



Original Articles

Communicative eye contact signals a commitment to cooperate for young children

Barbora Siposova^{a,b,*}, Michael Tomasello^{b,c}, Malinda Carpenter^{a,b}

^a School of Psychology and Neuroscience, University of St Andrews, St Andrews, Scotland, UK

^b Department of Developmental and Comparative Psychology, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany

^c Department of Psychology and Neuroscience, Duke University, Durham, NC, USA



ARTICLE INFO

Keywords:

Communicative eye contact
Commitment
Nonverbal communication
Cooperation
Coordination
Stag hunt game

ABSTRACT

Making commitments to cooperate facilitates cooperation. There is a long-standing theoretical debate about how promissory obligations come into existence, and whether linguistic acts (such as saying “I promise”) are a necessary part of the process. To inform this debate we experimentally investigated whether even minimal, non-verbal behavior can be taken as a commitment to cooperate, as long as it is communicative. Five- to 7-year-old children played a Stag Hunt coordination game in which they needed to decide whether to cooperate or play individually. During the decision-making phase, children’s partner made either ostensive, communicative eye contact or looked non-communicatively at them. In Study 1 we found that communicative looks produced an expectation of collaboration in children. In Study 2 we found that children in the communicative look condition normatively protested when their partner did not cooperate, thus showing an understanding of the communicative looks as a commitment to cooperate. This is the first experimental evidence, in adults or children, that in the right context, communicative, but not non-communicative, looks can signal a commitment.

1. Introduction

Successful cooperation enables individuals to achieve greater goals than would be possible on their own. However, entering into cooperative interactions carries risks. The classic example is that if many people participate in a public demonstration, they can create change, but if only a few people participate, their effort may be wasted and they may be put in danger. As a potential demonstrator, before one takes the risk of showing up to participate, one needs to judge whether others will participate too. To reduce uncertainty about others’ behavior in cooperative interactions, communication and commitments are particularly useful tools (Michael & Pacherie, 2015). It has been shown that exchanging verbal commitments substantially increases successful cooperation in social dilemmas among adults (for a meta-analysis, see Sally, 1995).

Typically, commitments arise verbally through speech acts of promising or making agreements. For example, Peter can commit himself to washing the dishes after dinner by promising his wife he will do so. He then has an obligation to wash the dishes and his wife has the right to protest if he does not. Although different definitions of commitments exist, most involve this general formulation: If one social partner intentionally communicates to another that he intends to do X, and the

other acknowledges this, then they have common knowledge about this interaction, and the first partner is committed to do X (e.g., Austin, 1975; Searle, 1969; Scanlon, 1998).

There is considerable debate among philosophers about how one key type of commitments, promises, function. The main point of contention is the explanation of how promissory obligations come into existence. Conventionalist theories argue that promising is a social practice involving convention, and that only certain verbal statements (e.g., “I promise to do X” or “I will do X”) or conventional acts (e.g., nodding) under the right circumstances will create promissory obligations (Hume, 1739–1740/1969; Kolodny & Wallace, 2003; Rawls, 1955; Searle, 1969). In contrast, most contemporary accounts reject the idea that the core of promises is rooted in social convention (Gilbert, 2004; Owens, 2006; Scanlon, 1998; Shiffrin, 2008). For example, Scanlon (1998) argues that whenever one individual intentionally leads another to expect that he will do X (and knows that the other wants to be assured of X), he is committed to do X, as the general moral principle not to mislead others is in place. Similarly, MacCormick (MacCormick & Raz, 1972) has stressed the role of reliance: If one individual has intentionally induced another to rely on him, then he is committed to follow through. This is especially evident when the other individual takes detrimental action for herself based on her expectations of the

* Corresponding author at: Department of Psychology, University of Warwick, Coventry CV4 7AL, UK.
E-mail address: barbora.siposova@warwick.ac.uk (B. Siposova).

first individual's behavior. Somewhat differently, in a discussion of joint commitments, Gilbert (1990, 2004, 2014) claims that promissory obligations are not necessarily moral obligations, but are *sui generis* form of normativity. In her view, commitments do not need to be construed verbally; they are created by each individual expressing readiness to be jointly committed under conditions of common knowledge.

Therefore, although perhaps the easiest way to create promissory obligations is to state, "I promise to X," these latter accounts suggest that commitments and promises could arise even without any words at all. It has been suggested that it would be useful to move away from the binary distinction between full-fledged verbal, explicit promises vs. not promises, and elucidate the full spectrum of promissory obligations (Shiffrin, 2008). Part of the debate is about what type of communication of an intention to bind oneself to do X is necessary to form promissory obligations (Gilbert, 2014; Owens, 2006; Scanlon, 1998; Shiffrin, 2008). To inform the theory in this area, we investigated empirically whether it is possible to commit oneself nonverbally, as long as intentional communication is involved (Raz, 1977).

To our knowledge, these ideas have never been tested empirically. We hypothesized that a communicative look is an especially good candidate for a minimal, nonverbal signal that might be powerful enough not only to promote expectations of cooperation, but also to create a commitment. This type of eye contact is ostensive (Sperber & Wilson, 1986), bidirectional, public, and enables one to communicate a message under conditions of common knowledge (Carpenter & Liebal, 2011), as long as the common ground is strong enough (Tomasello, 2008). Thus, within the context of a cooperative coordination problem, here we test whether communicative, versus non-communicative, eye contact can signal a commitment to cooperate.

