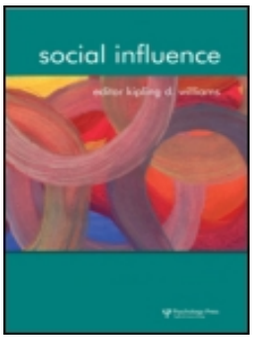

Social Influence

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The world's (truly) oldest profession: Social influence in evolutionary perspective

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Consumer psychologists have devoted a great deal of research to understanding human social influence processes. Research on social influence could be enriched by incorporating several evolutionary principles, and viewing social influence processes through an adaptationist lens. Our central argument is that different social relationships are associated with different influence goals; one wants different things from a parent, a mate, a friend, an underling, a superior, and an out-group stranger. Therefore influence tactics should vary in success depending on the nature of the relationship between the target and the agent of influence. We consider different influence goals associated with different domains of social life and examine a set of six proven principles of social influence from this evolutionary perspective. We also consider how an evolutionary approach offers some new insights into why and when these principles of social influence will be differentially effective.

Keywords: Social influence; Compliance; Evolutionary psychology.

Human beings have always lived in social groups. The ability to influence group members, and the willingness to submit to the influence of others, helped our ancestors survive and reproduce by gaining access to resources, protecting themselves from dangers, and attracting desirable mates (Sundie, Cialdini, Griskevicius & Kenrick, 2006). Every human society studied endorses the basic rules of reciprocity, for example, suggesting that the roots

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of this guideline for social relations reach far back into our evolutionary history. To truly understand how, when, and why social influence principles operate, it helps to view them in light of other biologically influenced constraints on human cognition and behavior. From this perspective the tactics used by today's marketers, managers, and salespeople are intimately connected to the influence techniques their distant ancestors used to navigate their social world, making the influence agent's trade perhaps the world's truly oldest profession.

GENERAL PRINCIPLES OF INFLUENCE

After observing real-world influence techniques and reviewing related empirical research, Cialdini (2009) outlined six principles of social influence routinely employed to sway potential consumers: Reciprocity (people feel obligated to comply with those who give them gifts), Liking (people say yes to those they like), Scarcity (people differentially value items they believe are scarce or dwindling in supply), Social Proof (people look to the behavior of similar others when they are unsure how to choose), Authority (people defer to the advice of experts and those in power), and Commitment & Consistency (people behave consistently with their commitments). The person who is a target of one or more of these influence approaches is more likely to comply with an influence agent's request than when these principles as are not used. Below we review some relevant evolutionary theories, and then connect them to each principle of social influence.

AN EVOLUTIONARY PERSPECTIVE ON SOCIAL INFLUENCE

In evolutionary perspective, social influence processes can be viewed as helping individuals to effectively negotiate the balance of selfish and pro-social motives within the social group. By using a tactic such as citing an authority or offering a gift, social influence agents (e.g., marketers attempting to influence a consumer's behavior) make salient to their targets specific features of the situation or relationship that will increase the likelihood of the desired response (Kirmani & Campbell, 2004). While these tactics can be used to cheat a target when applied outside of their normal social context (i.e., the context within which the use of these tactics evolved), the general tendency to comply with such requests would likely have been a successful strategy for maintaining mutually beneficial social relationships, on average. The sense of obligation to reciprocate a gift, the tendency to value scarce items, and the desire to say "yes" to people we like, all have plausible evolutionary underpinnings. Like all tools for managing social relations, however, each of these principles and our responses to them will be implemented selectively, depending on the social task at hand.

We have suggested elsewhere that humans universally confront persistent problems in a set of broad social domains: forming social coalitions, gaining and maintaining status, protecting themselves and valued others from threats, finding mates, maintaining romantic bonds, and caring for family members (e.g., Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Kenrick et al., 2009). Each social domain poses a unique set of recurring problems that our ancestors would have had to solve in order to survive and reproduce. The different goal states associated with each domain can be activated either by environmental inputs (e.g., another person threatening us, someone flirting) or internal processes (e.g., hormonal state, interpretations of an ambiguous social signal). Once activated, these goal-states direct cognitive and physiological resources towards advancement in that particular domain (Kenrick, Neuberg, Griskevicius, Becker, & Schaller, 2010; Neuberg, Kenrick, & Schaller, 2011). For instance, when men think about encountering an attractive potential romantic partner, this can serve to activate a mating-related goal and facilitate behavior, such as conspicuous consumption, that may positively influence a prospective mate (e.g., Griskevicius et al., 2007; Sundie et al., 2011). Each of the six broad social domains can be viewed as involving recurring problems of social influence, as outlined in Table 1.

