Micro-foundations of Inequality:
Inequality Emerging from Social Interaction

Milena Tsvetkova

Department of Sociology, Cornell University, 372 Uris Hall, Ithaca, NY 14853

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Abstract.

If individuals are inequity averse in anonymous interactions, why is inequality pervasive in society? In this paper, I theoretically investigate sources of inequality in mechanisms of social interaction. A review of social-psychological approaches to the problem of inequality reveals that previous research has mainly focused on the maintenance and reproduction of inequality and overlooked the puzzle of its emergence. To fill this gap, I redefine the problem of inequality as a process that skews natural individual heterogeneity into extreme distributions of power, status, or rewards. Conceptualizing such a super-linear transformation allows me to identify four mechanism pathways that give rise to inequality. Future research should derive more inequality-generating mechanisms and test them empirically.

1. Introduction

Socio-economic inequality is one of the most serious problems that societies face: imbalanced distributions of wealth and well-being lead to polarization and polarization promotes conflict; thus, extreme inequalities undermine social order and cohesion. Inequality is universal and persistent in large social systems, yet its emergence and perpetuation pose a puzzle. The reason is that individuals tend to be inequity-averse in anonymous interactions. Numerous behavioral experiments from laboratory settings demonstrate this fact (e.g. Bolton and Ockenfels 2000, Bellemare et al. 2008). Most significantly, it has been shown that subjects experience negative emotions towards high earners and take costly actions to equalize outcomes (Dawes et al. 2007)

and that they experience this equalization similarly to how they experience monetary and primary rewards (Tricomi et al. 2010).

The prevalence of inequity aversion suggests that inequality cannot be derived from the aggregation of individual preferences and motivations. Rather, inequality is a macro-level phenomenon that emerges from the interdependence of individual actions (Coleman 1990). Understanding how inequality emerges requires unraveling this micro-macro link. My goal here is exactly this.

This paper investigates sources of inequality in mechanisms of social interaction. I critically review well-established social-psychological theories on justice, social identity, expectation states, status construction, social exchange, and status value of power to identify mechanisms for the maintenance and reproduction of inequality in small groups and meso-level social aggregates. To identify mechanisms for the emergence of inequality in large social systems, I re-define the problem of inequality and derive four new micro-macro pathways.

The work here contributes to the literature in numerous ways. First, I contribute to inequality research by introducing ideas from social psychology to a field that has been dominated by work on socio-economic stratification and mobility. This body of research has avoided problematizing the micro-macro link. Instead, it has mainly focused on how macro-level and micro-level factors affect individual outcomes, which add up to global inequality. In particular, work in the tradition of the Wisconsin model of status attainment has sought explanations of inequality in the additive effect of structural and socio-psychological factors such as parents' socioeconomic standing, individual and peer status aspirations and innate ability (Kerckhoff 1995). In contrast, the approach in this paper shifts the focus away from correlations to mechanisms and away from the transmission of inequality across generations to its emergence and maintenance.

Second, I offer a new definition of the problem of inequality as an equity-incompatible link between the distribution of individual characteristics and the distribution of individual outcomes. This definition is intended to provide a common starting point for future inequality research from different disciplines.

Third, by re-interpreting existing social-psychological theories from an inequality standpoint, the paper generates new directions for theoretical and empirical research. The questions that the paper raises and the provisional answers that it offers aim to expand our understanding of inequality in society and to identify new ways to reduce it and its impacts.

The paper proceeds as follows. I start by reviewing how different social-psychological theories have approached inequality. In light of the misses of this research, I then re-define the problem of inequality. Using this new definition, I delineate four mechanism pathways that can lead to inequalities in social groups. I conclude with a discussion of possible research directions.

2. Inequality in social psychology

Social psychology research has extensively dealt with issues of inequality. In general, this research has shown that although individuals might be inequity averse in anonymous interactions, they often accept and propagate inequalities in situations with salient social differentiation. Social differentiation arises when people belong to different social categories or occupy different structural positions, where some of the categories and positions are more advantageous than others. When such differentiations and inequalities are pre-existing and prominent, people often accept them as legitimate and reproduce them in other aspects of the current interaction or in subsequent interactions.

