Gender, Resources, and Status: An Empirically Grounded Model of Status Construction Theory

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Abstract

Members of different social groups (e.g., men/women, whites/non-whites) are often accorded different levels of status in society and this can affect important life outcomes. Status construction theory holds that such status differences can emerge from systematic differences in the possession of valuable resources between the members of different groups. This involves a complex dynamic social process by which a set of cognitive and behavioral principles at the micro level generates wide-spread status differences at the macro level. So far, much of the existing SCT research has focused on validating the theory's micro-level assumptions, but comparative little efforts have been made to validate its macro-level implications. In this paper, I address this lacuna. I present an empirically grounded simulation model of SCT that I use to assess how well the theory is able to explain recent changes in the gender-status system, as observe in the US context between 1970 and 2016.

Keywords

Status construction theory, gender, inequality, simulation modelling

Introduction

Members of different social groups are often accorded different levels of status. For example, in the United States, whites are often more respected and viewed as more competent than blacks (Feagin 1991), and in Hungary, members of the Hungarian majority are often more respected and viewed as more competent than members of the Roma minority (Neményi 2007; Grow et al. 2016). Understanding the processes that can create such status differences has preoccupied sociologists since the beginning of the discipline (Jasso 2001), partly because of the consequences that status can have for important life outcomes such as people's economic success (Moss-Racusin et al. 2012), union formation (Kalmijn 1991), fertility (Skirbekk 2008), health (Ghaed and Gallo 2007), and life expectancy (Marmot 2004).

Status construction theory (SCT) (Ridgeway 1991, 2000; Webster and Hysom 1998; Ridgeway and Erickson 2000) offers one prominent account of processes that can create status differences between social categories. The theory focuses on goal-oriented interactions in small groups as a building block of society. Such groups often develop local status hierarchies in which some individuals appear more competent and respected than others. When such differentiation occurs consistently between members of different social categories, individuals can come to believe that the social distinction is *generally* associated with differences in competence and social worth. Once emerged, such beliefs can diffuse throughout the population, because people carry them into new interaction contexts, treat new interaction partners accordingly, and thereby create hierarchies that teach their beliefs to others. One factor that affects the formation of local status hierarchies is differences in the possession of valuable resources (e.g., wealth), so that group members who possess more of a given resource are likely to be perceived as more competent and respectable than those who possess less of it. As a consequence, when the members of one social category possess on average more of a resource than members of another category, the distinction is likely to become a source of status to the advantage of the more resourceful category, given that the number of local hierarchies that can bring status beliefs about will be tilted in its favor.

SCT describes a dynamic social process by which a set of cognitive and behavioral principles at the micro level can create and diffuse status beliefs at the macro level. This process is complex and it is difficult to assess the theory's macro-level implications by mere verbal reasoning alone (Ridgeway and Balkwell 1997). Existing SCT research has therefore relied on computational simulations to study these implications (Ridgeway and Balkwell 1997; Mark et al. 2009; Grow et al. 2015, 2017). One shortcoming of this earlier work is that the proposed models were theoretical abstractions that were not empirically grounded. It remains therefore unclear how much the theory can contribute to explaining some of the actual status inequalities that can be observed in today's societies. In this paper, I seek to address this shortcoming. I propose an individual-based computational model of SCT that can be infused with empirical data on resource differences between social groups. The macro-level outcomes that this model generates can then be validated against empirically observed status differences.

To assess the model's merits, I apply it to the study of status differentiation based on gender in the United States (US). Gender is often considered one of the most pervasive sources of status, typically to the disadvantage of women (Stover and Hope 1984; Hendrix and Hossain 1988; Sanderson et al. 2005), but this disadvantage has changed over time (Ridgeway 2011). Figure 1 illustrates this for the period 1970–2016, using the share of people who believe that men are better suited for political leadership than women as a proxy of status differences to the advantage of men (time series (a)). Between the 70s and the 90s, there was a sharp drop in the share of people who believed that men are better suited for political leadership than women, but this decrease has slowed down in recent years. This was paralleled by a decrease in women's resource disadvantage. Figure 1 illustrates this, using the share of women among all those enrolled in tertiary education in a given year as a proxy of the relative resources that men and women have at their disposal (time series (b)). The underlying assumption is that higher educational attainment yields improved access to valuable resources. In the past, tertiary education was mostly a male domain, but women started to catch up from the 70s onwards and surpassed men in the 90s. This change to the advantage of women continued into the early 2000s, but at a slower pace (Schofer and Meyer 2005; Buchmann et al. 2008). Taken together, the data shown in Figure 1 suggest that as women became more resourceful compared to men, their status disadvantage decreased. This makes gender an ideal case for testing SCT's basic principles and predictions.

