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Human's Reputational Concern: How the Reputation-Based Mechanisms of Social Evolution May Be Leveraged in the Modern Context of Social Media

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Abstract: In social lives, humans cooperate with or help others who are neither genetically related nor socially closed. This fact might help explain the underlying psychological mechanism of reputational concern that has been selected by evolution. However, the modern environment changes drastically compared to the ancestral past. How does the reputation-based mechanism evolved, and could it still secure its importance? This paper conducted a literature review and synthesized multiple evolutionary theories to examine the reputation-based mechanisms and consider how they may function in the modern context. The argument suggests that reputational concern embodies the evolutionary incentive to seek interactions that are favorable to fitness and reproduction (e.g., cooperation). Using the analysis, this paper then proposed an experimental test of social media exposure that shed light on how the mechanism may be leveraged to enhance cooperative behavior. Overall, by understanding the ultimate design of the psychology of reputation, we may utilize modern resources to harness its functions and promote positive change.

Keywords: Reputation, Cooperation, Evolutionary Psychology, Social Media Exposure

1. Introduction

Among organisms, humans are especially known for demonstrating cooperative and prosocial behaviors toward others. We are willing to offer help to close kin, friends, and even strangers. The fact that we cooperate with or help others who are neither genetically related nor socially closed might help explain the underlying psychological mechanism of reputational concern that has been selected by evolution. Reputation is a ubiquitous source of information in human social lives. In this paper, I consider reputation in two ways: 1) externally, reputation is the belief held by others that one possesses a particular trait or disposition, and 2) internally, reputation is one's motivation for impression management about how others perceive them. Humans may have evolved adaptations to track the reputations of others, monitor their reputations, and adjust each other's behavior based on those reputations. Such a mechanism helps us predict who will be a faithful partner, cunning deceiver, or competitive fighter, allowing us to change decisions for future interactions.

From an evolutionary psychological perspective, reputation is an evaluation of one's and others' previous behaviors to predict potential future fitness consequences. In the ancestral past, a cooperative reputation may attract partners and obtain cooperative gains whereas an uncooperative

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reputation may incur social exclusion [1]. These reputation-based interactions would have been strong selection pressures; therefore, humans are likely to have psychological adaptations to the reputation concern. However, the mechanism that evolved was appropriate in ancestral environments. People today are no longer living in small tight-knit societies where everyone is in close relationships and interactions with strangers are scarce. How does the reputation-based mechanism evolved, and could it still secure its importance?

In modern society, technological advancements have given us the internet and social media. How does our psychology of reputation work in this modern context? Do these modern products play a role in influencing our concern about reputation? Synthesizing multiple evolutionary theories, this paper argues that reputational concern embodies the evolutionary incentive to seek interactions that are favorable to fitness and reproduction (e.g., cooperation). Using the analysis, I propose that social media exposure can act as a reputational cue that can activate people's reputational concerns and enhance cooperation and propose a test of this prediction using a novel public good game. Overall, by understanding the ultimate design of the psychology of reputation, we can use it to promote positive change in our daily lives.

2. Literature Review and Analysis

Evolutionary approaches have drawn attention to decoding the mechanism of human cooperation, and recent studies have extended to incorporate the function of reputation. Studies on reputation-based cooperation concern how people manage their reputation in response to external cues, how reputation implies cooperation, and how advantageous or limited reputation is to drive cooperative behavior [2-4]. Regarding human reputational concern, several theories of social evolution use reputation as a mechanism, including reciprocity, costly signaling, and competitive altruism. These theories are crucial in disentangling the evolutionary incentives of adapting to reputational concern, which shed light on the evolutionary benefits for people to exchange some cost to help one another.

(In)direct Reciprocity:

Reputation fuels the engines of the mechanism of reciprocity for cooperation. Information about a person's reputation can derive from observing the immediate outcomes of his/her behavior in face-to-face interactions such as helping and betrayal or can acquire from hearing a third party's description of him/her. Direct reciprocity models how cooperation can evolve when agents condition their cooperation on their partner's past cooperative behavior. Experiments of the Prisoner's Dilemma Game and Tit for Tat Strategy support that individual helps those who have helped them before [5,6]. The model of indirect reciprocity shows how cooperation can evolve when our reputation spreads and causes others to treat us well. Third-party observers can bring indirect benefits to the ones who cooperate and earn a good reputation [7]. Natural selection favors strategies that monitor others' reputations when considering the decision of whether to cooperate or not. Cooperators gain a good reputation and are thus more likely to receive benefits from observers, whereas those who refuse to help get a bad reputation and consequently are more likely to be refused help.