A large body of literature has helped identify the conditions under which influence tactics will be more or less successful in getting consumers to say "yes" (Cialdini, 2009; Fennis & Janssen, 2010; Fennis, Janssen, & Vohs, 2009; Goldstein, Martin & Cialdini, 2008; Janssen, Fennis, Pruyn, & Vohs, 2008). Yet very little attention has been devoted to what role evolutionarily relevant variables might play in the influence process. In what follows we consider how and why these evolutionary constraints operate on the six principles of influence. Throughout our discussion of the influence principles we will review relevant research and outline testable hypotheses generated from an evolutionary perspective. These hypotheses begin with one of two assumptions: (1) that the effectiveness of a given influence principle in gaining compliance will depend on the *type of relationship* between the agent (influencer) and the target (influencee) or (2) that the effectiveness of a given social influence principle will depend on whether the *target's active goal state* is a good match with what is communicated during an influence attempt.

RECIPROCITY

A commonly used influence tactic involves providing favors to others, in the hopes that they reciprocate when the giver later requests a favor. Reciprocity operates on three types of social obligation: to *give* to those you wish to establish or maintain good relations with, to *receive* or accept what is offered to you, and to *repay* those who have given to you in the past (Mauss, 1954). By forming alliances with non-relatives individuals could extend their

TABLE 1
Domains of social life, problems, and research

Social domain	*Domain-specific problem to be solved*	*Domain-specific social influence problems*	*Research illustrating constraints on the operation of influence principles*
Coalition Formation	Forming and maintaining reciprocal and cooperative alliances to achieve goals that require coordination.	Assure others that you are a trustworthy ally and in-group member.	DeBruine, 2002: People trust a stranger more when the stranger shares facial similarity indicative of genetic relatedness (Liking).
Status	Acquiring prestige, and power, over one's in-group members.	Convince other group members to defer to you, and to award you differential power within the group.	Watkins et al., 2010: Men of short stature display a greater reactivity to cues of dominance in other men. (Authority)
Self-Protection	Protecting oneself and valued others (e.g., kin) from threats.	Convince out-group members that aggression toward one's in-group would be costly.	Griskevicius et al., 2009: Activating a fear motive makes uniqueness scarcity appeals in advertisements *less* effective. (Scarcity)
Mate Selection	Finding eligible, desirable mates and securing those relationships.	Convince a desirable member of the opposite sex to begin a romantic relationship.	Griskevicius et al., 2006: Activating a romantic motive enhances conformity among women, and counter-conformity among men (Social Proof).
Mate Retention	Investing in existing mating relationships in ways that lead to retention of desired relationships over time.	Convince one's mate to remain committed to the relationship (i.e., get married, work through post-marital conflicts).	Simpson et al., 1990: People in committed relationships downgrade the attractiveness of opposite-sex models in advertisements (Commitment & Consistency)
Parental Care	Investing resources in ways that promote the lifetime reproductive potential of one's offspring, and the offspring of one's kin.	Persuade one's parents to share time and other resources with you (and your children), instead of your siblings and cousins (and their children).	Pollet et al., 2009: Maternal grandparents provide more financial resources and gifts to grandchildren than paternal grandparents, consistent with the degree of certainty about genetic overlap. (Reciprocity)

Six broad domains of social life, examples of domain-specific social influence problems, and examples of evolutionary-informed research demonstrating constraints on the operation of the principles.

potential resource base, and spread their risk of failing to attain necessary resources over a larger number of people. However, most research on reciprocity has been conducted between strangers in experimental labs, or by naturalistic observation of one-shot stranger-to-stranger interactions. The evolutionary biological constructs of inclusive fitness and differential parental investment can enhance our understanding of how reciprocity functions within *familiar* social relationships, and highlight important similarities and differences in reciprocal exchanges between close others and strangers.