–Figure 1 about here–

My goal here is not to provide a detailed account of the historical developments that have contributed to changes in gender inequality over the last half century. Rather, I seek to assess how much the processes that SCT describes may have contributed to the observed changes, in isolation of other factors that may affect status differences between men and women. For this, the model needs to plausibly simulate population turnover and changes in the association between resources and gender across successive cohorts. To this end, I use empirical data in the modelling process. First, to model population turnover, I draw on period-specific fertility and mortality rates for the US context, taken from the Human Fertility Database (2018) and the Human Mortality Database (2018). Second, to implement plausible changes in the relative resources that men and women have at their disposal across cohorts, I draw on reconstructions/projections of men's and women's educational attainment provided by the International Institute of Applied System Analysis/Vienna Institute of Demography for the period 1970–2050 (Lutz et al. 2007; KC et al. 2010). By using these data sources, it becomes possible to model the generational shift in the relative resources that men and women have at their disposal on a realistic time scale and to validate model outcomes against the trends shown in Figure 1.

In what follows, I first discuss the central assumptions of SCT, present the simulation model, and describe the empirical data that I use. I then submit the model to systematic computational simulation experiments, present results, and close with a discussion and outline some of the next steps that I extend to take in the modelling process.

Status Construction Theory

SCT describes social processes by which salient social distinctions can become sources of status (i.e., attain *status value*). For analytical clarity, earlier research has typically focused on distinctions with two categories that are easy to discern during face-to-face interaction (e.g., sex), but the theory applies also to distinctions with more categories (e.g., race) and even continuous characteristics (e.g., height). For simplicity, I also focus on distinctions with two categories in my description of SCT.

The status value of a social distinction is determined by the distribution of related status value beliefs (or simply *status beliefs*) (Ridgeway 1991). Such beliefs "associate greater social esteem and competence with people in one category than with those from another" (Ridgeway et al. 2009, p. 44) and a distinction has attained status value in a population when the widespread belief exists that members of one category are relatively more respected and competent than members of the other category (Ridgeway and Balkwell 1997). A distinction is likely to attain status value when category membership is correlated with differences in the possession of exchangeable resources that have value to most. The driving force behind this are interactions in small, task-focused groups, in which individuals need to achieve some collective goal. Two sets of cognitive and behavioral processes are involved in this.

First, drawing on insights from the expectation states framework (Berger et al. 2014), SCT highlights that in their efforts to reach their collective goals, task-focused groups tend to spontaneously develop hierarchical differences, so that some individuals are more respected and influential than others (e.g., Bales 1970). One reason for this is that such groups often seek to structure their work according to group members' relative abilities and competence at the task in hand, in order to maximize the likelihood that the group reaches its goal (Driskell Jr. 1982). Those who are perceived as relatively more able and competent therefore receive more opportunities to contribute to the task and others are also more likely to accept their suggestions and to defer to their opinions in case of task-related disagreements. In the absence of objective information about abilities and competence, individuals use other cues to form expectations about each other's performance at the task (also called *performance expectations*). One such cue is the distribution of exchangeable resources among group members. According to Ridgeway (1991, p. 375), the reason for this is that

> "[c]ompetence is, in essence, the ability to master events, to make events turn out in a desired manner. Viewed this way, competence is deeply related to power. If individuals have resources of power that assist them in controlling or mastering events in a given situation, then they give the appearance of competence in that situation. … Consequently, superior exchangeable resources are likely to make a person appear to have a greater capacity to contribute usefully to a goal."

Hence, whenever there are salient resource differences among group members, it is likely that the group develops a hierarchy that reflects these differences, especially when there are no other cues that could inform performance expectations.

Second, SCT posits that individuals transfer performance expectations from one situational context to other contexts. More specifically, the theory holds that when people observe that members of one social category appear more competent and respected than members of another category in a given context, they can form generalized beliefs about the members of the different categories. They will thus expect members of the category that appeared more competent and respected in one context to be generally more competent and respectable than members of the other category, also in contexts that are not explicitly connected to the one in which this belief was formed. The social distinction thus becomes a source of performance expectations for belief holders and affects their interactions with members of the different categories in subsequent goal-oriented encounters. The hierarchies that form in these new contexts are therefore likely to resemble those that had formed in earlier encounters. By that, a status belief can spread to new interaction partners.

How can the foregoing processes lead a distinction to attain wide-spread status value, if there is a resource difference between members of different categories? The main driver is the relative frequency with which resource rich and poor members of the different categories interact with each other. For illustration, assume a population whose members can be distinguished by their gender (male/female) and the level of resources they possess (poor /rich).

