UNIERSYTET SWPS

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Społeczne i sytuacyjne uwarunkowania sądów społeczno-moralnych

dzieci w wieku przedszkolnym

Rozprawa doktorska

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PODZIĘKOWANIA

Przede wszystkim chciałabym podziękować mojemu promotorowi, profesorowi Bogdanowi Wojciszke, za nieocenione wsparcie i pomoc na wszystkich etapach przygotowywania mojej pracy doktorskiej. Szczególne podziękowania kieruję również do mojego promotora pomocniczego, doktora Wiesława Baryły, za cierpliwość, ogromne wsparcie merytoryczne oraz motywowanie do pozostania na obranej drodze do doktoratu.

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SPIS TREŚCI

Streszczenie w języku polskim

Badania przeprowadzone w ramach rozprawy doktorskiej dotyczyły sądów moralnych dzieci w wieku przedszkolnym i wpływu trzech czynników na te sądy: zaangażowania interesu własnego, charakteru moralnego biorcy i celu, któremu służy zachowanie pro- lub antyspołeczne. W skład rozprawy wchodzą trzy projekty badawcze. W ramach pierwszego programu badawczego przeprowadziłam cztery eksperymenty, w których uczestniczyły dzieci w wieku 4-5 lat. Badania miały na celu sprawdzenie, w jaki sposób zaangażowanie interesu własnego wpływa na ocenę niemoralnego zachowania, sympatię wobec sprawcy oraz chęć dalszej współpracy z nim. Wyniki pokazały, że dzieci oceniają niemoralne zachowanie negatywnie, ale osobista korzyść z tego zachowania zwiększa sympatię wobec sprawcy oraz chęć dalszej współpracy. Efekt ten występował tylko w kontekście bezpośredniej współpracy dziecka z niemoralnym sprawcą. W drugim z projektów, również przeprowadzonym na dzieciach przedszkolnych, sprawdzałam, w jaki sposób charakter moralny biorcy zachowania (pro- lub antyspołecznego) wpływa na ocenę tego zachowania. Wyniki pokazały, że dzieci oceniały niemoralne zachowanie wobec antyspołecznych rówieśników jako bardziej akceptowalne niż takie samo zachowanie skierowane na rówieśników, którzy zachowują się prospołecznie lub wobec przyjaciół. W trzecim z programów badawczych z udziałem dzieci w wieku 2-7 lat sprawdzałam w jakim wieku dzieci w swoich sądach moralnych zaczynają uwzględniać zarówno zachowanie (pro-, antyspołeczne) jak i cel tego zachowania. Wyniki wykazały, że dzieci do 4,5 roku życia oceniają zachowanie prospołeczne zawsze pozytywnie, a antyspołeczne negatywnie, bez względu na cel któremu to zachowanie służy. Dopiero dzieci starsze oceniają pomaganie w celu negatywnym jako złe a przeszkadzanie w celu negatywnym jako dobre. Podsumowując, wyniki przeprowadzonych przeze mnie badań wskazują, że sądy moralne dzieci w wieku przedszkolnym są zależne od kontekstu i różnych czynników, takich jak zaangażowanie interesu własnego i charakter moralny biorcy. Wyniki

te poszerzają dotychczasową wiedzę na temat rozwoju sądów społeczno-moralnych u dzieci i wskazują, że istnieje wiele czynników wpływających na te sądy.

Streszczenie w języku angielskim

The research conducted as part of my doctoral dissertation focused on the moral judgments of preschool children and the influence of three main factors on these judgments: self-interest involvement, the moral character of the recipient, and the purpose of the pro- or antisocial behavior. The dissertation comprises three research projects. In the first research program, I conducted four experiments involving 4-5-year-old children. The research aimed to examine how beneficial cooperation affects the evaluation of immoral behavior, sympathy towards the perpetrator, and willingness to cooperate with them further. The results showed that children evaluated immoral behavior negatively, but personal benefit from such behavior increased liking towards the perpetrator and willingness to cooperate further. This effect occurred only in the context of direct cooperation between the child and the immoral character. In the second project, also conducted with preschool children, I investigated how the moral character of the behavior recipient (prosocial or antisocial) influenced the evaluation of that behavior. The results revealed that children rated immoral behavior towards antisocial individuals as more acceptable than the same behavior directed towards prosocial characters. In the third research program involving children aged 2-7 years, I examined at what age children start considering both the behavior (prosocial or antisocial) and the purpose of that behavior in their moral judgments. The results revealed that children up to 4.5 years old consistently evaluated prosocial behavior positively and antisocial behavior negatively, regardless of the purpose it served. Only older children evaluated helping with a negative purpose as bad and hindering with a negative purpose as good. In summary, the findings of my research indicate that the moral judgments of preschool children are context-dependent

and influenced by various factors, such as self-interest involvement and the moral character of the recipient. These results expand our current knowledge about the development of socio-moral judgments in children and highlight the existence of multiple factors influencing these judgments.

Podsumowanie przeprowadzonych badań

Jako Homo Sapiens jesteśmy gatunkiem społecznym, zmuszonym do życia w grupie, poszukiwania partnerów do współpracy, podtrzymywania dotychczasowych relacji społecznych i nawiązywania nowych. Jako, że kontakty z innymi przedstawicielami naszego gatunku są nieodzownym elementem naszego codziennego funkcjonowania, ocena i wybór odpowiedniego partnera relacji są kluczowymi umiejętnościami. Nic więc dziwnego, że umiejętność dokonywania sądów moralnych jest jedną z najwcześniej rozwijających się u dzieci zdolności. Badania z udziałem dzieci poniżej 12 miesiąca życia wskazują, że potrafią one skutecznie rozpoznać postać pro- i antyspołeczną i wyrażają niechęć wobec bohatera, który zachował się niemoralnie wobec osoby trzeciej (Hamlin & Wynn, 2011; Hamlin et al., 2007; Margoni & Surian, 2018). Liczne badania (Cameron et al., 2010; Valdesolo & DeSteno, 2008; Leidner et al., 2010; Bocian et al., 2020; Yeung et al., 2022) ujawniają jednak, że sądy moralne nie są obiektywne i zależą od wielu czynników, tak kontekstowych jak i społecznych. I o ile w zakresie uwarunkowań sądów moralnych osób dorosłych wiadomo stosunkowo wiele, to badań pokazujących w jaki sposób uwarunkowania sądów społeczno-moralnych kształtują się w toku rozwoju jednostki jest niewiele.

W mojej rozprawie doktorskiej zamierzałam uzupełnić tę lukę, sprawdzając jakie są sytuacyjne uwarunkowania sądów moralnych dzieci w wieku przedszkolnym. W sześciu badaniach eksperymentalnych sprawdziłam jaki wpływ na sądy moralne dzieci wywierają trzy czynniki: zaangażowanie interesu własnego, charakter moralny biorcy oraz cel, któremu zachowanie pro-, antyspołeczne służy.

Projekt 1

Myslinska Szarek, K., Bocian, K., Baryla, W., & Wojciszke, B. (2021). Partner in crime: Beneficial cooperation overcomes children's aversion to antisocial others. *Developmental Science, 24(2),* e13038.

Głównym celem pierwszego programu badawczego było sprawdzenie, czy i w jaki sposób zaangażowanie interesu własnego jednostki wpływa na ocenę zachowania niemoralnego.

Wbrew normatywnemu nakazowi, że oceny moralne powinny być bezstronne co najmniej dwa podejścia teoretyczne uzasadniają oczekiwanie, że zaangażowanie interesu własnego silnie zniekształca oceny moralne. Po pierwsze *Relationship Regulation Theory* (RRT; Rai, 2020; Rai i Fiske, 2011) każe oczekiwać, że sądy moralne są ściśle zależne od rodzaju relacji, w której występują. Innymi słowy, RRT przewiduje, że ludzie używają sądów moralnych, strategicznie, aby regulować i podtrzymywać relacje społeczne. Sądy moralne zależą więc od kontekstu relacyjnego, i mogą być warunkowane potrzebą utrzymania danej relacji społecznej. Podobnie, *Dynamic Coordination Theory* (DCT; DeScioli i Kurzban, 2013) postuluje, że ludzie używają strategicznie moralnego potępienia, aby zdecydować, po której stronie konfliktu, powinni się opowiedzieć. Zgodnie z DCT sądy moralne to nic innego jak decyzje o tym po której stronie stanąć i którego z potencjalnych partnerów konfliktu poprzeć (DeScioli & Kurzban, 2013).

Z badań z udziałem osób dorosłych, wiemy, że uczestnicy którzy zyskali osobistą korzyść na niemoralnym zachowaniu innej osoby oceniały je łagodniej niż uczestnicy, którzy takiej korzyści nie mieli (Bocian & Wojciszke, 2014; Bocian et al., 2016). Ze względu na fakt, że dzieci w wieku przedszkolnym wykazują wysoki stopień egocentryzmu (Sheskin et al., 2014; Smith et al., 2013), a wysokość nagrody wpływa na ich preferencję w stosunku do postaci pro-, antyspołecznej (Tasimi & Wynn, 2016), spodziewaliśmy się uzyskania

podobnych wyników także w próbkach składających się przedszkolaków. Głównym pytaniem badawczym było więc: W jaki sposób zaangażowanie interesu własnego, wpływa na sądy moralne dzieci w wieku przedszkolnym? W projekcie testowaliśmy trzy główne hipotezy:

1) Dzieci oceniają niemoralne zachowania bohatera jako mniej niemoralne, jeśli w jego wyniku uzyskują osobistą korzyść.

2) Dzieci oceniają charakter moralny bohatera bardziej pozytywnie jeśli zyskują na jego niemoralnym zachowaniu.

3) Dzieci wyrażają większą sympatię do niemoralnej postaci, jeśli zyskały osobistą korzyść w konsekwencji jej zachowaniu.

Hipotezy te weryfikowaliśmy w czterech eksperymentach z udziałem łącznie 273 dzieci w wieku 4-5 lat. W trakcie badania dzieci brały udział w przedstawieniu z udziałem pacynek. Zadaniem uczestników zabawy było zbudowanie wieży z drewnianych klocków. Dziecko było w parze z jedną z pacynek (lwem bądź misiem), a druga z pacynek wykonywała zadanie samodzielnie. Za wykonanie zadania uczestnicy otrzymywali w nagrodę naklejki (warunek ekperymentalny) bądź nie (warunek kontrolny). W trakcie zabawy pacynka współpracująca z dzieckiem (niemoralny partner) orientowała się, że brakuje im jednego klocka do wykonania zadania, i zachowywała się w sposób niemoralny zabierając klocek z wieży drugiej pacynki (niszcząc ją). W zależności od warunku badawczego, dziecko albo zyskiwało osobistą korzyść na niemoralnym zachowaniu, albo zachowanie nie przynosiło korzyści dziecku. W Badaniu 1 ($N = 62$) korzystna współpraca z partnerem, który zachował się niemoralnie wobec osoby trzeciej nie wpłynęła bezpośrednio na oceny jego moralności. Dzieci w obu grupach (zaangażowania interesu własnego oraz kontrolnej) oceniały zachowanie niemoralne jako jednoznacznie złe. Interes własny zaowocował natomiast częstszym wybieraniem przez dzieci bohatera antyspołecznego (niż neutralnego) do dalszej współpracy oraz większą do niego sympatią ($M = 4.71$, $SD = 1.14$ vs. $M = 4.11$, $SD = 1.15$), $F(1, 60) = 18.67$, $p < .001$. W

badaniu 1b ($N = 91$) zreplikowałam ten efekt przy użyciu bardziej subtelnej miary lubienia, mierzonego za pomocą liczby przekazywanych zasobów (naklejek). W Badaniu 2 ($N = 58$) wykazałam, że wpływ zaangażowania interesu własnego na sympatię i zaufanie do sprawcy występują również w sytuacji gdy zaangażowany jest interes członka grupy własnej. Badane dzieci częściej wybierały do dalszej współpracy niemoralnego sprawcę ($n = 22$) w warunku gdy członek grupy własnej uzyskiwał korzyść z jego niemoralnego zachowania niż w warunku bez korzyści ($n = 4$), $\chi2(1, N = 58) = 22.60$, $p < .001$. W Badaniu 3 ($N = 62$), sprawdzałam, w jaki sposób zaangażowanie dziecka w bezpośrednią współpracę z niemoralnym sprawcą wpływa na uzyskane wyniki. Okazało się, że gdy uczestnik nie współpracował przy zadaniu z antyspołeczną pacynką, interes własny nie wpływał na sympatię do niego oraz wybieranie go do dalszej współpracy. Dzieci w obu grupach badawczych (z zaangażowanym interesem jak i grupie kontrolnej) wybierały postać neutralną jako przyszłego partnera współpracy.

W pierwszym z projektów w czterech badaniach eksperymentalnych wykazałam więc w jaki sposób osobista korzyść z niemoralnego zachowania sprawcy wpływa na ocenę tegoż zachowania, sympatię wobec sprawcy oraz zaufanie (rozumiane jako chęć dalszej współpracy). Wyniki wykazały, że dzieci w wieku 4-5 lat pomimo zysku własnego oceniają zachowanie niemoralne negatywnie, osobista korzyść zwiększa natomiast lubienie sprawcy oraz chęć dalszej kooperacji z nim. Co ciekawe wyniki te są ograniczone jedynie do kontekstu bezpośredniej współpracy dziecka z niemoralnym sprawcą. Jest to zgodne z koncepcją *joint commitment* Michaela Tomasello, według której w trakcie współpracy tworzy się specyficzna relacja pomiędzy partnerami, która zobowiązuje ich do wzajemnej lojalności i wspierania się nawzajem (Tomasello & Vaish, 2013; Vaish & Tomasello, 2014).

Projekt 2

Bocian, K., & Myslinska Szarek, K. (2021). Children's sociomoral judgements of antisocial

but not prosocial others depend on recipients' past moral behaviour. *Social

Development, 30(2),* 396-409.

W drugim programie badawczym wchodzącym w skład mojej pracy doktorskiej sprawdzałam

w jakiś sposób charakter moralny biorcy zachowania (pro- lub antyspołecznego) wpływa na

ocenę tego zachowania. Zgodnie z *Social Domain Theory* (Smetana, et al., 2014; Smetana &

Ball, 2018) dzieci w swoich osądach społeczno-moralnych biorą pod uwagę nie tylko

charakter samego czynu, ale także aktualny kontekst i cechy odbiorcy (Helwig & Principe,

1999; Slomkowski i Killen, 1992). Dlatego dzieci mogą formułować sądy społeczno-moralne

z różnych perspektyw osadzonych w różnych społecznych domenach (np. normy moralne,

normy konwencjonalne i normy społeczne). Ludzie mogą różnie oceniać to samo zachowanie

w zależności od jego kontekstu. Jeśli ktoś zrobi coś złego komuś złemu, to może być

potępiony moralnie, bo nie powinno się krzywdzić innych. Ale może być też pochwalony

moralnie, bo dba o grupę i chce ukarać winnego. Wyniki badań Smetany i Balla (2019)

ujawniły, że dzieci w wieku 4-9 lat oceniają niemoralne zachowanie wobec antyspołecznych

rówieśników jako bardziej akceptowalne niż takie samo zachowanie skierowane na

rówieśników którzy zachowują się prospołecznie, lub wobec przyjaciół.

W oparciu o teorię oraz wyniki wcześniejszych badań, w tym projekcie zakładałam że

dzieci będą oceniać łagodniej zachowanie niemoralne i wyrażać większą sympatię wobec

sprawcy, gdy antyspołeczne zachowanie skierowane będzie w stosunku do biorcy

niemoralnego niż jeśli to samo zachowanie będzie wobec biorcy neutralnego lub

prospołecznego. Aby zweryfikować postawioną hipotezę przeprowadziłam badanie

eksperymentalne z udziałem 161 dzieci w wieku 4 lat (85 dziewczynek). W trakcie badania

dzieci oglądały przedstawienie, w którym bohater pomagał lub szkodził innej postaci, ta zaś

była albo pozytywna, negatywna lub neutralna moralnie. Wyniki badania potwierdziły przewidywania. Dzieci oceniały antyspołeczne zachowanie sprawcy łagodniej, gdy skierowane ono było na biorcę, który sam wcześniej zachował się niemoralnie ($M = -2.68$, $SD = 2.13$) niż to samo zachowanie kierowane na sprawcę prospołecznego ($M = -4.66$, $SD = 1.89$) lub neutralnego ($M = -4.39$, $SD = 2.00$), $F(2, 79) = 7.56$, $p = .001$. Antyspołeczny bohater był również bardziej lubiany jeśli biorca był niemoralny niż jeśli biorca był prospołeczny ($M = 3.84$, $SD = 1.02$ vs. $M = 1.90$, $SD = 1.01$, $p < .001$). Co ciekawe, wyniki wykazały, że charakter moralny biorcy miał znaczenie wyłącznie w przypadku niemoralnego zachowania sprawcy. W przypadku czynu prospołecznego, charakter moralny biorcy nie wpływał ani na ocenę jego zachowania $F(2, 76) = 1.28$, $p = .283$, ani na lubienie sprawcy $F(2, 76) = 2.41$, $p = .097$. Wydaje się więc, że o ile zachowanie moralne oceniane jest zawsze pozytywnie przez dzieci, o tyle zachowanie niemoralne może być częściowo usprawiedliwione złym charakterem moralnym biorcy. Uzyskane wyniki wskazują na relacyjny charakter sądów społeczno-moralnych dzieci i wspierają *Social Domain Theory* (Smetana et al., 2014; Smetana & Ball, 2018) oraz są zgodne z wynikami poprzednich badań które ujawniły, że w ocenach dzieci szkoda wyrządzona sprawcy czynu niemoralnego jest bardziej dopuszczalna niż taka sama szkoda wyrządzona postaci neutralnej (Jambon & Smetana, 2014).

Projekt 3

Myslinska Szarek, K., Baryla, W., & Wojciszke, B. (2023). Is helping always morally good?

      Study with toddlers and preschool children. *Developmental Psychology, 59(5)*, 918.

Celem trzeciego programu badawczego wchodzącego w skład mojej pracy doktorskiej było sprawdzenie w jaki sposób cel, któremu służy pomaganie wpływa na ocenę zachowania

prospołecznego (pomagania) lub antyspołecznego (przeszkadzania). Badania z udziałem małych dzieci wskazują, że już dzieci w wieku 12 miesięcy nie tylko pozytywnie oceniają postaci, które pomagają innym, ale również same chętnie angażują się w pomoc potrzebującym (Sommerville et al., 2018; Warneken & Tomasello, 2006, 2007). Co ciekawe jednak w większości istniejących badań cel, w realizacji którego dzieci pomagały innym był neutralny moralnie (otwarcie szafy, podniesienie przedmiotu, wejście na wzgórze itp.). Nie wiadomo więc, czy dzieci oceniają sam czyn pomagania/przeszkadzania czy też biorą pod uwagę efekt działania (cel, któremu zachowanie służy). Wyniki dotychczasowych badań dotyczących uwzględniania prze dzieci informacji o intencjach i efektach działania są niejednoznaczne. Niektóre badania ujawniły, że dzieci dopiero w wieku ok. 3-4 lat zaczynają uwzględniać intencje sprawcy w ocenie jego zachowania (Nobes et al., 2016, 2017; Núñez & Harris, 1998). Inne natomiast wskazują, że nawet niemowlęta w swoich wczesnych ocenach społeczno-moralnych oceniają postaci na podstawie ich dobrych i złych intencji (Choi & Luo, 2015; Dunfield & Kuhlmeier, 2010; Hamlin, 2013). Stąd też aby uchwycić potencjalne różnice rozwojowe w tym zakresie, w swoim badaniu uwzględniłam szeroką grupę wiekową dzieci w wieku 2-7 lat.

W tym projekcie chciałam więc odpowiedzieć na dwa główne pytania badawcze:

1) Czy dzieci uwzględniają cel przy ocenia moralnej pomagania/przeszkadzania?,

2) Jakie są zmiany rozwojowe w zakresie uwzględniania celu w ocenie zachowania moralnego/niemoralnego?

Opierając się na wcześniejszych badaniach oraz teorii, sformułowałam dwie główne hipotezy:

(a) młodsze dzieci będą oceniać zachowanie pomagania jako dobre, a przeszkadzania jako złe, bez względu na jego cel, oraz (b) starsze dzieci będą oceniać pomoc w niemoralnym działaniu jako złe, a przeszkadzanie w niemoralnym zachowaniu jako dobre. Aby

zweryfikować hipotezy przeprowadziłam badanie eksperymentalne z udziałem 727 dzieci w wieku 2-7 lat (M = 53.82 miesięcy, SD = 18.76).

