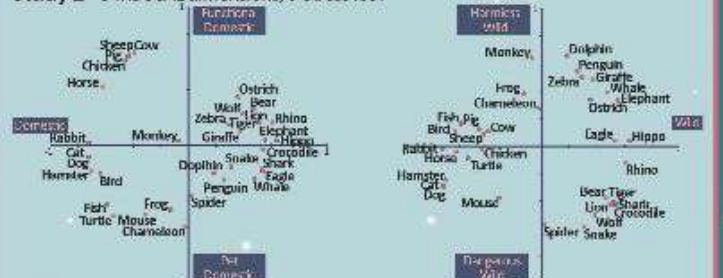
Results

Pilot Study - 34 animal species, named by >15%

Study 1 - 3 MDSAL dimensions, S-Stress .077



Study 2 - 3 MDSAL dimensions, S-Stress .037



Dimensions' labels are provisional

Study 3 - Dimensions interpretation

To objectively name the dimensions extracted from MDSAL, the 34 animal species were evaluated on 13 different scales:

Size Ferocity Henley, 1969	Ability Intelligence Friendliness Intentions Sevillano & Fiske, 2016b ISCM)	Evaluation Activation Ward & Russel, 1961	Domesticity Approach-avoidance Aquatic-aerial Aquatic-terrestrial Terrestrial-aerial WDSAL Dimensions

Multiple Regression analysis were run taken the dimensions from MDSAL as the predictor variables, and the punctuation on those scales as the criteria variable.