Hamilton's (1964) inclusive fitness theory demonstrated how cooperation can be enhanced via genetic relatedness and shared reproductive interests of the individuals involved. Genetic relatives have powerful incentives for sharing and cooperating not based on a tit-for-tat system of exchange. Therefore reciprocity tactics should not be as necessary to—and perhaps not very effective at—eliciting cooperation from close relatives. It is more likely that these tactics serve to solve the problem of how to influence non-relatives. Consistent with this notion, Fiske (1992) and others (Clark & Mills, 1979, 1993; Mills & Clark, 2001) note that resources are often allocated among closely related kin based on need (i.e., via communal sharing), rather than by social rank, history of past favors, or market pricing that typically govern exchanges between non-relatives or strangers. Within kin groups some relationships are more communal than others, meaning that some relationships will take priority over others (Burnstein, Crandall, & Kitayama, 1994; Mills & Clark, 2001), resulting in different allocations of resources across those relationship types. A father may consider the resource needs of his child, for example, to trump the resource needs of his uncle, regardless of how much the uncle has provided to him in the past. Similarly, we expect that people's thresholds for tolerating *failures* to reciprocate will be significantly higher in relationships between closely related kin (e.g., siblings) than distantly related kin that have less genetic overlap (e.g., second cousins), because of the difference in the contribution of those relatives to the individuals' inclusive fitness.

It makes sense to reciprocate non-kin in-group members' favors, because the opportunity for mutually beneficial exchange in the future can outweigh any present costs. The tendency to make distinctions between in-group and out-group members is universal (Pinker, 2002). Experimental evidence suggests that people we encounter are quickly encoded for group membership, and that this categorization influences subsequent cognitive processing about those individuals (Becker et al., 2011; Maner et al., 2003). In the case of the reciprocity principle, even offers of very inexpensive gifts such as a can of Coca-Cola (Regan, 1971) or a flower (Cialdini, 2009) can be sufficient to significantly increase people's tendency to comply with a request. This implies that people are

quite sensitive to such overtures, and that the economic value of what is offered may be far less important than the act of offering itself. We suggest that such overtures can serve to shift the target's perceptions of the influence agent (albeit unconsciously) towards in-group membership, and thereby engage responses normally appropriate for dealing with trusted in-group members. This connection between generosity and in-group membership is evident in studies testing the effects of social scrutiny (operationalized by the presence of images of human eyes in the decision environment). People made more generous offers in the Dictator game when eyes were displayed on the computer screen and the recipient was an in-group member (Mifune, Hashimoto, & Yamagishi, 2010). Future work could examine whether reciprocity-based influence tactics indeed activate in-group cognitions for influence targets, and whether these cognitions mediate compliance.

A special case within the set of non-kin reciprocal relationships is the romantic relationship. While genetic overlap is not the basis of a cooperative bond between romantic partners, the shared reproductive interests of the partners have important implications for the partners' respective inclusive fitness. The rules of reciprocity and the resources exchanged within mateships follow patterns consistent with Trivers' (1972) theory of differential parental investment (see also Kenrick & Trost, 1989).

Parental investment theory addresses the minimum resources men and women must contribute to the production of offspring. Women must contribute more than men to produce a child (i.e., gestation and nursing the infant after birth)—for men, the act of sexual intercourse is sufficient. When men choose to invest more heavily in a mate and their offspring, resources and protection enhance offspring survival and thriving (Geary, 2000). When mate selection goals are active, people's thoughts about potential partners are presumably guided, to some degree, by the search for a good bargain in the exchange of their own reproductive resources for those uniquely provided by the opposite sex. In this reproductive exchange men and women are expected to be influenced by different features of, and different behaviors of, potential and existing mates. For example, during courtship men employ a variety of reciprocity-based tactics (e.g., providing gifts of valued resources) to attract potential mates, and evidence suggests that one motivation for women to engage in short-term mating is resource acquisition (Hrdy, 1999). Simply exposing women to bouquets of flowers (a typical romantic gift) made them feel more attracted to a male target, and made unattached women more receptive to a male confederate's request for a date (Guéguen, 2011). Gifts from men to women may be attempts to instill sexual obligation—men, for example, reported liking an unattached woman less if she immediately reciprocated a favor he did for her, or a gift he gave her (Clark & Mills, 1979).