W trakcie procedury dzieciom zaprezentowano 70-sekundowy film z udziałem czterech pacynek: słonia, lwa i dwóch żyraf. Każdy film rozpoczynał się od pacynki słonia, która budowała wieżę z drewnianych klocków. Następnie, w zależności od warunku badawczego, pacynka lew (zwana dalej: odbiorcą) werbalnie wyrażała swoją intencję albo zniszczenia wieży słonia (antyspołeczne zachowanie), albo pomocy mu w jej zbudowaniu poprzez położenie na niej kolejnego klocka (prospołeczne zachowanie). W każdym filmie pacynka odbiorcy prosiła o pomoc pacynkę żyrafę (dalej: agenta), i ponownie, w zależności od warunków badawczych, agent albo pomagał odbiorcy w osiągnięciu celu, albo mu przeszkadzał. Odpowiednio, każde dziecko obejrzało jedną z następujących interakcji: pomaganie w niemoralnym działaniu, przeszkadzanie w niemoralnym działaniu, pomaganie w moralnym działaniu i przeszkadzanie w moralnym działaniu. W filmie pojawiła się również druga pacynka żyrafy, która pełniła rolę obserwatora i nie brała udziału w akcji. Aby pomóc dzieciom odróżnić te dwie kukiełki żyrafy, kukiełka obserwatora nosiła żółtą wstążkę, a aktywna kukiełka nie. Następnie dzieci zostały poproszone o ocenę zachowania odbiorcy oraz agenta, jak również o wybór pacynki do zabawy (pomiędzy obserwatorem a agentem).

Wyniki potwierdziły nasze hipotezy, wskazując, że dzieci jednoznacznie negatywnie oceniły przeszkadzanie w czynie moralnym niezależnie od wieku, R^2 = 0,01, b=−0,004, *95% PU* [−0,011, 0,003], $t(176)$=−1,25, p = .212. Natomiast oceny przeszkadzania w czynie moralnym były bardzo mocno związane z wiekiem; R^2 = 0,51, b = 0,05, *95% PU* [0,04, 0,05] $t(182)$=13,58, p = .001. Dzieci od 4,5 roku życia oceniały pozytywnie przeszkadzanie w czynie niemoralnym, podczas gdy dzieci młodsze oceniały przeszkadzanie zawsze negatywnie bez względu na cel zachowania. Podobny wzór wyników zaobserwowałam w przypadku pomagania. W przypadku pomagania w celu prospołecznym, dzieci bez względu

na wiek oceniały pomaganie jako pozytywne moralnie $R^2 = 0.004$, $b = 0.001$, *95% PU*

[−0.001, 0.003], $t(179) = 0.85$, $p = .397$, oceny pomagania w czynie destruktywnym związane

były zaś z wiekiem dzieci, $R^2 = 0.47$, $b = -0.04$, *95% PU* [−0.05, −0.04], $t(178) = 12.52$, p =

.001. Dzieci do 4,5 roku życia oceniały pomaganie jako moralne bez względu na jego cel, zaś

dzieci powyżej 4,5 lat oceniały pomaganie w celu niemoralnym jako niemoralne.

Wyniki badania potwierdzają, że rola intencji i efektów działania w sądach moralnych,

zmienia się wraz z wiekiem dzieci, które zaczynają dokonywać sądów moralnych nie tylko w

oparciu o sam czyn (pro-, bądź antyspołeczny), ale również przy uwzględnieniu efektów

(celu), któremu ten czyn służy.

Podsumowanie

Niniejsza dysertacja prezentuje sześć badań eksperymentalnych, które zostały opisane i

opublikowane w trzech czasopismach naukowych o międzynarodowym zasięgu. W każdym z

artykułów jestem pierwszym bądź równorzędnym autorem. Wyniki moich badań uzupełniają

dotychczasową wiedzę z zakresu rozwoju społeczno-moralnego, ujawniając jak trzy czynniki

społeczno-sytuacyjne wpływają na sądy społeczno-moralne dzieci w wieku przedszkolnym i

młodszym. Wiedza na temat uwarunkowań sądów moralnych dzieci poszerza wiedzę nie

tylko w zakresie psychologii rozwojowej, ale również psychologii społecznej, ujawniając w

jaki sposób w toku rozwoju kształtują się oceny zachowania innych, które są podstawą do

podejmowania istotnych decyzji m.in. na temat wyboru partnera relacji.

Referencje

Bocian, K., & Wojciszke, B. (2014). Self-interest bias in moral judgments of others' actions. *Personality and Social Psychology Bulletin, 40(7)*, 898-909. DOI: 10.1177/0146167214529800

Bocian, K., Baryla, W., & Wojciszke, B. (2016). When dishonesty leads to trust: Moral judgments biased by self-interest are truly believed. *Polish Psychological Bulletin, 47(3),* 366-372. DOI - 10.1515/ppb-2016-0043

Bocian, K., Baryla, W., & Wojciszke, B. (2020). Egocentrism shapes moral judgements. *Social and Personality Psychology Compass, 14(12)*, 1-14.

Cameron, C. D., Payne, B. K., & Knobe, J. (2010). Do theories of implicit race bias change moral judgments?. Social Justice Research, 23, 272-289.

Choi, Y. J., & Luo, Y. (2015). 13-month-olds' understanding of social interactions. *Psychological science, 26(3),* 274-283. DOI: 10.1177/0956797614562452

Dunfield, K. A., & Kuhlmeier, V. A. (2010). Intention-mediated selective helping in infancy. *Psychological science, 21(4)*, 523-527. DOI: 10.1177/0956797610364119

DeScioli, P., & Kurzban, R. (2013). A solution to the mysteries of morality. *Psychological bulletin, 139(2),* 477. https://doi.org/10.1037/a0029065

Hamlin, J. K., Wynn, K., & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature, 450(7169),* 557-559.

Hamlin, J. K., & Wynn, K. (2011). Young infants prefer prosocial to antisocial others. *Cognitive development, 26(1)*, 30-39. https://doi.org/10.1016/j.cogdev.2010.09.001

Hamlin, J. K. (2013). Failed attempts to help and harm: Intention versus outcome in preverbal infants' social evaluations. *Cognition, 128(3),* 451-474. https://doi.org/10.1016/j.cognition.2013.04.004

Leidner, B., Castano, E., Zaiser, E., & Giner-Sorolla, R. (2010). Ingroup glorification, moral disengagement, and justice in the context of collective violence. *Personality and Social Psychology Bulletin, 36(8)*, 1115-1129. DOI: 10.1177/0146167210376391

Margoni, F., & Surian, L. (2018). Infants' evaluation of prosocial and antisocial agents: A meta-analysis. *Developmental psychology, 54(8)*, 1445. https://doi.org/10.1037/dev0000538

Nobes, G., Panagiotaki, G., & Bartholomew, K. J. (2016). The influence of intention, outcome and question-wording on children's and adults' moral judgments. *Cognition, 157,* 190-204. https://doi.org/10.1016/j.cognition.2016.08.019

Nobes, G., Panagiotaki, G., & Engelhardt, P. E. (2017). The development of intention-based morality: The influence of intention salience and recency, negligence, and outcome on children's and adults' judgments. *Developmental Psychology, 53(10),* 1895. https://doi.org/10.1037/dev0000380

Núñez, M., & Harris, P. L. (1998). Psychological and deontic concepts: Separate domains or intimate connection?. *Mind & Language, 13(2)*, 153-170. https://doi.org/10.1111/1468-0017.00071

Rai, T. S., & Fiske, A. P. (2011). Moral psychology is relationship regulation: moral motives for unity, hierarchy, equality, and proportionality. *Psychological review, 118(1),* 57. https://doi.org/10.1037/a0021867

Sheskin, M., Bloom, P., & Wynn, K. (2014). Anti-equality: Social comparison in young

children. *Cognition, 130(2)*, 152-156. https://doi.org/10.1016/j.cognition.2013.10.008

Smetana, J. G., Jambon, M., & Ball, C. (2013). The social domain approach to children's

moral and social judgments. In *Handbook of moral development (pp. 23-45).*

Psychology Press.

Smetana, J. G., & Ball, C. L. (2018). Young children's moral judgments, justifications, and

emotion attributions in peer relationship contexts. *Child development, 89(6)*, 2245-2263.

https://doi.org/10.1111/cdev.12846

Smith, C. E., Blake, P. R., & Harris, P. L. (2013). I should but I won't: Why young children

endorse norms of fair sharing but do not follow them. *PloS one, 8(3),* e59510.

https://doi.org/10.1371/journal.pone.0059510

Tasimi, A., & Wynn, K. (2016). Costly rejection of wrongdoers by infants and children.

Cognition, 151, 76-79. https://doi.org/10.1016/j.cognition.2016.03.004

Tomasello, M., & Vaish, A. (2013). Origins of human cooperation and morality. Annual

review of psychology, 64, 231-255. https://doi.org/10.1146/annurev-psych-113011-

143812

Vaish, A., & Tomasello, M. (2013). The early ontogeny of human cooperation and morality.

In *Handbook of moral development (pp. 279-298).* Psychology Press.

Valdesolo, P., & DeSteno, D. (2008). The duality of virtue: Deconstructing the moral

hypocrite. Journal of Experimental Social Psychology, 44(5), 1334-1338.

https://doi.org/10.1016/j.jesp.2008.03.010

Warneken, F., & Tomasello, M. (2006). Altruistic helping in human infants and young

chimpanzees. *Science, 311(5765),* 1301-1303. DOI: 10.1126/science.1121448

Warneken, F., & Tomasello, M. (2007). Helping and cooperation at 14 months of age. *Infancy, 11(3),* 271-294. https://doi.org/10.1111/j.1532-7078.2007.tb00227.x

Yeung, S. K., Yay, T., & Feldman, G. (2022). Action and inaction in moral judgments and decisions: Meta-analysis of omission bias omission-commission asymmetries. Personality and Social Psychology Bulletin, 48(10), 1499-1515. https://doi.org/10.1177/014616722110423

Prace empiryczne

PAPER

Partner in crime: Beneficial cooperation overcomes children's aversion to antisocial others

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Abstract

Young children display strong aversion toward antisocial individuals, but also feel responsible for joint activities and express a strong sense of group loyalty. This paper aims to understand how beneficial cooperation with an antisocial partner shapes preschoolers' attitudes, preferences, and moral judgments concerning antisocial individuals. We argue that although young children display a strong aversion to antisocial characters, children may overcome this aversion when they stand to personally benefit. In Study 1a ($N = 62$), beneficial cooperation with an antisocial partner resulted in the children's later preference for the antisocial partner over the neutral partner. Study 1b ($N = 91$) replicated this effect with discrete measurement of liking (resource distribution) and showed that children rewarded more and punished less the antisocial partner in the beneficial cooperation setting. In Study 2, ($N = 58$), children's aversion to an antisocial in-group member decreased when the cooperation benefited other in-group members. Finally, in Study 3 ($N = 62$), when children passively observed the antisocial individual, personal benefits from the antisocial behavior did not change their negative attitude toward the antisocial individual. Overall, beneficial cooperation with the antisocial partner increased the children's liking and preference for the antisocial partner, but did not affect the children's moral judgments. Presented evidence suggests that by the age of 4, children develop a strong obligation to collaborate with partners who help them to acquire resources—even when these partners harm third parties, which children recognize as immoral.

KEYWORDS
attitude, cooperation, moral development, obligation, relationship regulation

1 | INTRODUCTION

Cooperating in social groups requires skills to evaluate whether individuals are good prospects for relationship partners. During the evaluation process, people weigh information such as whether the partner has harmed third parties in the past (Everett et al., 2016; Vaish et al., 2010), whether cooperation with the partner can bring personal benefits (DeScioli et al., 2020), and whether we have specific obligations toward the partner entailed by social relationships (McManus et al., 2020; Rai & Fiske, 2011). This suggests that judgments regarding potential relationship partners are complex and sensitive to the context of prospective cooperation. In this paper, we aim to investigate the developmental underpinnings of beneficial cooperation by examining how the context of cooperation and personal interests shape young children's social and moral judgments of partners who harm others.

According to the theory of morality as a form of cooperation (Tomasello & Vaish, 2013; Vaish & Tomasello, 2014), morality

facilitates cooperation among humans by promoting fairness and sympathy to others on the one hand, and enforcement of social norms on the other hand. Young children are intrinsically motivated to participate in joint activities (Warneken & Tomasello 2007; Warneken et al., 2011), feel responsible for cooperation (Haman et al., 2011), and prefer to cooperate on a goal-directed task rather than achieve the goal on their own (Rekers et al., 2011). Nevertheless, we know surprisingly little on whether or how, in the context of cooperation, children weigh information about the past actions of a cooperating partner. In this paper, we propose that when cooperating partners inflict harm on others, children may use social and moral judgments to regulate relationships with partners and third parties.

On the one hand, we could expect that aversion to antisocial others is strong enough to discourage children from cooperating with them. Research has shown that infants display a strong aversion to antisocial others (Hamlin & Wynn, 2011; Hamlin et al., 2007), avoid them, and expect others to do the same (Kuhlmeier et al., 2003). Young children also avoid helping individuals who intended or caused harm to others (Vaish et al., 2010). Moreover, children display a negative attitude and judge wrongdoings negatively, even if the moral transgression concerns a member of their own group (Hetherington et al., 2014; Wilks & Nielsen, 2018). They would also sacrifice their resources not only to punish antisocial characters (Jordan et al., 2014; McAuliffe et al., 2015; Salali et al., 2015; Yang et al., 2018; Yudkin et al., 2020) but also to witness punishing of an antisocial character (Mendes et al., 2018).

On the other hand, research on group loyalty suggests that children might feel obligated to maintain a relationship with the antisocial partner. Evidence suggests that 5-year-olds have a strong sense of group loyalty (Misch et al., 2014), reveal the secrets of in-groups less frequently than those of out-groups (Misch et al., 2016), and more reluctantly expose a severe transgression of the in-group than of the out-group (Misch et al., 2018). Reluctance to abandon the cooperating partner should be especially likely when children achieve personal goals due to cooperation with the antisocial partner, perhaps feeling that it is in their interest to sustain the beneficial cooperation.

Children are highly egocentric and, before the age of 7, put their material gain over equal divisions (Sheskin et al., 2014; Smith et al., 2013). For instance, young children prefer the large offer (16 stickers) from an antisocial other over a small offer (1 sticker) from a do-gooder (Tasimi & Wynn, 2016) and are attracted to wealthy individuals (Horwitz et al., 2014; Li et al., 2013; Myslinska Szarek & Baryla, 2018). Moreover, research has shown that an individual's counternormative behavior is judged as immoral when participants are impartial bystanders. However, this judgment becomes more lenient when participants profit from the observed behavior (Bocian & Wojciszke, 2014; Bocian et al., 2016). A different line of inquiry showed that moral traits increase liking when morality advantages our goals, but when immorality is goal conducive, the preference for moral traits is eliminated or reduced (Melnikoff & Bailey, 2018).

Overall, the evidence suggests that even though children display a strong aversion toward antisocial others, this aversion might be

Research Highlights

- Children aged 4–5 years develop a strong obligation to collaborate with partners who help them acquire resources.
- Children like and choose the antisocial partner as a future partner, but only in a setting in which they benefit from the cooperation.
- A beneficial setting without cooperation is not enough to overcome children's aversion to antisocial others.
- Beneficial cooperation does not influence children's moral judgments.

overcome when cooperation is potentially beneficial. In this paper, we argue that cooperation with the antisocial partner who helps children achieve personal goals (e.g., material profits) generates a social relationship dilemma. On the one hand, cooperation forms a relationship with the partner, which children might want to regulate for prospective beneficial side-taking. On the other hand, children must solve the problem of third-party condemnation of the partner's wrongdoings. In this paper, we propose that children might solve this issue with the strategic use of social and moral judgments.

One feature of moral decision-making is the use of morality in a strategic way to benefit oneself or one's group, and two major theories of moral psychology account for this strategic perspective (see Bocian et al., 2020). Relationship regulation theory (RRT; Rai, 2020; Rai & Fiske, 2011) argues that moral judgments emerge as an obligation defined by a relationship in which they occur (e.g., group unity). In other words, RRT acknowledges that people need competing moral motives, which allow them to regulate and sustain social relations. Using moral motives dependent on the current context of relationship, complex relational problems may be solved with moral judgments (e.g., conflict of interests). In a similar vein, dynamic coordination theory (DCT; DeScioli & Kurzban, 2013) postulates that people use moral condemnation strategically to decide which side of the conflict they should choose. Hence, people must coordinate their use of loyalty versus impartiality to choose sides in the conflict (DeScioli & Kurzban, 2013).

Despite strong theoretical rationale for strategic, moral decision-making, we have surprisingly little empirical evidence supporting these assumptions, so the origin of such judgments is not well understood. In this paper, we aimed to fill this void by investigating whether a beneficial cooperation context would impact young children's social and moral judgments regarding the antisocial others. To the best of our knowledge, strategic, moral decision-making in the context of cooperation has never been tested on adults and children (but see Fehr & Fischbacher, 2004 and McAuliffe et al., 2015 for third-party punishment among adults and young children). If morality serves the adaptive function which enables human strategic moral decision-making to sustain and coordinate social relationships, empirical evidence found in the socio-moral judgments of young

children will confirm the complexity of moral cognition in early developmental stages as proposed by RRT (Rai & Fiske, 2011) and DCT (DeScioli & Kurzban, 2013).

In summary, the theory of morality as cooperation and research on joint commitment suggests that children will judge the immoral act more leniently if the perpetrator is their cooperation partner. However, cooperation itself seems to be insufficient to overcome children's aversion to the antisocial other. Although, if we consider the high egocentrism of preschool children, we can expect that the immoral behavior of the cooperation partner which brings profit for a child may change the child's attitude toward the partner from negative to positive.

This hypothesis is consistent with RRT because children's gain from the immoral behavior of the cooperation partner may motivate them to maintain unity in a beneficial relationship. Hence, children may judge the antisocial partner positively despite the partner's immoral behavior. Finally, DCT suggests that children may build their alliance with the cooperation partner strategically. Especially children may judge the antisocial partner positively as long as cooperation is profitable for them. However, when cooperation is not beneficial, children may condemn the actions of the cooperation partner in order to send an appropriate signal to potential third parties.

Investigation of strategic, moral decision-making in the context of beneficial cooperation on young children is important for at least three reasons. First, it will help understand how early in social and moral development that strategic, moral decision-making takes place. Thus, knowing the origin of strategic, moral decision-making, we may further investigate why humans can make such complex social and moral judgments at this early stage of life. We may assume that the ability to make accurate and strategic decisions in the context of relationships that promised prospective benefits was crucial for the survival of our species. Therefore, from the early stages of our lives, we can navigate through complex relationships because they help us achieve important personal goals. Second, testing strategic, moral decision-making in the context of beneficial cooperation will expand the current knowledge about how preschoolers form their social relations with peers. This new knowledge is important because children at this age start shaping relations with their peers on their own, without the intervention of their parents and other adults.

Finally, as strategic, moral decision-making in the context of beneficial cooperation has never been tested before, the present research will provide the first evidence that other scholars may use for future comparisons of analogous studies conducted on older children, youth, and adults. In that way, gathered evidence would help us understand whether social and moral judgments made in the context of beneficial cooperation change over the human life span.

1.1 | Overview of the current studies

Based on previous studies and the relational, coordination, and cooperation theories of moral psychology, we hypothesized that

cooperation that is personally beneficial for a child would result in: (a) increase of positive attitude toward the antisocial partner, (b) more frequent choice of the antisocial partner over the neutral character as a future partner, and (c) judgments of the partner's wrongdoings as good, (d) but only in the context of cooperation, (e) which rewards a child.

We tested our predictions in four studies with children aged 4–5 recruited from kindergartens in a medium-sized city. We chose this age range for three reasons. First, 3-year-old (but not younger) children start to understand the importance of joint commitment and the meaning of working for a common goal in a cooperative setting (Gräfenhain et al., 2009, 2013; Hamann, Warneken, & Tomasello, 2011). Second, 3- to 5-year-olds show their preferences and prosocial behavior to cooperation partners only in the context of collaboration, while 5-year-olds extend their attitudes and prefer the cooperation partner even when the cooperation is finished (Plötner et al., 2015). Finally, from the age of three, children begin to understand and enforce social norms, becoming a fully developed skill between 4 and 5 years of age (Tomasello, 2019). Hence, 4-year-olds may be the youngest that we could observe, and investigate complex social and moral judgments in the context of beneficial cooperation.

In Study 1a, the children cooperated with a partner who harmed a third party to complete a task. We tested how rewarding versus non-rewarding cooperation would affect the children's attitudes, moral judgments, and preferences for the antisocial partner. In Study 1b, we added a resource allocation task to test how rewarding cooperation would impact the children's decision regarding the distribution of resources between the victim and the antisocial partner. In Study 2, we asked the children to work in a group of three where one of the group members harmed another individual to help the group complete a task in order to investigate whether group interest rather than individual interest would influence the children's evaluations. Finally, in Study 3, the children did not cooperate with the antisocial partner, but either profited or not from the partner's antisocial actions. We tested whether personal benefits without cooperation would impact the children's attitudes, moral judgments, and preferences regarding the antisocial other.

In this article, all measures, manipulations, and data exclusions are reported. Parents' permissions for children's participation in child development studies were collected before the beginning of the study. The procedure for all studies has been positively evaluated by Ethics Committee SWPS University of Social Sciences and Humanities, Faculty in Sopot (decision number: WKE/S3/V/29). Although we did not use power analysis for sample size estimation, a sensitivity power analysis indicated that, given an alpha of 0.05 and power of 0.80, the recruited sample in Study 1a, Study 1b, and Study 3 would detect both the medium effect size of Cohen's $w = 0.36$ in the simple proportion differences tests and the medium effect size of Cohen's $d = 0.64$ in the simple independent means differences tests. For Study 2, the recruited sample would allow to detect a medium effect size of Cohen's $w = 0.37$ in simple proportion differences tests and medium–large effect size of Cohen's $d = 0.66$ in simple independent means differences tests. Data supporting the findings of

the presented studies are openly available at the following: https://osf.io/wj6rm/?view_only=3a1921e65c0a4bbf85ff04996a6d5f82.

