

# Social Mechanisms in Empirical Sociology: Introduction to Special Issue

American Behavioral Scientist 2016, Vol. 60(10) | 135–1145 © 2016 SAGE Publications Reprints and permissions. sagepub.com/journalsPermissions.nav DOI: 10.1177/0002764216643128 abs.sagepub.com



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#### **Abstract**

The social mechanism program has been successful in sociology and neighboring social science disciplines, such as criminology and political science. However, in our view the literature on social mechanisms is still too preoccupied with intratheoretical and metatheoretical discussions, and we find very few empirical applications. This is surprising since one of the basic aims of the social mechanisms approach from the start has been to achieve better integration between theory and empirical analyses. Yet of all the previous edited volumes and special issues dedicated to social mechanisms (or to analytical sociology, for that matter), we find only a small number of chapters that are empirically oriented in the sense that they address and try to answer a substantive empirical research question. This is unfortunate: By leaving out the dirty work of empirical analysis, social mechanisms theorists risk surrendering the potential influence of the approach. As a result, new (statistical) methods rather than new approaches to theorizing drive the practice of social science research. Most social scientists are driven by substantial empirical interests, that is, they share a set of questions they want to find answers to, rather than being motivated by abstract methodological and/or theoretical interests. Proponents of the social mechanism approach need to show by example that this approach is a valuable framework for researching broad, mainstream social science issues. This is what we do in this special issue.

### **Keywords**

social mechanisms, micro foundations, theorizing and empirical research

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The use of social mechanisms as an explanatory tool in sociology has been debated for a number of years (e.g., Elster, 1989; Hedström & Swedberg, 1996; Stinchcombe, 1991). It was not, however, until the mid-1990s that the discussion moved toward a serious proposal for a coherent research program. The landmark volume *Social Mechanisms: An Analytical Approach to Social Theory* (Hedström & Swedberg, 1998) marks the starting point for the contemporary debate on social mechanisms.

The Social Mechanisms volume brought together social scientists from several fields who were all striving for a social science based on "precise, action-based, abstract, and fine-grained explanations" (Hedström & Swedberg, 1998, p. 25). The widely cited introduction (Hedström & Swedberg, 1996, 1998) interrogates social theory and variable-based sociology. In essence, the core argument is first that what is known as social theory has become useless as a tool for explaining social phenomena, focusing too much on conceptualization and labeling, and second that much of socialled quantitative sociology has conflated theoretical thinking and statistical modeling, thus confusing theoretical explanation with statistical correlation. In many ways, Social Mechanisms is a call for a systematic return to a stylized version of Merton's middle-range sociology in which empirical research and theoretical focus merge.

We conceive of *Social Mechanisms* as intended to be a constructive and quite inclusive alternative to "mindless empiricism" and "lofty theory." As a research program, the social mechanisms approach was considerably more stringently formulated in *Dissecting the Social: On the Principles of Analytical Sociology* in which Hedström (2005) outlined the program of analytical sociology. This book offered important clarifications to the social mechanisms approach, but its strong focus on agent-based (computational) modeling as the methodological tool par excellence also signaled a more exclusive approach, narrowing the appeal of the program. One purpose of this special issue is to make the social mechanisms approach more inclusive by suggesting that all empirically minded sociologists could benefit from the social mechanisms approach. Looking for explanatory mechanisms encourages the researcher to sharpen her analysis, collect better data to close the gap between theory and analysis, and to theorize in a more creative way.

