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Title

Affect Control Theories: A Double Special Issue in Honor of David R. Heise

Permalink

<https://escholarship.org/uc/item/14c670fs>

Journal

American Behavioral Scientist, 67(1)

ISSN

0002-7642

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Publication Date

2023

DOI

10.1177/00027642211066044

Peer reviewed

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American Behavioral Scientist
2022, Vol. 0(0) 1–9
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DOI: 10.1177/00027642211066044
journals.sagepub.com/home/abs


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Abstract

We introduce this two-part special issue that celebrates David Heise and his pathbreaking theories: affect control theory (ACT), affect control theory of the self (ACTS), and affect control theory of institutions (ACTI). These interlocking, multi-level, mathematically based theories explain a range of social processes, including impression formation, social interaction, trait and mood attributions, emotional experiences, emotion management, and identity adoption, and they do so in multiple languages and cultures. The 15 articles in this two-part issue test, apply, and develop the theories in new and innovative ways. After briefly summarizing each theory and Bayesian affect control theory (BayesACT), we highlight the key findings from each of the articles that follow.

Keywords

affect control theory, David R. Heise, occupations, health, status

In October of 2019, a group of social psychologists participated in a conference to celebrate David Heise's highly distinguished career, focusing especially on his pathbreaking theories: affect control theory (ACT), affect control theory of the self

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(ACTS), and affect control theory of institutions (ACTI). These interlocking, multi-level, mathematically based theories explain a range of social processes, including impression formation, social interaction, trait and mood attributions, emotional experiences, emotion management, and identity adoption, and they do so in multiple languages and cultures (see MacKinnon & Robinson, 2014; Robinson & Smith-Lovin, 2018 for recent reviews). This two-part special issue continues that celebration by publishing a series of pieces that test, apply, and develop the theories in new and innovative ways.

Heise's groundbreaking ACT work started in the 1970s with three pivotal publications: an article-length description of the theory (1977); a monograph explaining *Interact*, the computer program he developed to simulate social interaction based on ACT propositions (1978); and a book that outlined ACT's mathematical model and provided illustrative analyses using *Interact* (1979). His work developing ACT and its offshoots, ACTS and ACTI, continued until his death in September of 2021. Heise also made pioneering contributions to the field with the development of two methodological innovations: event structure analysis (ESA), a technique for analyzing the causal structure in qualitative data, and *Ethno*, a computer program that facilitates such analyses.¹ In addition, he served as the editor of *Sociological Methodology* and *Sociological Methods & Research*. He received distinguished career awards for these wide-ranging contributions from four sections of the American Sociological Association—Social Psychology, Sociology of Emotions, Mathematical Sociology, and Methodology—and from the International Academy for Intercultural Research.

Below we briefly describe each affect control theory as well as BayesACT, an extension of ACT and ACTS that is rooted in Bayesian probability theory. We conclude with a brief description of each of the pieces in this two-part issue. The pieces in Issue 1 apply these theories to the study of health, status, and occupations, while the pieces in Issue 2 offer theoretical and methodological advancements. We conclude Issue 2 with an innovative theoretical piece by David Heise that draws on all three affect control theories and ESA to develop a multi-level theory of action explaining how organizations accomplish goals.

Affect Control Theory

Affect control theory (Heise, 1977, 1979, 2007; MacKinnon, 1994; Smith-Lovin & Heise, 1988) is a mathematical theory linking culture with social behavior. It begins with the premise that all social concepts—e.g., identities, behaviors, settings—carry relatively fixed affective connotations. These *fundamental sentiments* vary along the three universal dimensions of meaning identified by Osgood et al. (1975) in their cross-cultural research: evaluation (good vs. bad), potency (powerful vs. weak), and activity (active vs. inactive). Using semantic differential scales, affect control theorists have collected evaluation-potency-activity (EPA) profiles for thousands of concepts in several cultures. ACT's main proposition is that individuals perceive events and construct lines of social action that maintain preexisting sentiments for themselves,

their interaction partners, and other elements of the situation. Affect control theorists use empirically derived impression-formation equations to predict the way interactions affect observers' impressions of actors, behaviors, and emotions. These equations are contained in *Interact*, a computer program that simulates social interaction and emotion, trait, and identity attributions using ACT principles (Heise, 1978, 1995).

According to ACT, individuals try to confirm the fundamental sentiments tied to their definition of the situation, but they are not always successful: sometimes an interaction makes some element of the situation seem more or less good, potent, or active than expected. This non-confirmation is quantified in ACT with a *deflection* score, with high deflections indicating that an event seems unlikely or uncanny (Heise & MacKinnon, 1987). An event that seems unlikely is expected to motivate individuals to behave in ways that bring *transient impressions* (the momentary impressions created by the event) into line with fundamental sentiments. If that is not possible, they are expected to revise the way they understand the event by redefining the behavior or attributing modifiers or even new, institutionally appropriate identities to interactants.