LIKING

Another technique influence agents commonly use is to attempt to induce their targets to like them. We are more inclined to comply with another's request when we like the requester, or when we feel flattered by the requester's behavior. Liking is commonly enhanced by feelings of similarity and familiarity between the agent and the target, and by requester attractiveness. For example, a salesperson may seek to uncover common interests (e.g., playing golf, driving the same kind of car) with a prospective buyer, and raise these topics during a sales interaction. Liking tactics can be used to communicate that an interdependent relationship (or the potential for one) exists between the individuals involved. It makes sense to say "yes" to those with whom we enjoy affiliating, or with whom we wish to form social relationships. Because genetic relatives already have powerful inclusive fitness incentives for cooperation, the liking principle is expected to have a greater impact on compliance in non-kin interactions, such as between a salesperson and a potential client.

First, consider the influence techniques that enhance liking of the agent by the target through the use of similarity appeals. Professed similarity between the target and the agent (e.g., "No kidding, my father also grew up in Pittsburgh!") might serve as a cue to in-group membership, and the favorable associations that accompany it. Castelli, Vanzetto, Sherman, and Arcuri (2001) found support for such a role of in-group vs out-group distinctions in persuasion by demonstrating that targets more readily conform to a person that has used stereotype-consistent descriptions of a common out-group. Berger and Heath (2007) demonstrated that people are attracted to products that offer opportunities to signal unique aspects of one's identity, particularly if those unique preferences are associated with an in-group, but not if those unique preferences are saliently linked to an out-group. Just as cues to in-group membership can promote liking, cues to out-group membership can have the opposite effect. When consumers' own national identities were made salient, a product imported from a disliked foreign nation was evaluated more negatively (White & Dahl, 2007).

Other research suggests that perceived attitude similarity between oneself and a stranger can automatically activate kinship cognitions, inducing a person to behave prosocially towards that similar other (Park & Schaller, 2005). For example, people trust an unknown person more when he or she displays facial similarity indicative of genetic relatedness, accomplished by digitally morphing participants' faces to make them similar to his or her game partner (DeBruine, 2002). Such effects may not be consistent for men and women, as women more readily treat friends like kin than do men (Ackerman, Kenrick, & Schaller, 2007). This suggests that

similarity-enhancing tactics may elicit a more positive response from women than from men, mediated by the activation of a kinship mindset.

Once in-group cognitions, or more specifically kinship cognitions, are activated for an influence target, conditions become ripe for cheating and exploitation by unscrupulous agents. There may be some situations in which a target is particularly concerned with creating and expanding his or her social networks, such as when the person has recently moved to a new city, or has recently experienced social rejection (Maner, DeWall, Baumeister, & Schaller, 2007). Under such conditions the power of similarity-based liking tactics should be further enhanced. People who just suffered from social exclusion spent money to further affiliation goals in their immediate social contexts, mirroring the consumption choices of others (Mead, Baumeister, Stillman, Rawn, & Vohs, 2011). Even incidental similarity (e.g., sharing the same birthday with your salesperson) can enhance purchase intentions when people feel the need to connect with others (Jiang, Hoegg, Dahl, & Chattopadhyay, 2009). We expect targets with active coalitional goals (e.g., a first-year graduate student attending a conference) would be more susceptible to similarity-based influence attempts, particularly if the influence agents involved are potentially valuable alliance partners.