# The Social Mechanisms Approach

The social mechanisms approach is based on the primacy of mechanism-based *explanations* (Hedström & Swedberg, 1998) and a set of strong arguments for why "covering law" and statistically based explanations do not adequately clarify what is actually going on in society (Hedström, 2005). A "social mechanism, as here defined, describes a constellation of entities and activities that are organized such that they regularly bring about a particular type of outcome" (Hedström, 2005, p. 25). The core of the social mechanisms approach is to identify generative mechanisms that explain social phenomena, to "detail the cogs and wheels" that bring about a particular outcome (Hedström & Ylikoski, 2010, p. 50). Accordingly, such mechanisms should be of some generality, that is, being of the middle range. Both general theoretical systems and idiosyncratic ad hoc theorizing should be avoided. The social mechanisms approach,

moreover, emphasizes the need to anchor sociological explanations at the individual level, that is, to provide micro foundations (Hedström & Bearman, 2009). Finally, as was clarified by Hedström (2005, p. 14, Footnote 6), social mechanisms in themselves are not theoretical constructs. Indeed, they are the real thing, and refer to "the real and empirical entities and activities that bring about phenomena." In our view, this strong focus on mechanisms has at least three important implications.

First, focusing on social mechanisms implies that the social mechanisms approach is about opening the "black box" and revealing the logic of society, making way for the "How" questions (Hedström, 2005). As for the "final" box to be opened, we think that the answer provided by Hedström (2005) is sound, namely that the sociological tradition itself will have to provide the boundary conditions. From the early days of sociology, it has been clear that the smallest sociologically relevant piece of the puzzle is the social actors, that is, the entities that are doing the doing. The sociological debate has always been, and still is, focused on whether or not this is too fine-grained. There has never been a serious sociological issue over whether it is too simple and that further reduction is necessary. And even today, as we allow for stronger influence from cognitive and genetic sciences on contemporary sociology, there is no movement or argument in favor of redefining this lower boundary (see, e.g., Freese, 2008).

Second, it means that the social mechanisms approach is chiefly concerned with the empirical. In this respect, social mechanisms are not a theory, but a research strategy that enables us to construct our theories and models in order to open the black boxes (Edling, 2012). The approach rests on the assumption that the social world exists, and moreover, that this world, among other things, consists of empirical facts called social mechanisms.

Third, and this argument is likely to be more contested, we argue that the social mechanisms approach is about what Weber (1978, p. 4) termed *Verstehen*, that is, "the interpretive understanding of social action [...]," where "[a]ction is 'social' insofar as its subjective meaning takes account of the behavior of others and is thereby oriented in its course."

Most proponents of the social mechanisms approach have in common an emphasis on the need for micro foundations. The object of sociological theory is to explain the social by linking it to the action and interaction of social actors. This involves

explaining behavior of a social system by means of three components: the effects of properties of the system on the constraints or orientations of actors; the action of actors who are within the system; and the combination or interaction of those actions, bringing about the systemic behavior. (Coleman, 1990, p. 27)

As Coleman (1990) effectively illustrated in his famous "boat" figure, this involves the isolation of three causal steps: (a) from macro-to-micro, (b) from micro-to-micro, and (c) from micro-to-macro.

We have previously (Edling & Rydgren, 2010, 2014) criticized the social mechanisms approach, and in particular, the programmatic writings on the analytical sociological perspective, for understating the macro-to-micro mechanisms. Sociologists

such as Elster (2007) and Boudon (1981) have commonly been interested primarily in micro-to-micro mechanisms, and according to Hedström (2005), we should pay particular attention to the third step, which he claims is underresearched in sociology. As a result, theorists working in the social mechanisms tradition have tended to underemphasize the first step, the macro-micro link. At least in Hedström's case, this is a deliberate choice made specifically to concentrate on the two others—the micro-to-micro link, and in particular the micro-to-macro link—while still keeping the theory as clear and transparent as possible: "To allow greater complexity in the latter two components, which are typically of greater sociological interest, one must keep the action component as simple as possible by abstracting away all elements not considered crucial" (Hedström, 2005, p. 36).

In our opinion, it is highly unfortunate that the underlying assumption of the macroto-micro link is too often left implicit. If we take the social mechanisms approach seriously, it follows that all three components are of equal importance. While using this approach in empirical research, we need to ensure that we do not invite theoretical fallacies by losing sight of any of the three steps in the Coleman schema.

