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Mimicry and Prosocial Behavior in Children with Autism Spectrum Disorder: Preliminary Evidence from a Small-Scale Experiment

Abstract: Mimicry is a key mechanism of social interaction that promotes affiliation and prosocial behavior. In autism spectrum disorder (ASD), however, evidence is mixed: basic imitation abilities often appear intact, but their regulation by social cues and context may be altered. This study tested whether children with ASD show prosocial behaviors after being mimicked. Thirty children with ASD (ages 6–9) were randomly assigned to a mimicry or no-mimicry condition during interaction. Prosocial behavior was measured using a pen-dropping task. Mimicked children were more likely to help and picked up more pens, although wide confidence intervals render the true size of the effect uncertain. These findings provide preliminary evidence that mimicry may foster low-cost helping in ASD, though replication with larger, better characterized samples is essential.

Keywords: *nonverbal mimicry, prosocial behavior, children, autism spectrum disorder*

Mimicry is a fundamental mechanism of social interaction (Dijksterhuis, 2005; Lakin et al., 2003). Subtly mimicking other person's behavior has been shown to facilitate smoother communication and strengthen social bonds, as mimicked individuals tend to evaluate mimickers more positively (Chartrand & Van Baaren, 2009) and act more prosocially toward them (Van Baaren et al., 2004). While these effects are well established in neurotypical populations, it is less clear how mimicry operates in autism spectrum disorder (ASD). Building on this background, the present study preliminarily tested whether children with ASD also display prosocial outcomes after being mimicked.

MIMICRY AS A SOCIAL MECHANISM

Mimicry has been shown to enhance emotion perception. For example, when participants were prevented from engaging in spontaneous mimicry by chewing gum or biting a pen, their accuracy in recognizing facial expressions was reduced (Oberman et al., 2007). Similarly, when participants were asked to clench their teeth—thus limiting natural mimicry—their ability to identify facial expressions decreased (Stel & Van Knippenberg, 2008). Impairing facial feedback through Botox injections also reduced accuracy in emotion perception (Neal & Chartrand, 2011).

Chartrand and Bargh (1999) further demonstrated that mimicry increases liking and the smoothness of social interactions. Participants whose gestures were mimicked by a confederate reported greater rapport, whereas the absence of mimicry evoked feelings of coldness. Conversely, in task-oriented contexts, mimicry sometimes reduced positive evaluations (Leander et al., 2012).

Mimicry effects can also generalize beyond dyads. For instance, religious group members perceived mimicking outgroup members as more honest, friendly, and modest (Zgliniecka & Kulesza, 2014). Similarly, non-Black students instructed to imitate a Black partner showed reduced bias toward the outgroup (Inzlicht et al., 2012). Mimicry has also been shown to foster perceptions of fairness (Stel et al., 2013) and more prosocial political attitudes (Stel & Harinck, 2011).

Further research has shown that mimicry enhances affiliation. For example, participants with an affiliation goal imitated their partners to a greater extent than those without such a goal (Lakin & Chartrand, 2003). In another study, participants who were instructed to imitate their partners during a discussion reported greater closeness (Stel & Vonk, 2010). Mimicry has also been linked to better therapeutic relationships: clinicians who mimicked participants felt that consultations went more smoothly, and therapeutic alliance improved as a result (Yokotani et al., 2019; Zhou & Fischer, 2018).

Mimicry also promotes prosocial behavior. In a seminal study, Van Baaren et al. (2004) showed that participants who were mimicked were more likely to help by picking up dropped pens and donate to a charitable cause. Importantly, this prosocial effect generalized: mimicked participants helped not only the mimicker but also unrelated others.

In negotiation contexts, mimicry has been shown to promote cooperation and trust. Swaab et al. (2011) found that applicants who mimicked recruiters achieved higher negotiation outcomes, particularly when mimicry occurred early in the interaction. Maddux et al. (2008) reported that mimicry led to higher gains for both negotiators, mediated by increased trust. Verbal mimicry also fosters rapport and liking (Muir et al., 2020) and encourages greater disclosure in personal conversations (Novotny et al., 2021). These findings highlight the wide-ranging social consequences of mimicry. However, mimicry does not occur uniformly across all situations or individuals.