Emotions serve as signals about how well social interactions are maintaining fundamental sentiments. When people are perfectly maintaining their identities, they experience *characteristic emotions* for that identity, which are usually fairly close to the meaning of the identity itself. But, when identity meanings are not maintained, people experience emotions that reflect the distance and direction of the discrepancy between their transient impressions and their fundamental sentiments. For example, events that make individuals appear less positive than expected for their identity are expected to generate negative emotions.

Affect Control Theory of the Self

ACT explains how interaction is likely to unfold once identities are selected, but it does not explain how individuals choose identities to enact. That question is addressed in ACTS (Heise, 2007; MacKinnon & Heise, 2010), an extension of ACT that specifies the relationship between the self and identities. According to ACTS, individuals seek to enact identities with sentiments as close as possible to their fundamental self-sentiments—the evaluation, potency, and activity associated with “myself as I really am” or “I, myself.” Thus, fundamental self-sentiments are trans-situational self-meanings that influence identity selection. Identity enactments that are similar to self-sentiments create a sense of self-actualization, while non-confirming identity enactments—those that generate EPA meanings that differ from the self-sentiments—create a sense of inauthenticity.

Yet, self-actualization is not the only factor hypothesized to influence identity selection: external factors, including structural constraints (e.g., the need for employment) and dominant others, sometimes compel or force individuals to adopt inauthentic identities. When this happens, individuals are expected to correct those feelings of inauthenticity by later enacting another identity that differs from the self-sentiments in the opposite direction. In this way, individuals can actualize their self-

sentiments cumulatively; although neither identity is independently confirmatory, the two together confirm self-sentiments. These ACTS processes are modeled using a cybernetic and mathematical model similar to the one underlying ACT (Heise, 2007, Chapter 16).

Affect Control Theory of Institutions

In ACT, institutions are configurations of identities and actions that relate to a generalized core concern that arises out of repeated patterns of identity enactments. According to ACTI (Heise, 2019; MacKinnon & Heise, 2010), institutions organize the identities and behaviors we are likely to encounter in our daily lives and, in turn, simplify our efforts to define social situations. But institutions also function as a constraint on identity adoption. Actors are expected to minimize deflection through their identity adoptions (ACTS) and behaviors (ACT), but according to ACTI, these deflection-minimizing efforts are constrained by what is institutionally appropriate for the situation. ACTI advances propositions about how actors come to identify the institution associated with a setting and how that identification then shapes their own identity adoption and the identity and behavior labels applied to others.

BayesACT. BayesACT extends ACT and ACTS by using Bayesian probability theory to provide a more realistic description of how individuals develop and refine their definition of the situation during interaction under uncertainty (Hoey et al., 2016, 2021; Schröder et al., 2016). According to BayesACT, individuals infer and adjust their understandings of their own and others' identities based on their experiences in social interactions, and stable patterns of interaction can then emerge from individuals' initially uncertain perceptions of these identities. BayesACT represents the self and identities as probability distributions, thereby allowing it to be multi-modal (individuals can maintain multiple identities), uncertain (individuals can be unsure about who they and others really are), and learnable (individuals can learn the identities and selves of others).

Part I: Tests and Applications

The articles in Part 1 test and apply these ACT theories to a range of topics. The first two pieces use ACT to illuminate health-related issues. Linda Francis and Malissa Alinor use ACT to examine how cancer caregivers adapt to bereavement. They code qualitative interviews with caregivers 12–24 months after their loved one's passing, focusing on statements attributing the cause, timing, or nature of the death to a specific actor. They then transform the statements into actor-behavior-object events and simulate them in *Interact*. They identify eight types of resolutions that caregivers use to make sense of the death and show that caregivers reinterpret their loss in ways that align with their sentiments about the deceased or the death, thereby reducing deflection and negative emotions.

Kaitlyn Boyle and Kimberly Rogers showcase the utility of ACT in understanding the relationship between self-sentiments and depression. Comparing self-reports from two waves of a survey of undergraduate and doctoral students, they find that self-sentiments in the first wave are predictive of depressive symptoms in the second wave, that evaluation gains over time are linked to a reduction in depressive symptoms, and that depressive symptoms in the first wave are predictive of self-sentiments in the second wave.

The next two articles apply ACT to questions of status change. Shane Soboroff and Christopher Kelley use ACT to study the consequences of status interventions that modify self-presentation in a collective task group. Using *Interact*, they find that ACT predicts that a woman's demonstrations of competence will generate less deflection when she is described as group-motivated rather than selfish, suggesting that group-motivated behavior may be a culturally acceptable status-enhancing strategy for women. They also find that men are predicted to behave in more dominant, status-reinforcing ways when interacting with a selfish rather than a group-motivated woman.

Maria Ramos tests two ACT impression-formation effects with two cleverly designed online experiments. She finds, as predicted, that actors whose transient evaluation has declined due to an immoral action can redeem their image with prosocial action and that prosocial action provides the greatest redemptive power when it is directed at good and weak recipients.

The last three pieces apply ACT to topics related to occupations. E. K. Maloney explores the extent to which workers' occupational identities shape their daily emotions. Using data from the General Social Survey's 1996 emotions module, Maloney finds a close correspondence between workers' self-reports of emotional experiences and the characteristic emotions for their occupational identities as predicted by ACT.