The social mechanisms approach as formulated by Hedström and others has elicited a fair amount of criticism. Much of this has focused on the micro-to-micro mechanisms. Some, such as Opp (2013), have asked for simpler action-formation mechanisms, incorporated under the umbrella of rational choice theory, while others, such as Gross (2009), ask for more complexity at the micro level (subsumed under pragmatist theory). In response to these and other criticisms, Hedström has made important clarifications and, in effect, relaxed the requirements for the kinds of mechanisms that can be used in solid social mechanisms-based explanations. For example, in stressing that the idea of social mechanisms, "does not tell us how to conceptualize human action" (Hedström & Ylikoski, 2010, p. 60), he emphasized that intentional action manifested in desires, beliefs, and opportunities (DBO) are not the only things that qualify as micro foundations. Habits, routines, scheme-following, and other more or less unconscious behaviors may also be evoked as micro-level mechanisms. Moreover, the level of complexity, or inversely, the extent to which social-mechanism-based explanations should build on abstractions and simplifications, is now seen as a choice of the analyst. On the other hand, Hedström now stresses more explicitly that theoretical constructs that are obviously unrealistic (such as strong assumptions about rationality) should not qualify as social mechanisms (Hedström & Ylikoski, 2010, 2014).

### Worries

The social mechanism program has certainly incorporated pertinent criticisms, and it is more open and inclusive today than it was in the late 1990s. However, there are still a few issues that are cause for worry.

First, many of the main advocates of the social mechanism approach have moved on to the somewhat narrower program of analytical sociology. Although social mechanisms are an important part—in fact, maybe *the* most important part—of analytical sociology, the prominent place it gives to agent-based computational modeling, may

be repellent to more mainstream-oriented sociologist. One aim of this special issue is to serve as a reminder that the social mechanism approach is wider than the analytical sociology program. Many empirically minded sociologists share a belief in the utility of firm micro foundations and in identifying generative mechanisms, without being particularly interested in or attracted to agent-based modeling.

Second, as mentioned above, we believe that too much attention has been paid to action-formation mechanisms, that is, to micro-to-micro mechanisms. Much of the discussion has been about whether rationality or only "reason," manifested in the DBO framework, drives individual action. As should be evident from these special issue articles, we agree that micro-level mechanisms are important. But we should keep in mind that macro-to-micro mechanisms (which tend to be disfavored among analytical sociologists, but favored in mainstream sociology) and micro-to-macro mechanisms are equally important. Individuals' positions in the social structure, culture, as well as their identification with groups, social categories, and collectives, shape their beliefs and desires, and actions, in important ways.

Third, and this is probably our greatest concern, the literature on social mechanisms is still too preoccupied with intratheoretical and metatheoretical discussions, and we find very few empirical applications. This is surprising since one of the basic aims of the social mechanisms approach from the start has been to achieve better integration between theory and empirical analyses. Yet of all the previous special issues and edited volumes dedicated to social mechanisms (or to analytical sociology, for that matter), we find only a small number of chapters that are empirically oriented in the sense that they address and try to answer a substantive empirical research question. This is unfortunate: By leaving out the dirty work of empirical analysis, social mechanisms theorists risk surrendering the potential influence of the approach. As a result, new (statistical) methods rather than new approaches to theorizing drive the practice of sociological research. Substantial empirical interests drive most sociologists, that is, they share a set of questions they want to find answers to, rather than being motivated by abstract methodological and/or theoretical interests. Proponents of the social mechanism approach need to show by example that this approach is a valuable framework for researching broad, mainstream sociological issues. The proof of the pudding is always in the eating and we strongly believe that examples of good empirical research, not theoretical manifestos, are what drive the evolution of social science.