Physical attractiveness can also enhance liking and evaluations of products associated with those attractive others. College students were willing to pay more for a T-shirt if they knew that a highly attractive member of the opposite sex had just tried it on, and this effect was pronounced for male participants (Argo, Dahl, & Morales, 2008). Physical attractiveness may be particularly valuable leverage when a target's mating motives are active. Because of the constraints imposed on mate selection processes by differential parental investment, as discussed above, men's and women's cognitive processes about mating-relevant criteria diverge (Li & Kenrick, 2006). This research suggests that some liking-based influence attempts may not be perceived identically by men and women. The effectiveness of liking tactics, such as touching a target on the arm, may be influenced by the sex and physical attractiveness of the agent and target involved, and the target's present openness to mating opportunities. If mating goals are active for a target, liking-based influence tactics delivered by an attractive opposite-sex agent may be particularly successful, compared to those delivered by an unattractive or same-sex agent. In a recent set of field studies young women were more receptive to mating overtures by an attractive male if he touched her lightly on the arm while making his request (Guéguen, 2007). In general we expect targets that are not receptive to short-term mating opportunities (or have non-mating related goals active) would be less responsive to such influence attempts.

SCARCITY

Another commonly used influence tactic plays upon people's motivation to obtain resources that are in limited supply (Howard, Shu, & Kerin, 2007). Scarcity information signals value, and enhances a product's desirability. Interpersonally, influence agents make use of the scarcity principle by communicating that the benefits they are offering are very popular (''these time-share units are going fast''), time restricted (''the sale on this sofa lasts this weekend only''), or inherently limited in supply (''only a lucky few will get these rent-controlled apartments'').

Scarcity may trigger loss aversion: the tendency for people to be more distressed when facing potential losses than they feel rewarded by equivalent gains on the same dimension (e.g., Howard et al., 2007; Kahneman, Knetch, & Thaler, 1986). Such a response could contribute to enhanced product valuations as people become willing to ''pay more'' to avoid those possible losses. One argument for human tendencies towards loss aversion in decision making is that in subsistence environments, such as the ones in which humans evolved, the downside risk of resource variance is of greater concern because of the dire negative consequences (e.g., starvation, illness) than the upside of resource variance is beneficial (Lumsden & Wilson, 1981, p. 90). People living in traditional societies did not have the ability to store bounties of excess food, for example (e.g., Betzig & Turke, 1986; Kaplan & Hill, 1985). While group sharing can mitigate the downside risk for a given group member, it cannot overcome natural fluctuations in levels of the resources themselves. Under such conditions the potential costs of *failing* to respond to scarcity information about crucial resources are likely to be higher than the costs of increasing acquisition effort in response to a false signal. Such a cost structure may have led individuals to heuristically connect scarcity with value.

But what if the scarce resource is not a necessity, and therefore does not have the same negative implications for risk to health and welfare? Are preferences for certain luxuries, as opposed to necessities, also susceptible to scarcity tactics? If so, what function might be served by a heuristic response to information that these luxury resources are scarce? Research on conspicuous consumption suggests a possible answer. When individuals seek to climb group status hierarchies, or try to woo potential mates, they must provide some observable evidence of their quality relative to the competition. Honest signals of quality require incurring costs that most people cannot bear, or displaying some unique talent or resource that competitors have difficulty imitating (Miller, 2000; Zahavi & Zahavi, 1997). Griskevicius and colleagues (2007) demonstrated that mating motives encouraged men to spend money on expensive, conspicuous products and engage in public charitable giving. Women, on the other hand, engaged in

more public helping behaviors (e.g., volunteerism) when thinking about attractive men. Such behaviors, when viewed through an evolutionary biological lens, share the common feature of helping the person positively differentiate himself or herself in the mating market via relatively unique (i.e., scarce) and high-cost behaviors. The men in Griskevicius et al.'s studies were particularly inclined towards engaging in high-cost *consumption* behaviors. Sundie et al. (2011) also found that conspicuous consumption was triggered by mating motives, particularly among men interested in attracting the attention of a variety of women for short-term, uncommitted relationships. For these men, mating motives also encouraged the display of scarce, status-linked products and services.