Assume further that gender does not have status value yet, but is correlated with resource possession, so that there are more resource-rich women than resource-rich men. Whenever men interact with women, there is a chance that a hierarchy emerges in which the members of one gender appear more competent and the members of the respective other gender. This may create a corresponding status belief among the interactants. Due to the fact that there are more resource-rich women than men, also the number of interactions in which women are more resourceful than their male counterparts will be larger than the number of interactions in which they are less resourceful. Given that resource differences affect performance expectations, there will thus be more interactions with a tendency to create the belief that women are generally more competent and respected than men. This tendency will be reinforced by the fact that belief holders teach their beliefs to others, which ultimately leads the belief to become dominant in the population (Ridgeway 1991).

Modelling Status Construction Processes

Earlier modelling work supports the macro-level implications of SCT (Ridgeway and Balkwell 1997), under the assumption that there is a resource difference between two social groups that remains stable over time. Arguably, belief diffusion dynamics become more complex when resource differences fade or even reverse over time (cf. Grow and Flache forthcoming; Ridgeway 2011), as in the case of gender in the US context. In particular, there are two countervailing forces that may cancel each other out. On the one hand, when the resource advantage of men becomes smaller over time, the number of interactions between resource-rich women and resource-poor men will increase, whereas the number of interactions with the opposite resource differential will decrease. This may undermine the belief that men are more competent and respectable than women. On the other hand, the belief that men are more competent and respectable than women was widespread in the past and this may hamper cultural change, in particular in interactions among resource-equals. In such interactions, there are no other cues than status beliefs that may affect people's performance expectations and existing beliefs may thus perpetuate themselves, even if the structural conditions that created them have changed.

In a recent illustrative simulation study, Grow and Flache (forthcoming) have explored the interplay of these opposing forces and have shown that beliefs that were once widely held in a population indeed have a tendency to resist change, even when the structural conditions that have brought them about change. This model is attractive for my purposes, because it makes it possible to consider changes in resource possession among the members of two social groups over successive cohorts. I apply the model to the US context and adjust it to (1) generate realistic starting conditions in terms of the initial belief distribution and to (2) generate realistic population turnover based on empirical fertility and mortality rates. I validate the outcomes of the model against the proxy of gender-related status beliefs shown in Figure 1.

Model overview

The model focuses on the emergence of status beliefs that assign higher competence and social worth to men or women, based on task-focused interactions. There are no other sources of status beliefs. The model assumes that such interactions occur in dyads and always involve one man and one woman, given that this is the smallest possible group context in which status beliefs can emerge and diffuse. To capture the observation that task-focused groups have a strong tendency to develop hierarchical differentiation, the model assumes that such hierarchies emerge during each dyadic interaction. The exact form that these hierarchies take is affected by the status beliefs and the resources of the involved individuals. The experience of hierarchical differentiation, in turn, can induce a status belief among the interactants.

Each simulation run starts with an artificial population that resembles the population of the US in 1970 in central characteristics (see details below). From this stating point, the simulation progresses in steps that represent years, until the year 2015 has been reached.[1] In each year, adult individuals may engage in dyadic interactions, grow older, and may die. Women may additionally give birth, and whenever new individuals are born, they are assigned their gender and resources contingent on the year in which they are born.

Individuals and their characteristics

The total number of individuals in the population at a given point in time is given by I. These individuals are indexed by i and can be described by their gender g_i (m = male or f = female), age a_i ($0 \leq a_i \leq 110$), and resource level r_i (l = low or h = high). They also have a status belief b_i that can either be neutral (o) or favor men (m) or women (f). The belief that individuals hold depends on their past interactional experiences with opposite-sex members. More specifically, each individual is imbued with a memory e_i, which consists of vector with L elements ($L \in \{1,2,\ldots,\infty\}$). Each element stores information about the outcome of an earlier interaction with an opposite-sex member, sorted by recency. Individuals adopt a belief when the share of past

[1] Note that the data shown in Figure 1 also cover the year 2016. However, given that the input data that the model uses do not cover this year, the simulation stops in the year 2015.

experiences in its support in this vector is at least of size T ($.5 < T \leq 1$). For example, if $L = 4$, individuals remember up to four of their most recent interactions, and if $T = .75$, at least three out of these four interactions need to support the beliefs $b_i = m$ or $b_i = f$ for individuals to adopt them. To further illustrate this, consider a situation in which the content of individual i's memory contains the experiences $e_i = \{m,m,f,m\}$. In this case, three of the individuals' last four interactions with opposite-sex members involved hierarchies in which men appeared to be more competent and respected than women (represented by m), and one involved a hierarchy in which women appeared more competent and respected than men (represented by f). Given that men appeared at least 75% of the time more competent and respected than women, the individual would adopt the belief $b_i = m$, if he/she does not hold this belief already. By contrast, if $e_i = \{f,m,f,f\}$, the individual would adopt the belief $b_i = f$. If neither the share of experiences in favor $b_i = m$ or $b_i = f$ would be larger than $T = .75$ (e.g., when $e_i = \{f,m,m,f\}$), the individual would adopt a neutral belief ($b_i = o$). Individuals update their beliefs after each new interaction with an opposite-sex member.