# Social Mechanisms in Empirical Sociology

This special issue is the result of a research project on social mechanisms in empirical sociology, which we directed between 2010 and 2013. We gathered a group of leading empirical sociologists who had expressed some sympathy for the social mechanisms approach without necessarily being part of the theoretical discussion on social mechanisms, and we asked them to write an article that would demonstrate in practice a social mechanism explanation of a real-world phenomenon. We met three times—in Uppsala in 2010, Paris in 2011, and Madrid in 2012—to discuss each other's work and forge together theory and empirical analyses. Hence, from the beginning, this project

was not aiming at metatheoretical discussions and questions related to the philosophy of social science but at bringing social mechanisms to bear in concrete empirical research.

Despite the fact that our contributors were not expected to agree on a definition of what a social mechanism actually is, it became clear to us that our call elicited a shared expectation of what type of sociology would fall under that label. Realizing that the potential of the approach would not be fully realized by imposing a strictly constraining definition, we decided to let the work be guided by this shared expectation. Given whom we invited to join this project, it should come as no surprise to find that all of the articles have research questions that both identify a real-world phenomenon and ask a pertinent question that demands explanation. In this respect, all of the articles are problem-oriented in the sense that the authors identified a social phenomenon that has a nonobvious explanation, thus Aalluding to Swedberg's (2014) suggestion that all theorizing starts with an empirical observation. Moreover, the ability to pose welldefined research questions demands a more than rudimentary knowledge of the actual phenomenon. It is also notable that while the social mechanisms under discussion operate at different levels, all of the articles share the fundamental assumption that individuals do the acting. In other words, this volume testifies to the normative and practical ideal that all satisfactory explanations of social phenomena refer to the action and interactions of individuals. This search for micro foundations has very practical consequences, going beyond theorizing, since it encourages researchers to collect and analyze individual-level data, whether behavioral, attitudinal, or relational. Analyzing only aggregate data may be very useful for establishing associations, but it is less useful when pursuing social-mechanisms-based explanations. The empirical focus and the micro foundation are both part of the social mechanism approach as formulated by Hedström and Swedberg (1998).

Taken together, the articles draw on empirical data that range from laboratory experiments to population registers from personal interviews to survey data. Thus, the special issue attests to the intuitive, though not widely shared, belief that there is no inherently superior type of empirical material or method, but that the choice of data is a matter of pragmatically matching the research question with the best possible data and then using an appropriate technique of analysis. Perhaps this diversity in data and methods is not normally associated with the social mechanism approach, which tends to get mixed up with the sharp focus on computer-based simulations associated with analytical sociology. In our view, it is a clear indication that the social mechanisms approach has the potential to provoke strong positive responses from across the empirical social sciences.

We wish to close this section by drawing attention to another diversity dimension that emerges from these chapters. While some of the social mechanisms under discussion are well established in the literature (e.g., network mechanisms), other mechanisms are less commonplace in the social mechanism discussion, such as how the interaction between structural conditions and culture influences individuals. For us, this is an indication that the social mechanism approach should not be seen as a theory that gives precedence to one particular model of man the way rational choice theory

does. We would rather emphasize that it is an approach to sociological explanation that has the potential to encompass a great deal of contemporary sociology.

# **Outline of the Special Issue**

Mary C. Brinton addresses the emergence of "lowest low" fertility in some countries, primarily in Southern Europe and East Asia, and poses the question why we find such large differences in birth rates across postindustrial societies. She identifies a set of macro-micro mechanisms, which in the second part of the article, she examines empirically using comparative data for seven countries from the Gender and Generations Survey. Social norms, and in particular, social norms related to gender roles, are at the center of her analysis as a mechanism that conditions the translation of intentions into behavior. Societies that discourage gender equity in the private sphere of the household tend to be characterized by a strong breadwinner ideology. In these societies, the valorization of women's role as household manager and mother is mirrored by the valorization of men's role as breadwinner for the household. There is a strong norm that a young man should be able to support a family prior to getting married and becoming a parent, that is, that males should prove themselves to be adequate breadwinners. When combined with changing structural conditions, such as high unemployment rates, prolonged periods of education, and increasingly insecure terms of employment in flexible labor markets, this norm will lead to declining birth rates. Hence, norms work as a mechanism that filters the effect of structural conditions so that structural constraints on fertility, such as limited labor market opportunities for young men, will affect fertility outcomes via the mechanism of gender-role norms.