When Mimicry Is Reduced

Mimicry does not always occur automatically. For example, people in committed romantic relationships tend to refrain from mimicking attractive strangers, a phenomenon referred to as "relationship shielding" (Farley, 2014; Karremans & Verwijmeren, 2008). Certain emotions also inhibit mimicry: pride, which signals social distance, and sadness both attenuate mimicry (Dickens & DeSteno, 2014). Finally, stress has been shown to decrease facial mimicry (Nitschke et al., 2020). These observations suggest that mimicry is sensitive to social modulation, which makes autism spectrum disorder a particularly relevant context for investigation.

Mimicry in Autism Spectrum Disorder

Evidence on mimicry in ASD is mixed. Some studies suggest that children with ASD mimic less frequently, both spontaneously and when instructed (McAuliffe et al., 2019; Tunçgenç et al., 2021; Rogers & Pennington, 1991). When they do mimic, it may occur with a temporal delay (Oberman et al., 2009) and to a smaller extent overall (Marsh et al., 2013; Senju et al., 2007). Moreover, mimicry in children with ASD does not always enhance liking or closeness, unlike in neurotypical populations (Tunçgenç et al., 2023).

At the same time, other studies have reported intact or even exaggerated responses (Genschow & Cracco, 2025; Helt et al., 2020). A meta-analysis found no systematic link between autism and automatic imitation, suggesting that the basic mechanism of imitation is largely preserved (Cracco et al., 2018). Several studies also reported no differences between autistic and non-autistic groups (Gowen et al., 2008; Press et al., 2010; Sowden et al., 2015). Current reviews conclude that while the fundamental imitative mechanism appears intact, its modulation by social cues and context may be reduced in ASD (Genschow & Cracco, 2025). This means that the issue is not imitation itself, but how intact imitative mechanisms are socially regulated. Given these mixed results, an important question is whether mimicry in ASD still carries social consequences, such as increasing prosocial behavior.

Prosocial Behavior in Autism Spectrum Disorder

Prosocial behavior in ASD is also variable and seems to depend on the type and cost of helping. For example, children with ASD may be less likely to engage in costly forms of helping, while showing more typical responses in low-cost situations (Dunfield et al., 2019). Overall, this suggests that the main challenge in ASD may not lie in the ability to imitate, but rather in how imitation translates into social outcomes such as helping. In the present study, we tested whether children with ASD show the typical prosocial outcomes of being mimicked, specifically whether mimicry would increase their willingness to help.

EXPERIMENT

Method

Participants and Design

The sample size was determined by feasibility. We recruited as many participants as possible, resulting in 30 children (5 girls, 25 boys) aged 6–9 years, all attending grades 1–3. Participants were drawn from a mainstream public primary school in an urban area. All had a formal diagnosis of autism spectrum disorder (ASD). Additional clinical data (e.g., intellectual functioning, comorbidities, therapy attendance) were not available. No participants were excluded from the analyses. A sensitivity power analysis conducted using G*Power 3.1.9.2 (Faul et al., 2007) indicated that with a sample size of 30, the smallest detectable effect size at 80% power ($\alpha = .05$) would be Cohen's $d = 1.06$ ($r_{biserial} = .47$) for an ordinal dependent variable and Cohen's $\omega = .51$ ($OR = 2.92$) for a dichotomous dependent variable. This means that our study had sufficient power to detect only large effects, while medium or small effects could remain undetected.[1] The experiment employed a single-factor, between-subjects design with two conditions: nonverbal mimicrv and no mimicrv.

[1] We also conducted a sensitivity power analysis with 95% power using G*Power 3.1.9.2 (Faul et al., 2007). With a sample size of 30, the smallest detectable effect size at 95% power ($\alpha = .05$) was Cohen's $d = 1.36$ for the continuous dependent variable and Cohen's $\omega = 0.66$ for the dichotomous dependent variable. This further confirms that the study was sufficiently powered only to detect very large effects, while medium or small effects could remain undetected.