2 | STUDY 1a

In Study 1a, we investigated whether rewarding versus non-rewarding cooperation would impact the children's attitudes, moral judgments, and preferences regarding the antisocial partner. Children are highly cooperative beings (Rekers et al., 2011), value group loyalty over social norms (Misch et al., 2018), and feel obliged to finish joint commitment started with a partner (Haman et al., 2011). Therefore, the children worked together with the partner puppet that destroyed the target puppet's construction in order to complete the given task. Additionally, we either did or did not reward the children for the successful completion of the task, and afterward, we probed their attitudes, moral judgments, and preferences. We assumed that the group work nature of the task and a joint goal combined with personal gain would shape the children's responses. Specifically, we predicted that children would like and prefer the co-working partner puppet to a greater extent when their cooperative work resulted in a reward.

2.1 | Method

2.1.1 | Participants

The participants were 4- and 5-year-old children (N = 62, 32 girls, 30 boys) between the ages of 47 and 65 months (M = 57.53 months, SD = 5.03 months). Four children were tested, but excluded from data analysis due to their inability to understand the experimental procedure (three children), or their distraction and lack of response to the experimenter's questions (one child).

2.1.2 | Procedure and design

Children were tested individually in a separate room in their kindergartens and randomly assigned to one of two conditions: beneficial condition or control condition. First, we measured the children's attitude toward the puppets (the future partner and the future target) using a five-point scale (five different size stars, see Figures S1 and S3 for the framework of the experimental procedure). The children's task was to build a tower in cooperation with the partner puppet following a pattern presented by the experimenter. The target puppet was building its tower independently nearby, while a neutral puppet was a bystander.[1] In the beneficial condition, we told children that those who successfully finished the tower in line with the presented pattern would receive a reward of five stickers. In the control condition, there was no information about a reward for completing the task. The child and the partner puppet were building side by side with the target puppet, but they did not compete. However, the task was designed so that, due to the number of blocks given, only one tower could be built.

During the task, the partner puppet steals one block from the target's construction to finish his own tower, resulting in the collapse of the target puppet's tower. Only the child and the partner puppet were rewarded for finishing their tower successfully. In the control group, there was no reward for successfully finishing the task. Afterward, the first researcher left the room and a second researcher, blind to the hypothesis and research condition, asked the children what had happened during the show and then interviewed children using dependent variables in the following order: (a) Liking: "How much do you like the lion puppet in the red/green tie right now? Can you show which of the five stars you picked for the lion puppet?",[2] (b) Moral judgment: "Do you think the lion in the green/red tie acted in a good or bad way?", (c) Choice: "If we played a different game, which puppet would you like to be on a team with, the one with the red or green bowtie?".[3]

2.2 | Results

2.2.1 | Liking

To test the hypothesis that beneficial cooperation would overcome children's aversion to the antisocial other, we subjected the liking measurement to a mixed-design ANOVA in a 2 (Liking measure: Before vs. After) × 2 (Condition: Control vs. Beneficial) with the first factor as within subjects and the second as between subjects.[4] The main effect of the condition revealed that the partner puppet was liked more in the beneficial condition than in the control condition (M = 4.71, SD = 1.14 vs. M = 4.11, SD = 1.15), $F(1, 60)$ = 18.67, p < .001, η_p^2 = 0.24. We also found the interaction between the condition and liking, $F(1, 60)$ = 22.59, p < .001, η_p^2 = 0.27. Simple effects analysis revealed that there was no effect of condition on children's liking for the antisocial partner in the initial measurement (before the wrongdoing) (d_s = −0.24), but this difference emerged in the second measurement (after the wrongdoing) (d_s = 1.15) due to the weaker decrease of liking scores among the children in the beneficial condition (d_{av} = −0.91) than in the control condition (d_{av} = −3.09, see Table 1).

2.2.2 | Moral judgment

To test whether beneficial cooperation impacted the children's moral judgment regarding the antisocial partner, we ran a chi-square test with the moral judgment as the dependent variable. In contrast to our predictions, the majority of children (48 of 56) judged the partner puppet's actions as wrong with no difference between the beneficial and the control conditions, $\chi^2(1, N = 56)$ = 2.37, p = .306.

2.2.3 | Choice

To test whether beneficial cooperation impacted the children's decisions about who they choose for a future task, we ran a second chi-square test with the choice as the dependent variable. As shown in

TABLE 1 Liking toward the partner puppet before and after the wrongdoing as a function of the beneficial cooperation (Study 1a)

| Measure | Beneficial condition | | Control group | | $t_{between}$ | Cohen's d_s [LL, UL] | p |
	M	SD	M	SD			
Before	4.97	0.18	5.00	0.00	−1.00	−0.24 [−0.74, 0.26]	.325
After	4.45	0.96	3.23	1.15	4.56	1.15 [0.65, 1.66]	<.001
t_{within}	−3.10		−8.62				
d_{av} [LL, UL]	−0.91 [−1.50, −0.31]		−3.09 [−3.82, −2.36]				
p	.004		<.001				

Abbreviations: CI, confidence interval; LL, lower limit; $t_{between}$, the difference between conditions; t_{within}, the difference conditions; UL, upper limit.

Figure 1, there was a significant difference in the children's choice of the partner puppet between the beneficial and control conditions, $\chi^2(1, N = 62) = 31.52$, $p < .001$, $w = 0.71$. In the control condition, six children chose the antisocial partner; however, in the personal benefit condition, this number rose to 28.

2.3 | Discussion

The Study 1a provided initial support for our hypothesis that beneficial cooperation would affect children's attitudes, moral judgments, and preferences. In line with our predictions, children liked and chose the antisocial partner more frequently as a future partner, but only when they benefited from the collaboration. Contrary to our assumptions, personal reward had no impact on the children's moral judgment, which suggests that even though 4- and 5-year-old children recognize the behavior as immoral, the collaborative character of the task has a crucial influence on the children's attitudes and preferences concerning antisocial others. This discrepancy between attitude and moral judgments suggests that children's moral decision-making is strategic. On the one hand, children wish to sustain the beneficial cooperation with the antisocial partner (I like you), whereas they condemn a partner's behavior (but your actions are wrong) sending a signal to potential third parties (e.g., experimenter). Therefore, Study 1 results align with the assumptions of RRT (Rai, 2020; Rai & Fiske, 2011) and DCT (DeScioli & Kurzban, 2013) theories of morality.

These results are also in line with evidence that children are ultra-cooperative (Tomasello et al., 2012) and aim to achieve common goals (Tomasello & Vaish, 2013). However, whether children's aversion to antisocial others would be overcome depends not only on the cooperation with group members but also on their personal gains. That is because children are highly egocentric and strongly focused on their benefits. Preschoolers aged 4–6, if their interest is at stake, prefer higher profit over fair resource distribution (Benenson et al., 2007; Blake, & McAuliffe, 2011; Smith et al., 2013). Also, 4-year-olds rarely transfer more than half their resources, even when the recipient is needy (sad or without toys; Malti et al., 2016).

3 | STUDY 1b

In Study 1b, we sought to replicate the results of Study 1a with an additional measure of children's preferences: resource distribution. Distribution of resources is frequently used as an indirect measurement of liking, and children perceive it as a form of rewarding (Plötner et al., 2015; Vogelsang & Tomasello, 2016). Taking away resources, in contrast, is usually interpreted by children as a form of punishment (Hamlin et al., 2011; Jordan et al., 2014; Yang et al., 2018). Therefore, children either distributed additional reward (stickers) between their antisocial partner and the target or redistributed additional reward by deciding how much of the reward should be taken from the antisocial partner and passed to the target. We assumed that children would allocate more resources to the antisocial partner than to the target when engaged in personally rewarding cooperation with the former. We also predicted that children would be less willing to punish the antisocial partner when the antisocial act was beneficial for themselves. Therefore, we predicted that children would pass fewer stickers from the antisocial partner to the target after beneficial cooperation with the antisocial partner. Because in both reward conditions (distribution and redistribution), children would benefit from the cooperation, we assumed that these two conditions would not differ from each other.

3.1 | Method

3.1.1 | Participants

The participants were 4- and 5-year-old children ($N = 91$, 49 girls, 42 boys) between the ages of 43 and 65 months ($M = 53.77$ months, $SD = 5.03$ months).
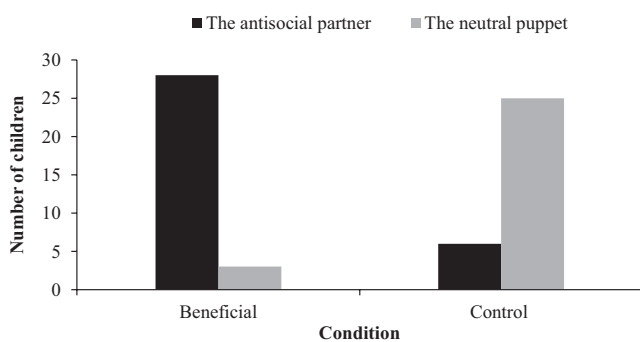

FIGURE 1 Children's choice of the antisocial partner versus the neutral puppet in the beneficial and the control condition (Study 1a)

3.1.2 | Procedure and design

The design and procedure were similar to Study 1a with one extension. We introduced a measure of resource distribution. To this end, after the children completed the task and either did (beneficial condition) or did not (control condition) receive five stickers, a second experimenter asked them to decide how to distribute five additional stickers between the partner and target puppets. This design yielded three experimental conditions. In the first condition (benefit + distribution), the children distributed the additional stickers between the partner and target puppets. In the second condition (no benefit + distribution), the children distributed the additional stickers in the same way as in the first condition, but their interest was not involved. In the third condition (benefit + redistribution), the partner puppet was given five stickers and the children were asked how many stickers they wanted to take from the partner puppet and give to the target puppet. In each condition, the children were told that they could distribute/redistribute any number of stickers and did not have to use them all. As in Study 1a, after cooperating with the partner puppet, the children answered all questions measuring the dependent variables (i.e., liking, distribution decision, moral judgment, and choice).

3.2 | Results

3.2.1 | Liking

We subjected the liking measurement to a mixed-design ANOVA in a 2 (Liking measure: Before vs. After) × 2 (Condition: Control vs. Beneficial) with the first factor as within subjects and the second as between subjects. Corroborating the results of Study 1a, the main effect of the conditions revealed that the antisocial partner was liked more in both beneficial conditions than in the control condition ($M = 4.83$, $SD = 2.19$ vs. $M = 4.15$, $SD = 1.2$), $F(1, 88) = 16.21$, $p < .001$, $\eta_p^2 = 0.27$. Moreover, we found an interaction between condition and liking, $F(1, 88) = 70.00$, $p < .001$, $\eta_p^2 = 0.61$. A paired-samples t-test analysis showed that in both the first and the second beneficial conditions, the children liked the antisocial partner to the same extent before and after the antisocial behavior (see Table 2), while in the control condition children liked

the antisocial partner before more than after the antisocial behavior ($d_{av} = -2.65$). A planned contrast showed a fair fit between the data and the expected pattern confirming a strong effect of beneficial cooperation on children's liking for the antisocial partner after the wrongdoing ($t_{contrast} = 8.94$, $p < .001$, $d_{contrast} = 1.96$).

3.2.2 | Resource distribution

Revealed in a 3 (Condition) × 2 (Puppet) analysis of variance, children allocated more stickers to the antisocial partner than to the target puppet ($M = 2.66$, $SD = 1.02$ vs. $M = 2.31$, $SD = 0.96$), $F(1, 88) = 4.18$, $p = .044$, $\eta_p^2 = 0.06$). Pictured in Figure 2, there was also a significant interaction between research conditions and which puppet the children rewarded to a higher degree, $F(2, 88) = 16.49$, $p < .001$, $\eta_p^2 = 0.27$. In the control/distribution condition, children transferred more stickers to the target than to the partner puppet ($M = 2.97$, $SD = 0.86$ vs. $M = 1.94$, $SD = 0.93$, $t(30) = 3.34$, $p = .002$, $d = 0.58$, 95% CI [0.40, 1.64]. However, in the beneficial/distribution condition, the children gave more stickers to the partner puppet than to the target puppet ($M = 2.87$, $SD = 0.73$ vs. $M = 2.13$, $SD = 0.73$), $t(29) = 2.75$, $p = .010$, $d = 0.51$, 95% CI [0.19, 1.28]. In the beneficial/redistribution condition, children took less than two stickers of five from the partner puppet ($M_{left} = 3.20$, $SD = 0.96$) and donated them to the target ($M_{received} = 1.80$, $SD = 0.96$, $t(29) = 3.99$, $p < .001$, $d = 0.98$, 95% CI [0.69, 2.12]).
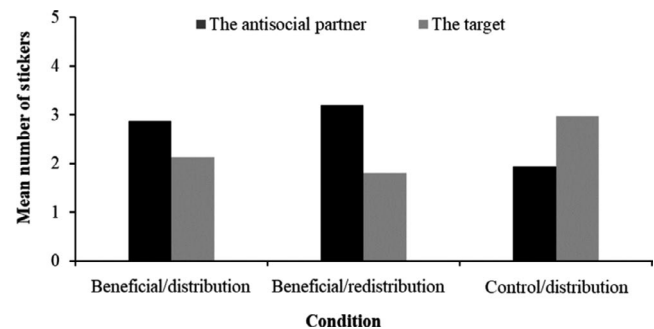

FIGURE 2 Children's distribution decisions (Study 1b) between the antisocial partner and the target

TABLE 2 Liking toward the partner puppet before and after the wrongdoing as a function of the beneficial cooperation (Study 1b)

Measure	Beneficial/ distribution		Beneficial/ redistribution		Control/distribution		$t_{between}$	p	Beneficial versus control groups contrast (contrast weights: +1, +1, −2)
	M	SD	M	SD	M	SD			Cohen's d_s [LL, UL]
Before	4.83	0.75	4.90	0.30	4.94	0.36	−0.61	.542	−0.14 [−0.58, 0.31]
After	4.63	0.89	4.93	0.24	3.35	0.84	8.94	<.001	1.96 [1.52, 2.40]
t_{within}	−1.99		1.00		−10.90				
d_{av} [LL, UL]	−0.24 [−0.50, 0.01]		0.11 [−0.11, 0.33]		−2.65 [−3.15, −2.16]				
p	.056		.326		.000				

Abbreviations: CI, confidence interval; LL, lower limit; $t_{between}$, the difference between conditions; t_{within}, the difference conditions; UL, upper limit.

3.2.3 | Moral judgment

Again, most children (83 of 86) judged the partner puppet's action as wrong, demonstrating no differences between both the personal benefit and control conditions, $\chi^2(1, N = 86) = 0.003$, $p = .998$.

3.2.4 | Choice

In both beneficial conditions (Figure 2), children chose the partner puppet more frequently than in the control condition, $\chi^2(1, N = 90) = 40.31$, $p < .001$, $w = 0.67$. In the control condition, only 3 of 31 children wanted to cooperate with the antisocial partner. In the first and second beneficial conditions, this number reached 24 and 23, respectively.

3.3 | Discussion

Study 1b replicated the results of Study 1a, providing more evidence that rewarding cooperation with antisocial others shapes children's preferences and attitudes toward them. Corroborating the results of Study 1a, the antisocial partner whose actions benefited the children was liked more and chosen more frequently as a future team member. Moreover, Study 1b confirmed that beneficial cooperation does not influence children's moral judgments. Similar to Study 1a, the majority of the children judged the behavior of the partner puppet as wrong. More importantly, whether or not the harming act of the partner puppet benefited the children had a profound influence on their decision for resource distribution.

In the control condition, children allocated more stickers to the target puppet, which is consistent with developmental research on indirect reciprocity of moral acts and third-party punishment. Children aged 4–5 gave fewer resources to a puppet which behaved antisocially toward third parties (Kenward & Dahl, 2011; Olson & Spelke, 2008). Moreover, children between 3 and 6 enact costly punishment on bad actors, with older children inflicting severer punishments (Yudkin et al., 2020) and sacrifice their resources to witness the punishment of an antisocial other (Mendes et al., 2018). Crucially, as demonstrated in the two beneficial conditions, children's aversion to antisocial others and their willingness to enact punishment disappeared when the wrongdoing was beneficial for them.

Study 1b showed that children gave more stickers to the antisocial partner than the target puppet when they personally gained from the antisocial behavior of the partner puppet. Additionally, children were less willing to take stickers from the antisocial partner and donate them to the target puppet. This evidence supports our assumption that beneficial cooperation has a stronger influence on children's preference and attitude than the violation of moral norms committed by the antisocial collaborator. Therefore, the present results again confirm the assumptions of strategic, moral decision-making suggested by the RRT (Rai, 2020; Rai & Fiske, 2011) and DCT (DeScioli & Kurzban, 2013).

4 | STUDY 2

So far, we have found evidence that rewarding cooperation shapes children's attitudes and preferences related to antisocial others. We argue that the driving force behind this effect is cooperation which benefits the child. If children's social and moral judgments depend on group commitment and help them sustain prospective relationships with cooperation partners, it seems important to test whether beneficial cooperation extends to the context where children are not directly rewarded. For example, children might use social and moral judgments in the same strategic way when cooperation benefits a fellow group member instead of the child.

This question also seems relevant, because research has shown strong in-group bias in children's attitudes and moral judgments. Preschoolers not only prefer members of their group rather than members of other groups (Aboud, 2003; Dunham & Emory, 2014; Dunham et al., 2011) but also form a group-minded orientation from the age of 3 and equally share resources acquired during cooperation activities (Hamann, Warneken, Greenberg, & Tomasello, 2011). Nonetheless, children actively protest when in-group members violate moral norms (Schmidt et al., 2012), do not want to share resources with immoral in-group members (Hetherington et al., 2014), and like them less after having behaved antisocially (Wilks et al., 2018). Therefore, in Study 2, we changed the recipient of the reward from the participating child to a member of the child's group. Additionally, we used standard manipulation of group identity to reinforce the children's feelings of group commitment in order to examine whether cooperation which harms a third party but rewards another in-group member influences children's attitudes and preferences concerning the antisocial group member.

We assumed that the wrongdoing benefiting the children's group would mitigate their aversion to the in-group antisocial other. Specifically, we expected that children would like and choose the in-group member more than other actors when their harmful actions benefited the children's group.

4.1 | Method

4.1.1 | Participants

The participants were 4- and 5-year-olds ($N = 58$, 29 girls, 29 boys) between the ages of 49 and 66 months ($M = 57.90$ months, $SD = 4.05$ months).

4.1.2 | Procedure and design

Again, the children built a tower in line with a pattern provided by the experimenter. Before the task, we told the children that they would work in a team with a bear and a giraffe puppet. To reinforce that the child was on one team with the bear, and giraffe, each had the same color ribbons and stickers. Contrastingly, the target puppet (a lion) had a different ribbon and sticker. Furthermore, to concept

Measure	Beneficial condition		Control group		$t_{between}$	Cohen's d_s [LL, UL]	p
	M	SD	M	SD			
Before	4.34	0.72	4.17	0.97	0.77	0.20 [−0.33, 0.73]	.445
After	4.66	0.81	2.86	0.92	7.88	2.08 [1.55, 2.61]	<.001
t_{within}	1.47		−7.03				
d_{av} [LL, UL]	0.42 [−0.16, 1.00]		−1.39 [−1.80, −0.99]				
p	.153		<.001				

Abbreviations: CI, confidence interval; LL, lower limit; $t_{between}$, the difference between conditions; t_{within}, the difference conditions; UL, upper limit.

check if the children understood with whom they would work, each child had to indicate who their in-group members were, and which puppet was in the other group. If the child indicated incorrectly, the experimenter repeated the information. The child's task was to, again, build the tower, but this time together with in-group members. Near the children's team, the lion built its own tower.

Prior to building, we informed them that those who build the tower (either the child's team or the lion puppet) correctly would receive a five-sticker reward. We also informed the children, that because we had only one set of stickers, we would flip a coin to decide who received the reward should the children's team finish the task first. In the control condition, this information was omitted. Once again, the antisocial in-group member, in order to successfully complete the task, took one block from the target puppet's (the out-group member) tower, destroying the construction. After completion, a second experimenter announced the child's group had won. She then tossed a coin and revealed that the giraffe puppet (the third in-group member) would receive extra stickers. The coin flip was rigged to always reward the third in-group member (not the antisocial in-group member or child). The remaining dependent variables were identical to those of Study 1a. However, in the choice task, the children decided who they would work with in the future among the antisocial in-group member, target puppet, and third in-group member.