Joseph Quinn, Robert Freeland, Jesse Hoey, Kimberly Rogers, and Lynn Smith-Lovin assess how the cultural meanings of occupations changed during the COVID-19 pandemic. They collected EPA data for 650 occupations before the pandemic and for 85 of these occupations afterward. They find that any significant changes in EPA ratings for both essential and non-essential jobs were in a negative direction. These patterns are suggestive of the powerful effects of shocks to the cultural system.

Marshall Schmidt and Amy Kroska consider the relationship between occupational prestige and criminal sentencing. Using an online survey experiment, they find that a criminal's occupational prestige is positively linked to sentencing recommendations and that this relationship is mediated by impressions of the criminal's potency.

Part 2: Theoretical and Methodological Developments

The articles in Part 2 of the issue make theoretical and methodological advances in affect control theories. Austin van Loon and Jeremy Freese conduct four studies to determine how much information about fundamental sentiments can be extracted from text using tools from machine learning and computational linguistics. They develop an algorithm that uses word embeddings to predict EPA profiles of concepts derived from

two types of surveys and find correlations that exceed .85, .80, and .75 respectively. Their findings suggest that researchers may be able to reverse-engineer the fundamental sentiments of concepts from statistical patterns in language use, providing an efficient and large-scale mechanism for gathering EPA data.

Celeste Campos-Castillo and Stef Shuster use ACT to evaluate the effectiveness of different rhetorical strategies for discrediting sources of falsehoods. They develop an affect-based credibility rating, quantified as the EPA distance between labels used to characterize the source of a falsehood and a credible source. They then use it to analyze rival information campaigns about the Equal Rights Amendment. They show that claiming opponents spread falsehoods deliberately (disinformation) is more effective in discrediting opponents than claiming they spread falsehoods unintentionally (misinformation).

Neil MacKinnon presents three ways that ACT can contribute to the study of morality. He shows how the moral overtones of concepts can, in many cases, be imputed from their evaluation ratings, how the moral implications of events can similarly be inferred from their effects on impressions of actors' evaluation, and how ACT can be fruitfully applied to the study of cross-cultural variations in (im)moral concepts, events, and emotions.

Jun Zhao uses Bayesian methods to estimate impression-change equations for Chinese-language culture based on data gathered in Shanghai in 1999. She compares these equations to equations for U.S. English speakers and finds that impressions of events are more strongly determined by fundamental sentiments about identities and behavior in the U.S. than they are in China and that treating a devalued interaction partner nicely is stigmatizing in the U.S. but can be identity enhancing in China.

Rohan Lulham and Daniel Shank extend ACT research on identity modifiers, showing that physical artifacts (e.g., vehicles, clothing, technology, food items) can alter the meanings of identities in a similar manner to traits and emotions. They estimate modifier equations for physical artifacts, using Bayesian methods and newly collected data on the EPA of identities, artifacts, and artifact-modified identities. They then use these equations to show how people can use physical artifacts strategically in interactions to create a desired impression.

Chelsea Kelly uses data from two experiments to examine the effects of both cognitive (institutional) and affective (deflection) forces on assessments of events' likelihood. Her quantitative results suggest that both forces contribute to events' perceived likelihood, but that events must be both institutionally concordant and low in deflection to be seen as normative—neither appears to be sufficient on its own. Her qualitative results suggest that high deflection, institutionally concordant events prompt cognitive work, with people reinterpreting the situations to be more sensible, thus reducing their deflection.

Jesse Hoey and Tobias Schröder demonstrate how BayesACT can be used to simulate and explain emotional reactions to social conflict arising from rapid ecological and technological change. They focus on the management of uncertainty in such situations, considering the tradeoffs between three types of uncertainty: validity (the

distribution of denotative meanings), coherence (the distribution of connotative meanings), and dependence (the distribution of the connection between the two). They suggest methods for testing their propositions and discuss the implications of their approach for managing social change.

Our final piece, by David Heise, offers an ideal conclusion to this two-part special issue, because it makes important theoretical and methodological advancements, relates to all three affect control theories, and showcases Heise's other pathbreaking work: the development of methodological tools for analyzing qualitative data. In this piece, Heise develops a multi-level theory of action relating to the accomplishment of goals through social organizations. According to the theory, individuals' behaviors integrate into institutional action schemes for producing products or performing services (e.g., the cooperative actions of nurses, anesthesiologists, and surgeons collectively performing a surgery within the institution of medicine), collective actions termed *macroactions*. Individuals are mobilized into action in macroactions through internal and/or external motives, and two of the three internal motives are explained by ACT (deflection reduction) and ACTS (inauthenticity reduction). In this way, his theory contributes to ACTI by illuminating the functioning of institutions while drawing on both ACT and ACTS to do so. He concludes the piece by explaining how to use event structure analysis (ESA) (Heise, 1989) and *Ethno* (Heise, 2014) to analyze the causal narratives inherent in macroactions.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Note

1. *Ethno* can be accessed here: <https://cs.uwaterloo.ca/~jhoey/research/ACTBackup/ESA.html>

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