Consistent with this research on motives for conspicuous consumption, scarcity information about non-essential resources relevant to the status and mate selection domains (see Table 1) may signal an opportunity for positive differentiation rather than triggering a loss-prevention response. Indeed, some recent work suggests that loss aversion can be reversed by activating mating motives, at least among men (Li, Kenrick, Griskevicius, & Neuberg, in press). Here we focus on scarcity information about limited supply (which implies uniqueness, and thus an opportunity to differentiate oneself), as opposed to the "going fast" type of scarcity (which implies widespread consumption). When influence targets have status or mating goals active, we expect their valuations of products will be more sensitive to information that those resources are rare or difficult to obtain. Some data support these expectations; Griskevicius et al. (2009) found that activating romantic desire led people to rate products more favorably if the ads contained scarcity appeals that highlighted opportunities for consumers to "stand out from the crowd". We would expect a similar susceptibility to limited supply or uniqueness scarcity appeals among *male* influence targets with active mate selection or status goals, particularly when possession of the scarce resource is meaningfully tied to some important mate selection criteria employed by local women. Notably, fear manipulations designed to activate a self-protective mindset had the opposite effect, making uniqueness scarcity appeals less persuasive than if advertisement contained no persuasive appeal at all (Griskevicius et al., 2009).

Much as positive differentiation makes one more noticeable and attractive as a potential mate, it may also make one more attractive as an alliance partner. Possessing scarce information, items or other resources may also enhance one's value as a coalition member. We therefore expect that targets' valuations of resources will be particularly sensitive to uniqueness scarcity information when coalition formation goals are active (see Table 1) and when the resource is particularly desirable to the group with which he or she wishes to affiliate.

SOCIAL PROOF

When people are uncertain how to behave in a given situation, they will tend to look to others around them to help them decide (Sherif, 1936; Wooten & Reed, 1998). If one is uncertain which response is appropriate in a social situation, and others around you have already made their choices, presumably they have more information or experience than you do in those circumstances. Social proof is often more powerful when it comes from in-group members, and similarity between the target and another group member has been shown to have an influence on a target's own choices (Abrams, Wetherell, Cochrane, Hogg & Turner, 1990; Burn, 1991; Schultz, 1999).

From an evolutionary perspective, social proof can be a useful heuristic to apply if the benefits from increased group coordination or accuracy in social judgment are not outweighed by costs in other social domains, such as gaining and maintaining status, or enhancing one's mating opportunities (see Table 1). Based on the evidence just discussed, a single man trying to impress a date might react negatively on discovering that two other new BMW sedans have parked next to his in the restaurant parking lot. By contrast, a happily married man concerned with protecting his child would not be expected to react negatively on discovering that two of his neighbors also have expensive Brittax infant safety seats in their new Volvo station wagons. Indeed, he may be comforted by this neighborly brand conformity. Consistent with this expectation, thinking about a threat of physical harm has been shown to enhance the effectiveness of popularity-based social proof appeals, and conformity to others' evaluations of consumer products (Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006; Griskevicius et al. 2009).

From an evolutionary perspective there are reasons to expect that the costs and benefits of conforming to the behavior of others will not be equivalent for men and women. Sex differences in conformity (with men conforming less than women) are pronounced when the pressure to conform is manifest in public (Eagly, Wood & Fishbaugh, 1981). Baumeister and Sommer (1997) suggested that this tendency towards non-conformity among men may be motivated by the desire to be accepted by their group as a leader. This pattern is consistent with expectations based on sexual selection and differential parental investment, which highlight the differential reproductive benefits to males achieving high status and social dominance.

Under certain conditions, going against group consensus may enhance a man's perceived status—if the counter-conformity allows him to stand out from others in a favorable way. Consistent with this hypothesis, Griskevicius et al. (2006) found that mating motives enhanced men's (but not women's) counter-conformity in evaluating a piece of art—when other

men uniformly evaluated the artwork negatively, male participants previously primed with romantic stimuli expressed significantly more positive assessments of the art. Women, alternatively, were inclined to follow the social proof of other women when mating motives were active, but only when other women's artistic evaluations were uniformly positive. Both sexes were inclined to inflate positive subjective assessments of the art while in a mating mindset, but for men mating motives fueled a specific desire for counter-conformity. Extending this logic we would expect that men's resistance to social proof would be higher when local social norms emphasize individual achievement over group welfare, or when males in a group differ widely in their reproductive potential.