Costly Signaling:

Through cooperation, an actor broadcasts their ability and willingness to confer benefits to others. Costly signaling theory posits that a signal's cost maintains the signal's honesty [8]. A cooperative act in interaction is a costly cooperation signal that reflects one's reputation and close links to one's reproductive outcome and fitness benefits. Others are more likely to choose those with a cooperative reputation as potential partners since their reputation suggests their willingness and ability to bear the cost of helping. When reputation is at stake, namely, when your behavior could be known by others to impact your future interactions and fitness consequences, people should adjust their behavior to manage the signal they broadcast to others [9]. This theory reasonably

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explains that people may forgo some benefits in an instance to engage in cooperation and obtain a positive reputation as a return that can bring more potential of interactions favorable for fitness.

Competitive Altruism:

The theory of competitive altruism or reputation-based partner selection suggests the main dynamic in which cooperative partners are a scarce commodity in a partner market, and individuals can increase the likelihood of accessing those partners by establishing a cooperative reputation. The core insight in this theory is the two-stage processes of cooperative interactions. Individuals may incur costs in behaviors that display cooperativeness in the first place to establish cooperative reputations, which may consequently pay off with the benefits of an increased likelihood to attract profitable partnerships later [10,11]. The premise of competitive altruism is that the most cooperative individuals will attract the most cooperative partners [12]. Individual differs in resources and qualities that make some of them better partners than others. Reputation, therefore, becomes a valuable way to improve your success in partner choice.

3. Proposed Experiment – Social Media Exposure as a Reputational Cue

Based on the analysis of relevant evolutionary theories, it seems clear that the psychological mechanism of reputation evolved as a component of our social psychology. However, the mechanism that evolved was appropriate in ancestral environments. In the modern world, social media has become a necessity of human social lives. We use social media not only for social interaction but also for the acquisition of information and decision-making. Given the environmental change and the role that social media plays in the modern context, does the importance of reputation diminish or increase?

Evolutionary theories of cooperation reveal that cooperation is more likely when an individual's reputation is more likely of consequences. Experimental evidence suggests that people are more generous in laboratory experiments when observed by others [13], but they give the most when those observers can choose whom to interact with in the future [10,14]. Therefore, increasing the likelihood that one's reputation will follow them can potentially increase cooperation. This can be done by increasing the transmission of reputational information.

To secure a good reputation, people may adjust their behavior in response to situational cues that suggest reputational consequences of their behavior. Such cues, in turn, can activate reputational concern and motivate cooperation. Previous studies have shown reputation is an effective means of promoting cooperation in social dilemmas [12,15]. Social media exposure might be a similar yet modern reputational cue that functions as observation by third parties. Here I propose a test of this prediction.

Groups of four players will play a series of public good games. In the testing trials only, players will be informed in advance that their decisions are visible to a live stream with an online audience. This audience will rate the participants on their generosity and cooperativeness and evaluate their willingness to cooperate with others. Players are aware that they will receive feedback on the audience's rating and evaluation. The overall effect will be analyzed based on the comparison of players' decision-making in the controlled (no observation) and experimental (observation) trials, the audience's perceived reputation, and their willingness to select a partner to cooperate.

In standard public good games, contributions to the common pool tend to decline over time. Adding the stimuli of social media exposure might make reputation at stake, which increases people's awareness about their decision and prompts them to adjust their behaviors consequently. The evolution of reputation explains the root of human cooperation and the importance of coalitions in the ancestral past [16]. In contemporary society, social media is prevalently used by people and is almost an omnipresent part of our social world. If the prediction is tested to be statistically significant, it means that we might incorporate various forms of social media exposure (e.g., live

video channels, blog posts, etc.) and design corresponding strategies to facilitate cooperation and prosocial behaviors) in our daily lives.

4. Conclusion

In conclusion, humans' reputational concern is evolutionarily meaningful in seeking interactions like cooperation that are advantageous to fitness and reproduction. Under selection pressure, we have evolved a strategy to monitor the reputations of others and ourselves concerning future benefits and consequences. Although our contemporary society appears very different from the ancestral world, the importance of the evolved reputational concern can be plastic. We can identify novel reputational cues that might generate an impact on people's perceptions and subsequently influence their decision makings. By understanding the evolutionary psychology of reputation, we might utilize tools like social media exposure to stimulate the importance of reputational concerns and promote positive change in the modern world.

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