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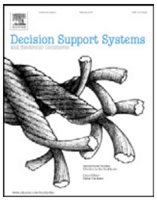

The influence of influence: The effect of task repetition on persuaders and persuadees[☆]

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ABSTRACT

We investigate how the experience of influencing and of being influenced impacts on a subsequent, immediate attempt to influence and be influenced. We conduct an experiment using participant dyads matched in a round-robin design which systematically measures the influence one individual has on another in a decision task using a short, anonymous, computer mediated, text based exchange. Findings show that being influenced in a round of the task tends to be positively related to being influenced in the subsequent two rounds with the effect weakening each time. We find no impact on the ability to influence.

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1. Introduction

The topic of social influence in online contexts is an important and current one for decision support systems [7,34,47,49,51] yet many questions remain unanswered. The volume of messages, news and sponsored content that social media users consume is such that they likely receive multiple attempts to influence them every time they interact with their network. The impact of repeated attempts to influence is not fully understood. The following illustrates our study. Someone is persuaded to behave in a certain way. If another person immediately tries to influence them again, does the fact that they have already been persuaded mean that they will be more likely to be persuaded the second time, or less? Or will there be no difference? What about the person doing the persuading: will they be more likely to influence someone if they have successfully persuaded already?

Society is increasingly using the digitised opinions of others to help make decisions [35] and users of social media are constantly being bombarded by messages from organisations and individuals actively trying to influence them. Sponsored content (where an organisation pays a social media company to display an advert on a user's feed) is an obvious example but it is not the only one. Companies are increasingly using social media to communicate one-to-one with consumers in ways which affect consumer decision making [48]. Messages from acquaintances are important too. Knowing what friends think of a product or service plays a huge part in the adoption decision [40] and even product reviews from complete strangers on sites such as Amazon or eBay are known to affect an individual's purchase decision [14,36,39,50]. Organisations understand this and are investing in social media [42]. Both Twitter and Facebook appear to be pinning their future on the ability of their users to influence each other by expanding their advertising efforts [11]. Examples also abound outside commerce. Social media played a large role in influencing young people in the UK to riot during the summer of 2011 [2] and in influencing the Arab Spring uprisings [13,45].

We therefore investigate how ability to influence and susceptibility to influence vary in a repeated task. We study persuasion, where a persuader attempts to produce cognitive engagement in a persuadee leading to behavioural change. To do this we conduct an experiment which systematically measures the influence one person has on another in an incentivised decision task where the influence takes place through a short, anonymous, computer mediated, text based exchange. Matching of participant dyads in the task follows a round-robin design such that each persuader tries once to influence each persuadee. The design allows us to isolate and identify how a participant's ability or susceptibility to influence varies across rounds.

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2. Theory

There is a long literature which examines the impact of message repetition on persuasion [3,30,33,38]. Broadly, the findings show that repetition of a message strengthens positive attitudes toward it up to a point after which tedium flatlines the effect. For instance Cacioppo and Petty [4] compare listening to a message once versus three times and measure how favourably students rate its arguments. This tests mere exposure to a message and findings show that more favourable attitudes are fostered by repetition of strong arguments, whereas less favourable attitudes are fostered by repetition of weak arguments. This has been applied in, for example, television advertising where an advert is repeated to audiences for a time, then is replaced with a fresh one featuring the same characters and message. The message is held constant but the advert itself does not get boring.

Our work is related to this literature yet distinct in that instead of repeating a set message we repeat a situation, a situation where an individual tries to persuade another. This is different because in each encounter, a persuader will use their own personal influencing strategy which may rely on charm, rational argument and even lies.

