

Research Report

# Matching effects on eating: Do individual differences make a difference?

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## Abstract

Dyads composed of unacquainted females watched a video while snacking on pizza. Their extraversion and self-monitoring scores were used to predict the extent to which individuals within dyads matched each other's food intake. Matching of intake was high irrespective of the personality composition of the dyad. We consider elements of the situation that enhanced matching and whether personality might moderate matching effects.

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People tend to eat as much (or as little) as do those with whom they eat. This *modeling* or *matching* effect has been demonstrated repeatedly in studies employing experimental confederates instructed to eat a lot or a little (see Herman, Roth, & Polivy, 2003, for a review). The existence of this effect has never been in doubt; indeed, the studies that have been conducted take the matching effect for granted and go on to explore moderating or limiting conditions of the effect. Some have attempted to show that the effect is stronger in the obese than in normal-weight eaters (e.g. Rosenthal & McSweeney, 1979), or that it is stronger in dieters than in nondieters (e.g. Rosenthal & Marx, 1979). All attempts to demonstrate individual differences in the extent of matching have failed, in each case because matching has been strong in all groups tested.

Before we enshrine the notion that matching effects are impervious to individual differences, we should consider some plausible moderators from the domain of personality. Peterson, Morey, and Higgins (2005), for instance, found that matching of alcohol intake was stronger among extraverts than among introverts, presumably because extraverts have a more 'outward' orientation, rendering them more attentive to (and influenced by) others. By the same token, high self-monitors (Snyder, 1974; Snyder & Gangestad, 1986) are allegedly more attentive to social cues and eager to accommodate themselves to others.

In the present study, we examined matching of food intake in dyads, with a special focus on differential matching by extraverts or high self-monitors. Given that matching effects are generally strong, perhaps we might observe weaker effects among introverts or low self-monitors.

## Method

Participants were 122 female students (age range = 18–48 years;  $M = 21.17$  years) at the University of Toronto. Care was taken during recruitment to ensure that members of a given dyad did not know each other in advance. Participants were told not to eat for 3 h before the experiment because they might be given an opportunity to eat during the experiment.

Participants were told that the study involved watching a video and completing some questionnaires, and that they would each be given a snack during the video presentation in order to make them feel more comfortable and relaxed. The experimenter cut heated cheese mini-pizzas into six equal 16 gm pieces, brought each participant a plate of 20 pizza pieces, and started the video. A lamp with a 100-watt light bulb illuminated part of the experimental room during the video presentation, ensuring that participants could easily see each other's plate. Participants were told that the reason for using a lamp was to create a more natural setting, when in fact it highlighted the two plates while the rest of the room was in relative darkness. The two participants were seated on the same side of a small table, facing the video

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monitor, but with their chairs angled so that they had a clear view of each other's plate.

The eight-minute video was a satire on racial bias among police officers, selected so as to promote discussion. Immediately after the video presentation, participants privately rated it on various dimensions, engaged in a discussion, and re-rated the video. The pizza was available for consumption during the video presentation and until the end of the discussion period. Finally, participants completed a battery of questionnaires, including the Self-Monitoring Scale (Snyder, 1974) and the NEO-FFI (Costa & McCrae, 1992), which includes a measure of introversion/extraversion.

During the debriefing procedure, individuals in three dyads indicated suspicion of the true purpose of the experiment. These dyads were eliminated from statistical analyses. Two other dyads were eliminated because one participant in the dyad reported an aversion to pizza. Elimination of these five dyads left a total of 56 dyads.

## Results and discussion

The overall degree of intake matching was high: the intradyadic correlation of intake of pizza pieces was .64 ( $df=54$ ,  $p<.001$ ). To examine the moderating effect of extraversion, we split the sample at the median for extraversion. According to the logic of the analysis, a dyad containing an extravert should display greater matching than a dyad without an extravert, since only one extravert is required to initiate matching. The matching coefficient for dyads containing at least one extravert ( $n=42$ ) was .65 ( $df=40$ ,  $p<.001$ ); for dyads containing only introverts ( $n=14$ ), the correlation was .60 ( $df=12$ ,  $p<.03$ ). The difference between these two coefficients was far from significant ( $z=0.24$ ).

A parallel analysis substituting self-monitoring for extraversion yielded similar results. The intake correlation for dyads including high self-monitors ( $n=41$ ) was .63 ( $df=39$ ,  $p<.001$ ) and the intake correlation for dyads including only low self-monitors ( $n=15$ ) was .77 ( $df=13$ ,  $p<.002$ ); again, these correlation coefficients did not differ significantly ( $z=0.85$ ), and were not even in the predicted direction.

Further analyses attempted to find evidence of moderation by (a) restricting dyads to those containing only extraverts (or high self-monitors) versus those containing only introverts (or low self-monitors), and (b) examining the extraversion (or self-monitoring) composition of dyads that displaying perfect matching of intake. In no case did evidence emerge that either personality variable moderated the generally strong matching effect.

We conclude that the matching effect obtains regardless of personality. Of course, some as-yet-unexamined individual difference variable might be shown to moderate the effect; but for now, we remain struck by the generality of the effect. Two situational factors might have enhanced the matching effect in this study: first, the eating situation was 'undefined' (i.e. there was no obviously appropriate amount to eat), so people may have been forced to rely on each other's intake as a basis for deciding how much to eat. Secondly, the participants were strangers to each other, and were perhaps especially concerned about making a good impression, perhaps by matching behavior. Different circumstances might attenuate the matching effect, but to date it appears to be strong and ubiquitous.

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