Different theories deal with different realms of inequality (e.g. distributive justice, power, and status) and reveal different cognitive and behavioral pathways in which these inequalities are propagated. In what follows, I discuss each theory in terms of the inequality problem it deals with, the assumptions it makes, and the inequality-generation mechanisms it proposes. I also discuss some relevant empirical evidence. However, since the empirical support for these theories has been discussed at length in some of the references I use, I here mainly concentrate on disconfirmatory evidence.

2.1. The justice framework: maintaining inequalities by resolving them cognitively

Work in distributive justice is primarily concerned with perceptions and evaluations of injustice and unfairness rather than with objectively existing inequality. A major assumption in this work

is that when people evaluate a situation as unjust (towards themselves or even towards others), they experience emotional distress. To eliminate such distress, people can either change the injustice or change their perception of it (Hegtvedt 2006). In the first case, they can resort to action that alters inputs or outcomes, or they can exit the situation; in the second case, they can distort their perception of inputs and outcomes (own or others') in the situation or compare themselves to someone else (Adams 1966). Thus, according to social psychological work on justice, inequalities persist because people use cognitive strategies to deal with perceived injustice rather than individual or collective action to correct actual injustice.

The empirical evidence on cognitive reactions to injustice is sparse because the effort has been concentrated on the more easily observed behavioral reactions (Hegtvedt 2006). Stolte's (1983) test of the self-evaluation hypothesis could be considered an exception. According to the self-evaluation hypothesis, variation in resources produces variation in self-evalution, which leads both advantaged and disadvantaged actors to accept their unequal positions as legitimate. The change in self-evaluation due to unequal rewards is essentially an example of a cognitive reaction to injustice. However, this mechanism is not supported empirically: Stolte (1983) finds that disadvantaged actors perceive the unequal outcome distribution as more unfair; Cook and Hegtvedt (1986) replicate this result. Thus, it appears that arbitrary injustice may be harder to accept and to adapt to than the justice framework suggests. To be accepted, inequalities may need to be contextualized. Social identity theory suggests that social categories and social groups could provide the necessary context.

2.2. *The social identity approach: maintaining inequalities across social groups and categories*

The social identity approach applies to reward, status, or power inequalities between social groups. Hence, the approach assumes that social categories and social groups are present and salient in social interactions. Indeed, social categorization emerges naturally in social life. Social categories arise from prominent nominal characteristics such as gender and race, formal organizational distinctions due to job titles or departments, the division of labor, or voluntary group membership. When people realize their common category membership, they form a social group (Hogg 2006). Although social groups emerge cognitively, they are further reinforced by

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the homophily principle – the tendency of individuals to be attracted to and to affiliate with similar others (McPherson et al. 2001).

The social identity approach suggests that inequalities persist because inter-personal comparison happens within social categories. Baron and Pfeffer (1994) delineate how this occurs. The authors suggest that individuals are guided by two opposing social-psychological forces simultaneously – the desire for a sense of belonging and the desire for distinction. These contradictory pressures are often reconciled by differential behavior towards in-group and out-group members. For instance, people tend to evaluate their accomplishments relatively, by comparing themselves to those whom they perceive as similar and contrasting themselves to those whom they perceive as different. As a result, people remain in favor of equal rewards within categories but might be willing to accept different awards across categories. Thus, social categorization and comparison within social categories causes both advantaged and disadvantaged individuals to accept their unequal positions. This reinforces inequality.

Baron's and Pfeffer's (1994) predictions have been confirmed both in the laboratory and in office settings. It has been shown that members of both advantaged and disadvantaged groups use stereotyping to rationalize unequal distributions (for a review, see Jost and Hunyady 2002).