Procedure and Materials

Consent to participate was obtained from the school principal, class teacher, parents, and the children themselves before data collection. The study was conducted in a quiet, child-friendly room designed to minimize distractions and ensure comfort. Efforts were made to help all children feel safe, respected, and engaged. Each session lasted about 10–15 minutes and was conducted individually. The experimenter, a psychology student in her early twenties unfamiliar to the children, was introduced simply as a 'research helper.' She was aware of the general aims but blind to the specific hypotheses, and she began each session with a brief rapport-building conversation to establish trust and comfort. Participants were then randomly assigned to one of the two experimental conditions. The children engaged in several simple, age-appropriate tasks: manipulating plasticine, identifying differences between two pictures, and completing a worksheet adjusted for difficulty to balance engagement and challenge. These tasks created opportunities for natural interaction and allowed for the manipulation of nonverbal mimicry.

Mimicry condition: The experimenter subtly mimic the child's actions and emotional expressions throughout the session. This included body postures, hand movements, and emotional displays such as joy or frustration. Mimicry was performed naturally and unobtrusively so that children remained unaware of the manipulation. In cases where children displayed fewer expressive behaviors, the experimenter mirrored available gestures or postures (e.g., body position, gaze).

No-mimicry condition: The experimenter maintained a neutral, non-imitative demeanor. She sat upright with her hands resting on the table and observed the child's actions without engaging in mimicry.

At the end of each session, the experimenter deliberately and "accidentally" knocked over a container holding six pens, scattering them across the floor. This task, originally developed by Macrae and Johnston (1998) and later used by Van Baaren et al. (2004), was used to operationalize instrumental helping and was coded in two ways: (1) as a binary outcome (1 = child helped, 0 = child did not help) and (2) as a continuous outcome (the number of pens picked up).

Finally, each session concluded with a child-appropriate debriefing. The experimenter thanked each child, reassured them that their actions were appreciated regardless of their response, and ensured they left the session feeling positive and valued.

Results

To test the effect of nonverbal mimicry on helping behavior, we first analyzed whether children engaged in helping (i.e., whether they picked up at least one pen) using a chi-square test. Results revealed a significant effect: children in the nonverbal mimicry condition were significantly more likely to help than those in the no-mimicry condition, $\chi^2(1, N = 30) = 4.82$, $p = .028$, $OR = 5.50$, 95% CI [1.15, 26.41]. Specifically, 73.3% of children in the mimicry condition helped, compared to 33.3% in the control condition. For a visualization, see Figure 1.

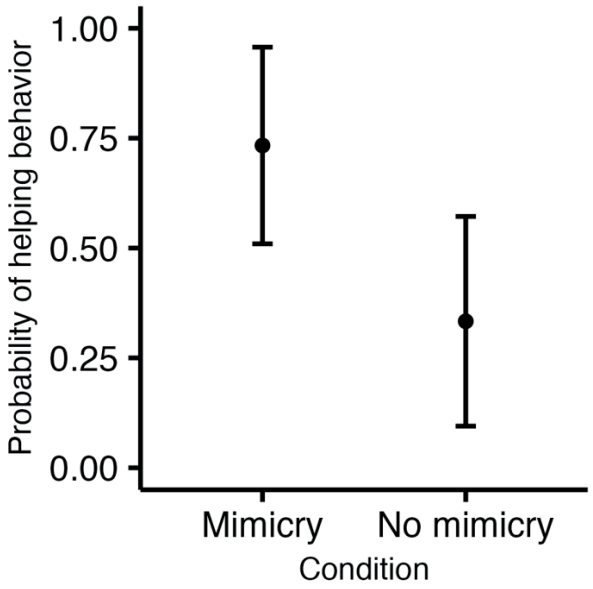

Figure 1. Probability of Helping Behavior (Picking Up Pens) as a Function of Nonverbal Mimicry

Note: Dots represent the observed probability of helping behavior in each condition, with error bars indicating the 95% confidence intervals of those probabilities.