4.2 | Results

4.2.1 | Liking

We subjected liking measurement to a mixed-design ANOVA in a 2 (Liking measure: Before vs. After) × 2 (Condition: Control vs. Beneficial) design with the first factor as within subjects and the second as between subjects. The main effect of the condition revealed that the antisocial in-group member was liked more in the group beneficial than the control condition, $F(1, 56) = 31.07$, $p < .001$, $\eta_p^2 = 0.36$. Additionally, corroborating the results of Study 1a and Study 1b, we found the interaction between the condition and the time of liking measurement, $F(1, 56) = 33.11$, $p < .001$, $\eta_p^2 = 0.37$. There was no effect of condition on the children's liking for the antisocial in-group member in the measurement before the antisocial behavior ($d_s = 0.20$), but this difference

emerged in the measurement after the antisocial behavior ($d_s = 2.08$) due to the weak increase of liking scores among the children in the group beneficial condition ($d_{av} = 0.42$) and strong decrease of liking in the control condition ($d_{av} = −1.29$; see Table 3).[5]

4.2.2 | Moral judgment

Most children (46 of 50) had no doubt that the antisocial in-group member's actions were wrong independently of the condition, $\chi^2(1, N = 50) = 1.37$, $p = .504$.

4.2.3 | Choice

Children chose the antisocial in-group member more frequently than other puppets, but only in the condition where wrongdoing benefited the member of the child's team, $\chi^2(1, N = 58) = 22.60$, $p < .001$, $w = 0.62$ (see Figure 3). In the control condition, only four children picked the antisocial in-group member for future play. In the group beneficial condition, this number rose to 22.

4.3 | Discussion

Study 2 extended the previous results by demonstrating that the effect of profitable cooperation influences children's judgments of antisocial others even when their actions are not beneficial for the child personally. In line with our hypotheses, when an in-group member benefited from the antisocial act of the antisocial in-group member, the children liked more and preferred the antisocial in-group member as a partner in future cooperation. In contrast, when the in-group member's antisocial behavior did not bring profit to the child's group, children disliked the antisocial in-group member and chose a neutral in-group member over other puppets for future play more often. Evidence from the control condition corroborates studies, which showed that children display an aversion to antisocial in-group members (Hetherington et al., 2014; Schmidt et al., 2012; Wilks et al., 2018). However, as in Studies 1a and 1b, we found that when cooperation rewarded a child's group (one of the child's group members
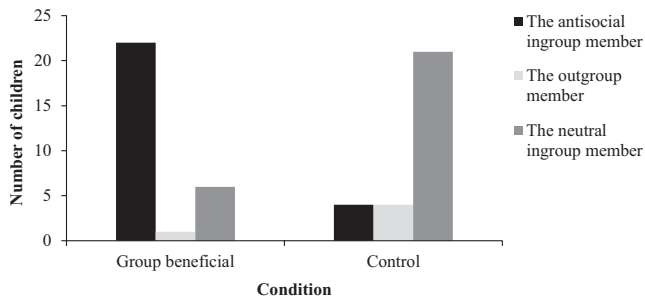
FIGURE 3 Children's choice of the antisocial ingroup member, the other ingroup member, and the outgroup member for future cooperation in the group beneficial condition and the control condition (Study 2)

received a benefit), the children's aversion to the antisocial in-group member was attenuated.

5 | STUDY 3

In Study 3, we sought to determine whether personal gains without cooperation or group affiliation with the actor puppet (antisocial character) would still impact children's attitudes and preferences toward the antisocial other. We argue that cooperation is an essential factor that drives children's strategic, social, and moral decisions. If so, children benefitting from the antisocial act without cooperating with the actor puppet should produce different results than found in Studies 1a, 1b, and 2. Therefore, the children were asked to passively observe the actor puppet destroy the work of the target puppet to finish their task. We manipulated whether or not the children and the actor puppet were independently rewarded for finishing the task. Then, we measured the children's attitudes, moral judgments, and preferences using variables from Study 1a. We assumed that personal gains without cooperation would not be enough to overcome the children's aversion to the antisocial other and would not impact their evaluations.

5.1 | Method

5.1.1 | Participants

The participants were 4- and 5-year-olds ($N = 62$, 33 girls, 29 boys) between the ages of 41 and 66 months ($M = 55.53$ months, $SD = 6.45$ months).

5.1.2 | Procedure and design

The procedure and design were the same as in Study 1a. However, in the present study, the children were only passive observers of the antisocial behavior of the actor puppet. Therefore, cooperation with the actor puppet was not present, and the children could

not identify with the actor puppet as a group member. First, we informed the children that they would see a show with two lions, a bear, and a mouse. Then, the children listened to the following story:

> Lucy, the mouse, is a small mouse that does not have a house and would like to have one. That is why she asked the lion and the bear to build a little house for her.

In the personal benefit condition, Lucy told the children that whoever successfully built a house for her from wooden blocks would be rewarded with stickers. Then, she added that she had many stickers, so she would also award stickers to observing children. In the control condition, Lucy did not mention that she had a reward for the successful builder. The children watched the actor puppet and the target puppet separately build a house. The actor puppet again stole one block from the target puppet's house, destroying its construction. In the end, Lucy occupied the house built by the actor puppet, and in the personal benefit condition, she rewarded both the actor puppet and the observing child with stickers. In the control condition, the rewarding stage was omitted. After the show, the first researcher left the room and a second researcher, blind to the hypothesis and research conditions, asked children the same questions as in Study 1a.

5.2 | Results

5.2.1 | Liking

We subjected the liking measurement to a mixed-design ANOVA in a 2 (Liking measure: Before vs. After) × 2 (Condition: Control vs. Beneficial) design with the first factor as within subjects and the second as between subjects. This analysis yielded only a main effect of time of measurement, $F(1, 60) = 89.33$, $p < .001$, $\eta_p^2 = 0.60$. The actor puppet was liked less after antisocial act ($M = 3.16$, $SD = 1.09$) in comparison to the initial liking scores ($M = 4.44$, $SD = 0.74$). More importantly, we did not find the interaction between the condition and the time of liking measurement, $F(1, 60) = 2.42$, $p = .125$, $\eta_p^2 = 0.04$. As well, there was no effect of personal benefit on children's liking for the antisocial actor both in the initial measurement ($d_s = 0.12$) and in the measurement after the antisocial behavior ($d_s = 0.48$). This was due to the strong decrease of liking scores both among the children in the beneficial condition ($d_{av} = -1.28$) and in the control condition ($d_{av} = -1.54$; see Table 4).

5.2.2 | Moral judgment

The analysis of children's moral judgment revealed no differences between the beneficial and the control condition, $\chi^2(1, N = 61) = 0.98$, $p = .321$. The majority of children (60 of 61) judged the actor puppet's action as wrong.

Measure	Beneficial condition		Control condition		$t_{between}$	Cohen's d_s [LL, UL]	p
	M	**SD**	**M**	**SD**			
Before	4.48	0.68	4.39	0.80	0.513	0.12 [−0.39, 0.63]	.610
After	3.42	0.99	2.90	1.14	1.905	0.48 [−0.02, 1.00]	.062
t_{within}	−7.68		−6.42				
d_{av} [LL, UL]	−1.28 [−1.62, −0.94]		−1.54 [−2.03, −1.05]				
p	<.001		<.001				

TABLE 4 Liking toward the actor puppet before and after the wrongdoing as a function of the beneficial observation without cooperation (Study 3)

Abbreviations: CI, confidence interval; LL, lower limit; $t_{between}$, the difference between conditions; t_{within}, the difference conditions; UL, upper limit.

5.2.3 | Choice

There was no difference in children's choice between the beneficial and the control condition, $\chi^2(1, N = 62) = 2.30$, $p = .130$, $w = 0.19$ because most children (54 of 61) selected the neutral puppet as a potential member of their group.[6]

5.3 | Discussion

Study 3 results showed that children judged the antisocial behavior as wrong and preferred the neutral puppet over the actor puppet as a future team member, providing additional evidence that cooperation with the antisocial partner is more important than personal gain in overcoming children's aversion to antisocial others.

The present study replicated and extended the results of studies on infants and young children which showed that aversion toward antisocial others could not be easily overcome by personal gains (Tasimi & Wynn, 2016; Tasimi et al., 2017). Additionally, and in contrast to the results found in adults (Bocian & Wojciszke, 2014; Bocian et al., 2016), profiting from the actions of the antisocial actor as a passive spectator did not create bias in the children's attitude, moral judgment, and preferences.

After the severe transgression of the in-group (vs. out-group) member, 4- and 5-year-olds are less likely to blow the whistle (Misch et al., 2018), probably because 5-year-olds rate loyal behavior more positively than disloyal behavior (Misch et al., 2014). This evidence suggests that in the context of cooperation, children's judgment and behavior may be guided by group loyalty or group commitment rather than by the norm of fairness. Moreover, according to the interdependence hypothesis, humans are ultra-cooperative (Tomasello et al., 2012) and developmental research shows that by age 3, children not only want to collaborate with others to achieve joint goals but also contribute their own efforts to complete the cooperation (Tomasello & Vaish, 2013). Therefore, Study 3 confirms that only collaboration with an antisocial individual to achieve a joint goal combined with personal gains can change children's aversion to the antisocial other.

6 | GENERAL DISCUSSION

The present research demonstrated that children's aversion to antisocial others might be reduced or even overcome when children are involved in a rewarding cooperation with those others. In four studies, we found that cooperation with the antisocial individual which is either beneficial for the child or a member of the child's group impacts the children's attitude and preference toward the antisocial partner. In Study 1a, cooperation with the antisocial partner whose behavior benefited the children removed their aversion to antisocial others. In Study 1b, overcoming their aversion to antisocial others, the children rewarded more and punished less the antisocial partner when benefiting from the antisocial act. Study 2 demonstrated that a benefit to an in-group member is enough to overcome children's aversion to antisocial individual. Finally, Study 3 proved that personal benefit did not overcome the children's aversion to the antisocial individual due to the lack of cooperation between them. Therefore, the present research contributes significantly to the vast body of literature on children's aversion to antisocial others (Hamlin & Wynn, 2011; Hamlin et al., 2007; Kenward & Dahl, 2011; Kuhlmeier et al., 2003; McAuliffe et al., 2015; Mendes et al., 2018; Olson & Spelke, 2008; Schmidt et al., 2012; Tasimi & Wynn, 2016; Tasimi et al., 2017; Vaish et al., 2010; Wilks et al., 2018; Yudkin et al., 2020) by examining young children's social and moral judgments in response to the transgressions of a cooperating partner that are beneficial for a child.

By systematically examining the mechanisms underlying the reduction of aversion to antisocial others, we have built on and extended past work in this area. First, while previous research showed that infants and young children's aversion to antisocial others might be overcome by a very large benefit (16 stickers—Tasimi & Wynn, 2016), we found that a small offering (five stickers) overcame this aversion as well, but on the condition the antisocial individual cooperated with the children or their in-groups. Second, 4- and 5-year-olds have a strong sense of group loyalty (Misch et al., 2014), which hold them back from exposing the severe transgression of an in-group (vs. out-group) member (Misch et al., 2018). Our work extends these results by showing that group loyalty influenced attitude and preferences but did not impact children's moral judgment of the antisocial behavior. In all four studies, neither cooperation nor personal benefits changed the children's perception of the harm inflicted on

a third party as morally wrong. However, group loyalty and a cooperation context might explain why children preferred the antisocial character whose actions benefited them or their in-group.

Finally, while past studies demonstrated that children have a strong aversion to antisocial others because they actively protest antisocial behavior (Schmidt et al., 2012), do not want to share resources with antisocial others (Hetherington et al., 2014), and dislike them (Wilks et al., 2018). Our studies have found evidence suggesting that this aversion to antisocial others may be overcome when the antisocial behavior benefits either them or members of their group.

6.1 | Theoretical contribution

First, our results contribute to the theory of morality as a form of cooperation (Tomasello & Vaish, 2013; Vaish & Tomasello, 2014), demonstrating that children prefer and choose others who have helped them achieve a goal for future cooperation. Still, when a goal is achieved by the harm inflicted on a third party, children display an aversion to the antisocial partner (Schmidt et al., 2012; Vaish et al., 2011). However, this aversion might be eliminated when achieving a goal that satisfies children's material interests. In other words, 4- and 5-year-old children recognize that the antisocial act of their partner is wrong, but they are also aware that their future success depends on the cooperation with the antisocial partner. Therefore, it implies that children's attitudes toward the antisocial partners and their decision for future cooperation with others depend not solely on material rewards but mostly on a sense of joint commitment and necessity of reciprocity.

As we demonstrated in Study 3, despite the egocentrism typical for young children, personal benefit from the wrongdoing was not enough to change the negative attitude toward the antisocial individual. These results corroborate findings showing that a reward by itself does not overcome children's moral concern (Hetherington et al., 2014; Wilks & Nielsen, 2018). However, cooperation settings trigger a sense of group identity and joint commitment (Gräfenhain et al., 2013; Haman et al., 2011) which may change this aversion. Evidence from our studies suggests that group membership and joint commitment were not enough to overcome children's natural aversion to antisocial others. Only cooperation that was beneficial for the child, changed this aversion, suggesting a third option: reciprocity. Children could have felt gratitude toward the antisocial partner because the wrongdoing was beneficial for them, and as a result, they may have felt jointly liable for their partner's actions. Therefore, despite that children judged the partner's actions as wrong, they also manifested their gratitude by expressing a positive attitude toward the partner and a willingness to maintain mutual collaboration.

Second, according to RRT, moral judgments should be understood as a manifestation of different social relationship motives (Rai & Fiske, 2011). We know that infants (Hamlin & Wynn, 2011; Hamlin et al., 2007) and preschoolers (Bocian & Myslinska Szarek, 2020; Li & Tomasello, 2018; McAuliffe et al., 2015; Smetana & Ball, 2018; Smetana et al., 2014) do not have a simple aversion to individuals

who harm third parties, but rather consider whether harmful actions were justified, which suggests that they are capable of making complex social judgments. For example, a recent study had demonstrated that 4-year-old children judged harmful behavior as less bad when the behavior was directed at the antisocial recipient than at the prosocial recipient. More importantly, children also displayed a positive attitude toward individual who harmed antisocial other and negative attitude toward individual who harmed prosocial other (Bocian & Myslinska Szarek, 2020). Therefore, our studies confirm that in the context of beneficial relationships, young children's attitudes reflect their desire to sustain cooperation with the antisocial partner. Correspondingly with RRT (Rai & Fiske, 2011), cooperation that brings profit for a child triggers motivation to maintain unity and protect a beneficial relationship, even if it requires support for a partner who behaved antisocially.

Finally, in all four studies, we found a discrepancy between the moral judgment of the antisocial partner's act (always evaluated as bad) and the attitude toward the antisocial partner, who was liked and preferred over other characters. These results confirm the assumptions underlying DCT (DeScioli & Kurzban, 2013), which argues that people use moral judgments strategically to coordinate condemnation based on public signals when deciding which side of a conflict to choose. Children's judgments of attitude and preferences might reflect their need to send a signal reassuring the partner that they would not abandon them in future endeavors. Separately, children's moral judgments might reflect their need to send the signal to potential third parties (the experimenter in this case) that they recognize the partner's actions as wrong in order to minimize potential personal conflicts.

Interestingly, discrepancies in children's social and moral judgments are in sharp contrast to studies with adults showing a positive and reciprocal relationship between moral judgments and liking. Moral persons are much more liked than immoral ones (Wojciszke et al., 2009), and immoral acts are judged less immoral when the perpetrator is liked (Bocian et al., 2018). Moreover, liking mediates how a perpetrator's morality is judged by a perceiver when the perpetrator's actions are in the perceiver's interest (Bocian & Wojciszke, 2014). So, liking and judgments of morality are highly consistent among adults, which raises the question, why are they not consistent among young children?

One possibility is that 4- to 5-year-olds are too young to experience the dissonance resulting from holding discrepant beliefs (liking somebody who is committing bad acts). Admittedly, several studies (including the classical forbidden toy experiment, Aronson & Carlsmith, 1963) showed dissonance reduction among young children, but all of those involved behavior as one of the dissonant elements. The discrepancy between two beliefs (like in the present experiments) may be a subtler case of inconsistency not yet experienced by young children.

The second possibility is that young children are less hypocritical than adults. In studies, adults could not admit to liking an immoral person who had benefited them, so they increased their judgments of the antisocial other and truly believed those judgments (Bocian et al., 2016). Contrastingly, present studies found evidence that young children can admit their liking of benefactors even when they act

immorally. Discerning whether young children or adults are less hypocritical may be an interesting avenue for future empirical research.

The third possibility is that the presence of third parties in the current experiments (e.g., the experimenter asking questions) and their absence in studies on adults (e.g., judgments were anonymous; see Bocian & Wojciszke, 2014; Bocian et al., 2016) might explain the discrepancy in the results between young children and adults. For example, in the presence of the experimenter, people exercised moralistic punishment more than under conditions of anonymity (Kurzban, DeScioli, & O'Brien, 2007). Therefore, future studies should investigate whether the presence of an audience influences children's and adults' strategic, moral decision-making in the context of beneficial cooperation.

6.2 | Limitations and further directions

We recognize that our work has some limitations which might warrant future research. For example, we used a bipolar scale for moral judgment (good vs. bad) which might not capture the more nuanced differences in children's judgments of harm that well. Future studies could use five-point scales (e.g., lightning bolts vs. suns; Bocian & Myslinska Szarek, 2020) which help probe more deeply into how good or wrong a behavior was in the children's opinion. We also did not manipulate the quantity of the reward, which seems relevant in light of studies demonstrating that aversion to antisocial others may be overcome by large rewards (Tasimi et al., 2017).

Testing whether small rewards (fewer than five stickers), as well as large ones (more than 10 stickers), yielded the same results as presented in our work might contribute to better understanding how strongly, in the context of cooperation, personal gains shape children's moral judgment of antisocial others. However, whether children value cooperation over personal benefits or vice versa remains an open question.

At the age of 7, children become less selfish and more driven by moral considerations (Fehr et al., 2008; Sheskin et al., 2014); thus, a comparison between 5- and 7-year-olds in a beneficial cooperation with antisocial others context warrants future research. Moreover, we used hand puppets as victims and partners for cooperation. Although preschoolers perceive and treat puppets as real people (Li & Tomasello, 2018; Plötner et al., 2015; Schmidt et al., 2012), we cannot rule out that children may have seen the experimental task as gameplay with stuffed animals rather than as a real social situation. Therefore, the conceptual replication of present studies with peers instead of puppets is needed.

7 | CONCLUSION

By systematically examining whether beneficial cooperation overcomes a 4- to 5-year-olds' aversion to antisocial others, this research provides additional support for the theories which argue that morality is a form of cooperation (Tomasello & Vaish, 2013) while social and moral judgments serve a strategic function that

regulates social relations (Rai & Fiske, 2011) to coordinate condemnation based on public signals (DeScioli & Kurzban, 2013). The present results suggest that in the context of cooperation with antisocial others, mere cooperation is not enough to overcome young children's aversion to individuals who harm third parties. However, when harming in a cooperative setting is beneficial for the child or child's in-groups, the negative attitude toward antisocial others is mitigated. Therefore, these results indicate that by the age of 4, children do not judge others solely on their moral behavior but also on the social relationship motives of the moment and the prospect of beneficial cooperation.

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ENDNOTES

[1] For the partner/bystander puppets, we used two identical lion puppets with one differentiating feature—the color of the bowtie (green or red). During the experiment, one lion puppet was the antisocial partner, and the other was the bystander. We used the bystander puppet to probe children's preferences for the antisocial actor versus a similar looking neutral actor. For each experimental condition, we counterbalanced which lion puppet (green or red bowtie) was the actor or bystander.

[2] We also asked how much children liked the target puppet (see Supporting Information).

[3] Children decided whether they wanted to cooperate with the actor puppet (antisocial partner) or the neutral puppet (bystander).

[4] As Tables 1–4 show, in all four studies, the initial liking for the actor puppet demonstrates a ceiling effect, impairing the interpretation of the variance analysis results. Therefore, in the tables, we show all analytical comparisons. We used standardized mean differences between two groups of independent observations for the sample (d_s) as effect size estimators for between-participants comparisons (Cohen, 1988). We also used mean differences standardized by averaged standard deviations of both repeated measures (d_{av}) as effect sizes for comparisons of correlated samples (Cumming, 2012). Confidence intervals (CIs) around ds were computed on the basis of noncentralized distributions (Cumming & Finch, 2005).

REFERENCES

Aboud, F. E. (2003). The formation of in-group favoritism and out-group prejudice in young children: Are they distinct attitudes? *Developmental Psychology*, *39*, 48. https://doi.org/10.1037/0012-1649.39.1.48

Aronson, E., & Carlsmith, J. M. (1963). Effect of the severity of threat on the devaluation of forbidden behavior. *Journal of Abnormal and Social Psychology*, *66*, 584–588. https://doi.org/10.1037/h0039901

Benenson, J. F., Pascoe, J., & Radmore, N. (2007). Children's altruistic behavior in the dictator game. *Evolution and Human Behavior*, *28*, 168–175. https://doi.org/10.1016/j.evolhumbehav.2006.10.003

Blake, P. R., & McAuliffe, K. (2011). "I had so much it didn't seem fair": Eight-year-olds reject two forms of inequity. *Cognition*, *120*, 215–224. https://doi.org/10.1016/j.cognition.2011.04.006

Bocian, K., Baryła, W., Kulesza, W. M., Schnall, S., & Wojciszke, B. (2018). The mere liking effect: Attitudinal influences on judgments of moral character. *Journal Experimental Social Psychology*, *79*, 9–20. https://doi.org/10.1016/j.jesp.2018.06.007

Bocian, K., Baryła, W., & Wojciszke, B. (2016). When dishonesty leads to trust: Moral judgments biased by self-interest are truly believed. *Polish Psychological Bulletin*, *47*, 366–372. https://doi.org/10.1515/ppb-2016-0043

Bocian, K.,Baryła, W., & Wojciszke, B. (2020). Egocentrism shapes moral judgments. *Social and Personality Psychology Compass*.