2.3. Expectation states theory: reproducing inequalities through performance expectations

Expectation states theory is another approach that emphasizes the role of social categorization for propagating inequalities. The theory is mainly concerned with the emergence of power and prestige orders (Correll and Ridgeway 2003, Berger and Webster Jr. 2006) or reward inequality (Parcel and Cook 1977) in small groups in which actors are oriented toward the accomplishment of a collective goal or task, or in large-group situations requiring an assessment of one's task competence relative to others (e.g. in competitions or bell-curve graded exams).

The theory starts from the assumption of small initial social status differences among the interacting individuals. These differences could be due to cultural beliefs about social categories or chance-driven distribution of resources and rewards. Importantly, these initial differences lead to differences in performance expectations. The performance expectations could form independently in each individual (first-order expectations) but could also be conveyed or

reinforced by others in the group as interaction evolves (second-order expectations; Correll and Ridgeway 2003). The greater the performance expectation for an individual, the more opportunities to act that individual receives, the more opportunities to act she accepts, the more positively her actions will be evaluated, and the more influence she will exert in cases of group disagreement. Thus, differentiated opportunities to act, differentiated behavior, and differentiated evaluation of behavior reproduce inequality in a self-fulfilling-prophecy manner.

Both the mechanism pathway and the predictions of expectation states theory have received extensive empirical support obtained mainly from laboratory experiments (for reviews of relevant work, see Correll and Ridgeway 2003, Berger and Webster Jr. 2006).

2.4. Status construction theory: creating and maintaining status inequalities through status belief diffusion

While justice theory concentrates on individually held perceptions of inequalities, social identity and expectation states theory additionally incorporate the effect from in-group members' and interaction partners' beliefs. In contrast, status construction theory is primarily concerned with third-order beliefs on inequalities – status inequalities that one assumes to be espoused by most people in general (Ridgeway 2006). Status construction theory extends expectation states theory by suggesting that inequalities that emerge in one local situation can be reproduced in similar interactions, generalized to different contexts, and transmitted to other individuals (Ridgeway 1991, Ridgeway and Balkwell 1997).

The original theory was based on the assumption of the existence of a correlation, even if small, between a nominal status-relevant characteristic and the exchangeable resources or production technology possessed (Ridgeway and Balkwell 1997). However, subsequent theoretical research has shown that this assumption is unnecessary because such correlations can also emerge by chance during the dynamic process (Mark et al. 2009).

Status construction theory proposes that inequalities emerge and propagate through the combination of three mechanisms: the formation of performance expectations in structurally similar interactions as proposed by expectation states theory, the transfer of situation specific performance expectations to interactions with different goal activities through cognitive

generalization, and the diffusion of performance expectations to new interaction partners through social influence. These mechanisms form a self-reinforcing pathway along which a small local and even accidental correlation between a nominal social category and exchangeable resources can produce generalized, universal and consensual status beliefs about that social category. Since status beliefs lead to differential treatment in all interactions, their emergence generates and sustains inequalities.

There is convincing empirical support for the major assumptions in status construction theory: people form status beliefs in doubly dissimilar encounters (encounters in which the participants differ in both a nominal characteristic and resource levels), they form these beliefs as result of the influence hierarchies they experience, they act upon the beliefs in inter-category encounters, and the status beliefs are adopted by bystanders who repeatedly observe the corresponding status-evaluated treatments (Ridgeway 2006). However, whether the theory holds cannot be established until its macro-implications are tested. The reason is that there could be an attenuation effect in the spread of status beliefs (Markovsky et al. 1984, Berger et al. 1998). Since the beliefs weaken in each inter-category interaction or third-party observation, they are likely to disappear before they can be reinforced in another accidental doubly dissimilar interaction.

2.5. Social exchange theory: creating reward inequalities from structural position differences through power use

Social exchange theory deals with inequalities in rewards that arise from differential power positions and power use. In his foundational work, Emerson (1972) defined power as a function of the dependence of one actor upon another: the more dependent actor A on actor B is, the more power B has over A. The dependence of A upon B is determined by the value and availability of B's resources. The availability of B's resources depends on the number of alternative resource suppliers to whom A has access. Thus, power is not simply a dyadic concept but can be related to the entire structure of exchange opportunities (Cook et al. 1983).