Next, an independent-samples Mann–Whitney *U* test was conducted to compare the number of pens picked up between the mimicry and no-mimicry conditions. The analysis revealed a significant difference: children who were mimicked ($M_{rank} = 18.50$) picked up more pens than those who were not mimicked ($M_{rank} = 12.50$), $U = 67.50$, $p = .033$, $r_{biserial} = .40$, $SE = 0.21$, 95% CI [0.01, 0.69].

DISCUSSION

This study provides preliminary evidence that being mimicked increased helping in children with ASD. The effect was observed in a low-cost, instrumental helping task. Prior work indicates that the cost of prosocial behavior is an important factor in ASD (Dunfield et al., 2019), which may help to contextualize why mimicry facilitated helping in the present study. At the same time, the small sample size and wide confidence intervals mean that the current findings should be regarded as tentative and require replication. We next consider the implications and limitations of these preliminary findings.

Theoretical Implications

Mimicry usually supports affiliation and prosociality in neurotypical populations (Chartrand & Bargh, 1999; Van Baaren et al., 2004). In autism spectrum disorder, however, findings are mixed. Some studies report reduced or delayed imitation (McAuliffe et al., 2019; Oberman et al., 2009; Rogers & Pennington, 1991), while others show intact or even exaggerated responses (Genschow

& Cracco, 2025; Helt et al., 2020). A meta-analysis (Cracco et al., 2018) found no systematic link between autism and automatic imitation, suggesting that the basic mechanism of imitation is preserved. More recent reviews emphasize that differences may lie not in the capacity to imitate, but in how imitation is modulated by social cues and context (Genschow & Cracco, 2025).

Although preliminary, our findings extend this literature by suggesting that mimicry can, under some conditions, elicit prosocial helping in children with ASD. Importantly, the helping task we used reflects low-cost, instrumental prosocial behavior, which may be more accessible for children with ASD (Dunfield et al., 2019). This interpretation aligns with the view that the challenge is not the ability to imitate itself, but the translation of imitation into social outcomes. Nevertheless, given the small sample and wide confidence intervals, the current results must be viewed as preliminary and require replication with larger, more diverse samples.

Limitations

Several limitations should be acknowledged. First, the small sample size (N = 30) limits statistical power and generalizability. This also affects the precision of the effect size estimates: the confidence intervals were wide and encompassed values ranging from negligible to very large. As a result, the true magnitude and practical relevance of the observed effects remain uncertain, and the findings should be regarded as preliminary until replicated with substantially larger samples.

Second, the gender distribution was unbalanced (25 boys, 5 girls), which restricts conclusions about potential gender differences. This imbalance also reduces sample representativeness and makes it more difficult to generalize the findings to the broader population of children with ASD.

Third, the lack of a neurotypical control group makes it difficult to determine whether mimicry effects operate similarly or differently across populations. Including such a comparison group would not only strengthen the design but also provide a critical benchmark for interpreting whether mimicry effects in ASD are attenuated, distinct, or broadly like those found in neurotypical children.

Fourth, diagnostic details were limited. We did not collect detailed clinical data beyond the formal ASD diagnosis (e.g., symptom severity, functioning level, or comorbidities), nor did we gather detailed sociodemographic information (e.g., family background, socioeconomic status). This restricts the possibility of examining how individual differences within ASD might shape responsiveness to mimicry and limits the comparability of our sample with those in other studies.

Fifth, variability in children's expressiveness may have affected the amount of mimicry they received. Although the experimenter mimicked available gestures and postures, children who were less expressive naturally elicited fewer opportunities for mimicry, which may have introduced uncontrolled variability into the manipulation. This issue highlights the need for standardized mimicry protocols that reduce dependence on spontaneous child behavior.

Finally, the study relied on a single experimenter (a woman in her early twenties), which raises the possibility that experimenter-specific factors influenced the results. Future studies should employ multiple experimenters to ensure that the observed effects are not tied to individual interaction style and to increase the robustness of the findings.