Bocian, K., & Myslinska Szarek, K. (2020). Children's sociomoral judgment of antisocial others but not prosocial others depend on recipients past moral behaviour. *Social Development*. https://doi.org/10.1111/sode.12480

Bocian, K., & Wojciszke, B. (2014). Self-interest bias in moral judgments of others' actions. *Personality and Social Psychology Bulletin*, *40*(7), 898–909. https://doi.org/10.1177/0146167214529800

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum.

Cumming, G. (2012). *Understanding the new statistics: Effect sizes, confidence intervals, and meta-analysis*. Routledge.

Cumming, G., & Finch, S. (2005). Inference by eye: Confidence intervals and how to read pictures of data. *American Psychologist*, *60*, 170–180. https://doi.org/10.1037/0003-066X.60.2.170

DeScioli, P., Cho, B., Bokemper, S. E., & Delton, A. W. (2020). Selfish and cooperative voting: Can the majority restrain themselves? *Political Behavior*, *42*, 261–283. https://doi.org/10.1007/s11109-018-9495-z

DeScioli, P., & Kurzban, R. (2013). A solution to the mysteries of morality. *Psychological Bulletin*, *139*, 477. https://doi.org/10.1037/a0029065

Dunham, Y., Baron, A. S., & Carey, S. (2011). Consequences of "minimal" group affiliations in children. *Child Development*, *82*, 793–811. https://doi.org/10.1111/j.1467-8624.2011.01577.x

Dunham, Y., & Emory, J. (2014). Of affect and ambiguity: The emergence of preference for arbitrary ingroups. *Journal of Social Issues*, *70*, 81–98. https://doi.org/10.1111/josi.12048

Everett, J. A. C., Pizarro, D. A., & Crockett, M. J. (2016). Inference of trustworthiness from intuitive moral judgments. *Journal of Experimental Psychology: General*, *145*, 772–787. https://doi.org/10.1037/xge0000165

Fehr, E., Bernhard, H., & Rockenbach, B. (2008). Egalitarianism in young children. *Nature*, *454*, 1079–1084. https://doi.org/10.1038/nature07155

Fehr, E., & Fischbacher, U. (2004). Third-party punishment and social norms. *Evolution and Human Behavior*, *25*, 63–87. https://doi.org/10.1016/S1090-5138(04)00005-4

Gräfenhain, M., Behne, T., Carpenter, M., & Tomasello, M. (2009). Young children's understanding of joint commitments. *Developmental Psychology*, *45*, 1430. 0.1037/a0016122

Gräfenhain, M., Carpenter, M., & Tomasello, M. (2013). Three-year-olds' understanding of the consequences of joint commitments. *PLoS One*, *8*, e73039. https://doi.org/10.1371/journal.pone.0073039

Hamann, K., Warneken, F., Greenberg, J. R., & Tomasello M. (2011). Collaboration encourages equal sharing in children but not in chimpanzees. *Nature*, *476*, 328–331. http://dx.doi.org/10.1038/nature10278.

Hamann, K., Warneken, F., & Tomasello, M. (2011). Children's developing commitments to joint goals. *Child Development*, *83*, 137–145. https://doi.org/10.1111/j.1467-8624.2011.01695.x

Hamlin, J. K., & Wynn, K. (2011). Five and 9-month-old infants prefer prosocial to antisocial others. *Cognitive Development*, *26*, 30–39. https://doi.org/10.1016/j.cogdev.2010.09.001

Hamlin, J. K., Wynn, K., & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature*, *450*, 557–559. https://doi.org/10.1038/nature06288

Hamlin, J. K., Wynn, K., Bloom, P., & Mahajan, N. (2011). How infants and toddlers react to antisocial others. *Proceedings of the National Academy of Sciences of the United States of America*, *108*, 19931–19936. https://doi.org/10.1073/pnas.1110306108

Hetherington, C. H., Hendrickson, C., & Koenig, M. (2014). Reducing an in-group bias in preschool children: the impact of moral behavior. *Developmental Science*, *17*, 1042–1049. https://doi.org/10.1111/desc.12192

Horwitz, R. S., Shutts, K., & Olson, K. R. (2014). Social class differences produce social group preferences. *Developmental Science*, *17*, 991–1002. https://doi.org/10.1111/desc.12181

Jordan, J. J., McAliffe, K., & Warneken, F. (2014). Development of in-group favoritism in children's third-party punishment of selfishness. *Proceedings of the National Academy of Sciences of the United States of America*, *111*, 12710–12715. 0.1073/pnas.1402280111

Kenward, B., & Dahl, M. (2011). Preschoolers distribute scarce resources according to the moral valence of recipients' previous actions. *Developmental Psychology*, *47*, 1054–1064. https://doi.org/10.1037/a0023869

Kuhlmeier, V., Wynn, K., & Bloom, P. (2003). Attribution of dispositional states by 12-month-olds. *Psychological Science*, *14*, 402–408. https://doi.org/10.1111/1467-9280.01454

Kurzban, R., Descioli, P., & O'Brian, E. (2007). Audience effects on moralistic punishment☆. *Evolution and Human Behavior*, *28*, 75–84. http://dx.doi.org/10.1016/j.evolhumbehav.2006.06.001.

Li, J., & Tomasello, M. (2018). The development of intention-based sociomoral judgment and distribution behavior from a third-party stance. *Journal of Experimental Child Psychology*, *167*, 78–92. https://doi.org/10.1016/j.jecp.2017.09.021

Li, V., Spitzer, B., Olson, K. R. (2013). Preschoolers reduce inequality while favoring individuals with more. *Child Development*, *85*, 1123–1133. https://doi.org/10.1111/cdev.12198

Malti, T., Gummerum, M., Ongley, S., Chaparro, M., Nola, M., & Bae, N. Y. (2016). "Who is worthy of my generosity?" Recipient characteristics and the development of children's sharing. *International Journal of Behavioral Development*, *40*, 31–40. https://doi.org/10.1177/0165025414567007

McAuliffe, K., Jordan, J., & Warneken, F. (2015). Costly third-party punishment in young children. *Cognition*, *134*, 1–10. https://doi.org/10.1016/j.cognition.2014.08.013

McManus, R. M., Kleiman-Weiner, M., & Young, L. (2020). What we owe to family: The impact of special obligations on moral judgment. *Psychological Science*, *31*, 227–242. https://doi.org/10.1177/0956797619900321

Melnikoff, D. E., & Bailey, A. H. (2018). Preferences for moral vs. immoral traits in others are conditional. *Proceedings of the National Academy*

of Sciences of the United States of America, *115*, E592–E600. https://doi.org/10.1073/pnas.1714945115

Mendes, N., Steinbeis, N., Bueno-Guerra, N., Call, J., & Singer, T. (2018). Preschool children and chimpanzees incur costs to watch punishment of antisocial others. *Nature Human Behaviour*, *2*, 45–51. https://doi.org/10.1038/s41562-017-0264-5

Misch, A., Over, H., & Carpenter, M. (2014). Stick with your group: Young children's attitudes about group loyalty. *Journal of Experimental Child Psychology*, *126*, 19–36. https://doi.org/10.1016/j.jecp.2014.02.008

Misch, A., Over, H., & Carpenter, M. (2016). I won't tell: Young children show loyalty to their group by keeping group secrets. *Journal of Experimental Child Psychology*, *142*, 96–106. https://doi.org/10.1016/j.jecp.2015.09.016

Misch, A., Over, H., & Carpenter, M. (2018). The whistleblower's dilemma in young children: When loyalty trumps other moral concerns. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.00250

Myslinska Szarek, K., & Baryla, W. (2018). Preschoolers' preferences and moral judgements are biased towards those who have more resources. *Polish Psychological Bulletin*, *49*, 235–239. https://doi.org/10.24425/119491

Olson, K. R., & Spelke, E. S. (2008). Foundations of cooperation in young children. *Cognition*, *108*, 222–231. https://doi.org/10.1016/j.cognition.2007.12.003

Plötner, M., Over, H., Carpenter, M., & Tomasello, M. (2015). The effects of collaboration and minimal-group membership on children's prosocial behavior, liking, affiliation, and trust. *Journal of Experimental Child Psychology*, *139*, 161–173. https://doi.org/10.1016/j.jecp.2015.05.008

Rai, T. S. (2020). Relationship regulation theory. In K. Gray & J. Graham (Eds.), *Atlas of moral psychology* (pp. 231–241). The Guilford Press.

Rai, T. S., & Fiske, A. P. (2011). Moral psychology is relationship regulation: Moral motives for unity, hierarchy, equality, and proportionality. *Psychological Review*, *118*, 57–75. https://doi.org/10.1037/a0021867

Rekers, Y., Haun, D. B. M., & Tomasello, M. (2011). Children, but not chimpanzees, prefer to collaborate. *Current Biology*, *21*, 1756–1758. https://doi.org/10.1016/j.cub.2011.08.066

Salali, G. D., Juda, M., & Henrich, J. (2015). Transmission and development of costly punishment in children. *Evolution and Human Behavior*, *36*, 86–94. https://doi.org/10.1016/j.evolhumbehav.2014.09.004

Schmidt, M. F. H., Rakoczy, H., & Tomasello, M. (2012). Young children enforce social norms selectively depending on the violator's group affiliation. *Cognition*, *124*, 325–333. https://doi.org/10.1016/j.cognition.2012.06.004

Sheskin, M., Bloom, P., & Wynn, K. (2014). Anti-equality: Social comparison in young children. *Cognition*, *130*, 152–156. https://doi.org/10.1016/j.cognition.2013.10.008

Smetana, J. G., & Ball, C. L. (2018). Young children's moral judgments, justifications, and emotion attributions in peer relationship contexts. *Child Development*, *89*, 2245–2263. https://doi.org/10.1111/cdev.12846

Smetana, J. G., Jambon, M., & Ball, C. (2014). The social domain approach to children's moral and social judgments. *Handbook of moral development* (Vol. *2*, pp. 23–45). Psychology Press. https://doi.org/10.4324/9780203581957.ch2

Smith, C. E., Blake, P. R., & Harris, P. L. (2013). I should but I won't: Why young children endorse norms of fair sharing but do not follow them. *PLoS One*, *8*, e59510. https://doi.org/10.1371/journal.pone.0059510

Tasimi, A., Johnson, M. K., & Wynn, K. (2017). Children's decision-making: When self-interest and moral consideration conflict. *Journal of Experimental Child Psychology*, *161*, 195–201. https://doi.org/10.1016/j.jecp.2017.03.008

Tasimi, A., & Wynn, K. (2016). Costly rejection of wrongdoers. *Cognition*, *151*, 76–79. https://doi.org/10.1016/j.cognition.2016.03.004

Tomasello, M. (2019). *Becoming human: A theory of ontogeny*. Belknap Press.

Tomasello, M., Melis, P. A., Tennie, C., Wyman, E., & Herrmann, E. (2012). Two key steps in the evolution of human cooperation. *Current Anthropology*, *53*, 673–692. https://doi.org/10.1086/668207

Tomasello, M., & Vaish, A. (2013). Origins of human cooperation and morality. *Annual Review of Psychology*, *64*, 231–255. https://doi.org/10.1146/annurev-psych-113011-143812

Vaish, A., Carpenter, M., & Tomasello, M. (2010). Young children selectively avoid helping people with harmful intentions. *Child Development*, *81*, 1661–1669. https://doi.org/10.1111/j.1467-8624.2010.01500.x

Vaish, A., Missana, M., & Tomasello, M. (2011). Three-year-old children intervene in third-party moral transgressions. *British Journal of Developmental Psychology*, *29*, 124–130. https://doi.org/10.1348/026151010X532888

Vaish, A., & Tomasello, M. (2014). The early ontogeny of human cooperation and morality. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 279–298). Psychology Press. https://doi.org/10.4324/9780203581957.ch13

Vogelsang, M., & Tomasello, M. (2016). Giving is nicer than taking: Preschoolers reciprocate based on the social intentions of the distributor. *PLoS One*, *11*, e0147539. https://doi.org/10.1371/journal.pone.0147539

Warneken, F., Grafenhain, M., & Tomasello, M. (2011). Collaborative partner or social tool? New evidence for young children's understanding of joint intentions in collaborative activities. *Developmental Science*, *15*, 54–61. https://doi.org/10.1111/j.1467-7687.2011.01107.x

Warneken, F., & Tomasello, M. (2007). Helping and cooperation at 14 months of age. *Infancy*, *11*, 271–294. http://dx.doi.org/10.1111/j.1532-7078.2007.tb00227.x.

Wilks, M., Kirby, J., & Nielsen, M. (2018). Children imitate antisocial in-group members. *Developmental Science*, *21*, e12675. https://doi.org/10.1111/desc.12675

Wilks, M., & Nielsen, M. (2018). Children disassociate from antisocial in-group members. *Journal of Experimental Child Psychology*, *165*, 37–50. https://doi.org/10.1016/j.jecp.2017.06.003

Wojciszke, B., Abele, A. E., & Baryła, W. (2009). Two dimensions of interpersonal attitudes: Liking depends on communion, respect depends on agency. *European Journal of Social Psychology*, *39*, 973–990. https://doi.org/10.1002/ejsp.595

Yang, F., Choi, Y.-J., Misch, A., Yang, X., & Dunham, Y. (2018). In defense of the commons: Young children negatively evaluate and sanction free riders. *Psychological Science*, *29*, 1598–1611. https://doi.org/10.1177/0956797618779061

Yudkin, D. A., Van Bavel, J. J., & Rhodes, M. (2020). Young children police group members at personal cost. *Journal of Experimental Psychology: General*, *49*, 182–191. https://doi.org/10.1037/xge0000613

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

Supplementary Material

WILEY

Children's sociomoral judgements of antisocial but not prosocial others depend on recipients' past moral behaviour

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Abstract

This study investigated whether recipients' past moral or immoral behaviour shapes 4-year-olds' judgements of the agents who either harm or help the recipients. Children ($N = 161$) watched the agent who either harmed or helped the antisocial, prosocial, or neutral recipient. Afterwards, children indicated their sociomoral judgement of the agent's act, their attitude towards the agent and their perception of the agent's emotions. Children liked the agent more, ascribed less sadness to the agent, and judged the agent's actions as less bad when the agent inflicted harm against the antisocial recipient than on the prosocial and neutral recipient. The recipient's past behaviour did not influence children's evaluations when the agent helped the recipient. The presented evidence indicates that by the age of 4, children develop the ability to use complex moral reasoning that allows them to monitor whether the harmful behaviour of antisocial others is justified by retaliation for past transgressions.

KEYWORDS
harm, moral development, punishment, relationship regulation, social cognition

1 | INTRODUCTION

In the first year of life, we are capable of evaluating others based on their social behaviour. Research has shown that infants are attracted to prosocial individuals over individuals who act antisocially towards unrelated third parties (Hamlin, Wynn, & Bloom, 2007; Hamlin, Wynn, & Bloom, 2010; Hamlin & Wynn, 2011). This early developmental skill that enables infants to avoid antisocial individuals is maintained in early childhood. For example, children aged 3 avoid helping individuals who harm or intend to harm others (Vaish, Carpenter, & Tomasello, 2010) whereas children aged 4 to 5 give more resources to a puppet whose behaviour was prosocial towards third parties than to a puppet that behaved antisocially towards third parties (Kenward & Dahl, 2011; Olson & Spelke, 2008).

This evidence suggests that from the early stages of our lives, we are capable of not only tracking whether the past actions of others were positive or negative but also responding with appropriate behaviour. One of the universal responses to antisocial behaviour is the willingness to enact punishment, and children's responses are not an exception. Research has demonstrated that 5-year-olds give bad-tasting candies more often to an adult who behaved unethically towards another person than to an adult who behaved neutrally (Kenward & Osth, 2015). Additionally, children allocate more punishment towards children who engage in bad behaviour (Smith & Warneken, 2016). More importantly, children would also sacrifice their resources to punish recipients who acted unfairly or antisocially towards third parties—an act called third-party punishment (e.g., Fehr & Fischbacher, 2004).

Research investigating the development of third-party punishment showed that 4-year-olds enact punishment because they believe that antisocial actions deserve to be punished (Kenward & Östh, 2012). Moreover, when children aged 3 to 4 are in a position of authority, they are more likely to punish their antisocial in-group members rather than out-group members (Yudkin, Van Bavel, & Rhodes, 2020). Finally, 6-year-olds (but not 5-year-olds) are willing to punish other children more when they had previously proposed an unfair rather than fair allocation of resources towards third parties (McAuliffe, Jordan, & Warneken, 2015). Additionally, children aged 6 are also willing to sacrifice their resources to witness the punishment of a wrongdoer (Mendes, Steinbeis, Bueno-Guerra, Call, & Singer, 2017). Overall, the evidence we reviewed suggests that even though children display aversion to harmful behaviour, they are keen to punish individuals who break social norms (e.g., fairness). According to the theory of morality as a form of cooperation (Tomasello & Vaish, 2013), morality facilitates cooperation among humans by promoting the enforcement of social norms. Therefore, children should perceive and judge the punishment of antisocial others who violate social norms as justified.

Research has shown that the sociomoral judgements of infants and young children are not based on simple aversion to harmful behaviour but rather reflect complex moral reasoning concerning the past behaviour of the recipient. For example, 8-month-old infants prefer characters who acted negatively towards antisocial individuals and characters who acted positively towards prosocial individuals (Hamlin, Wynn, Bloom, & Mahajan, 2011). Moreover, research has found that 10-month-olds already expect third parties to act more positively towards a fair donor rather than towards an unfair donor (Meristo & Surian, 2013) and look longer at antisocial actions when they are directed towards the unfair donor than towards the fair donor (Meristo & Surian, 2014). Studies have also shown that recipients' previous antisocial actions impact 5-year-olds' intent-based social preferences but not their moral judgements or distributive behaviour (Li & Tomasello, 2018).

This evidence suggests that infants and young children can evaluate acts not solely based on their value but also by considering the value of the recipient's previous actions. According to the social-cognitive domain theory (Smetana, Jambon, & Ball, 2014; Smetana & Ball, 2018), children in their sociomoral judgements consider not only the act but also the current context and the recipient's characteristics (Helwig & Principe, 1999; Slomkowski & Killen, 1992). Therefore, children may form sociomoral judgements from different perspectives embedded in different social domains (e.g., moral norms, conventional norms, and social norms). Therefore, immoral behaviour directed towards another person might be judged negatively when the moral norm is considered (it is wrong to hurt others). However, if the behaviour punishes someone who has previously behaved antisocially, children may judge the action positively out of social concern for proper group functioning. These assumptions align with the relationship regulation theory (Rai & Fiske, 2011), which argues that the relational context in which harm occurs defines its acceptability. Therefore,

if children consider who is harmed (e.g., antisocial character) and why (e.g., punishment for past transgressions), then their acceptability of harm should not depend solely on the positive or negative value of the act but rather on the relational status between the agent and the recipient and the current context of the punishment.

In fact, there is evidence that children's moral judgements are influenced by the type of harm (prototypical vs. necessary) and peer relationship context. Specifically, with increasing age (from 5 to 11 years old), children rate more leniently necessary harm (actor transgresses to prevent injury); however, prototypical harm is not less wrong and less deserving of punishment (Jambon & Smetana, 2014). Moreover, children aged 4 to 9 years judge that transgressions against bullies and disliked peers are more acceptable and less deserving of punishment than those against friends (Smetana & Ball, 2018). Finally, recent research has shown that when young children collaborate with partners who help them acquire resources but also harm third parties, their obligation to sustain the beneficial relationship is stronger than their aversion to antisocial others. In the result, children express a positive attitude towards the partner, even though they recognize the partner's actions as immoral (Myslinska-Szarek, Bocian, Baryla, & Wojciszke, 2020). Therefore, we propose that children's sociomoral judgements of individuals who harm others depend on the social and relational context in which antisocial behaviour occurs.

2 | THE PRESENT STUDY

In this paper, we sought to extend past developmental research on the role of the recipient's past moral behaviour in evaluations of antisocial others. We examine 4-year-olds' attitudes, sociomoral judgements, and emotions regarding individuals who either help or harm others who previously acted either prosocially or antisocially. Past research has investigated either infants' preferences of antisocial individuals who acted negatively towards antisocial individuals (Hamlin et al., 2011) or infants' expectations towards acts of third parties directed towards unfair and fair donors (Meristo & Surian, 2013; Meristo & Surian, 2014). However, these studies do not answer the question of why infants prefer characters who harm antisocial others. Therefore, we sought to address this gap by investigating whether 4-year-olds would judge harm inflicted on antisocial others as good or bad. In this way, the present study would answer the question of whether young children prefer characters who harm antisocial others because they evaluate their behaviour as morally good. There are several reasons to assume that children's attitudes (e.g., liking) would be strongly associated with their moral judgements.

First, similarity and dissimilarity to others affect infants' perception of harm (Hamlin, Mahajan, Liberman, & Wynn, 2013). Additionally, preschoolers attribute more guilt to characters whom they do not like (Dumhan & Emory, 2014). More importantly, recent research has shown that preschoolers' patterns of resource distribution follow their normative views (Paulus, Nöth, & Wörle, 2018). Because the distribution of resources is a frequently used indirect measurement of liking (Plötner, Over, Carpenter, & Tomasello, 2015; Vogelsang & Tomasello, 2016), these results suggest that children's attitudes follow their moral judgements.