Inequalities in power are driven by variability in the structure of the exchange opportunity network and the unequal distribution of valued resources. Social exchange research assumes

such pre-existing variability, usually preferring structurally-driven to value-driven power inequalities (Molm 2006, Cook and Rice 2006). Another assumption that the theory makes is that differential power leads to power use. More powerful actors are in a position to extract higher rewards and they do so. Thus, power use leads to inequalities in rewards.

Most of the theoretical work in social exchange has concentrated on predicting power use from network structure. Most of the empirical work has relied on standardized experiments on negotiated exchange over fixed interaction structures and without knowledge of others' rewards. However, power is expected to be used less and consequently, to have lesser impact on reward inequality, in situations where inequalities are known, networks can be modified, or exchange can be reciprocated.

Firstly, Cook and Emerson (1978) have found that when eventual inequalities were explicit, powerful actors reduced their demands, while less powerful actors increased theirs. Thus, equity concerns from both advantaged and disadvantaged actors can weaken the effect of structural power.

Secondly, Emerson (1972) was himself more interested in strategies to balance power than in structures that promote power use. He identified four different strategies, each of which mitigates power use and hence, decreases inequality: 1) withdrawal, which is when the low-power actor loses interest in the high-power actor's resource, 2) status giving, which is when the low-power actor can offer something else in return, 3) network extension, or when the low-power actor finds more alternative sources for the valued resource, and 4) coalition formation, or when low-power actors collude to reduce alternatives for a high-power actor. Unfortunately, these strategies to mitigate power use and reduce inequalities have not been subjected to systematic empirical tests.

Finally, commitment can also reduce power use and decrease inequality. Reciprocal exchange fosters long-term relations and higher feelings of commitment than negotiated exchange does (Molm 2006). Thus, under experimental conditions, rewards end up more equally distributed in reciprocal exchange compared to negotiated exchange (Molm et al. 1999). Similarly, behavioral economists have found that the outcomes are more egalitarian when

employer-employee interactions are based on reciprocity, instead of based on market transactions with third-party enforcement (Fehr and Gintis 2007).

2.6. Status value theory of power: reproducing power and reward inequalities from status inequalities

The status value theory of power is concerned with power and reward inequalities that emerge from status inequalities (Thye 2000). Thus, the theory assumes a pre-existing and salient status differential. In addition, it assumes that actors' resources are relevant to actors' status characteristics.

The gist of the theory is that status value can spread from a high-status person to that person's resources. This makes the person a more desired exchange partner, which increases the person's power and allows him/her to extract more favorable terms of exchange. As a result, high-status individuals accumulate greater rewards and inequality in the interaction system increases.

In essence, Thye's theory combines expectation states theory and social exchange theory (see also Thye et al. 2008). It shows that power differentials, power use, and consequently, reward inequality can emerge from salient and relevant status characteristics, even when the exchange structure and resource distribution are uniform. The experiment conducted by Thye (2000) supports this mechanism pathway: subjects were trying harder to obtain by bidding more for exchange items associated with a higher status partner even though they knew that these items were not worth more monetarily.

In sum, the different social-psychological theories pertain to different aspects of inequality and have different scope conditions. Since they outline different mechanism pathways in different social contexts, most of the theories are compatible. Thye's (2000) status value theory of power exemplifies that a theoretical synthesis could be productive. Yet, some of the theories lead to contradictory predictions. For example, according to social identity theory, task interdependence, will decrease inequality by reducing the salience of social groups (Baron and Pfeffer 1994), while according to expectation states theory, task interdependence provides the breeding ground

for inequality. Which outcome occurs is likely a question of group size and hence, the reconciliation of the two predictions could be achieved empirically.