Future Directions

Future research should aim to replicate these results with larger, more diverse samples, balanced gender distributions, and the inclusion of neurotypical control groups. Standardized mimicry protocols with quantified measures would reduce variability in implementation. Detailed participant characterization, including symptom profiles and comorbidities, would clarify which subgroups may be more responsive to mimicry. Using multiple experimenters could improve generalizability. Finally, expanding prosocial measures beyond instrumental helping (e.g., sharing, assisting with complex tasks, or cooperation) would provide a broader understanding of mimicry's role in ASD social functioning. It would also be valuable to examine whether mimicry by peers, rather than adults, produces similar effects, as peer interactions may carry different social meanings in everyday contexts. Together, these steps would allow more definitive tests of whether mimicry can be harnessed to support social functioning in ASD.

CONCLUSIONS

This study provides preliminary evidence that mimicry can promote low-cost helping in children with autism spectrum disorder. While the results suggest that being mimicked may elicit prosocial behavior, the small sample size and wide confidence intervals mean that the findings should be interpreted with caution. The present work adds to mixed evidence on mimicry in ASD by indicating that, under certain conditions, imitation may translate into prosocial outcomes. Replication with larger, more diverse, and better characterized samples is needed to establish the robustness and generalizability of these effects.

REFERENCES

Chartrand, T. L., & Bargh, J. A. (1999). The chameleon effect: The perception–behavior link and social interaction. *Journal of Personality and Social Psychology, 76*(6), 893–910. https://doi.org/10.1037/0022-3514.76.6.893

Chartrand, T. L., & Van Baaren, R. (2009). Human mimicry. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology,* Vol. 41, pp. 219–274. Elsevier Academic Press. https://doi.org/10.1016/S0065-2601(08)00405-X

Cracco, E., Bardi, L., Desmet, C., Genschow, O., Rigoni, D., De Coster, L., Radkova, I., Deschrijver, E., & Brass, M. (2018). Automatic imitation: A meta-analysis. *Psychological Bulletin, 144*(5), 453–500. https://doi.org/10.1037/bul0000143

Dickens, L., & DeSteno, D. (2014). Pride attenuates nonconscious mimicry. *Emotion, 14*(1), 7–11. https://doi.org/10.1037/a0035291

Dijksterhuis, A. (2005). Why we are social animals: The high road to imitation as social glue. In S. Hurley & N. Chater (Eds.), *Perspectives on Imitation: From Neuroscience to Social Science* (Vol. 2, pp. 207–220). MIT Press.

Dunfield, K. A., Best, L. J., Kelley, E. A., & Kuhlmeier, V. A. (2019). Motivating moral behavior: helping, sharing, and comforting in young children with autism spectrum disorder. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.00025

Farley, S. D. (2014). Nonverbal reactions to an attractive stranger: The role of mimicry in communicating preferred social distance. *Journal of Nonverbal Behavior, 38*(2), 195–208. https://doi.org/10.1007/s10919-014-0174-4

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175–191. https://doi.org/10.3758/BF03193146

Genschow, O., & Cracco, E. (2025). *Automatic imitation*. Springer Nature.

Gowen, E., Stanley, J., & Miall, R. (2008). Movement interference in autism-spectrum disorder. *Neuropsychologia*, *46*(4), 1060–1068. https://doi.org/10.1016/j.neuropsychologia.2007.11.004

Helt, M. S., De Marchena, A. B., Schineller, M. E., Kirk, A. I., Scheub, R. J., & Sorensen, T. M. (2020). Contagious itching is heightened in children with autism spectrum disorders. *Developmental Science, 24*(2), e13024. https://doi.org/10.1111/desc.13024

Inzlicht, M., Gutsell, J. N., & Legault, L. (2012). Mimicry reduces racial prejudice. *Journal of Experimental Social Psychology, 48*(1), 361–365. https://doi.org/10.1016/j.jesp.2011.06.007