AUTHORITY

People tend to defer to an influence agent's opinions and recommendations more readily when the agent is a perceived to be an expert on the topic, or a generally trustworthy individual (Cialdini, 2009). Deference to authorities is more likely when individuals lack the experience to make an informed decision, and when the outcome of their choice is critical. Reliance on an expert makes sense when the goal is to make an accurate and efficient decision, and when there is a correct answer.

An evolutionary perspective suggests that deference to authority may also be based on characteristics not linked to informational expertise, such as physical size and other markers of social dominance. In ancestral environments, when physical violence (e.g., through inter-group warfare) was linked with status and dominance, people who failed to adequately attend and respond to cues of another person's physical dominance would likely have brought enhanced threats of physical harm or social exclusion upon themselves (see Buss & Duntley, 2006, for a review of this perspective on aggression). Evidence suggests that leaders, such as corporation executives and heads of state, are often chosen based on the seemingly irrelevant characteristic of height (Judge & Cable, 2004; Simonton, 1994). Perceivers also see the same individual as taller when he has achieved a relatively higher status rank (e.g., a candidate that has just won an election; e.g., Higham & Carment, 1992). Height and intelligence are positively correlated (Beauchamp, Cesarini, Johanneson, Lindqvist, & Apicella, 2011; Kanazawa & Reyniers, 2009), suggesting a logical foundation for heuristic associations between height and authority. Recent evidence suggests, however, that people do not respond uniformly to male cues of dominance; short men showed a greater sensitivity to physical dominance cues when judging the dominance of a male target (Watkins et al., 2010). This suggests that deference to authority based on physical cues may be enhanced among

people who would be relatively more at risk if they ignored such cues, including people of shorter stature and relatively smaller size.

In behavioral studies involving manipulations of authority, larger experimenters may be most likely to generate obedience, but perhaps only when they are males. It would also be of interest to examine physical size as a moderating factor in studies involving less direct social pressure, such as compliance studies (where participants receive requests rather than orders) and conformity studies (where neither requests nor orders are involved). The activation of different social goals may also have similar differential effects on the power of physical size as an influence factor. For example, people who are made to feel self-protective following a fear manipulation may be more responsive to a large male authority figure than people for whom parental care or mate retention goals are activated (see Table 1).

While some physical cues to dominance such as height may enhance authority judgments, there is also evidence that other physical dominance cues (specifically facial cues) are associated with lower perceived trustworthiness which may decrease perceived authority. Among participants playing an economic game, trust was lower for male game partners displaying facial dominance cues (Stirrat & Perrett, 2010). Here individual differences in dominance among raters also played a role; in a follow-up study dominant faces were trusted particularly less by women with low self-rated social dominance. These studies demonstrate that dominance cues may also undermine perceptions of authority to the extent that people feel dominant individuals will prioritize their own interests at the expense of others' interests (i.e., are less trustworthy).

Finally, displaying status products can signal authority, and increase compliance behavior across diverse consumption contexts. Nelissen and Meijers (2011) found that status conveyed through clothing worn by the influence agent increased compliance with requests to complete a survey while shopping and requests to donate to a charity. In the Dictator game, participants awarded more money to a game partner wearing a status brand than someone wearing otherwise identical unbranded clothing.

COMMITMENT AND CONSISTENCY

The final influence tactic we consider is based on people's tendency to follow a course of action if they have previously made a commitment to that course. As noted earlier, cooperative alliances have been a powerful factor in human evolution. By relying on one another our ancestors could accomplish tasks they would have been unable to accomplish alone. To carry out such group tasks, group members had to be able to count on one another to stick to important commitments. Cottrell, Neuberg, and Li (2007) demonstrated

that when people seek various types of coalition partners, being trustworthy tops the list of desirable attributes.