Filiz Garip and Asad L. Asad employ a mixed-methods strategy to identify the social mechanisms underlying the network effects in Mexico-U.S. migration. The question they ask is why some Mexicans rather than others emigrate to the United States, given that they all share a socially disadvantaged and economically relatively deprived position. They identify three types of social mechanisms that all lead to network effects: (a) social facilitation, which is at work when network peers such as family or community members provide useful information or help that reduces the costs associated with migration; (b) normative influence, which is at work when network peers offer social rewards or impose sanctions to encourage migration; and (c) network externalities, which operate when prior adopters of a behavior (in this case, migration) generate a pool of common resources that increase the value or reduce the cost to migrate for potential migrants. In contrast to social facilitation, network externalities do not depend on an interpersonal exchange of information or help between prior and potential adopters, that is, migrants; rather, they rely on the development of institutionalized resources that facilitate migration. Garip and Asad thus primarily employ macro-micro mechanisms in their study of Mexico-U.S. migration in the sense that the behaviors of other actors (accessed through networks or as manifested in institutionalized form) influence the action of individuals. At the same time, however, it should be emphasized that this explanation of migration is not static but should be seen as a process. The authors also stress the importance of thresholds, which is

crucial for social facilitation for which the effect is typically zero until the number of peers engaging in the behavior reaches a critical number, at which point the individual has enough evidence about the efficacy of the behavior. Garip and Asad first use large-sample survey data (consisting of more than 90,000 individuals surveyed by the Mexican Migration Project) to establish the presence of network effects, and then use qualitative data (consisting of 120 in-depth interviews with migrants and their family members in Mexico) to identify the social mechanisms underlying these network effects.

Katherine Stovel and Yen-Sheng Chiang contribute to the broader theoretical goal of increasing our systematic understanding of the social mechanisms that underlie collective behavior. Specifically, they ask how it is possible that equity can arise in a market situation. Even though fair outcomes can be observed across a wide range of social situations that are not centrally coordinated, the authors argue that there is scant understanding of how these outcomes are facilitated and what impact they have on interaction patterns. Stovel and Chiang use experimental game theory to test two mechanisms of preferential association, which is defined as a situation where there is competition for partners and in which two actors have a preference for each other. The first mechanism, committed partnership, is abundant in social life and is exemplified by friendships. The second mechanism, competitive altruism, is the intuitive idea that to secure a desirable matching, one must display desirable behavior. To test the mechanisms, Stovel and Chiang use a laboratory experiment in which participants play a version of the well-known repeated Ultimatum Game. In their version of the game, players either (a) play each other randomly, (b) according to reputation, or (c) according to preferential association in which players are matched according to a preferred ranking of past player histories. The results suggest that fairness can arise from the reduced risk associated with committing to a desirable partner. This is a study of micro-to-micro mechanisms, investigating the micro-level conditions that produce a particular type of social action, namely a sustainable equitable division of offerings.