Study 1 Dimensions				Study 2 Dimensions					
1	2	3	R ²	1	2	3	R ²		
Large animal	-.225**	-.558**	-.250*	.249	Domesticity	-.704**	-.738**	-.622	.738
Domestic	-.486**	-.173	-.252**	.245	Approach-avoidance	-.688**	-.585**	-.622	.732
Aggressive	-.329**	-.252**	-.262*	.239	Aquatic-aerial	-.655**	-.552**	-.622	.713
Small	-.244**	-.381**	-.353*	.214	Terrestrial-aerial	-.591**	-.532	-.595**	.712
Intelligence	-.238**	-.232**	-.230**	.212	Aggressive	-.694**	-.581	-.613**	.617
Domesticity	-.141	-.141*	-.156**	.206	Approach-avoidance	-.668**	-.569**	-.625	.616
Aggressive	-.138**	-.132**	-.139	.205	Aquatic-aerial	-.719	-.554	-.618**	.577
Domesticity	-.137	-.137*	-.138**	.204	Terrestrial-aerial	-.701	-.541	-.616**	.574
Intelligence	-.135	-.135	-.135	.203	Aggressive	-.705	-.535	-.615**	.572
Domesticity	-.133	-.133	-.133	.202	Approach-avoidance	-.706	-.527	-.614**	.570
Aggressive	-.131	-.131	-.131	.201	Terrestrial-aerial	-.707	-.519	-.613**	.568
Intelligence	-.129	-.129	-.129	.200	Aggressive	-.708	-.511	-.612**	.566
Domesticity	-.127	-.127	-.127	.199	Approach-avoidance	-.709	-.503	-.611**	.564
Aggressive	-.125	-.125	-.125	.198	Terrestrial-aerial	-.710	-.495	-.610**	.562
Intelligence	-.123	-.123	-.123	.197	Aggressive	-.711	-.487	-.609**	.560
Domesticity	-.121	-.121	-.121	.196	Approach-avoidance	-.712	-.479	-.608**	.558
Aggressive	-.119	-.119	-.119	.195	Terrestrial-aerial	-.713	-.471	-.607**	.556
Intelligence	-.117	-.117	-.117	.194	Aggressive	-.714	-.463	-.606**	.554
Domesticity	-.115	-.115	-.115	.193	Approach-avoidance	-.715	-.455	-.605**	.552
Aggressive	-.113	-.113	-.113	.192	Terrestrial-aerial	-.716	-.447	-.604**	.550
Intelligence	-.111	-.111	-.111	.191	Aggressive	-.717	-.439	-.603**	.548
Domesticity	-.109	-.109	-.109	.190	Approach-avoidance	-.718	-.431	-.602**	.546
Aggressive	-.107	-.107	-.107	.189	Terrestrial-aerial	-.719	-.423	-.601**	.544
Intelligence	-.105	-.105	-.105	.188	Aggressive	-.720	-.415	-.600**	.542
Domesticity	-.103	-.103	-.103	.187	Approach-avoidance	-.721	-.407	-.599**	.540
Aggressive	-.101	-.101	-.101	.186	Terrestrial-aerial	-.722	-.399	-.598**	.538
Intelligence	-.099	-.099	-.099	.185	Aggressive	-.723	-.391	-.597**	.536
Domesticity	-.097	-.097	-.097	.184	Approach-avoidance	-.724	-.383	-.596**	.534
Aggressive	-.095	-.095	-.095	.183	Terrestrial-aerial	-.725	-.375	-.595**	.532
Intelligence	-.093	-.093	-.093	.182	Aggressive	-.726	-.367	-.594**	.530
Domesticity	-.091	-.091	-.091	.181	Approach-avoidance	-.727	-.359	-.593**	.528
Aggressive	-.089	-.089	-.089	.180	Terrestrial-aerial	-.728	-.351	-.592**	.526
Intelligence	-.087	-.087	-.087	.179	Aggressive	-.729	-.343	-.591**	.524
Domesticity	-.085	-.085	-.085	.178	Approach-avoidance	-.730	-.335	-.590**	.522
Aggressive	-.083	-.083	-.083	.177	Terrestrial-aerial	-.731	-.327	-.589**	.520
Intelligence	-.081	-.081	-.081	.176	Aggressive	-.732	-.319	-.588**	.518
Domesticity	-.079	-.079	-.079	.175	Approach-avoidance	-.733	-.311	-.587**	.516
Aggressive	-.077	-.077	-.077	.174	Terrestrial-aerial	-.734	-.303	-.586**	.514
Intelligence	-.075	-.075	-.075	.173	Aggressive	-.735	-.295	-.585**	.512
Domesticity	-.073	-.073	-.073	.172	Approach-avoidance	-.736	-.287	-.584**	.510
Aggressive	-.071	-.071	-.071	.171	Terrestrial-aerial	-.737	-.279	-.583**	.508
Intelligence	-.069	-.069	-.069	.170	Aggressive	-.738	-.271	-.582**	.506
Domesticity	-.067	-.067	-.067	.169	Approach-avoidance	-.739	-.263	-.581**	.504
Aggressive	-.065	-.065	-.065	.168	Terrestrial-aerial	-.740	-.255	-.580**	.502
Intelligence	-.063	-.063	-.063	.167	Aggressive	-.741	-.247	-.579**	.500
Domesticity	-.061	-.061	-.061	.166	Approach-avoidance	-.742	-.239	-.578**	.498