Note that the elements of e_i are initially empty and are filled one-by-one with the outcome of each new interaction. This implies that if individuals so far have had no other experiences with opposite sex-members, a single experience will be enough to induce a corresponding status belief, as this experience accounts for 100% of the individual's experiences. When the length of e_i has reached L (as in the above example) and an individual takes part in a new interaction, the oldest element of e_i is replaced by the outcome of the new interaction.

Resources, beliefs, and interactions

The model assumes that only adult individuals (i.e., who are at least 16 years old) engage in goal-oriented interactions. The total number of adult agents at a given point in time is given by I_A, and in each simulation year there are $10*I_A$ dyadic interactions. For each such interaction, two opposite-sex members (indexed by i and j) are selected at random, regardless of the number of interactions they have taken part in already in the current year. This means that each adult individual will participate on average in 20 interactions per year, but some individuals might engage in more interactions and some might engage in fewer.

As indicated above, during each dyadic interaction, a hierarchy emerges in which one interactant appears more competent and respected than his/her interaction partner. Whether this will be i or j depends on the performance expectations they hold for each other. These expectations derive from the resources they possess relatively to each other, and from their gender in combination with their status beliefs. The model implements this in a simple two-step algorithm that considers two empirical observations. First, it considers that the hierarchies that form in small task-focused groups usually reflect the (possibly diverse) performance expectations of all group members (Balkwell 1991). This means that the hierarchy that forms typically reflects a form of average performance expectation, rather than the expectation of a single group member. Second, it considers that resource differences and status beliefs have a similar weight in affecting performance expectations and that these weights tend to be cumulative (Webster Jr. and Driskell Jr. 1985). This means that individuals who have superior resources and who are favored by a status belief related to their gender are likely perceived as more competent than individuals who are only favored by their resources or by a status belief.

The exact algorithm that underlies hierarchy formation looks as follows. In step one, the model counts for *i* and *j* the pieces of information that may induce them to expect that one of them is more competent on the task in hand than the other. In step two, the model assigns the individual for which there are more pieces of information that suggest that he/she might perform better the higher hierarchical position and the other individual the lower hierarchical position in the local hierarchy. If the numbers in favor of either individual are equal, the model assigns them the low/high rank randomly. For illustration, imagine a dyad in which *i* is male ($g_i = m$), resource rich ($r_i = h$), and believes that men are more competent and respect worthy than women ($b_i = m$), whereas *j* is female ($g_j = f$), resource poor ($r_j = l$), and believes that women are more competent and respect worthy than men ($b_j = f$). In this situation, for *i* there are two pieces of information that suggest that he will perform better than *j* (his superior resources and his belief that men are more competent than women), but there is not a single piece that suggests that *j* might perform better. From *j*'s point of view, there is one piece of information that suggests that *i* will perform better than *j* (his superior resources), but based on her status belief there is also one piece of information that suggests that she herself may perform better. When this information is combined, there are three pieces of information that suggest that *i* will perform better, but only one piece that suggests that *j* will perform better. Individual *i* will thus take the higher hierarchical position and *j* will take the lower hierarchical position.

Once the hierarchy has been determined, the gender of the individual who appeared in the higher hierarchical position is added to the interactants' memories (i.e., to e_i and e_j) and their status beliefs (i.e., b_i and b_j) are updated.

Initial population, population turnover, and changes in resources

To calibrate the model to the US context over the period 1970–2015, I make use of several data sources. First, to plausibly model population turnover, I use data from the Human Mortality

Database (HMD) and the Human Fertility Database (HFD). The HMD provides information about the gender composition and age structure of the US population for the period 1933–2017. The model uses this information to create an initial population of I = 1,000 individuals that resembles the US population of 1970 in these characteristics. Next to this, the HMD provides gender-, age-, and period-specific mortality rates for men and women age 0–110+ for the period 1933–2016, and the HFD provides age- and period-specific fertility rates for women in the age range 12–55 for the period 1933–2015. The model applies these rates to the artificial population at the end of each simulation year, first modelling fertility and then modelling mortality. Each time new individuals are born, they are first randomly assigned their gender (with a probability of .514 it will be male and with a probability of .486 it will be female, reflecting empirically observed sex-imbalances at birth), and then they are assigned their resource level (see details below).