Nevertheless, a closer look at some of the theories reveals certain common shortcomings. Most of the theories rely critically on the assumption of a pre-existing resource and/or status inequality. They then show how this initial inequality is either accepted and maintained (justice theory and social identity theory) or how it translates to another type of inequality – from status to power and influence (expectation states theory), from power to rewards (social exchange theory), from status to rewards (status value theory of power). It remains unclear, however, whether the inequality is simply reproduced or whether it worsens. Hence, with the exception of status construction theory, these are theories of the maintenance and reproduction of inequality, rather than theories of the emergence of inequality. Status construction theory presents an exception in another way – it goes beyond the meso-level of small-group interactions to propose an inequality-generation mechanism that has repercussions at the macro-level of society at large.

In short, existing social-psychological theories offer a variety of approaches to the problem of inequality but fall short of providing a satisfactory answer to one particular question: What are the social interaction mechanisms that lead to the *emergence* of inequality at system-level? To provide some preliminary directions about approaching this question, I redefine the problem of inequality and outline four potential mechanism pathways that cause it. I do this by drawing on both social-psychological and sociological literature.

3. A re-definition of the problem of inequality

Since my goal is to analyze the emergence of system-level inequality, I define the problem of inequality at the macro-level and in relation to a dynamic process. In essence, I define the problem of inequality as the amplification and exaggeration of pre-existing variation.

The definition I propose is set against the interplay of two fundamental distributional justice rules – equality and equity (Hegtvedt 2006). According to the equality rule, individual outcomes should be objectively the same for all individuals while according to the equity rule, individual outcomes should be commensurate with each individual's contributions, such as effort and ability (e.g. Deutsch 1975). Equality is considered a macro-level concept because it refers to the

aggregate distribution of individual outcomes; in contrast, equity is considered a micro-level concept as it relates individual characteristics to individual outcomes (Cook and Hegtvedt 1983, Hegtvedt 2006). However, the two concepts are connected to each other through the distribution of individual characteristics (Jasso 1983). In essence, following the principle of equity, we would expect that the distribution of individual outcomes mirrors the distribution of relevant individual characteristics. *Inequality occurs when the distribution of individual outcomes diverges from the shape of individual heterogeneity.*

Social and behavioral scientists usually assume that the distribution of individual heterogeneity follows a "bell-shaped curve," with most individuals being "average" and only few situated at the "extremes." For example, the design of aptitude tests, intelligence tests, and psychometric scales is based on the assumption that reading ability, intelligence, personality, and beliefs are distributed normally in the population. However, individual outcomes such as income, wealth, status, and power have been shown to follow highly skewed long-tailed distributions, whereby most individuals have little, while a few individuals have a lot (Newman 2005, DiPrete and Eirich 2006). This is the problem of inequality that this paper is concerned with.

In general, an extreme distribution of outcomes can be obtained from moderate individual heterogeneity through some form of self-reinforcing process/positive feedback loop that exaggerates small pre-existing differences. In what follows, I identify four mechanism pathways that achieve this. Each of these mechanism pathways is sufficient but not necessary. It is up to future research to establish the empirical salience of these mechanisms and to propose new ones.

4. Mechanisms for the emergence of inequality in social interaction

4.1. Self-reinforcing performance expectations

Expectation states theory offers a potential positive feedback loop that can exaggerate existing variation into inequality. The crucial idea is that a reward in one interaction can turn into a resource or a status characteristic in the next interaction. According to the theory, small differences in initial resource distribution among the members of a task group will cause differences in rewards. The advantaged individuals will have more opportunities to perform, will perform more often, will be evaluated more positively, and will have more influence over the

others. Since their contribution to the group task will be overestimated, the reward they are allotted is likely to reflect this. When the advantaged individual moves onto another group interaction, this past reward becomes a resource or a status characteristic and the individual will gain even a larger advantage.

Through increasing performance expectations, repeated interactions in different small groups could produce individual rewards that do not correspond proportionately to underlying characteristics. In this way, expectation states can provide a mechanism pathway that amplifies initial differences into highly unequal outcomes.