Karremans, J. C., & Verwijmeren, J. (2008). Mimicking attractive opposite-sex others: The role of romantic relationship status. *Personality and Social Psychology Bulletin, 34*(7), 939–950. https://doi.org/10.1177/0146167208316693

Lakin, J. L., & Chartrand, T. L. (2003). Using nonconscious behavioral mimicry to create affiliation and rapport. *Psychological Science, 14*(4), 334–339. https://doi.org/10.1111/1467-9280.14481

Lakin, J. L., Jefferis, V. E., Cheng, C. M., & Chartrand, T. L. (2003). The chameleon effect as social glue: Evidence for the evolutionary significance of nonconscious mimicry. *Journal of Nonverbal Behavior*, *27*(3), 145–162. https://doi.org/10.1023/A:1025389814290

Leander, N. P., Chartrand, T. L., & Bargh, J. A. (2012). You give me the chills: Embodied reactions to inappropriate amounts of behavioral mimicry. *Psychological Science, 23*(7), 772–779. https://doi.org/10.1177/0956797611434535

Macrae, C. N., & Johnston, L. (1998). Help, I need somebody: Automatic action and inaction. *Social Cognition, 16*(4), 400–417. https://doi.org/10.1521/soco.1998.16.4.400

Maddux, W. W., Mullen, E., & Galinsky, A. D. (2008). Chameleons bake bigger pies and take bigger pieces: Strategic behavioral mimicry facilitates negotiation outcomes. *Journal of Experimental Social Psychology, 44*(2), 461–468. https://doi.org/10.1016/j.jesp.2007. 02.003

Marsh, L., Pearson, A., Ropar, D., & Hamilton, A. (2013). Children with autism do not overimitate. *Current Biology, 23*(7), R266–R268. https://doi.org/10.1016/j.cub.2013.02.036

McAuliffe, D., Zhao, Y., Pillai, A. S., Ament, K., Adamek, J., Caffo, B. S., Mostofsky, S. H., & Ewen, J. B. (2019). Learning of skilled movements via imitation in ASD. *Autism Research, 13*(5), 777–784. https://doi.org/10.1002/aur.2253

Muir, K., Joinson, A., Collins, E., Cotterill, R., & Dewdney, N. (2020). When asking "what" and "how" helps you win: Mimicry of interrogative terms facilitates successful online negotiations. *Negotiation and Conflict Management Research, 13*(2), 153–173. https://doi.org/10.1111/ncmr.12179

Neal, D. T., & Chartrand, T. L. (2011). Embodied emotion perception: Amplifying and dampening facial feedback modulates emotion perception accuracy. *Social Psychological and Personality Science, 2*(6), 673–678. https://doi.org/10.1177/1948550611406138

Nitschke, J. P., Sunahara, C. S., Carr, E. W., Winkielman, P., Pruessner, J. C., & Bartz, J. A. (2020). Stressed connections: Cortisol levels following acute psychosocial stress disrupt affiliative mimicry in humans. *Proceedings of the Royal Society B: Biological Sciences, 287*(1927), 20192941. https://doi.org/10.1098/rspb.2019.2941

Novotny, E., Frank, M. G., & Grizzard, M. (2021). A laboratory study comparing the effectiveness of verbal and nonverbal rapport-building techniques in interviews. *Communication Studies, 72*(5), 819–833. https://doi.org/10.1080/10510974.2021.1975141

Oberman, L. M., Winkielman, P., & Ramachandran, V. S. (2007). Face to face: Blocking facial mimicry can selectively impair recognition of emotional expressions. *Social Neuroscience, 2*(3-4), 167–178. https://doi.org/10.1080/17470910701391943

Oberman, L. M., Winkielman, P., & Ramachandran, V. S. (2009). Slow echo: Facial EMG evidence for the delay of spontaneous, but not voluntary, emotional mimicry in children with autism spectrum disorders. *Developmental Science, 12*(4), 510–520. https://doi.org/10.1111/j.1467-7687.2008.00796.x