Second, the model uses the reconstructions/projections of educational attainment provided by the International Institute of Applied System Analysis/Vienna Institute of Demography (IIASA/VID) to approximate the resources that members of different birth cohorts will acquire over the course of their lives. As indicated above, I assume that individuals with high education (i.e., completed tertiary education) will acquire a high level of resources, whereas individuals with lower education (i.e., less than completed tertiary education) will acquire a low level of resources. In the model, the probability that a given individual i will be assigned low or high resources (i.e., $r_i = l$ or $r_i = h$) upon birth is derived from the shares of men and women with low/high educational attainment in the age range 30–34 that were observed 30 years after an individual was born. For example, a male individual who is born in the simulation year 1970 will be assigned low or high resources with probabilities equal to the shares of men with low or high educational attainment among those men who were 30–34 years old in the year 2000.[2] Note that for sake of simplicity, I neglect possible in- and out-migration that affect the educational composition of a population.

The model also uses the IIASA/VID data to assign the members of the initial population their resource levels. For this, the model makes use of the distribution of educational attainment observed in 1970, for the age range 30–110. For those members of the initial population who are younger than 30 years, the model relies on the distribution of educational attainment among

[2] I focus on the age 30–34 years, because at this age most individuals will have acquired the highest educational attainment that they will ever reach, while at the same time being young enough so that mortality does not bias population estimates.

30–34 years old individuals in the year in which a given individual would turn 30. For example, individuals who are 0 years old in simulation year 1970 would turn 30 in the simulation year 2000. Hence, the model uses the gender-specific educational distribution of this year for probabilistically assigning these individuals their resource levels.

Finally, when creating the initial population, the model also needs to create a plausible initial distribution of status beliefs. One way to do so would be to randomly assign individuals a state on b_i that is congruent with the empirically observed distribution in 1970. Yet, with this approach, part of the model target would be built into the simulation process, and it is therefore preferable if also the initial belief distribution is created endogenously. To achieve this, the model starts each simulation run with a burn-in phase. During this phase, the members of the initial population can interact with each other and acquire status beliefs, based on the interactional process described above, but they do not age, die, or give birth, so that the population structure of 1970 is retained. The length of this period is 10 simulation years and at the start, all individuals hold neutral beliefs (i.e., all b_i = o) and have no prior interactional experiences with opposite-sex members (i.e., $e_i = \{\}$). After the burn-in phase has been completed, the resulting distribution of beliefs and experiences serves as the starting point of the main simulation phase in 1970.

Experimental set-up and outcome measure

The main outcome of interest is the share of adult individuals who believe that men are more competent and respectable than women (i.e., the share of adult individuals for whom $b_i = m$) in a given simulation year. This outcome is comparable with the measure that underlies time series (a) in Figure 1, and therefore makes possible to gauge how well the model approximates observed trends in gender-based status differentiation.

Across simulation runs, I use a starting population of 1,000 individuals (I = 1,000), who consider up to ten of their last interactional experiences with opposite sex-members (L = 10). I expected that the spread of status beliefs is affected by the amount of information that individuals require in their favor before they actually adopt them (as governed by T). Hence, I conducted three sets of simulation runs, in which I set T to three different levels ($T \in \{.7, .8., .9\}$. Next to this, I conducted a set of simulation runs in which I assessed whether the self-reinforcing behavioral dynamics that SCT describes actually matter for the diffusion of status beliefs. To this end, I created a version of the simulation model in which individuals could form status beliefs based on their past interactional experiences with opposite-sex members, but in which these beliefs could not affect their performance expectations. This means that in this version of the model, resource differences between interactants are the only factor that can systematically bias the hierarchies that form. By comparing the outcomes of this 'reduced model' with the outcomes of the 'full model', it becomes possible to disentangle the effects of mere resource differences from the additional effects of self-reinforcing belief dynamics.

Given the stochastic nature of the model, I conducted 50 independent simulation runs for each of the different conditions and averaged outcomes across these runs.

Results of Simulation Experiments

Figure 2 assesses the fit between the outcomes of the full model and the observed shares of individuals who hold status beliefs in favor of men. For illustrative purposes, I chose the simulation condition in which the share of past experiences that need to support a given belief before individuals adopt it is very high (T = .9). Remember that individuals recall up to ten of their last interactions with opposite-sex members (L = 10). Hence, in this condition, nine out of ten experiences need to support a given belief before individuals adopt it. Despite this arguably high threshold, the share of individuals who believe that men are more competent and respectable than women is very high over the entire simulation period, and much higher than in the empirical data. Despite this discrepancy, the model outcomes resemble the empirical data in an important aspect: in both cases, the share of individuals who hold a belief in favor of men decreases considerably over time. More specifically, in the case of the empirical data, the share of belief holders decreases by roughly 30 percentage points from about 50% to about 20%. Similarly, the share of belief holders that the model generates also decreases by roughly 30 percentage points from about 80% to about 50%.