Second, studies on adults have shown that attitudes (e.g., liking) and judgements of moral character are strongly associated (Wojciszke, 2005). Individuals described as helpful, kind, and non-egoistic are liked much more than individuals described as envious, malicious, and unfair are (Wojciszke, Abele, & Baryla, 2009). Moreover, liking an actor explains why observers judge the actor's unethical behaviour as less wrong when this behaviour serves the observer's interests (Bocian & Wojciszke, 2014). Finally, research directly investigating whether interpersonal attitudes influence judgements of moral character found that positive attitudes biased perceptions of others' moral character (Bocian, Baryla, Kulesza, Schnall, & Wojciszke, 2018). Also, a different line of inquiry showed that preferences for moral vs. immoral traits in others depend on our current goals. Specifically, it was found that moral traits increase liking when morality advances our goals, but when immorality is conducive to our goals, the preference for moral traits is eliminated or reduced (Melnikoff & Bailey, 2018).

To probe whether children consider the recipient's past moral behaviour when harm occurs, we introduced a control condition that did not include information regarding the recipient's past prosocial or antisocial behaviour.

In this way, the present study would answer the question of whether children's sociomoral judgements of harm (vs. help) account only for the valence of the act (helping vs. harming) or for the recipient's past behaviour (prosocial vs. antisocial vs. neutral). Specifically, we assumed that children would like the agent who harms the antisocial recipient (vs. the neutral recipient) more and would like the agent who harms the prosocial recipient (vs. the neutral recipient) less. Because children's moral judgements should follow their attitude judgements, we assumed that children would judge the harm inflicted on an antisocial recipient as less bad than the harm inflicted on a prosocial recipient than the harm inflicted on a neutral recipient.

A novel contribution of the present study was that we also investigated how children attribute emotions to individuals who harm others based on the recipient's past moral behaviour. Past research has shown the happy victimizer phenomenon, which indicates that children at the age of 6 or 7 attribute positive emotions (e.g., happiness) to those who harm others (Arsenio & Kramer, 1992; Krettenauer, Malti, & Sokol, 2008; Murgatroyd & Robinson, 1993). However, different research has found evidence that the expression of an apology reversed the happy victimizer phenomenon, showing that children attributed negative feelings to the wrongdoer who apologized and positive feelings to the wrongdoer who did not (Smith, Chen, & Harris, 2010). Additionally, we have evidence that younger children struggle with understanding how the transgressor might feel after wrongdoing. For example, it has been shown that when no display of guilt was present, 4-year-olds but not 5-year-olds still thought that the transgressor felt bad (Vaish, Carpenter, & Tomasello, 2011, Study 1). Only when the transgressor displayed guilt with an apology were the 4-year-olds able to draw the same conclusion as the 5-year-olds about the wrongdoer's feelings (Vaish et al., 2011, Study 2). Finally, in the context of peer relationships, research has shown that children aged 4 to 9 years attributed less negative emotion to actors transgressing against bullies than against friends (Smetana & Ball, 2018). Therefore, it seems essential to investigate whether the happy victimizer phenomenon occurs when information on the recipient's moral behaviour is introduced.

On the one hand, past studies suggest that while older children (6 to 7 years old) attribute positive emotions to antisocial characters (Arsenio & Kramer, 1992; Krettenauer et al., 2008; Murgatroyd & Robinson, 1993). On the other hand, and importantly for the present study, research has demonstrated that the relational context shapes young children's attribution of emotions because children attribute less negative emotion to characters who transgress against bullies (Smetana & Ball, 2018). Therefore, we hypothesized that the recipient's past moral behaviour would impact children's attributions of emotions to the agent who harms (vs. helps) the recipient. Specifically, we predicted that compared with the control group, 4-year-olds would attribute less negative emotion to an agent who harmed an antisocial recipient and more negative emotion to an agent who harmed a prosocial recipient.

2.1 | Method

In this paper, we report all measures, all manipulations, and any data exclusions. This study was found exempt by the Ethics Committee Chair, Faculty of Psychology, [redacted], [redacted], because there was no deception during the experimental manipulation and because children's parents, based on a full description of the procedure, consented to their children's participation in the experiment. The data that support the findings of the presented study are openly available at https://osf.io/tu3hs/.

2.1.1 | Participants

The participants were 4-year-old children (N = 161; 85 girls, 77 boys) who were between the ages of 44 months and 63 months (M = 52.74 months, SD = 4.0 months). Fifteen additional children were tested but were excluded from data analysis due to experimenter error (four children), excessive shyness (five children), inability to understand the experimental procedure (3 children) or distraction and lack of response to the experimenter's questions

(three children). Children were recruited from kindergartens in a medium-sized city in Poland. No data on ethnicity or socioeconomic status were collected, but approximately 99% of the population from which the sample was drawn was native Polish, and the population includes a broad mix of socioeconomic backgrounds. All children were healthy with no disabilities. The data were collected between January and September 2018. Based on a sensitivity power analysis, this sample size provides 0.80 power for the detection of an effect size of $f^2 = 0.17$.

2.1.2 | Design and materials

Children were tested individually in a separate room in their kindergartens and randomly assigned to one of the six conditions based on a 2 (the agent: helper vs. harmer) × 3 (the recipient: prosocial vs. antisocial vs. neutral) between-subjects design (24–29 children per condition). First, we measured children's attitudes towards puppets (a lion and a bear) using a 5-point scale (five different-sized stars, see the Supplement) to control for the possible influence of preferences on their later responses. Figure 1 presents a summary of the experimental procedure.

2.1.3 | Procedure

In the first phase, children received knowledge about the past act of the recipient (prosocial vs. antisocial vs. neutral). Under the supervision of a researcher, each child watched a video with two puppet characters—either a lion or a bear (Puppet 1) acting prosocially, antisocially or neutrally towards a giraffe (Puppet 2). In the video, the giraffe (Puppet 2) built a tower block from Lego Duplo coloured blocks. Puppet 1 then appeared and, depending on the research condition, located a lost brick for the giraffe (the prosocial act), destroyed the giraffe's tower (the antisocial act) or acted neutrally (no action).

In the second phase, children watched another video showing a new interaction between the recipient that previously acted prosocially or antisocially or neutrally (Puppet 1) and new actor (Puppet 3). In the video, children either watched the agent puppet verbally expressing willingness to help (e.g., I will help you find your lost brick)
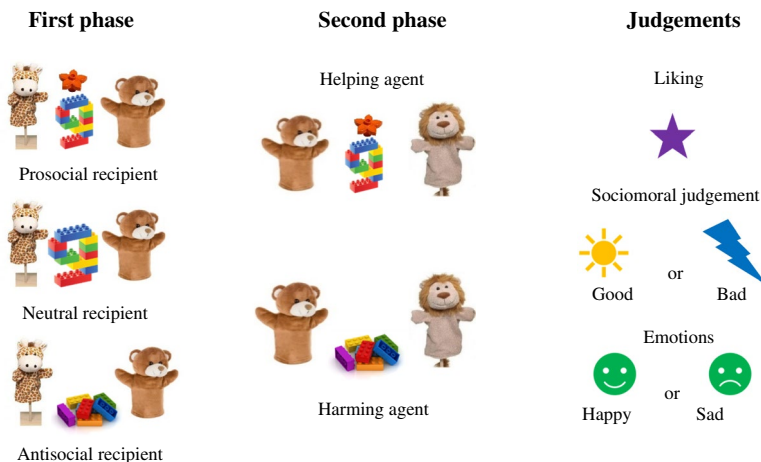

FIGURE 1 The experimental procedure. In the first phase, children watched the video showing the recipient puppet acting antisocially, prosocially, or neutrally. The recipient puppet is the lion or the bear puppet (counterbalanced), which either helped the giraffe puppet locate the lost brick or destroyed the giraffe's tower. During the second phase, children watched the video showing the agent puppet helping or destroying the recipient's puppet tower. After watching both videos, we asked children to make sociomoral judgements about the agent puppet

and then helping locate the recipient's puppet brick (the helping actor) or watched the agent puppet verbally expressing willingness to harm (e.g., I will destroy your tower) and then destroying the recipient's puppet tower (the harming actor). The videos from both the first and second phases were separated by a short break with a falling curtain, indicating that the scenes and performing puppets were independent of each other (see the Supplement for the video examples). For each condition, we counterbalanced which puppet—the lion or the bear—was the agent puppet or the recipient puppet.

After watching both videos, the first researcher left the room, and the second researcher, blind to the hypothesis and research condition, first asked children about the videos to probe whether they perceived them as two separate scenes (see the Supplement for more information). Then, she asked children several questions about the agent's behaviour. The questions were asked in the following fixed order: (1) Liking: 'How much do you like the lion/bear right now? Can you show which of the five stars you picked for the lion/bear puppet?' (2) Sociomoral judgement: 'Do you think the lion/bear acted in a good or bad way? If you think it was bad, please point out how bad it was (five different-sized thunderbolts), or if it was good, how good was the behaviour (five different-sized suns)?' (3) Emotions: "Do you think the (lion/bear) was happy or sad? If you think it was happy, please point out how happy it was (five different-sized happy faces), or if it was sad, how sad it was (five different-sized sad faces; see the Supplement for more information).

2.1.4 | Coding

All judgements were assessed on 5-point scale. For the liking judgement, scores ranged from 1 (I do not like it at all) to 5 (I like it very much), with 3 (I do not know) as the neutral value. The sociomoral judgement was rated on a 5-point scale and was coded based on the way in which the children had seen the act. For bad judgement, scores ranged from −5 (extremely bad) to −1 (slightly bad) whereas for good judgement, scores ranged from 1 (slightly good) to 5 (extremely good) without a zero midpoint. Judgement of emotions was also rated on a 5-point scale and was coded based on the way in which the children attributed emotions to the agent. For the sad emotion, scores ranged from −5 (extremely sad) to −1 (slightly sad) whereas for the happy emotion, scores ranged from 1 (slightly happy) to 5 (extremely happy) without a zero midpoint.

2.2 | Results

2.2.1 | Manipulation checks

The repeated t test analysis showed that the bear and the lion were equally liked before the experiment (M = 4.70, SD = 0.56 vs. M = 4.56, SD = 0.76, respectively; $t(160)$ = 1.71, p = .090).

2.2.2 | Liking

We subjected the liking measurement to a two-way analysis of variance in a 2 (the agent: helper vs. harmer) × 3 (the recipient: prosocial vs. antisocial vs. neutral) design. The analysis revealed the main effect of the agent's act ($F(1, 155)$ = 169.80, p < .001, η_p^2 = .52) and the main effect of the recipient's past behaviour ($F(2, 155)$ = 10.81, p < .001, η_p^2 = .12; see Table 1). More importantly, these effects were qualified by a significant interaction between the agent's act and the recipient's past behaviour ($F(2, 155)$ = 25.02, p < .001, η_p^2 = .24). The interaction was such that the recipient's past behaviour had no impact on the children's liking of the helping agent ($F(2, 76)$ = 2.41, p = .097) but

TABLE 1 Means and standard deviations for liking judgement as a function of a 2 (the agent: helper vs. harmer) × 3 (the recipient: prosocial vs. antisocial vs. neutral) design

| | Agent | | | | | |
| | Helper | | Harmer | | Marginal | |
Recipient	M	SD	M	SD	M	SD
Prosocial	4.92	0.28	1.90	1.27	3.26	1.70
Antisocial	4.50	0.92	3.84	1.02	4.19	1.02
Neutral	4.74	0.66	3.11	0.96	3.91	1.16
Marginal	4.71	0.70	2.90	1.27		

Note: M and SD represent the mean and standard deviation, respectively.
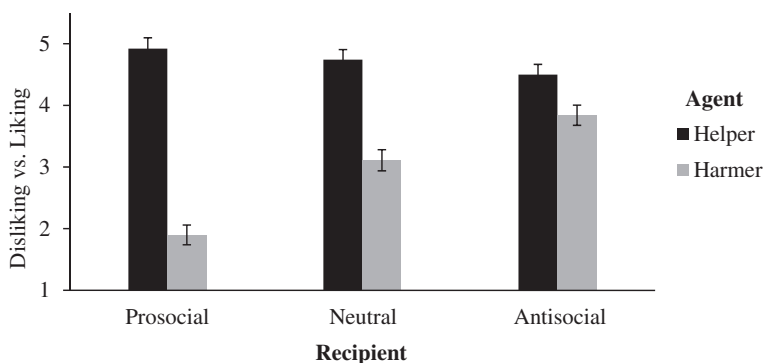
FIGURE 2 Impact of recipient's past social behaviour on children's liking score of the helping or harming agent. Error bars represent standard error. Liking scores were rated on a 5-point scale ranging from 1 (I do not like it at all) to 5 (I like it very much), with 3 (I do not know) as the neutral value

shaped the children's liking of the harming agent ($F(2, 79) = 26.34$, $p < .001$, $\eta_p^2 = .40$). As expected, children's basic aversion towards the harming agent (vs. helping agent) in the control condition ($M = 3.11$, $SD = 0.96$) was modified by the recipient's past behaviour. Specifically, children display a positive attitude towards the agent who harmed the antisocial recipient ($M = 3.84$, $SD = 1.02$, $p = .025$) and a negative attitude towards the agent who harmed the prosocial recipient ($M = 1.90$, $SD = 1.01$, $p < .001$; see Figure 2).
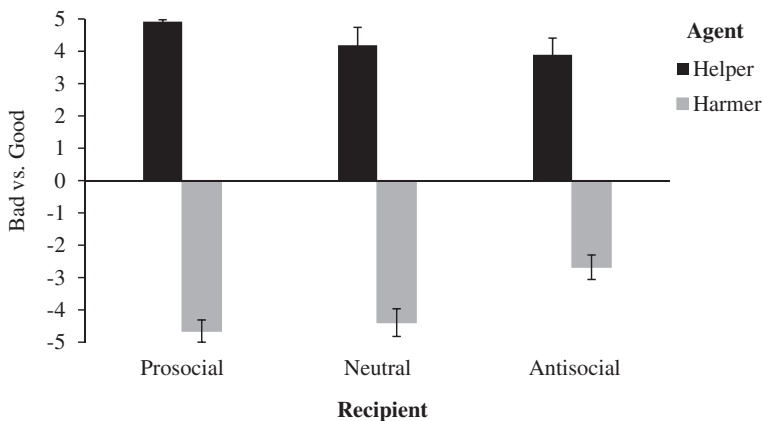
2.2.3 | Sociomoral judgement

The sociomoral judgement of the helping or harming agent was subjected to a similar 2 × 3 two-way analysis of variance. This analysis yielded the main effect of the agent's act ($F(1, 155) = 575.22$, $p < .001$, $\eta_p^2 = .79$) whereas the main effect of the recipient's past behaviour was nonsignificant ($F(2, 155) = 1.49$, $p = .230$; see Table 2). However, the interaction between the agent's action and the recipient's past behaviour was significant ($F(2, 155) = 6.51$, $p = .002$, $\eta_p^2 = .08$). The interaction was such that the recipient's past behaviour had no impact on the children's sociomoral judgement of the helping agent ($F(2, 76) = 1.28$, $p = .283$) but shaped children's sociomoral judgement of the harming agent ($F(2, 79) = 7.56$, $p = .001$, $\eta_p^2 = .16$). As predicted, children's sociomoral judgement regarding harm (vs. help) in the control condition ($M = -4.39$, $SD = 2.00$) was modified by the recipient's past behaviour. Specifically, children judged harming acts as less bad when the recipient was antisocial ($M = -2.68$, $SD = 2.13$, $p = .007$). However, contrary to expectations when the recipient was prosocial, children's

TABLE 2 Means and standard deviations for sociomoral judgement as a function of a 2 (the agent: helper vs. harmer) × 3 (the recipient: prosocial vs. antisocial vs. neutral) design

| | Agent | | | | | |
| | Helper | | Harmer | | Marginal | |
Recipient	M	SD	M	SD	M	SD
Prosocial	4.92	0.28	−4.66	1.86	−0.32	5.00
Antisocial	3.90	2.94	−2.68	2.13	0.79	4.19
Neutral	4.19	0.28	−4.39	2.00	−0.18	4.91
Marginal	4.30	2.36	−3.96	2.15		

Note: M and SD represent the mean and standard deviation, respectively.

Positive values represent judgements coded as good (1 to 5). Negative values represent judgements coded as bad (−1 to −5).

FIGURE 3 Impact of the recipient's past social behaviour on children's sociomoral judgement of the helping or harming agent. Error bars represent standard error. Sociomoral judgement was rated on a 5-point scale. For bad judgement, scores ranged from −5 (extremely bad) to −1 (slightly bad). For good judgement, scores ranged from 1 (slightly good) to 5 (extremely good)

sociomoral judgement was no different from that of children in the control condition ($M = −4.66$, $SD = 1.86$, $p = .873$; see Figure 3).
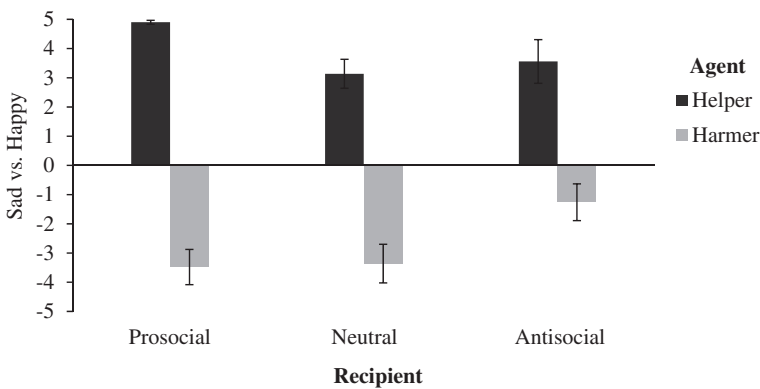
2.2.4 | Emotions

Finally, we tested whether the recipient's past social behaviour affected children's perception of the agent's feelings. This analysis revealed the main effect of the agent's act ($F(1, 134) = 184.72$, $p < .001$, $\eta_p^2 = .58$) whereas the main effect of the recipient's past behaviour was nonsignificant ($F(2, 134) = 2.39$, $p = .096$; see Table 3). However, once again, the interaction between the agent's action and the recipient's past behaviour was significant ($F(2, 134) = 4.50$, $p = .013$, $\eta_p^2 = .06$). The recipient's past behaviour had no impact on the children's emotional attribution of the helping agent ($F(2, 64) = 2.77$, $p = .071$) but influenced their emotional attribution of the harming agent ($F(2, 70) = 3.80$, $p = .027$, $\eta_p^2 = .10$). As assumed, in comparison to the control condition ($M = −3.36$, $SD = 3.15$), children attributed less sadness to the harming agent when the recipient was antisocial ($M = −1.26$, $SD = 3.18$, $p = .022$), but contrary to expectations, children did not perceive the harming agent to be more sad when the recipient was prosocial ($M = −3.48$, $SD = 3.02$, $p = .892$; see Figure 4).[1]

TABLE 3 Means and standard deviations for emotional attribution as a function of a 2 (the agent: helper vs. harmer) × 3 (the recipient: prosocial vs. antisocial vs. neutral) design

| | Agent | | | | | |
| | Helper | | Harmer | | Marginal | |
Recipient	M	SD	M	SD	M	SD
Prosocial	3.56	2.48	−3.48	3.02	0.24	4.77
Antisocial	3.90	2.94	−1.26	3.18	0.79	4.19
Neutral	3.14	3.51	−3.36	3.15	−0.32	4.64
Marginal	3.82	2.59	−2.74	3.23		

Note: *M* and *SD* represent the mean and standard deviation, respectively. Positive values represent judgements of happiness (1 to 5). Negative values represent judgements of sadness (−1 to −5).

FIGURE 4 Impact of the recipient's past social behaviour on children's attributions of emotions of the helping or harming agent. Error bars represent standard error. Emotion attributions were rated on a 5-point scale. For sadness, scores ranged from −5 (extremely sad) to −1 (slightly sad). For happiness, scores ranged from 1 (slightly happy) to 5 (extremely happy)

3 | GENERAL DISCUSSION

Although much research has examined the development of children's preferences and behaviour regarding prosocial and antisocial individuals, little research has investigated how the past moral behaviour of the recipient shapes children's sociomoral judgements of helping and harming characters. In this paper, we addressed this scarcity by demonstrating that 4-year-olds' attitudes, sociomoral judgements and attributions of emotions in response to an agent's helping or harming behaviour depend on the recipient's past prosocial or antisocial behaviour. In the present study, we have shown that children's aversion to characters who harm others was attenuated when harm was inflicted on the antisocial individual and strengthened when harm was inflicted on the prosocial individual. As expected, the recipient's past behaviour has also shaped children's sociomoral judgement. Specifically, children judged harming the antisocial recipient as less bad than harming the prosocial or neutral recipient. Finally, children's attributions of emotions were also influenced by the recipient's past behaviour. Children attributed less sadness to the agent who harmed the antisocial recipient than to the agent who harmed the prosocial or neutral recipient. Overall, the present study significantly contributes to the literature by presenting evidence that children's sociomoral judgements do not reflect simple aversion to harmful behaviour but rather complex moral reasoning concerning whether the recipient's past behaviour was good or bad.