4.2. Cumulative advantage due to past reputation

The self-reinforcing process just discussed is generated by a belief-based mechanism. Similar positive feedback loop can also be produced by an information-based mechanism. This mechanism is likely to be prominent in large-group interactions characterized by information uncertainty. In such situations, productivity and future performance may be hard to evaluate and hence, they will be likely to be inferred from past performance. Then, personal reputation becomes the amplifier that turns past accomplishments and resources into ever increasing new accomplishments and resources. Merton (1988) labeled this feedback loop "the Matthew effect."

Thus, information uncertainty can lead to an increasing-returns process in which future accumulation depends on current accumulation (DiPrete and Eirich 2006, Petersen et al. 2011). Since well-rewarded individuals gain rewards at a higher rate, the resulting reward distribution is extremely skewed compared to any underlying variance in individual effort and abilities.

4.3 Cumulative advantage due to social influence

Information uncertainty also underlies this next positive feedback loop but the mechanism is based on third-party behavior rather than past performance. In essence, when intrinsic quality is hard to observe, people can infer it from the selections and recommendations of others. Such network effects lead to increasing-returns processes that increase inequality.

One way this mechanism pathway can arise is through individual partner selections based on popularity – individuals who are observed to already have many exchange partners are assumed

to be more productive and are more attractive than those who have few. For example, popularity-based partner selections form the basis of Gould's (2000) model for the emergence of status hierarchies.

Another possible pathway is through individual partner selections based on gossip – individuals who are recommended as productive by current partners are more attractive than randomly encountered individuals, whose productivity is unknown. For example, Pujol et al. (2005) implement such gossip-based partner selections in their simulation model of social exchange.

Overall, this mechanism pathway is likely to be prominent in environments dominated by competition for relationships with attractive exchange partners. Additionally, it has also been shown to be prominent in cultural markets. For example, Salganik et al. (2006) conducted a large-scale online experiment to demonstrate that social influence increases both inequality and unpredictability of popularity and success in a music market.

4.4. Segregation

The previous mechanism offers increasing rewards from more or better exchange partners to those who already have more or better exchange partners. Thus, one possible positive feedback pathway is through the positive assortment of individuals by productivity or another similarly related characteristic. Such assortment could also occur due to segregation along salient social categories. Thus, when wealth and resources become such a salient social category, in-group attraction and affiliation implies that resource-rich individuals will exchange with resource-rich partners, while resource-poor individuals will exchange with resource-poor partners. The resulting distribution of rewards will be a much skewed version of the distribution of the underlying individual characteristics.

5. Conclusion

This paper aimed to uncover the micro-foundations of inequality – the social psychological processes and social interaction mechanisms that inevitably lead to the emergence of inequality in larger social aggregates, despite individual aversion to inequity.

I reviewed major social psychological theories to identify the mechanism pathways to status, power, or reward inequalities that they describe and discovered that this previous research has mainly focused on the reproduction and maintenance of inequality, rather than its emergence. To remedy this, I proposed a new definition of the problem of inequality that alludes to the dynamics that make inequality emerge. I then suggested four new mechanism pathways that cause such dynamics.

My effort here aimed to critically evaluate previous social-psychological research from the perspective of the problem of inequality and identify new directions for theoretical development and empirical examination. My focus on micro-foundations was subservient to my ultimate goal of deriving macro-implications and making macro-predictions.

Social psychologists traditionally espouse a modest conception of the macro-level. They theorize for and examine mainly small experimental groups or moderately sized office communities based on face-to-face interactions. However, the challenge of empirical research at the macro level has been weakening with the increasing promise of readily available data on interactions in online communities, as well as easily implementable large-scale field experiments on such communities. These new opportunities for large-scale empirical research can only be exploited with corresponding macro-level-oriented theories. One of the largest problems in society – the problem of social inequality – is a good starting point for this new theoretical program.

References

Adams, J. Stacy. 1966. "Inequity in social exchange." Pp. 267–299 in *Advances in Experimental Social Psychology, Volume 2*. Academic Press.