–Figure 2 about here–

Figure 3 illustrates that this correspondence between the empirical data and the simulation outcomes is largely independent on the exact threshold for belief acquisition that is chosen. That is, regardless of whether individual require that at least 70% (T = .7), 80% (T = .8), or 90% (T = .9) of their most recent experiences support a given belief before they adopt it, the share of individuals who hold status beliefs in favor of men decreases drastically over the simulation period. Remember that in the simulation model, a shift in the resources that men and women possess relatively to each other over time is the only structural change that can have a systematic effect on belief formation and diffusion. Thus, the results shown in figures 2 and 3 suggest that the processes that SCT describes can translate changes in the relative resources that members of different social groups have at their disposal into changes in status beliefs, and these changes resemble those that can be observed empirically.

–Figure 3 about here–

SCT highlights that once status beliefs have formed, they have the potential to reinforce themselves and thereby amplify the effects that even small initial resource differences between social groups may have on status inequality. The results shown in Figure 4 make it possible to assess this claim. The figure shows the outcomes of the reduced model, in which status beliefs can form but do not have any effect on the status hierarchies that emerge. By comparing these outcomes with that of the full model, it becomes possible to assess what self-reinforcing belief dynamics may add to the creation of status inequality, over and above the effect that mere resource differences may have. The differences between the outcomes of the reduced model and the full model are quite stark. First, if status beliefs would not affect the formation of hierarchies in their own favor (as in the reduced model), the share of individuals who believe that men are more competent and respectable than women would be much lower (by a magnitude of about 50–70 percentage points) than when beliefs affect hierarchy formation (as in the full model). Second, and more crucially, changes in the relative resources that men and women possess would on their own not be sufficient to induce significant changes in status beliefs. Quite to the contrary, the share of individuals who hold a status belief in favor of men would remain almost constant over time. This result underscores the importance that self-reinforcing belief dynamics play both in the formation of status inequality and in changes therein over time.

–Figure 4 about here–

Preliminary Conclusion and Next Steps

Status construction theory describes a set of cognitive and behavioral principles that may translate even small differences in the possession of valuable resources between the members of different social groups into large status differences between these groups. Earlier research has largely supported the micro-behavioral foundation of the theory, but so far comparatively little efforts have been made to validate its macro-level implications. In this paper I have aimed to reduce this lacuna, by exploring how well the theory may account for changes in gender-based status differences in the US between the 1970s and the early 2000s. The results of my simulation experiments suggest that the processes that SCT describes would have been sufficient to translate changes in the relative resources that men and women have at their disposal into changes in the status system similar to those observed empirically.

The mechanism that I have explored here focuses exclusively on the processes that SCT describes and deliberately excludes other factors that may have affected status differences between the genders over time. For example, it is likely that the feminist movement, which intensified in the US in the late 1960s, has affected gender relations net of any changes in resources between men and women. Relatedly, the dissemination of new life concepts and cultural values through mass media may have triggered belief change in a large number of individuals, independent of interactional experiences with opposite-sex members. Any model that aims to fully account for the observed changes in gender relations would need to incorporate such additional factors. Yet, my goal here was expressly not to provide such a model. Instead, my goal was to assess the 'generative sufficiency' (Epstein and Axtell 1996) of SCT for explaining changes in the gender-status system. My results strongly support this sufficiency.

In a next step, I seek to apply the model to a larger set of countries. One issue here is that of data availability. The US case is exceptional, because of the availability of long-term data on attitudinal change (e.g., as provided in the GSS). This makes it possible to assess changes in the gender-status system over time. In other countries, this information is often not available for such an extended period and this makes it difficult to assess the merits of SCT in a cross-temporal perspective. Thus, as an alternative, I plan to supplement my cross-temporal analyses of the US context with a cross-national analysis, in which I capitalize on the fact that the relative resources that men and women have at their disposal varies greatly across countries. For this, I will draw on the World Values Survey, which has assessed people's gender attitudes in a large number of countries around the world.

