

Foraging for another: antecedents of prosociality and selfishness

Are we selfish or prosocial?

Research can be contradicting and confusing at times making it quite off-putting for the layperson, because what is the point if you can find results to back up any position? For instance, different research lines with the social decision making domain show different results on whether people are generally prosocial or generally selfish. Obviously, it isn't either one or the other and I don't believe any researcher would deny that. Rather, the degree to which we are selfish vs prosocial most likely depends on the situational context and type of rewards involved. But currently, there seems to be a lack of a unifying framework that attempts to explain how people can be both prosocial and selfish depending on the situation.

Foraging as a way to study two different aspects of reward

One way to look at the daily decisions we make is to conceptualize them as a trade-off between exploration and exploitation. For instance, imagine yourself at a networking event in conversation with someone. At some point you may decide to finish the conversation and 'explore' the rest of the party in search for other people to talk to and 'exploit' for exchanging contact details. Such trade-off examples can also be found in foraging: an animal in search for food has to decide between remaining in the current location or patch (exploitation) where resources are continuously depleting versus leaving the current patch in search (exploration) for patches richer in resources. And foraging is perhaps the quintessential example of an exploration-exploitation trade-off considering it is an essential part of survival for all animals, and was the case for humans up until the agricultural revolution. So, it is not far-fetched to think that the same decision-making mechanisms found in such foraging problems may be at least partially conserved in humans and be deployed when making a vast range of decisions, social and non-social decisions alike.

Taking a closer look, we can see that making these types of decisions requires a continuous comparison between *two different components of reward*: the current – or foreground – reward during exploitation and the potential – or background – reward of exploring the environment. Earlier research looked at both background and foreground reward within a foraging task and showed that people were completely optimal in assessing changes in both when foraging for themselves. We considered the possibility that this may not be the case

when people would forage for another person. Given the contradictory results for prosociality and selfishness as described in the first paragraph we expected that people would not be as optimal in when foraging for another in either the foreground or background reward, but not both. Thus, possibly explaining both selfish and prosocial behaviour.

Studying foraging in the lab

It would be quite an undertaking to take participants out into real foraging situations, so instead we created a computer task that works with the foraging principles of exploration and exploitation. In our task, participants visited different berry farms that varied in richness (background reward), and within these farms they encountered high and low yield berry patches (foreground reward) where they collected berries. Crucially, on some farms they were told their berry collection would count towards their own monetary reward at the end, while on other farms they were told the berry collection would go to the monetary reward of another person (which they met before starting the task). We examined how long they decided to exploit the different patches within the varying farms where they collected for themselves vs when collecting for someone else. This allowed us to study the effects of the varying foreground and background reward on their exploitation times when foraging for self vs foraging for another.

Results and conclusion

The results we found show that people seem to be more sensitive to their own rewards, but only when these rewards in the foreground, especially for larger rewards. But, they do not discriminate between their own reward vs the reward of another regarding the less obvious background reward of the environment. These results highlight that people can both be selfish and prosocial depending on the aspect of the reward, with the antecedents of prosociality possibly lying in our ability to consider the environment when foraging prosocially.

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