Baron, James N., and Jeffrey Pfeffer. 1994. "The social psychology of organizations and inequality." *Social Psychology Quarterly* 57(3):190–209.

Bellemare, Charles, Sabine Kröger, and Arthur Van Soest. 2008. "Measuring inequity aversion in a heterogeneous population using experimental decisions and subjective probabilities." *Econometrica* 76(4):815–839.

Berger, Joseph, M. Hamit Fisek, and Robert Z. Norman. 1998. "The evolution of status expectations: a theoretical extension." Pp. 175–206 in *Status, Power, and Legitimacy: Strategies & Theories*, edited by Joseph Berger and Morris Zelditch. New Brunswick, NJ: Transaction Publishers.

Berger, Joseph, and Murray Webster Jr. 2006. "Expectations, status, and behavior." Pp. 268–300 in *Contemporary Social Psychological Theories*, edited by Peter Burke. Palo Alto, CA: Stanford University Press.

Bolton, Gary E, and Axel Ockenfels. 2000. "ERC: A theory of equity, reciprocity, and competition." *The American Economic Review* 90(1):166–193.

Coleman, James. 1990. *Foundations of Social Theory*. Cambridge, MA: Belknap Press.

Cook, Karen S., and Richard M. Emerson. 1978. "Power, equity and commitment in exchange networks." *American Sociological Review* 43(5):721–739.

Cook, Karen S., Richard M. Emerson, Mary R. Gillmore, and Toshio Yamagishi. 1983. "The distribution of power in exchange networks: theory and experimental results." *American Journal of Sociology* 89(2):275–305.

Cook, Karen S., and Karen A. Hegtvedt. 1983. "Distributive justice, equity, and equality." *Annual Review of Sociology* 9:217–241.

Cook, Karen S., and Karen A. Hegtvedt. 1986. "Justice and power: an exchange analysis." Pp. 19–41 in *Justice in Social Relations*, edited by H. W. Bierhoff, Ronald L. Cohen, and Jerald Greenberg. New York: Plenum.

Cook, Karen S., and Eric Rice. 2006. "Social exchange theory." Pp. 53–76 in *Handbook of Social Psychology*, edited by John Delamater. Springer US.

Correll, Shelley J., and Cecilia L. Ridgeway. 2003. "Expectation states theory." Pp. 29–51 in *Handbook of Social Psychology*, edited by John Delamater. Springer US.

Dawes, Christopher T., James H. Fowler, Tim Johnson, Richard McElreath, and Oleg Smirnov. 2007. "Egalitarian motives in humans." *Nature* 446(7137):794–796.

Deutsch, Morton. 1975. "Equity, equality, and need: what determines which value will be used as the basis of distributive justice?" *Journal of Social Issues* 31(3):137–149.

DiPrete, Thomas A., and Gregory M. Eirich. 2006. "Cumulative advantage as a mechanism for inequality: a review of theoretical and empirical developments." *Annual Review of Sociology* 32(1):271–297.

Emerson, Richard M. 1972. "Exchange theory, Part II: exchange relations and networks." Pp. 58–87 in *Sociological Theories in Progress*, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Boston: Houghton Mifflin.

Fehr, Ernst, and Herbert Gintis. 2007. "Human motivation and social cooperation: experimental and analytical foundations." *Annual Review of Sociology* 33(1):43–64.

Gould, Roger V. 2002. "The origins of status hierarchies: a formal theory and empirical test." *American Journal of Sociology* 107(5):1143–1178.

Hegtvedt, Karen A. 2006. "Justice frameworks." Pp. 46–69 in *Contemporary Social Psychological Theories*, edited by Peter Burke. Palo Alto, CA: Stanford University Press.

Hogg, Michael A. 2006. "Social identity theory." Pp. 111–136 in *Contemporary Social Psychological Theories*, edited by Peter Burke. Palo Alto, CA: Stanford University Press.

Jasso, Guillermina. 1983. "Fairness of individual rewards and fairness of the reward distribution: specifying the inconsistency between the micro and macro principles of justice." *Social Psychology Quarterly* 46(3):185–199.