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Tables and Figures

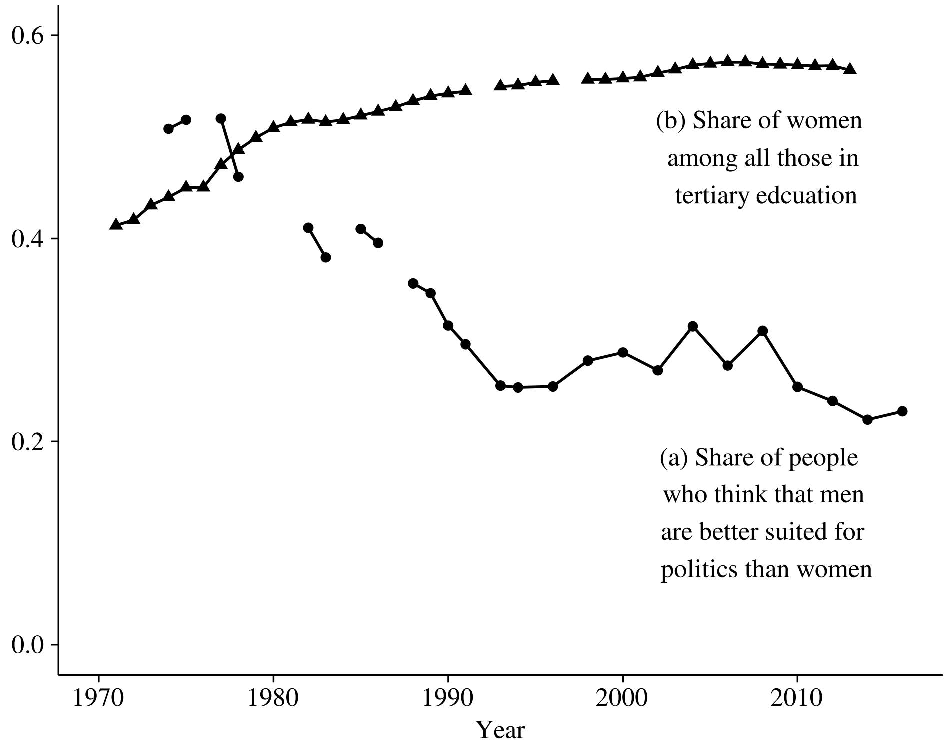

Figure 1. Proxies of the distribution of status beliefs that favor men over women (time series (a)) and of the distribution of relative resources that men and women have at their disposal (time series (b)) between 1970 and 2016 in the US

Note: The data for time series (a) come from the General Social Survey (GSS) and show the share of respondents who agreed with the statement "Most men are better suited emotionally for politics than are most women." Respondents who answered with 'not sure' or gave no answer were treated as not agreeing. The data for time series (b) come from the UNESCO Institute for Statistics.

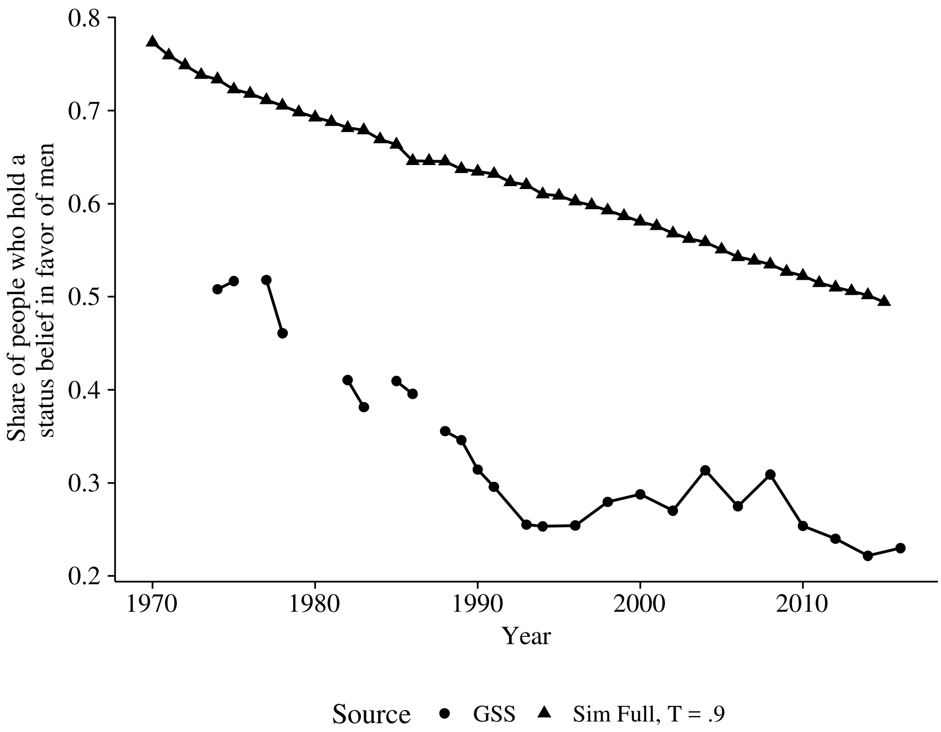

Figure 2. Comparison of the share of people who hold a status belief in favor of men as observed in the GSS and in the full simulation model, assuming a high threshold for belief acquisition (*T* = .9)

Note: The empirical data are the same as for time series (a) in Figure 1. The shares obtained from the simulation model are based on averages over 50 independent simulation runs.