2.1. Persuadee effects

In terms of a person being persuaded, theory predicts that being influenced in Round R_i of our task will have an impact on being influenced in Round R_{i+1}. Excitation transfer theory [52] states that the arousal caused by a communication may last beyond the processing of that communication and impact on subsequent behaviour. This is because arousal in the nervous system decays slowly [53] allowing excitement from a stimulus to intensify a later emotional state. As our task is incentivised (which is to say it involves participants investing real money) any arousal will be greater than if the task was being played 'just for fun' [27,46]. Therefore during the decay of arousal from Round R_i, an individual exposed to the provoking situation of Round R_{i+1} may misattribute the residual excitement of R_i to R_{i+1} and their behaviour will alter accordingly [32]. The original formation of excitation transfer theory deals explicitly with computer mediated communication but the theory has been applied in other contexts including romantic attraction [19], morality [6], physical exercise [53] and advertising [43].

In addition to excitation transfer, theory on cognitive dissonance also predicts that in order to avoid the mental stress of acting inconsistently, individuals in Round R_{i+1} will tend to act consistently with their decision in Round R_i [17,22]. Both theories allow us to hypothesise a positive relationship between influence in Round R_i with influence in Round R_{i+1}:

H1. How much an individual is influenced in a particular round will be positively related to how much they were influenced in previous rounds.

2.2. Persuader effects

In terms of the person doing the influencing, in hypothesising the relationship between attempting to influence once and attempting to influence again, we note that humans learn from experience: The old saying that practice makes perfect is true. For example, previous research on social influence has identified approaches that sellers can use to influence prospective buyers [16,31] and how leaders influence their employees [12] (see Cialdini and Goldstein [8] for a review). In this literature there is an emphasis on being able to learn from mistakes [21,23]. The implication is that regardless of an influencer's performance in attempting to influence in Round R_i, they may learn something that will help them in Round R_{i+1}. Alternatively it is possible that bad habits (which is this context means poor influencing strategies) are developed. Therefore we do not expect to see a relationship between attempting to influence and attempting to influence again.

H2. How much an individual is able to influence in a particular round will be unrelated to how much they were able to influence in previous rounds.

2.3. Measuring influence

Previous research in the area of decision support and online influence has measured influence indirectly. For instance Li and Shiu [29] use degree centrality to evaluate users' influence in a social network, which is to say, they count how many people an individual links with and use that count as a proxy for influence. In another example Li and Du [28] examine opinion leaders, again identifying them in part by how many people they link to. They verify this using an analysis of sentiment, examining how far a negative opinion from an opinion leader spreads through a network, although with no baseline measure of the receiving users' initial opinions. This approach of using network centrality stems largely from Kiss and Bichler [25] who examine a range of centrality measures to determine which users are best placed to measure spread of influence, although doing this has been questioned by Watts [44]. Alternatively Monteserin and Amandi [34] analyse influence using an agent based model, identifying the most influential nodes in a network using historical data.

We take a very different approach to measuring influence. By designing a decision task—which is described next—we quantify the influence one person has made on another, calibrating this with a baseline measure of behaviour prior to the influencing attempt. This is a key novel aspect of our work.

3. Decision task

The decision task involved participants looking at a series of image pairs, answering a question about each, and then deciding how much of an endowment to invest in their answer. Incentives were set such that a person confident in their answer would invest more. Three types of images were used. In the first, participants were shown two monochrome pictures and asked which of the two contained more black than white. In the second, participants were shown two locations and asked which of them was in a particular country. Lastly, participants were shown two pictures taken from the website 'RateMyFace.com' and asked which of the two was rated the highest by users of the site.[1] Each of these questions has an objective right/wrong answer. Examples are shown in Fig. 1.

The decision task was made up of three sub-tasks A, B and C, with each participant assigned throughout to one of two roles, sender or receiver. In Task A, an accustomisation task, all participants were independently shown an image pair and asked one question about it. Then they decided how much v of a 100 token endowment to invest in their answer, where $0 \le v \le 100$. The payoff r was calculated to be:

$$r_1 = \begin{cases} 100 + \frac{v}{2} & \text{if correct} \\ 100 - v & \text{if incorrect} \end{cases}$$

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[1] RateMyFace allows users to upload pictures of people and rate the pictures others have uploaded according to how beautiful they think they are, using a scale from 1–10.

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