We designed a game based on the Stag Hunt dilemma, an ideal model for studying social dilemmas in mutualistic contexts (Rousseau, 1754/1984; Skyrms, 2004). In the Stag Hunt parable, two hunters decide either to each hunt a hare (a certain but small prize) individually or to hunt a stag (a risky but big prize) together, if it is available. However, if just one partner decides to cooperate and hunt the stag and the other decides to hunt a hare (e.g., because he does not know the stag is available), the cooperating partner loses the chance to get anything. Thus, successful cooperation in this context faces two main challenges: First, to reduce uncertainty about the partner's knowledge (here, about the presence of the stag), and second, to reduce uncertainty about the partner's behavior (whether he will cooperate).

The first challenge is epistemological. It is not enough if each social partner knows individually that the cooperative option is available. Instead, successful coordination is facilitated by common knowledge (Chwe, 2001; Clark, 1996), that is, each partner needs to know that the other knows about the cooperative option, that the other knows he knows, etc., *ad infinitum* (e.g., Lewis, 1969). However, as the processing demands for even just a few levels of such recursive reasoning are high, it is likely that we use simpler shortcuts such as communication for creating common knowledge (Clark, 1996). It has been shown that adults (Brosnan, Wilson, & Beran, 2012) and 4-year-old children (Duguid, Wyman, Bullinger, Herfurth-Majstorovic, & Tomasello, 2014) spontaneously use verbal communication to achieve common knowledge and solve the Stag Hunt dilemma successfully. Some authors have proposed that common knowledge can be created by nonverbal signals like eye contact (Carpenter & Liebal, 2011; Chwe, 2001; Gómez, 1996; Thomas, DeScioli, Haque, & Pinker, 2014); however, empirical evidence for this in children or adults is scarce. We are aware of only one such study: Wyman, Rakoczy, and Tomasello (2013) studied the ability of a communicative look with a smile to create common knowledge about the presence of the cooperative option in a Stag Hunt game. In this study, 4-year-old children were discouraged from communicating verbally while playing this game with an experimenter. In the control condition, when the cooperative option appeared, the experimenter monitored it – it was clear that she saw it – but she did not look at

children, whereas in the experimental condition, she alternated gaze ostensibly between the cooperative option and children's eyes while smiling. More children decided to cooperate in the experimental than the control condition, suggesting that this minimal nonverbal behavior established common knowledge about the availability of the cooperative option.

Wyman et al. (2013) thus provide the first hint that nonverbal signals can serve to create common knowledge in a collaborative decision-making situation. However, many open questions remain about what exactly caused children to behave differently in the two conditions of that study. For example, did the eye contact alone generate common knowledge or was it the communication inherent in the look and/or smile? It has been argued that one cannot truly share attention to something, or know something together with one's partner, without some form of communication – even if just a communicative look (Carpenter & Liebal, 2011; Sipošova & Carpenter, *in prep.*). Thus in the current studies, our first aim was to test the hypothesis that communicative looks (but not non-communicative looks) help establish common knowledge about the cooperative option, and therefore lead children to expect cooperation from their partner and thus to decide to risk cooperation.

The second challenge for cooperation is to reduce uncertainty about one's partner's behavior, and it has been suggested that commitments and promises are a key way of stabilizing cooperative behavior (Michael & Pacherie, 2015). Children begin to engage in collaborative activities with complementary roles and joint goals around two years of age (Brownell, 2011), but a basic understanding of commitments and at least some of the resulting obligations develops somewhat later, by the age of three – not coincidentally, at around the same age that children begin to show an understanding of social norms regarding moral transgressions (e.g., Smetana & Braeges, 1990; Vaish, Missana, & Tomasello, 2011), fairness (Smith, Blake, & Harris, 2013), and simple game rules (Rakoczy, Warneken, & Tomasello, 2008). For example, after verbally making a joint commitment to cooperate, 3-year-olds understand some of the obligations that both they and their partner have to keep playing (Gräfenhain, Behne, Carpenter, & Tomasello, 2009) and protest when their partner intentionally defects (Kachel, Svetlova, & Tomasello, 2017). Preschoolers also understand promissory obligations: They tend to keep their own promises and refer to the promise that was made when their partners do not keep their promises (Heyman, Fu, Lin, Qian, & Lee, 2015; Kanngiesser, Köymen, & Tomasello, 2017). To our knowledge, all studies with children and adults investigating commitments focus on commitments made verbally. Therefore, our second aim was to investigate whether young children can understand even minimal nonverbal communicative signals as commitments to cooperate.

2. Study 1

In Study 1 we investigated to what extent a communicative, versus a non-communicative, look can produce an expectation of collaboration. While playing a novel version of the Stag Hunt game, 5-year-old children needed to decide whether to risk cooperating or take the safe option and play individually. At the critical moment, children saw that the cooperative option was available, but – unlike in the Wyman et al. (2013) study – they were not sure if the experimenter could see it as well. Thus, children were not able to assume common knowledge about the presence of the cooperative option. Immediately before children needed to make their decision, depending on the condition, the experimenter silently made either communicative or non-communicative eye contact with them. We predicted that only communicative looks would establish common knowledge and promote cooperative decisions. We also investigated whether the communicative look could be seen by children as a commitment on the experimenter's part to collaborate. To do this, in both conditions the experimenter ended up playing for the individual option, and we gave children the chance to

Download English Version:

<https://daneshyari.com/en/article/7285181>

Download Persian Version:

<https://daneshyari.com/article/7285181>

[Daneshyari.com](https://daneshyari.com)