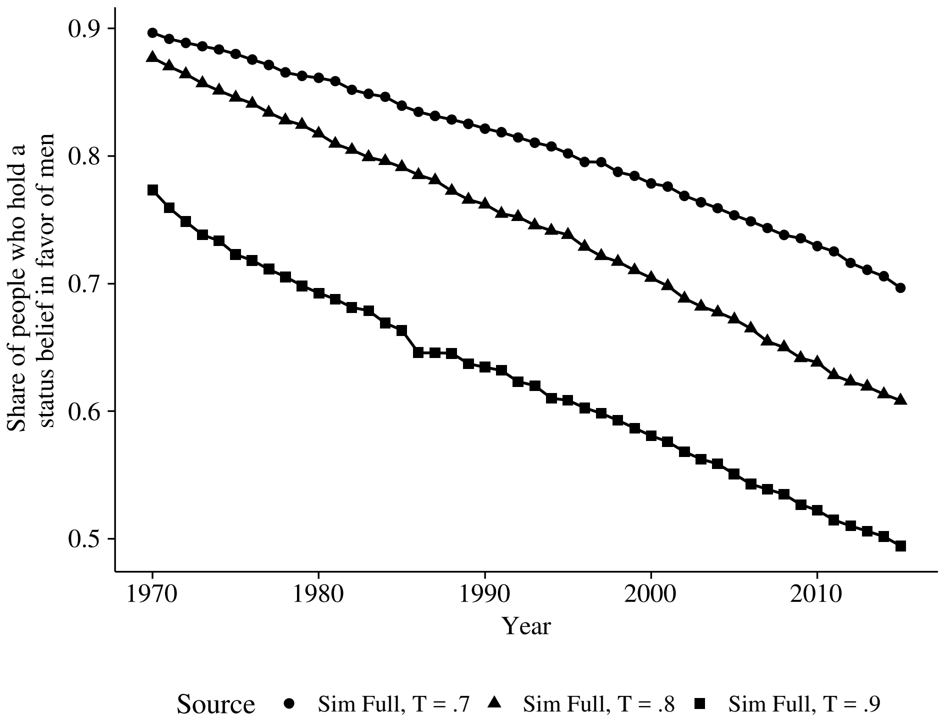

Figure 3. Outcomes of the full model for three different belief acquisition thresholds (*T* = .7, *T* = .8, and *T* = .9)

Note: The shares obtained from the simulation model are based on averages over 50 independent simulation runs per condition.

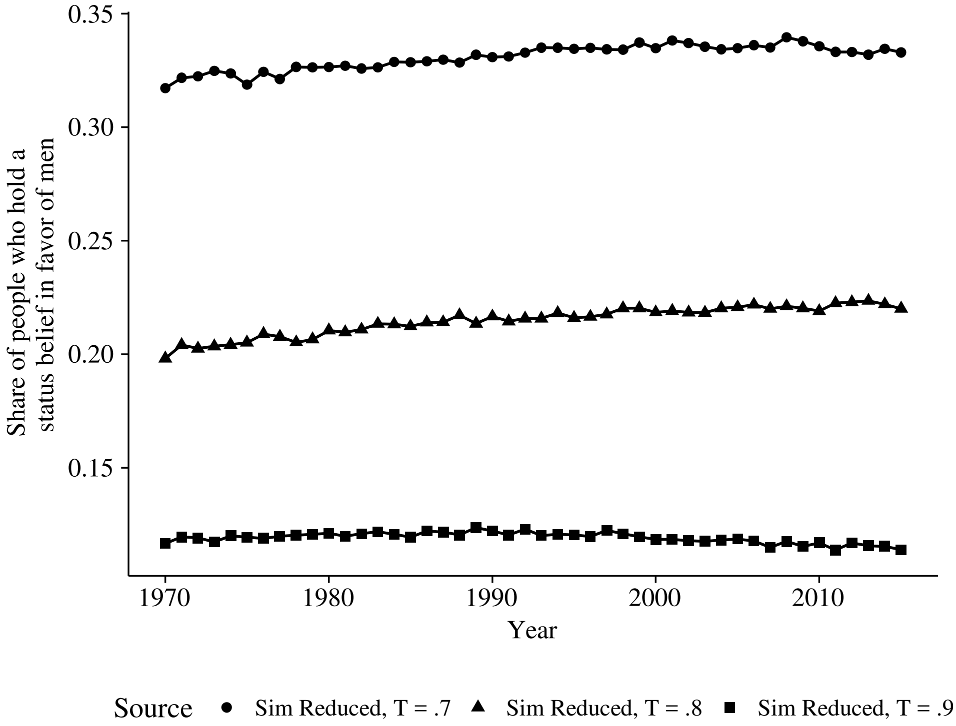

Figure 4. Outcomes of the reduced model for three different belief acquisition thresholds (*T* = .7, *T* = .8, and *T* = .9)

Note: The shares obtained from the simulation model are based on averages over 50 independent simulation runs per condition.