3.1 | Theoretical contribution

First, while previous research has focused on infants' preferences (Hamlin et al., 2011) and expectations (Meristo & Surian, 2013; Meristo & Surian, 2014) regarding characters who acted positively or negatively toward prosocial or antisocial others, we examined whether children perceived help or harm as good or bad depending on the past social behaviour of the recipient. Therefore, the present study corroborates past studies that have shown that children believe that transgressions against bullies are more acceptable and less deserving of punishment (Smetana & Ball, 2018) by providing evidence that children not only display a positive attitude toward individuals who harm antisocial others but also judge their harmful behaviour as less bad. Second, this finding suggests that children's willingness to punish others who violate norms of fairness (McAuliffe et al., 2015), such as in-group members (Yudkin et al., 2020), and to witness the punishment of wrongdoers (Mendes et al., 2017) is motivated not only by the belief that antisocial actions deserve to be punished (Kenward & Östh, 2012) but also by the perception of punishment as morally justified.

The present results suggest that children's sociomoral judgements of antisocial others depend on the recipient's past behaviour and are, therefore, inherently relational, as proposed by the social-cognitive domain theory (Smetana et al, 2014; Smetana & Ball, 2018). Past research has shown that children's moral judgement reflects their concern for others' welfare because children rated necessary harm to be less wrong and less deserving of punishment than prototypical harm (Jambon & Smetana, 2014). Evidence found in the present study corroborates these results by showing that children's acceptability of harming others depends on the relational context between the recipient and the agent. Therefore, the present study may suggest that children judged harm inflicted on an antisocial individual (vs. a neutral or prosocial individual) as less bad because their sociomoral judgements are motivated by concern for others' welfare and the protection of social norms. In this way, the present research contributes to relationship regulation theory (Rai & Fiske, 2011) and the theory of virtuous violence (Fiske & Rai, 2014), which describes violence as justified or even required if it is committed in retaliation for a previous transgression (i.e., eye for an eye).

Our work contributes to past research investigating the happy victimizer phenomenon (Arsenio & Kramer, 1992; Krettenauer, Malti, & Sokol, 2008; Murgatroyd & Robinson, 1993; Smetana & Ball, 2018; Smith et al., 2010; Vaish et al., 2011). In the present study, children judged individuals who harmed antisocial others as less sad than individuals who harmed prosocial or neutral others. This result suggests that at the age of 4, information about the past moral behaviour of the target shape children's beliefs about the transgressor's feelings. This evidence corroborates past research that has shown that children attribute less negative emotion to characters when they transgress against bullies (Smetana & Ball, 2018). Therefore, the present study suggests that the happy victimizer phenomenon might be moderated by the information about the victim's past moral behaviour.

In addition, past research has shown that when the transgressor does not present guilt, 4-year-olds but not 5-year-olds still think that the transgressor feels bad (Vaish et al., 2011). In the present study, that lack of guilt display after transgression could shape children's beliefs about the transgressor's feelings. Future studies investigating the happy victimizer phenomenon should vary both information: victim's moral character and transgressor's display of guilt to determine which information has a more substantial impact on children's beliefs about the transgressor's feelings.

3.2 | Limitations and further directions

We recognize that our work has some limitations that might warrant future research. For example, recent research regarding intention-based judgements has found that 3- and 5-year-olds' sociomoral judgements were not sensitive to the social context of the past behaviour of the recipient (Li & Tomasello, 2018). The different focus

of the past and present study may explain the discrepancy in the results. While the study of Li and Tomasello (2018) aimed to investigate intent-based sociomoral judgements, our work tested outcome-based sociomoral judgements. We may only speculate that the joint influence of the agent's intention, the outcome of the agent's behaviour and the past recipient's social behaviour was cognitively too demanding to affect children's sociomoral judgements. Therefore, the answer to the question of whether older children's intent-based and outcome-based sociomoral judgements are affected by the past behaviour of the recipient warrants future research.

The interesting finding of the present research is that the recipient's past social behaviour did not affect children's sociomoral judgement of the helping agent. One plausible explanation is that we found ceiling effects for sociomoral judgement of prosocial recipients. Future studies could use 7- or even 11-point scale to capture more nuanced differences in children's judgements of harm directed towards prosocial individuals. Another plausible explanation is that adverse events are more blatant for children, and therefore, they pay more attention to them.

Previous studies showed a strong negativity bias in children of all ages (Rozin & Royzman, 2001; Vaish, Grossmann, & Woodward, 2008). Moreover, young children expect others to behave prosocially towards third parties (Smith, Blake, & Harris, 2013; Schmidt & Sommerville, 2011). Also, according to the theory of virtuous violence (Fiske & Rai, 2014), harm must be justified, and information about the recipient's previous behaviour might serve as a plausible premise. This explanation is consistent with studies that have shown that for adults, treating immoral events as impossible is a default option (Phillips & Cuschman, 2016). Therefore, children in our study could be more impacted by the agent's antisocial behaviour than by the agent's prosocial behaviour because the prosocial behaviours may be perceived by young children as default and not requiring justification.

Future studies might also investigate to what extent a Theory of Mind assessment, specifically, false beliefs about the agent's knowledge of the recipient's past behaviour could explain the present results. On the one hand, research has shown that ToM has a significant impact on preschoolers' moral judgements (Leslie, Knobe & Cohen, 2006; Knobe, 2005) and longitudinal research has confirmed that with age, the ability to make complex moral judgements based on ToM increases (Smetana, Jambon, Conry-Murray, & Sturge-Apple, 2012). On the other hand, studies have found evidence that 3-year-olds are not aware that others might have moral beliefs different from their own and judge others' actions correspondingly with their own beliefs. Only 5-year-olds are better in differencing their own moral beliefs from the beliefs of other people (Wainryb & Ford, 1998). Moreover, even though 4-year-olds can attribute false beliefs, research has demonstrated that this ability is fully devolved no sooner that by the age of 5 (Sullivan, Zaitchik, & Tager-Flusberg, 1994). Recent research has suggested that lack of fully developed ability to attribute false belief about the agent's knowledge might explain why the past moral behaviour of the recipient did not impact 3-year-olds' intent-based moral judgment (Li & Tomasello, 2018).

It is, therefore, possible that 4-year-olds in our study based their moral judgements on their knowledge of the recipient's previous behaviour. Accordingly, children in our study could prefer agents who act negatively towards antisocial recipients because they might believe that agents have the same knowledge about the recipient's past behaviour as they have. Moreover, research has demonstrated that 4-years-olds judge the act as intentional if its consequences were negative versus positive (Leslie et al., 2006). Hence, one could argue that the asymmetry between the helper and harmer evaluations in our study appeared because children might be more likely to extend the false belief to the harmer than the helper. More studies involving older children (above the age of 4) and an additional measure of ToM are needed to investigate how ToM development affects sociomoral judgements of acts aimed at the recipients who behaved prosocially or antisocially in the past.

Finally, we used hand puppets as the agent and the recipient to ensure the most standardized experimental conditions. Although using hand puppets instead of a real people is frequently used method in studies on the preschoolers' sociomoral judgements (e.g., Margoni & Surian, 2020; Plötner, Over, Carpenter, & Tomasello, 2015; Van de Vondervoort & Hamlin, 20172017), we cannot rule out that children could not see the experimental task as a real social situation. Therefore, conceptual replication of present studies with peers instead of puppets is needed.

4 | CONCLUSION

In conclusion, although children judged harmful behaviour as bad and perceived harmful individuals as sad, their judgements changed under the influence of the past antisocial behaviour of the target. We demonstrated that 4-year-old children judged harm as less bad and harmful individuals as less sad when their behaviour was directed at the antisocial recipient. More importantly, we found evidence that children display a positive attitude towards individuals who harm antisocial others, proving that children's aversion to harm and antisocial others might be prevented when it is justified by recipients' past transgressions. Therefore, the present results indicate that by the age of 4, children consider the recipient's past moral behaviour in their sociomoral judgements of harm and antisocial agents, which requires skills reflecting complex moral reasoning.

CONFLICT OF INTEREST
We have no known conflict of interests to disclose.

DATA AVAILABILITY STATEMENT
The data are openly available at https://osf.io/tu3hs/.

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ENDNOTE
[1] All the effects for liking, sociomoral judgement and emotions remained significant (ps < .001) when we controlled for the children's initial liking score of both the agent and the recipient.

REFERENCES
Arsenio, W. F., & Kramer, R. (1992). Victimizers and their victims: Children's conceptions of the mixed emotional consequences of moral transgressions. *Child Development*, *63*, 915–927. https://doi.org/10.1111/j.1467-8624.1992.tb01671.x.

Bocian, K., Baryla, W., Kulesza, W. M., Schnall, S., & Wojciszke, B. (2018). The mere liking effect: Attitudinal influences on attributions of moral character. *Journal of Experimental Social Psychology*, *79*, 9–20. https://doi.org/10.1016/j.jesp.2018.06.007.

Bocian, K., & Wojciszke, B. (2014). Self-interest bias in moral judgments of others' actions. *Personality and Social Psychology Bulletin*, *40*, 898–909. https://doi.org/10.1177/0146167214529800.

Dunham, Y., & Emory, J. (2014). Of affect and ambiguity: The emergence of preference for arbitrary ingroups. *Journal of Social Issues*, *70*, 81–98. https://doi.org/10.1111/josi.12048.

Fiske, A. P., & Rai, T. S. (2014). Violence for goodness' sake. *New Scientist*, *224*, 30–31. https://doi.org/10.1016/S0262-4079(14)62289-2.

Fehr, E., & Fischbacher, U. (2004). Third-party punishment and social norms. *Evolution and Human Behavior*, *25*, 63–87. https://doi.org/10.1016/S1090-5138(04)00005-4.

Hamlin, J. K., Mahajan, N., Liberman, Z., & Wynn, K. (2013). Not like me= bad: Infants prefer those who harm dissimilar others. *Psychological Science*, *24*, 589–594. https://doi.org/10.1177/0956797612457785.

Hamlin, J. K., Wynn, K., & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature*, *450*, 557–559. https://doi.org/10.1038/nature06288.

Hamlin, J. K., Wynn, K., & Bloom, P. (2010). Three-month-olds show a negativity bias in their social evaluations. *Developmental Science*, *13*, 923–929. https://doi.org/10.1111/j.1467-7687.2010.00951.x.

Hamlin, J. K., & Wynn, K. (2011). Young infants prefer prosocial to antisocial others. *Cognitive Development*, *26*, 30–39. https://doi.org/10.1016/j.cogdev.2010.09.001.

Hamlin, J. K., Wynn, K., Bloom, P., & Mahajan, N. (2011). How infants and toddlers react to antisocial others. *Proceedings of the National Academy of Sciences*, *108*, 19931–19936. https://doi.org/10.1073/pnas.1110306108.

Helwig, C. C., & Principe, A. (1999). Children's judgments of flags and flag-burning. *Child Development*, *70*, 132–143. https://doi.org/10.1111/1467-8624.00010.

Jambon, M., & Smetana, J. G. (2014). Moral complexity in middle childhood: Children's evaluations of necessary harm. *Developmental Psychology*, *50*, 22–33. https://doi.org/10.1037/a0032992.

Kenward, B., & Dahl, M. (2011). Preschoolers distribute scarce resources according to the moral valence of recipients' previous actions. *Developmental Psychology*, *47*, 1054–1064. https://doi.org/10.1037/a0023869.

Kenward, B., & Östh, T. (2012). Enactment of third-party punishment by 4-year-olds. *Frontiers in Psychology*, *3*, 373. https://doi.org/10.3389/fpsyg.2012.00373.

Kenward, B. & Östh, T. (2015). Five-year-olds punish antisocial adults. Aggressive Behavior, 41, 413–420.

Knobe, J. (2005). Theory of mind and moral cognition: exploring the connections. *Trends in Cognitive Sciences*, *9*, 357–359. https://doi.org/10.1016/j.tics.2005.06.011.

Krettenauer, T., Malti, T., & Sokol, B. W. (2008). The development of moral emotion expectancies and the happy victimizer phenomenon: A critical review of theory and application. *European Journal of Developmental Science*, *2*, 221–235. https://doi.org/10.3233/DEV-2008-2303.

Leslie, A. M., Knobe, J., & Cohen, A. (2006). Acting intentionally and the side-effect effect: Theory of Mind and moral judgment. *Psychological Science*, *17*, 421–427. https://doi.org/10.1111/j.1467-9280.2006.01722.x.

Li, J., & Tomasello, M. (2018). The development of intention-based sociomoral judgment and distribution behavior from a third-party stance. *Journal of Experimental Child Psychology*, *167*, 78–92. https://doi.org/10.1016/j.jecp.2017.09.021.

McAuliffe, K., Jordan, J., & Warneken, F. (2015). Costly third-party punishment in young children. *Cognition*, *134*, 1–10. https://doi.org/10.1016/j.cognition.2014.08.013.

Melnikoff, D. E., & Bailey, A. H. (2018). Preferences for moral vs. immoral traits in others are conditional. *Proceedings of the National Academy of Sciences*, *115*, E592–E600. https://doi.org/10.1073/pnas.1714945115.

Mendes, N., Steinbeis, N., Bueno-Guerra, N., Call, J., & Singer, T. (2017). Preschool children and chimpanzees incur costs to watch punishment of antisocial others. *Nature: Human Behavior*, *2*, 45–51. https://doi.org/10.1038/s41562-017-0264-5.

Meristo, M., & Surian, L. (2013). Do infants detect indirect reciprocity? *Cognition*, *129*, 102–113. https://doi.org/10.1016/j.cognition.2013.06.006.

Meristo, M., & Surian, L. (2014). Infants distinguish antisocial actions directed toward fair and unfair agents. *PLoS ONE*, *9*, e110553. https://doi.org/10.1371/journal.pone.0110553.

Margoni, F., & Surian, L. (2020). Conceptual continuity in the development of intent-based moral judgment. *Journal of Experimental Child Psychology, 194*, 104812. https://doi.org/10.1016/j.jecp.2020.104812.

Murgatroyd, S. J., & Robinson, E. J. (1993). Children's judgements of emotion following moral transgression. *International Journal of Behavioral Development*, *16*, 93–111. https://doi.org/10.1177/016502549301600106.

Myslinska-Szarek, K., Bocian, K., Baryla, W., & Wojciszke, B. (2020). Partner in crime: Beneficial cooperation overcomes children's aversion to antisocial others. Manuscript submitted for publication.

Olson, K. R., & Spelke, E. S. (2008). Foundations of cooperation in young children. *Cognition*, *108*, 222–231. https://doi.org/10.1016/j.cognition.2007.12.003.

Paulus, M., Nöth, A., & Wörle, M. (2018). Preschoolers' resource allocations align with their normative judgments. *Journal of Experimental Child Psychology*, *175*, 117–126. https://doi.org/10.1016/j.jecp.2018.05.001.

Phillips, J., & Cuschman, F. (2016). Morality constrains the default representation of what is possible. *Proceedings of the National Academy of Sciences*, *114*, 4649–4654. 101073/pnas.1619717114.

Plötner, M., Over, H., Carpenter, M., & Tomasello, M. (2015). The effects of collaboration and minimal-group membership on children's prosocial behavior, liking, affiliation, and trust. *Journal of Experimental Child Psychology*, *139*, 161–173. https://doi.org/10.1016/j.jecp.2015.05.008.

Rai, T. S., & Fiske, A. P. (2011). Moral psychology is relationship regulation: moral motives for unity, hierarchy, equality, and proportionality. *Psychological Review*, *118*, 57–75. https://doi.org/10.1037/a0021867.

Rozin, P., & Royzman, E. B. (2001). Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review*, *5*, 296–320.

Slomkowski, C., & Killen, M. (1992). Young children's conceptions of transgressions with friends and nonfriends. *International Journal of Behavioral Development*, *15*, 247–258. https://doi.org/10.1177/016502549201500205.

Smetana, J. G., & Ball, C. L. (2018). Young children's moral judgments, justifications, and emotion attributions in peer relationship contexts. *Child Development*, *89*, 2245–2263. https://doi.org/10.1111/cdev.12846.

Smetana, J. G., Jambon, M., & Ball, C. (2014). The social domain approach to children's moral and social judgments. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 23–45). New York, NY: Psychology Press.

Smetana, J. G., Jambon, M., Conry-Murray, C., & Sturge-Apple, M. L. (2012). Reciprocal associations between young children's developing moral judgments and theory of mind. *Developmental Psychology*, *48*, 1144–1155. https://doi.org/10.1037/a0025891.

Schmidt, M. F., & Sommerville, J. A. (2011). Fairness expectations and altruistic sharing in 15-month-old human infants. *PloS ONE*, *6*, e23223. https://doi.org/10.1371/journal.pone.0023223.

Smith, C. E., Blake, P. R., & Harris, P. L. (2013). I should but I won't: Why young children endorse norms of fair sharing but do not follow them. *PLoS ONE*, *8*, e59510. https://doi.org/10.1371/journal.pone.0059510.

Smith, C. E., Chen, D., & Harris, P. L. (2010). When the happy victimizer says sorry: Children's understanding of apology and emotion. *British Journal of Developmental Psychology*, *28*, 727–746. https://doi.org/10.1348/026151009X475343.

Smith, C. E., & Warneken, F. (2016). Children's reasoning about distributive and retributive justice across development. *Developmental Psychology*, *52*, 613–628. https://doi.org/10.1037/a0040069.

Sullivan, K., Zaitchik, D., & Tager-Flusberg, H. (1994). Preschoolers can attribute second-order beliefs. *Developmental Psychology*, *30*, 395–402. https://doi.org/10.1037/0012-1649.30.3.395.

Tomasello, M., & Vaish, A. (2013). Origins of human cooperation and morality. *Annual Review of Psychology*, *64*, 231–255. https://doi.org/10.1146/annurev-psych-113011-143812.

Vaish, A., Carpenter, M., & Tomasello, M. (2011). Young children's responses to guilt displays. *Developmental Psychology*, *47*, 1248–1262. https://doi.org/10.1037/a0024462.

Vaish, A., Carpenter, M., & Tomasello, M. (2010). Young children selectively avoid helping people with harmful intentions. *Child Development*, *81*, 1661–1669. https://doi.org/10.1111/j.1467-8624.2010.01500.x.

Vaish, A., Grossmann, T., & Woodward, A. (2008). Not all emotions are created equal: The negativity bias in social–emotional development. *Psychological Bulletin*, *134*, 383–403. https://doi.org/10.1037/0033-2909.134.3.383.

Van de Vondervoort, J. W., & Hamlin, J. K. (2017). Preschoolers' social and moral judgments of third-party helpers and hinderers align with infants' social evaluations. *Journal of experimental child psychology*, *164*, 136–151. https://doi.org/10.1016/j.jecp.2017.07.004.

Vogelsang, M., & Tomasello, M. (2016). Giving is nicer than taking: Preschoolers reciprocate based on the social intentions of the distributor. *PLoS One*, *11*, e0147539. https://doi.org/10.1371/journal.pone.0147539.

Wainryb, C., & Ford, S. (1998). Young children's evaluations of acts based on beliefs different from their own. *Merrill-Palmer Quarterly*, *44*, 484–503.

Wojciszke, B. (2005). Morality and competence in person-and self-perception. *European Review of Social Psychology*, *16*, 155–188. https://doi.org/10.1080/10463280500229619.

Wojciszke, B., Abele, A. E., & Baryla, W. (2009). Two dimensions of interpersonal attitudes: Liking depends on communion, respect depends on agency. *European Journal of Social Psychology*, *39*, 973–990. https://doi.org/10.1002/ejsp.595.

Yudkin, D. A., Van Bavel, J. J., & Rhodes, M. (2020). Young children police group members at personal cost. *Journal of Experimental Psychology: General*, *149*, 182–191. https://doi.org/10.1037/xge0000613.

SUPPORTING INFORMATION

Additional Supporting Information may be found online in the Supporting Information section.

Is Helping Always Morally Good? Study With Toddlers and Preschool Children

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Young children from a very early age not only prefer those who help others but also those who engage in altruistic helping. This study aims to test how children assess helping when the goal of the helping behavior is immoral. We argue that younger children consider only the helping versus hindering behavior, but older children distinguish their judgments depending on the goal to which the helping leads. In the study involving 727 European children aged 2–7 years (354 girls, $M = 53.82$ months, $SD = 18.76$), we found that children aged 2–4 years assessed helping as always morally good and hindering as morally bad, no matter the recipient's intention. Only children aged 4.5–7 years assessed helping in an immoral act as immoral and hindering in an immoral act as moral. We also found that younger children liked the helper regardless of the goal that their helping behavior led to, but from the age of 5, children preferred characters who hindered in an immoral act rather than those who helped. Our study extends the previous research, showing how children's moral judgments of helping behavior develop and become more complex as children get older.

Public Significance Statement
The study provides evidence that young children always assess helping as good and moral behavior, regardless of the goal of the recipient of that help. It suggests that at some point during their development children start considering that helping in an immoral act might be a bad behavior, giving valuable insight to caregivers and those responsible for child welfare.