Press, C., Richardson, D., & Bird, G. (2010). Intact imitation of emotional facial actions in autism spectrum conditions. *Neuropsychologia*, *48*(11), 3291–3297. https://doi.org/10.1016/j.neuropsychologia.2010.07.012

Rogers, S. J., & Pennington, B. F. (1991). A theoretical approach to the deficits in infantile autism. *Development and Psychopathology, 3*(2), 137–162. https://doi.org/10.1017/S0954579400000043

Senju, A., Maeda, M., Kikuchi, Y., Hasegawa, T., Tojo, Y., & Osanai, H. (2007). Absence of contagious yawning in children with autism spectrum disorder. *Biology Letters, 3*(6), 706–708. https://doi.org/10.1098/rsbl.2007.0337

Sowden, S., Koehne, S., Catmur, C., Dziobek, I., & Bird, G. (2015). Intact automatic imitation and typical spatial compatibility in autism spectrum disorder: Challenging the Broken Mirror Theory. *Autism Research*, *9*(2), 292–300. https://doi.org/10.1002/aur.1511

Stel, M., & Harinck, F. (2011). Being mimicked makes you a prosocial voter. *Experimental Psychology, 58*(1), 79–84. https://doi.org/10.1027/1618-3169/a000070

Stel, M., & Van Knippenberg, A. (2008). The role of facial mimicry in the recognition of affect. *Psychological Science, 19*(10), 984–985. https://doi.org/10.1111/j.1467-9280.2008.02188.x

Stel, M., & Vonk, R. (2010). Mimicry in social interaction: Benefits for mimickers, mimickees, and their interaction. *British Journal of Psychology, 101*(2), 311–323. https://doi.org/10.1348/000712609X465424

Stel, M., Van den Bos, K., Sim, S., & Rispens, S. (2013). Mimicry and just world beliefs: Mimicking makes men view the world as more personally just. *British Journal of Social Psychology, 52*(3), 397–411. https://doi.org/10.1111/j.2044-8309.2011.02084.x

Swaab, R. I., Maddux, W. W., & Sinaceur, M. (2011). Early words that work: When and how virtual linguistic mimicry facilitates negotiation outcomes. *Journal of Experimental Social Psychology, 47*(3), 616–621. https://doi.org/10.1016/j.jesp.2011.01.005

Tunçgenç, B., Koch, C., Eigsti, I., & Mostofsky, S. H. (2023). Mimicry and social affiliation with a virtual partner are decreased in autism. *Research in Autism Spectrum Disorders, 100*, 102073. https://doi.org/10.1016/j.rasd.2022.102073

Tunçgenç, B., Pacheco, C., Rochowiak, R., Nicholas, R., Rengarajan, S., Zou, E., Messenger, B., Vidal, R., & Mostofsky, S. H. (2021). Computerized assessment of motor imitation as a scalable method for distinguishing children with autism. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 6*(3), 321–328. https://doi.org/10.1016/j.bpsc.2020.09.001

Van Baaren, R. B., Holland, R. W., Kawakami, K., & Van Knippenberg, A. (2004). Mimicry and prosocial behavior. *Psychological Science, 15*(1), 71–74. https://doi.org/10.1111/j.0963-7214.2004.01501012.x

Yokotani, K., Takagi, G., & Wakashima, K. (2019). Nonverbal synchrony of facial movements and expressions predicts therapeutic alliance during a structured psychotherapeutic interview. *Journal of Nonverbal Behavior, 44*(1), 85–116. https://doi.org/10.1007/s10919-019-00319-w

Zgliniecka, A., & Kulesza, W. (2014). The chameleon effect: The stereotypes of non-believers held by religious persons. *Annals of Psychology, 17*(1), 185–197.

Zhou, Y., & Fischer, M. H. (2018). Mimicking non-verbal emotional expressions and empathy development in simulated consultations: An experimental feasibility study. *Patient Education and Counseling, 101*(2), 304–309. https://doi.org/10.1016/j.pec.2017.08.016