Perhaps owing to the importance of being perceived as reliable and trustworthy, people generally hold to the rule "stick to your commitments" in a simple and heuristic manner (Cialdini, 2009). An influence agent may leverage this heuristic in numerous ways. For example, the agent attempting to gain compliance with a large request may first attempt to get that target to comply with a much smaller request; a commitment and consistency-based tactic called the *foot-in-the-door*. Once the target has committed to supporting a cause in some small way, such as putting a three-inch-square sign in their front yard advocating safe driving, he or she is significantly more inclined to agree to more substantial follow-up requests, such as replacing the unobtrusive sign with a large, unattractive billboard (Freedman & Fraser, 1966). Once the homeowners had publicly committed to the cause, and began to see themselves as advocates of safe driving, pressures to comply with cause-related requests loomed large.

From an adaptationist perspective we doubt very much that people are frequently inclined to place a high value on cognitive consistency per se, especially if that consistency comes at a cost to social and material resources. People may well be generally motivated to appear consistent to others, and this heuristic tendency may occasionally result in seeming behavioral irrationalities. However, we would expect that such tendencies are much more likely to be manifested around questions involving unverifiable beliefs or social reality rather than physical reality. When there is a clear correct answer that can be validated against physical reality, it seems likely that people will override their motivation to want to reduce "cognitive dissonance" in favor of reducing the loss of good resources after bad. We would hypothesize that any tendency to act consistently with one's commitments will be ultimately driven not by motives that begin and end in the person's head, but by the adaptive social consequences of acting consistently or inconsistently (Neuberg & Cottrell, 2008). Thus consistency motivation should vary depending on which commitments are made and to whom, and on who is watching. For instance, people should be more likely to increase their commitment to a group after painful or humiliating initiations only when that group affords the initiates significant social and/or reproductive benefits, and when the initiates perceive that few, if any, viable alternatives are available.

We expect that people will be more susceptible to commitment and consistency tactics when their coalition formation goals are active (see Table 1), particularly if the influence agent is a member of a group the target finds particularly desirable. The pressure to appear consistent should also be enhanced when dealing with potential long-term romantic partners, who are

likely making assessments of a possible mate's trustworthiness and reliability (Buss et al., 1990).

In-group vs out-group distinctions may also affect the operation of the commitment and consistency principle. Influence professionals have developed a host of deceptive tactics based on people's motivation to appear consistent and stick to their commitments, ranging from simple inducements to "sign on the dotted line" to more elaborate tactics such as the "bait and switch" (Joule, Gouilloux, & Weber, 1989; Kenrick, Neuberg, & Cialdini, 2010). After having committed themselves to closing the deal, customers frequently comply despite the change in what they are getting for their money, or the increased cost of acquiring the desired product or service. After making such deals under such pressure customers may feel cheated, as evidenced by laws requiring several days "cooling-off" period during which customers can recant on unfavorable transactions (Federal Trade Commission, 1996). Because people are likely to be more concerned with presenting oneself as trustworthy when among in-group members (Brown, 1991; Cottrell et al., 2007; Neuberg & Cottrell, 2008), influence agents that can activate in-group or kinship cognitions for a target based on false cues should also be more successful in employing consistency-based tactics. Targets should feel more pressure to be consistent if these in-group cognitions are active at the time that the agent makes his or her request.

CONCLUSION

We have proposed that our understanding of social influence processes can be enhanced by incorporating aspects of evolutionary biological theory into compliance research. An evolutionary perspective offers powerful theories such as inclusive fitness and differential parental investment that can be leveraged to generate novel hypotheses about social influence. These theories counsel a greater focus on research exploring influence within various kinds of familiar relationships, such as kin relationships, romantic partnerships, and friendships, where the exchange of resources is guided by mutual influence over time (e.g., Kenrick, Sundie, & Kurzban, 2008; Oriña, Wood, & Simpson, 2002). Within these relationships features of the bond between two individuals, whether it be liking based on similar interests, shared reproductive interests between long-term romantic partners, or shared genes between kin, may fundamentally affect the costs and benefits associated with compliance, and the relative success of the various tactics designed to achieve it. By considering a set of six broad social motivations informed by an evolutionary perspective (Table 1), we can also make predictions about targets' susceptibility to the various influence tactics depending on what social goal is predominant or active at the time of the influence attempt. By considering how influence tactics are designed to serve

fundamental social goals such as gaining and maintaining status, building coalitions and winning over potential mates, we may gain further insight into the effectiveness of these compliance strategies across social contexts.

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