Aggressive	-.059	-.059	-.059	.165	Terrestrial-aerial	-.743	-.231	-.577**	.496
Intelligence	-.057	-.057	-.057	.164	Aggressive	-.744	-.223	-.576**	.494
Domesticity	-.055	-.055	-.055	.163	Approach-avoidance	-.745	-.215	-.575**	.492
Aggressive	-.053	-.053	-.053	.162	Terrestrial-aerial	-.746	-.207	-.574**	.490
Intelligence	-.051	-.051	-.051	.161	Aggressive	-.747	-.199	-.573**	.488
Domesticity	-.049	-.049	-.049	.160	Approach-avoidance	-.748	-.191	-.572**	.486
Aggressive	-.047	-.047	-.047	.159	Terrestrial-aerial	-.749	-.183	-.571**	.484
Intelligence	-.045	-.045	-.045	.158	Aggressive	-.750	-.175	-.570**	.482
Domesticity	-.043	-.043	-.043	.157	Approach-avoidance	-.751	-.167	-.569**	.480
Aggressive	-.041	-.041	-.041	.156	Terrestrial-aerial	-.752	-.159	-.568**	.478
Intelligence	-.039	-.039	-.039	.155	Aggressive	-.753	-.151	-.567**	.476
Domesticity	-.037	-.037	-.037	.154	Approach-avoidance	-.754	-.143	-.566**	.474
Aggressive	-.035	-.035	-.035	.153	Terrestrial-aerial	-.755	-.135	-.565**	.472
Intelligence	-.033	-.033	-.033	.152	Aggressive	-.756	-.127	-.564**	.470
Domesticity	-.031	-.031	-.031	.151	Approach-avoidance	-.757	-.119	-.563**	.468
Aggressive	-.029	-.029	-.029	.150	Terrestrial-aerial	-.758	-.111	-.562**	.466
Intelligence	-.027	-.027	-.027	.149	Aggressive	-.759	-.103	-.561**	.464
Domesticity	-.025	-.025	-.025	.148	Approach-avoidance	-.760	-.095	-.560**	.462
Aggressive	-.023	-.023	-.023	.147	Terrestrial-aerial	-.761	-.087	-.559**	.460
Intelligence	-.021	-.021	-.021	.146	Aggressive	-.762	-.079	-.558**	.458
Domesticity	-.019	-.019	-.019	.145	Approach-avoidance	-.763	-.071	-.557**	.456
Aggressive	-.017	-.017	-.017	.144	Terrestrial-aerial	-.764	-.063	-.556**	.454
Intelligence	-.015	-.015	-.015	.143	Aggressive	-.765	-.055	-.555**	.452
Domesticity	-.013	-.013	-.013	.142	Approach-avoidance	-.766	-.047	-.554**	.450
Aggressive	-.011	-.011	-.011	.141	Terrestrial-aerial	-.767	-.039	-.553**	.448
Intelligence	-.009	-.009	-.009	.140	Aggressive	-.768	-.031	-.552**	.446
Domesticity	-.007	-.007	-.007	.139	Approach-avoidance	-.769	-.023	-.551**	.444
Aggressive	-.005	-.005	-.005	.138	Terrestrial-aerial	-.770	-.015	-.550**	.442
Intelligence	-.003	-.003	-.003	.137	Aggressive	-.771	-.007	-.549**	.440
Domesticity	-.001	-.001	-.001	.136	Approach-avoidance	-.772	-.000	-.548**	.438
Aggressive	-.000	-.000	-.000	.135	Terrestrial-aerial	-.773	-.000	-.547**	.436
Intelligence	-.000	-.000	-.000	.134	Aggressive	-.774	-.000	-.546**	.434
Domesticity	-.000	-.000	-.000	.133	Approach-avoidance	-.775	-.000	-.545**	.432
Aggressive	-.000	-.000	-.000	.132	Terrestrial-aerial	-.776	-.000	-.544**	.430
Intelligence	-.000	-.000	-.000	.131	Aggressive	-.777	-.000	-.543**	.428
Domesticity	-.000	-.000	-.000	.130	Approach-avoidance	-.778	-.000	-.542**	.426
Aggressive	-.000	-.000	-.000	.129	Terrestrial-aerial	-.779	-.000	-.541**	.424
Intelligence	-.000	-.000	-.000	.128	Aggressive	-.780	-.000	-.540**	.422
Domesticity	-.000	-.000	-.000	.127	Approach-avoidance	-.781	-.000	-.539**	.420
Aggressive	-.000	-.000	-.000	.126	Terrestrial-aerial	-.782	-.000	-.538**	.418
Intelligence	-.000	-.000	-.000	.125	Aggressive	-.783	-.000	-.537**	.416
Domesticity	-.000	-.000	-.000	.124	Approach-avoidance	-.784	-.000	-.536**	.414
Aggressive	-.000	-.000	-.000	.123	Terrestrial-aerial	-.785	-.000	-.535**	.412
Intelligence	-.000	-.000	-.000	.122	Aggressive	-.786	-.000	-.534**	.410
Domesticity	-.000	-.000	-.000	.121	Approach-avoidance	-.787	-.000	-.533**	.408
Aggressive	-.000	-.000	-.000	.120	Terrestrial-aerial	-.788	-.000	-.532**	.406
Intelligence	-.000	-.000	-.000	.119	Aggressive	-.789	-.000	-.531**	.404
Domesticity	-.000	-.000	-.000	.118	Approach-avoidance	-.790	-.000	-.530**	.402
Aggressive									