Christofer Edling, Jens Rydgren, and Rickard Sandell study the effects of the 2004 terrorist bombings in Madrid on ethnic segregation in Spain. Using large-scale Spanish register data consisting of information on 5.4 million international migration events on a monthly basis and 13.9 million intermunicipal migration events, of which 3.8 million events concern the foreign-born population's internal migration within Spain, the analyses show that ethnic segregation increased (i.e., the average geographical distance) between Arab immigrants and native Spaniards shortly after the terror bombing, but that no such effect was found for other immigrant groups. The analysis also shows that this was a relative short-term effect: After about 1 or 2 years, ethnic segregation started to decline again (and thus resumed the declining trend that was observed during the years before the terrorist bombing). Edling, Rydgren, and Sandell interpret these results in terms of belief formation mechanisms. Because of priming and framing effects, the terrorist bombing accentuated the salience of ethnic categorizations and induced threat-attributing ethnic stereotypes, which were influencing migration behaviors. However, not only did native Spaniards become more reluctant to live in close proximity to Arab immigrants Arab migrants also became more inclined to move closer to coethnics, possibly because of a perceived threat to become victims of discriminatory behaviors of the majority population. Priming and framing affects abated after a while, and migration behaviors started to return to normal again. The authors discuss a variety of survey data to substantiate their argument that belief formation mechanisms played an important role in these processes.

Per-Olof Wikström and Kyle Treiber analyze the relationship between social disadvantage and crime, starting from the following puzzle: Why do the most persistent offenders come from a disadvantaged background, while most people from such backgrounds do not develop into persistent offenders? The authors argue that despite the fact that the relationship has been a focus of criminology for a long time, the social mechanisms linking persistent offending and social disadvantage have been underspecified. Drawing on situational action theory, Wikström and Treiber suggest that social and self-selection mechanisms enable and restrict access to specific social settings in which criminal activity is perceived as morally acceptable and in which opportunities for such activity become available and criminality is encouraged. Thus, this article is primarily concerned with a micro-to-micro mechanism, detailing the dynamics of interaction between individual actors and their neighborhood. The prediction is that a disadvantaged background in itself is not causally linked to criminal behavior, but that it is driven by exposure. The idea is explored through a series of analyses of the Peterborough Adolescent and Young Adult Development Study, a longitudinal study that draws on a range of data collection methods and is specifically designed to allow testing the interaction between individual characteristics and experiences on the one hand and the social environment on the other hand.

Thomas Grund asks why some teams perform better than others under equal contextual circumstances. After reviewing the literature on performance in groups and organizations, he seeks to explain this question by the structures of intraorganizational interaction. Grund proposes that previous experience of working together provides a core mechanism for successful team performance. The assumption is that working together provides both knowledge about who knows what and learning about the efficient combination of individual resources. The causal link between team experience and team performance is mediated by team interaction, which is in turn scrutinized through an analysis of network structure. Drawing on his own previous work that demonstrated that intragroup network intensity and centralization drive performance, Grund sets out to analyze what interaction patterns produce such network characteristics. The analysis is carried out on data for English Premier League soccer over two seasons, containing coded events from all matches and career histories of all players involved in the league at the time. Interaction patterns in teams are constructed from information about some 280,000 recorded passes between players, and shared experience is constructed from overlapping career paths. In network terms, the interaction pattern on a soccer team defines a complete graph (because over the duration of a game, each player is connected to all other players in the team), and therefore Grund applies novel algorithms for calculating network intensity (density) and centrality. Results from regression analyses suggest that knowing each other from before increases the passing rate between players. Thus, the simple mechanism of experience can account for the interaction patterns in teams that drive team performance. The mechanism at play in this chapter is a meso-level, micro-to-macro mechanism that explains how dyadic-level micro interaction produces intraorganizational structural dynamics.

### **Acknowledgments**

We thank SCAS in Uppsala, Centre Culturel Suédois in Paris, and Juan March Institute in Madrid. Finally, we thank Delia Baldassarri, Gunn Birkelund, Gianluca Manzo, Hiroshi Ono, Wendelin Reich, Bo Rothstein, and Lars Udehn, for insightful discussions.

# **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) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: We greatfully acknowledge financial support from Riksbankens jubileumsfond.

#### Note

1. See, for example, the recent volume edited by Demeulenaere (2011). And although the volume edited by Manzo (2014) includes empirical chapters, they are almost exclusively preoccupied with simulations.

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