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Constituents of political cognition: Race, party politics, and the alliance detection system

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ABSTRACT

Research suggests that the mind contains a set of adaptations for detecting alliances: an *alliance detection system*, which monitors for, encodes, and stores alliance information and then modifies the activation of stored alliance categories according to how likely they will predict behavior within a particular social interaction. Previous studies have established the activation of this system when exposed to explicit competition or cooperation between individuals. In the current studies we examine if shared political opinions produce these same effects. In particular, (1) if participants will spontaneously categorize individuals according to the parties they support, even when explicit cooperation and antagonism are absent, and (2) if party support is sufficiently powerful to decrease participants' categorization by an orthogonal but typically-diagnostic alliance cue (in this case the target's race). Evidence was found for both: Participants spontaneously and implicitly kept track of who supported which party, and when party cross-cut race—such that the race of targets was not predictive of party support—categorization by race was dramatically reduced. To verify that these results reflected the operation of a cognitive system for modifying the activation of alliance categories, and not just socially-relevant categories in general, an identical set of studies was also conducted with in which party was either crossed with sex or age (neither of which is predicted to be primarily an alliance category). As predicted, categorization by party occurred to the same degree, and there was no reduction in either categorization by sex or by age. All effects were replicated across two sets of between-subjects conditions. These studies provide the first direct empirical evidence that party politics engages the mind's systems for detecting alliances and establish two important social categorization phenomena: (1) that categorization by age is, like sex, not affected by alliance information and (2) that political contexts can reduce the degree to which individuals are represented in terms of their race.

1. Introduction

What cognitive adaptations underwrite the ability to reason about politics? In different forms, this has been a focal question for social scientists at least since Aristotle

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characterized humans as a political animal, a *Zoon Politikon*. In this paper we focus on the *alliance detection system*, the systems in the mind designed to solve the problems of keeping tracking of and calling to mind relevant coalitions and alliances (Pietraszewski, Cosmides, & Tooby, 2014). We examine whether this system is engaged when people represent interactions between supporters of the most important entity in modern politics: political parties.

In examining the political relevance of the alliance detection system, we recognize the classical claim from both biologists and social scientists that political power in hyper-social species is attained through alliance-formation, and that therefore human political cognition emerges from adaptations for navigating alliances (Campbell, Converse, Miller, & Stokes, 1960; de Waal, 1982). Importantly, however, because the computational signatures of the alliance detection system have only recently begun to be mapped, it has not been possible until now to support this claim with direct empirical evidence. By taking advantage of recent discoveries about how the alliance detection system up- and down-regulates alliance cues, we are able to remedy this shortcoming and directly and empirically examine if signals of support for and agreement with modern political parties activates the alliance detection system. For the first time, the notion that humans implicitly reason about party politics as a matter of alliance formation can be experimentally-tested.

The empirical test itself also documents an otherwise surprising and previously unknown phenomenon of social categorization: that when we observe different-race people supporting the same political party, and same-race people supporting different political parties, this decreases our implicit categorization of them by their race. And, when we observe this same pattern for other social categories like sex or age—such that different-sex or different-age people support the same political party, and same-sex or same-age people support different political parties—our implicit categorization by these other dimensions does not change. This suggests that political contexts can in fact change how strongly we view others in terms of their race.

In the next sections we explain what, broadly, the alliance detection system is, how it works, and why this pattern of categorization—race decreasing more than sex and age—diagnoses the operation of the alliance detection system in the context of modern party politics.

1.1. The alliance detection system

Alliances are sets of individuals cooperating toward common ends, often in competition with other sets (Chagnon, 1992; Chapais, 2008, 2010; Ember, 1978; Harcourt & de Waal, 1992; Keeley, 1996; Manson & Wrangham, 1991; Smuts, Cheney, Seyfarth, Wrangham, & Struhsaker, 1987; von Rueden, Gurven, & Kaplan, 2008). Although alliances are powerful—amplifying individual abilities and transforming the odds of success—they are surprisingly rare in the animal kingdom. This is in part because alliances produce unique dynamics. For instance, alliances cause *indirect social consequences*, in which the status of non-interactants can change (for example, if A and B are allies, and A is harmed by Z, then B will also have a negative stance toward Z, even though Z did not directly affect or interact with B at all—a kind of action at a distance (Pietraszewski & German, 2013)). Understanding and predicting alliance behaviors therefore requires cognitive systems specialized for these dynamics (Byrne & Whiten, 1988; Harcourt, 1988; Pietraszewski, 2013; Tomasello & Call, 1997; Tooby & Cosmides, 2010; Tooby, Cosmides, & Price, 2006).

The *alliance detection system* is one such specialized system. It carries out the functions of attending to who is allied with whom and attempting to predict who is likely to be allied with whom prior to an interaction. It does this by (1) monitoring for patterns of coordination, cooperation, and competition out in the world, and (2) extracting any cues from the environment (such as location, dress, proximity, shared knowledge, etc.) that happen to correlate with these behaviors, whether these are signaled intentionally or unintentionally.

For example, in a social world where bandana color denotes gang membership, this system will up-regulate the probability that individuals sharing the same color bandana are more likely to be allied, come to each other's aid, have a positive relationship with one another, and so on, and the opposite will be expected of those wearing different colors. If this pattern holds across individuals and across contexts, bandana color will become an important dimension of person perception and categorization and people will be perceived and categorized by their color.

The alliance detection system must also (3) be adept at picking up on which alliance categories are currently organizing people's behaviors and inhibit non-relevant alliance categories. This is because alliances can change and people belong to more than one alliance category. For example, if in the bandana scenario the system receives new information that bandana color is no longer predictive of alliance patterns, either generally or in a particularly context, such that individuals wearing different colors have a positive relationship and individuals wearing the same colors do not, the use of bandana as a dimension of categorization should be inhibited, either within that particular context, or if it is a general phenomenon and continues to occur, it will eventually be ignored.

This is a Bayesian updating process. The system makes a best guess of how people will interact, based on whichever available cues have the highest prior probability of being likely to organize a social interaction. Then, as additional information is provided by the context or during the ongoing interaction, estimates of which cues are in fact relevant for predicting alliance behavior will be updated. Cues with high priors that are shown to not be relevant will be reduced, and cues with low or no priors, will—if they are shown to track alliance behavior during the interaction—be up-regulated.

This means that alliance representations (alliance categories and their cues) should behave in a particular way: currently unfolding alliance behaviors and their cues should be capable of reducing or inhibiting the use of a previously-used alliance category or cue, particularly when the old category or cue is shown to not predict alliance behavior within the unfolding context. In other words, if