**The Impact of Extinction on Evaluative Learning via Intersecting Regularities.**

Intersecting Regularities is a new route for changing liking. In a typical IR procedure, individuals perform a task in which they learn that valenced and neutral stimuli are related to each other via one (or more) elements in operant contingencies that intersecting with one another. For instance, a first operant contingency might consist in pressing a red button (R1) in the presence of a positively valenced stimulus (S1) that leads to the presentation of a neutral outcome (O1). Then in a second contingency, pressing a yellow button (R2) when a neutral stimulus is present (S2) leads to the exact same outcome (O1). Participants may evaluate neutral stimulus (S2) more positively than they used to do due to the fact that the two operant contingencies intersect each other in terms of a common outcome (i.e., positive stimulus (S1)🡪 red button (R1) 🡪 neutral stimulus (O1); Neutral stimulus (S2) 🡪 yellow button (R2) 🡪 neutral stimulus (O1)). The effectiveness of evaluative learning via IR has been demonstrated on both implicit and explicit attitudes (Hughes, De Houwer & Perugini, 2016). So far IR studies have only focused on evaluative transfer. However, an important aspect of (evaluative) learning is how to change preferences once they’ve been acquired. In Evaluative Conditioning (EC), one way of altering evaluative responses is via *extinction*. The aim of the present contribution is to investigate whether extinction can also change recently formed evaluative responses in an IR context.

**IR and Extinction**

In EC, extinction refers to an experimental procedure containing two sequential phases. In the first phase (acquisition), the individual is exposed to a contingency between two stimuli - a conditioned stimulus (CS) and an unconditioned stimulus (US). The second phase (extinction) consists of the mere presentation of the CS, without contingent presentation of the US. Previous work indicates that, compared to Pavlovian conditioning, EC is less susceptible to extinction (e.g., Baeyens, Crombez, Van den Bergh, & Eelen, 1988; Díaz, Ruiz, & Baeyens, 2005; Dwyer, Jarrat, & Dick, 2007; Vansteenwegen, Francken, Vervliet, De Clercq, & Eelen, 2006; Gawronski, Gast, & De Houwer, 2015). We explore if changes in liking also decrease in magnitude once the intersection between regularities is put into extinction. In Studies 1-3 we attempted to achieve this outcome with varying levels of success (see https://osf.io/nkr9g/). In Study 4 will attempt to extinguish IR effects via repeatedly presenting stimuli in isolation from one another (i.e., stimulus presentations in non-response contingent ways). Doing so may signal to the participants that the previous intersection between regularities no longer holds – and as such – that the valence of one stimulus in those intersecting regularities should no longer be transferred to other stimuli in those regularities.

**Extinction via repeated stimulus presentations**

**Study 4**

Another way to extinguish the aforementioned intersection between operant contingencies would be to present stimuli in isolation from one another (i.e., as is often the case in classical conditioning and operant conditioning). For instance, imagine that during Phase 1 participants first learn (Positive Stimulus (S1) 🡪 R1 🡪 Neutral Outcome (**O1)**; Neutral Target (T1) 🡪 R2 🡪 Neutral Outcome (**O1**). Similarly, they learn that (Negative Source (S2) 🡪 R3 🡪 Neutral Outcome (**O2)**; Neutral Target (T2) 🡪 R4 🡪 Neutral Outcome (**O2**). We would expect O1 and T1 to be positively valenced and O2 and T2 to be negatively valenced after this phase.

Now imagine that in phase 2 we extinguish the intersection by presenting stimuli in isolation from one another (i.e., in a non-response contingent manner). In the case we would expect liking for O1, O2, T1 and T2 to diminish in magnitude after Phase 2.

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| **ACQUISITION** | | | **EXINCTION** | |
| **STIMULUS** | **RESPONSE** | **OUTCOME** | **STIMULUS** |  |
| Positive source (S1) | Press D (R1) | **Neutral outcome (O1)** | Neutral outcome (O1) |
| Neutral target (T1) | Press C (R2) | **Neutral outcome (O1)** | Neutral target (T1) |
| Negative source (S2) | Press J (R3) | **Neutral outcome (O2)** | Neutral outcome (O2) |
| Neutral target (T2) | Press N (R4) | **Neutral outcome (O2)** | Neutral target (T2) |