Jost, John, and Orsolya Hunyady. 2002. "The psychology of system justification and the palliative function of ideology." *European Review of Social Psychology* 13(1):111–153.

Kerckhoff, Alan C. 1995. "Social stratification and mobility processes: interaction between individuals and social structures." Pp. 476–496 in *Sociological Perspectives on Social Psychology*, edited by Karen S. Cook, Gary Alan Fine, and James S. House. Needham Heights, MA: Allyn and Bacon.

Mark, Noah P., Lynn Smith-Lovin, and Cecilia L. Ridgeway. 2009. "Why do nominal characteristics acquire status value? A minimal explanation for status construction." *American Journal of Sociology* 115(3):832–862.

Markovsky, Barry, Le Roy F. Smith, and Joseph Berger. 1984. "Do status interventions persist?" *American Sociological Review* 49(3):373–382.

McPherson, Miller, Lynn Smith-Lovin, and James M Cook. 2001. "Birds of a feather: homophily in social networks." *Annual Review of Sociology* 27(1):415–444.

Merton, Robert K. 1988. "The Matthew effect in science, II: cumulative advantage and the symbolism of intellectual property." *Isis* 79(4):606–623.

Molm, Linda D., Gretchen Peterson, and Nobuyuki Takahashi. 1999. "Power use in negotiated and reciprocal exchange." *American Sociological Review* 64:876–890.

Molm, Linda D. 2006. "The social exchange framework." Pp. 24–45 in *Contemporary Social Psychological Theories*, edited by Peter Burke. Palo Alto, CA: Stanford University Press.

Newman, M. E. J. 2005. "Power laws, Pareto distributions and Zipf's law." *Contemporary Physics* 46(5):323–351.

Parcel, Toby L., and Karen S. Cook. 1977. "Status characteristics, reward allocation, and equity." *Sociometry* 40(4):311–324.

Petersen, Alexander M., Woo-Sung Jung, Jae-Suk Yang, and H. Eugene Stanley. 2011. "Quantitative and empirical demonstration of the Matthew effect in a study of career longevity." *Proceedings of the National Academy of Sciences* 108(1):18–23.

Pujol, Josep M., Andreas Flache, Jordi Delgado, and Ramon Sangüesa. 2005. "How can social networks ever become complex? Modelling the emergence of complex networks from local

social exchanges." *Journal of Artificial Societies and Social Simulation* 8(4). Retrieved November 22, 2008 (http://jasss.soc.surrey.ac.uk/8/4/12.html).

Ridgeway, Cecilia. 1991. "The social construction of status value: gender and other nominal characteristics." *Social Forces* 70(2):367–386.

Ridgeway, Cecilia. 2006. "Status construction theory." Pp. 301–323 in *Contemporary Social Psychological Theories*, edited by Peter Burke. Palo Alto, CA: Stanford University Press.

Ridgeway, Cecilia L., and James W. Balkwell. 1997. "Group processes and the diffusion of status beliefs." *Social Psychology Quarterly* 60(1):14–31.

Salganik, Matthew J., Peter Sheridan Dodds, and Duncan J. Watts. 2006. "Experimental study of inequality and unpredictability in an artificial cultural market." *Science* 311(5762):854–856.

Stolte, John F. 1983. "The legitimation of structural inequality: reformulation and test of the self-evaluation argument." *American Sociological Review* 48(3):331–342.

Thye, Shane R. 2000. "A status value theory of power in exchange relations." *American Sociological Review* 65(3):407–432.

Thye, Shane R., Edward J. Lawler, and Jeongkoo Yoon. 2008. "Social exchange and the maintenance of order in status-stratifed systems." Pp. 37–63 in *Social Structure and Emotion*. San Diego: Academic Press.

Tricomi, Elizabeth, Antonio Rangel, Colin F. Camerer, and John P. O'Doherty. 2010. "Neural evidence for inequality-averse social preferences." *Nature* 463(7284):1089–1091.