Keywords: moral judgments, moral development, helping, preschoolers

In ontogeny, helping is one of the children's earliest prosocial behaviors to develop. Children as young as 1 year old will instrumentally and altruistically help others to achieve their goals (Sommerville et al., 2018; Warneken & Tomasello, 2006, 2007). Toddlers will help not only adults in need (Corbit et al., 2020;

Svetlova et al., 2010; Warneken & Tomasello, 2013, 2014) but also peers (Hepach et al., 2017a, 2017b), and they do it without any encouragement from adults or profit for themselves. In fact, Warneken and Tomasello (2008) reported that material rewards can even decrease children's helping behavior. What is more, children as young as 3 years old are not only willing to help but also correctly recognize the recipient's needs and adjust their help accordingly. When a recipient asked for an object that would not help them to fulfill their goal, children provided the tool that would meet the recipient's needs the best, even if the recipient directly requested a different object (Hepach et al., 2020; Martin & Olson, 2013). Moreover, studies using pupil dilation measures showed that 2-year-old children's sympathetic arousal is similar when they observe the other person being helped and when they provide the help themselves (Hepach et al., 2012), and that their arousal decreased when seeing the other person being helped accordingly to their needs (Hepach et al., 2016). Finally, studies using depth sensor imaging indicate that watching another person help was as equally rewarding for 2-year-olds in terms of positive emotions as helping the individual themselves (Hepach et al., 2023). Hence, the results suggest that 2-year-old children are not only willing to be the helpers, but also expect others to do the same thing, and observing another person providing help was as equally rewarding as if they had helped the needy.

From a theoretical perspective, it seems that helping is evolutionarily driven and predominantly rests on an evolved biological predisposition (Warneken & Tomasello, 2009). More specifically, it has been proposed that infants (and other primates) possess natural abilities to detect the needs of others and help them altruistically in their

instrumental goals (Dunfield & Kuhlmeier, 2013; Warneken & Tomasello, 2009). Cross-cultural studies support this perspective. Corbit et al. (2020) studied children aged 16–36 months and showed that noncostly helping is a culturally universal behavior among children. Marshall et al. (2022) showed that 5–6 years old children seem to believe that helping should be provided to everyone who needs it regardless of the familiarity and social context. The authors ran a study with children aged 5–10 years showing that, in fact, children aged 5 and 6 years believe that strangers should help to the same extent as parents and friends; only children older than 6 years narrow down their expectations to parents and friends regarding the obligation to help (Marshall et al., 2022). From this perspective, similarly to how children younger than 6 years start with a broad perception of help as an obligation that applies to different people and then narrows it down to certain individuals, we expect that for younger children, the implicit attitude will be to assess helping positively regardless of purpose, and only later with age, will the positive assessment of helping be narrowed down to helping in good-intentioned goals.

Our dependence on mutual helping and cooperation with others can explain why infants already assess others' helping as morally good and hindering as morally bad behavior, and they are attracted to individuals who helped over individuals who hindered unrelated third parties (Hamlin et al., 2007, 2011; Hamlin & Wynn, 2011). In fact, many studies about children's moral judgment are based on the paradigm in which prosocial acts are defined as helping and antisocial as hindering. It is worth noting that most of these helping/hindering acts led to morally neutral goals, such as: opening a wardrobe, climbing up a hill, returning a bat, and so on. The question remains whether children are concerned only about the helping/hindering act itself or if they take into account the ulterior goal that this helping or hindering is facilitating. In other words, will children focus only on the initial act of helping/hindering, or do they view it as a means to a good or bad outcome?

Research has also shown that infants' and toddlers' assessment of prosocial behavior includes not only the behavior itself but also its context. Hamlin et al. (2011) showed that infants' sociomoral judgments were based not only on aversion to the wrongdoer but concerned the recipient's past behavior. Eight-month-old infants (but not 5-month-olds) preferred characters who acted negatively toward antisocial individuals and those who acted positively toward prosocial characters (Hamlin et al., 2011). Also, results by Meristo and Surian (2013) suggest that 10-month-old infants expect to see positive behavior toward the previously prosocial character and negative behavior toward the antisocial one. Hence, the previous research suggests that even children under the age of 12 months can consider not only the act itself but also other factors, such as the recipient's moral character in assessing helping/hindering behavior. Therefore, this may premise that even the youngest children in our study (2 years old) will assess both the moral valence of the behavior (helping/hindering) and the goal to which this behavior leads.

Previous research has demonstrated that children consider both intentions and outcomes when making moral judgments; however, the developmental psychology literature provides mixed results on developing intent-based moral judgments. Some studies suggest that intent-based moral judgments start at around 3–4 years old (Nobes et al., 2016, 2017; Núñez & Harris, 1998), while others indicate that even infants in their early socio-moral evaluations may distinguish between agents based on their good and bad intentions (Choi & Luo, 2015; Dunfield & Kuhlmeier, 2010; Hamlin, 2013). What seems to be well established, however, is that with age, children increasingly base their moral judgments on intentions rather than outcomes (Cushman et al., 2013; Margoni & Surian, 2016; Van de Vondervoort & Hamlin, 2018).

Despite numerous studies on what determines children's moral judgments, to the best of our knowledge, there is no research that would directly test how children assess the helping behavior depending on the goal to which the behavior leads. There is also no research showing what the age differences are in the assessment of pro- and antisocial behavior in the context of its goal. Should, in a child's opinion, the character who helped in the immoral act be assessed as immoral? Or perhaps helping is always good regardless of the receiver's goal? Do children in different age groups differ in this matter?

To the best of our knowledge, the only study that looked at providing help and the consequences of the helping behavior for the recipient was the research by Martin et al. (2016). In the study, 5-year-olds were asked by another child for help in getting the snack they liked (a chocolate bar); in one of the research conditions, the preferred snack could cause negative consequences for the recipient (the recipient had an allergy to chocolate). The authors showed that most children would provide the requester with a fruit bar if they knew about the allergy to chocolate. It seems that children at the age of five consider not only fulfilling others' goals in their helping behaviors but also the consequences of their actions for the recipients. Hence, we can expect that when assessing helping/hindering behavior, children of at least 5 years old and up will take into account not only the behavior itself or fulfilling the goal of the recipient but also the consequences of this helping/hindering act for others.

To directly address the question of whether children assess helping/hindering behavior differently depending on its goal, we conducted a study with two primary objectives. First, we aimed to test how the goal's moral valence influences the children's judgment of instrumental helping and hindering behavior in achieving this goal. Secondly, we assessed potential age differences in these judgments and determine at what point in a child's development that they start to assess helping with an immoral act as wrong.

We have at least three premises to expect significant developmental changes in the assessment of helping in terms of the purpose it serves. First, with age, children develop cognitive abilities that allow them to integrate different information (both outcomes and intentions) and include it in making moral judgments (Cushman et al., 2013; Martin et al., 2016; Margoni & Surian, 2016). Second, in the process of socialization, moral judgments are nuanced and differentiated due to information provided by caregivers (Killen & Smetana, 1999; Nucci et al., 2017). Finally, morality as an obligation concept, as well as studies on children observing others being helped, predicts that for younger children, the default behavior toward others will be to help others; thus that they will assess the attitude of others always positively (Hepach et al., 2012, 2023; Marshall et al., 2022).

It is worth noting that even though previous research suggests that from a very early age, we are able to make moral assessments of others' behavior (Hamlin, 2013), it is not from infancy that humans are equipped with a perfectly functioning system of moral judgments that do not change through development. Just the opposite: numerous studies indicate not only how the development of cognitive functions but also how socialization and upbringing affect moral

judgments, making them more complex and adapted to complicated social life (Killen & Smetana, 1999; Nucci et al., 2017; Smetana, 2006; Smetana et al., 2013). Surprisingly few studies have looked at a particular kind of moral judgment from the perspective of developmental differences between children in different age groups. It is worth noting that the lack of firm conclusions on the shift between outcome and intent-based moral judgments is partially because the results are based on different studies that used distinct methods and manipulations, and as previous research has shown, a slight difference in the procedure and/or research questions can cause a change in the results (Nobes et al., 2017). Thus, in our study, we decided to use an identical procedure on a wide range of ages: from 2 to 7 years old.

Based on the previous studies as well as the theory, we came up with two main hypotheses: (a) younger children will assess the helping behavior as good, and hindering/not helping as bad, regardless of the goal of the helping/hindering act, and (b) older children will judge helping in an antisocial goal as immoral and hindering in a prosocial goal as moral. As the literature provides mixed results about intent-based moral judgments as well as about when exactly socialization and cultural learning start to affect moral judgments, we do not have a clear hypothesis about the exact age from which children begin to involve the goal in their assessment of helping. Instead, we expect to observe the developmental change without very strong age predictions.

Method

In this paper, we report all measures, all manipulations, and any data exclusions. All studies have been approved by the relevant Research Ethics Committee. The study was not preregistered. The data that support the findings of the presented study is openly available at: https://osf.io/kxzuw/?view_only=932acdc95eef4be89ed0f63b212ec474

Participants

The participants were 779 children aged 2–7 years. Fifty-two children were tested but excluded from data analysis due to experimenter error (8 children), excessive shyness (28 children), distraction and lack of response to the experimenter's questions (10 children), or lack of understanding of the experimental manipulation (6 children). Therefore, in the final analyses, 727 children were included (354 girls, $M = 53.82$ months, $SD = 18.76$). The number of children in each age group was as follows: 2 years old ($n = 103$), 3 years old ($n = 133$), 4 years old ($n = 142$), 5 years old ($n = 137$), 6 years old ($n = 112$), and 7 years old ($n = 100$).

Children were recruited from kindergartens in four medium-sized cities in Europe. No data on ethnicity or socioeconomic status were collected, but approximately 99% of the population from which the sample was drawn were native Polish and included a broad mix of socioeconomic backgrounds. Parents provided written informed consent before beginning the study. The data were collected between May 2018 and January 2020.

We conducted power analyses using G*Power (Faul et al., 2007) for expected large effects of helping or hindering on moral judgments. The results suggest that given an alpha of 0.05 and a power of 0.80, a sample of 42 participants would be required to detect an effect size of Cohen's $d = 0.80$ in testing the difference between the helping and hindering groups. To test goals and children's age as moderators, we need to power our interactions accordingly. According to Giner-Sorolla (2018) recommendations, if we expect the prosocial versus antisocial intention conditions to show a reversal of the main effect of helping or hindering manipulation in some age groups, in each age category we should aim to use a cell n two times that which is sufficient for detection of the main effect of helping versus hindering manipulation. Therefore, we decided to recruit at least 90 participants for each of the seven age groups. A subsample of 90+ children in each age group is also sufficient to detect the effects of behavior, intention, and age interactions on choices due to the expected extremely strong (odds ratio > 8.0) main effect of helping or hindering on children's choices, for which a sample of 29 people would be sufficient for detection ($\alpha = .05$ and power $= 0.8$) in the logistical analysis.

Design and Materials

Children were tested individually in a separate room in their kindergarten and randomly assigned to one of the four research conditions based on a 2 (the recipient's intention: prosocial vs. antisocial) × 2 (the agent's behavior: helping vs. hindering) between-subjects design, with 182 participants in each of four research conditions (in hindering in a moral act we had 181 children).

Children were presented with a 70-s video clip of a staged puppet show with four puppets in different roles: an elephant, a lion, and two giraffes. Each video started with the elephant puppet building a tower of wooden blocks. Then, depending on the research condition, the lion puppet (hereafter: the recipient) verbally expressed his intention to either destroy the elephant's tower (antisocial act) or help him to build it by putting another block on it (prosocial act). In each video, the recipient puppet asked for the giraffe puppet's (hereinafter, the agent) help, and again depending on the research condition, the agent either helped the recipient achieve his goal or hindered him. Accordingly, each child watched one of the following interactions: helping in an immoral act, hindering in an immoral act, helping in a moral act, and hindering in a moral act.

In the video, there was also another giraffe puppet, who acted as a bystander and did not participate in the action. To help children distinguish between the two giraffe puppets, the bystander puppet wore a yellow ribbon, and the active puppet did not. Importantly, in the video, the puppets did not talk, but to ensure that children understood what was happening in the show, there was a narrator who, using a neutral voice, explained what was happening in the video. All clips and the narration in English are available at: https://osf.io/kxzuw/?view_only=463087b6a61e4a278e5f04b7317af85a). Each video was played twice. The general experimental scenario is presented in Figure 1.

After watching the movie, each child was asked comprehension questions about what had happened in the movie. Each time the experimenter asked the child: "Can you tell me what happened in the movie?" If the child's verbal communication was not good enough, the experimenter showed all four puppets and asked about their roles in the show, for example: "Which of these puppets was the one who was only watching?" "Which puppet asked for help?" and so forth. The child's task was to point

Figure 1

Experimental Procedure in 2 (Intention: Prosocial vs. Antisocial) × 2 (Helping vs. Not Helping) Between-Subject Design
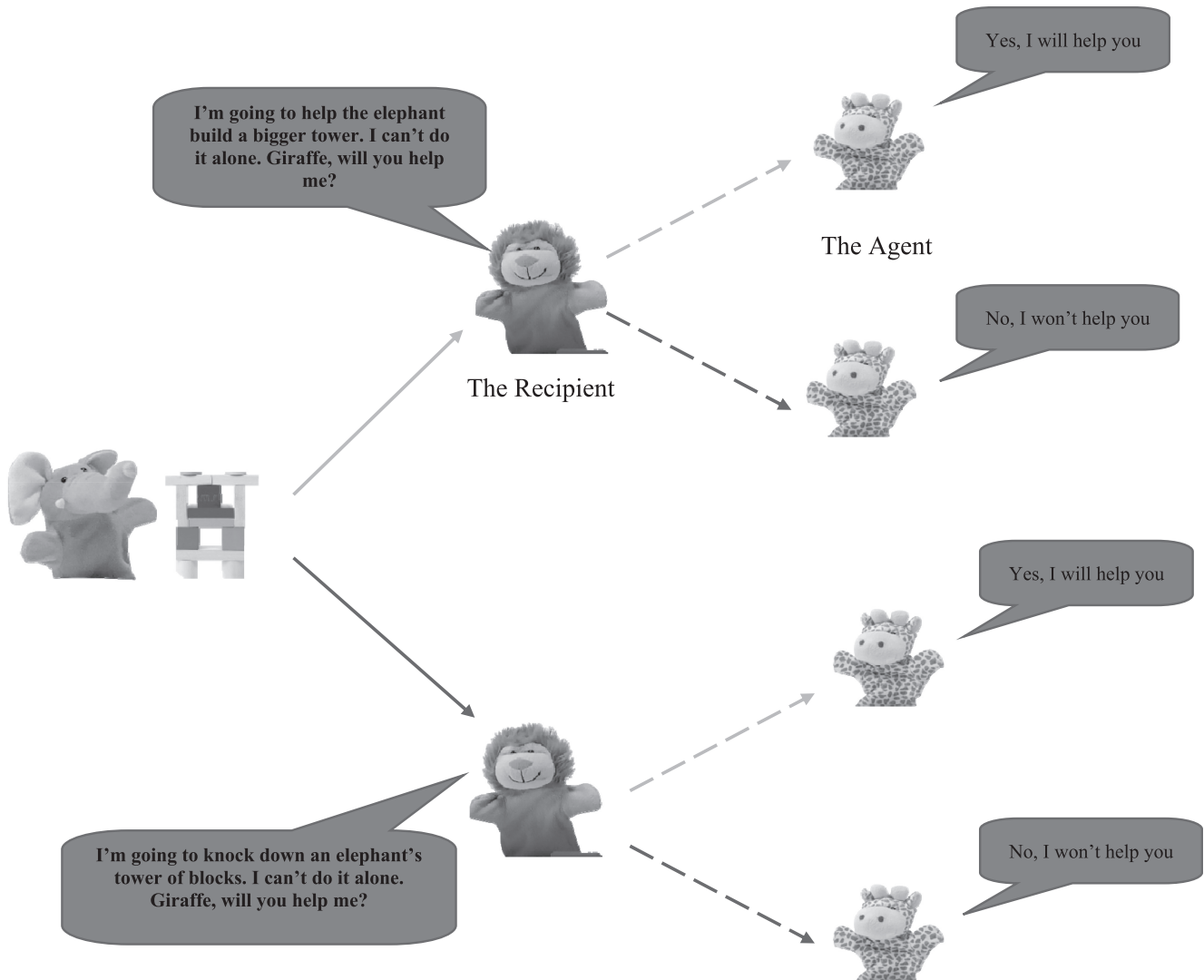
the correct puppet. For children who failed the probe, the experimenter offered the opportunity to watch the movie once again. If, after watching a third time, the child still could not describe which character played which role, they were excluded from the final analyses.

After seeing the movie, the experimenter asked the children the following questions:

- the recipient's goal: "Do you think that the act that lion wanted to do was something good or bad? If you think it was bad, please point out how bad it was (three different-sized thunderbolts)."
- the agent's behavior (helping/hindering): "Do you think that the giraffe who played with the lion behaved in a good or a bad way? If you think it was bad, please point out how bad it was (three different-sized thunderbolts)."

- choice: "If you could choose a puppet for future play, which one would you like to play with, the active giraffe or the bystander?"

Each experimental session was video-recorded.

The answers were coded based on the video recordings by an independent coder, blind to the hypothesis and research conditions. Both judgments were assessed on 4-point scales. Scores ranged from 0 (*good*) to −3 (*very bad*). We decided to use a gradual scale for the assessment of immoral behavior (if the child judged the puppet's behavior as bad) but not for moral behavior (assessed by the participant as good) because of the piloting results that showed some difficulties with assessing how good the behavior was on a gradual scale with the younger children, which resulted in ceiling effect in this variable. However, none of the children had this problem when assessing how bad the behavior was. The children's choices

for a partner for future play were coded on a dichotomous scale: 0 (*the agent-active giraffe*) and 1 (*the bystander giraffe*).

Results

Manipulation Checks

To test whether children correctly recognize the destruction of a tower as the antisocial goal and building a tower as the prosocial goal, moderated moderation analyses were conducted by using Hayes (2017) PROCESS 4 tool on SPSS (Model 3) with the recipient's intention (prosocial vs. antisocial) as main predictor, and the agent's behavior (helping vs. hindering), and mean-centered age in months as moderators. The results showed one only significant effect of intention, children judged building a tower as a prosocial goal ($M = -0.24$, $SD = 0.70$) and destroying a tower as antisocial ($M = -2.24$, $SD = 1.01$), $b = -1.83$, $t(709) = -9.46$, $p < .001$, 95% CI = [-2.21, -1.45]. All other effects were nonsignificant ($p > .13$).

Moral Judgments

To test how children judge the agent's behavior moderated moderation analyses were conducted by using Hayes PROCESS 4 tool on SPSS (Model 3; Igartua & Hayes, 2021) with the agent's behavior (helping vs. hindering) as the main predictor, and the recipient's goals (prosocial vs. antisocial) and mean-centered age in months as moderators. The full moderated moderation model was highly significant; $F(7, 711) = 211.55$, $p < .001$, $R^2 = 0.68$. As Table 1 shows, all effects in this model were also significant.

According to our expectations, the three-way interaction between the agent's behavior, the children's, and recipient's goal was significant, $b = 0.09$, $t(712) = 16.03$, $p < .001$, 95% CI = [0.08, 0.10].

We followed up the significant three-way interaction by looking at the interaction between recipient's goals and age for the helping and hindering actions separately. In the condition of helping agent, interaction $b = -0.04$, $t(356) = -12.26$, $p < .001$, 95% CI = [-0.05, -0.03], when the agent's helping behavior facilitated the recipient's prosocial goal of helping the elephant, children of all ages evaluated the agent's helping behavior positively; $R^2 = 0.004$, $b = 0.001$, $t(179) = 0.85$, $p = .397$, [-0.001, 0.003]. By contrast, when the agent's helping behavior facilitated the recipient's antisocial goal of destroying the elephant's tower, older children evaluated the agent's helping behavior more negatively than younger children; $R^2 = 0.47$, $b = -0.04$, $t(178) = -12.52$, $p < .001$, [-0.05, -0.04].

Table 1

Results of Parameter Estimates of Agent's Behavior, Children's Age, and Recipient's Intention on Judgments of Agent's Behavior

| Variable	b	$t(712)$	p	95% CI
Constant	5.98	22.43	<.001	[5.46, 6.51]
Agent's behavior (A)	−4.91	−29.03	<.001	[−5.24, −4.58]
Age (mean-centered, B)	0.14	9.79	<.001	[0.11, 0.17]
A × B interaction	−0.10	−10.61	<.001	[−0.11, −0.08]
Recipient's goal (C)	−3.63	−21.52	<.001	[−3.96, −3.30]
A × C interaction	2.52	23.61	<.001	[2.31, 2.73]
B × C interaction	−0.13	−14.94	<.001	[−0.15, −0.12]
A × B × C interaction	0.09	16.03	<.001	[0.08, 0.10]

In the condition of hindering agent, interaction, $b = 0.05$, $t(357) = 10.78$, $p < .001$, 95% CI = [0.04, 0.06], results from different age effects in the assessments of hindering with prosocial or antisocial behavior. The agent's hindering in prosocial behavior was assessed by children as clearly negative, regardless of their age, $R^2 = 0.01$, $b = -0.004$, $t(176) = -1.25$, $p = .212$, [-0.011, 0.003], but the assessments of hindering with antisocial behavior were very strongly related to age; $R^2 = 0.51$, $b = 0.05$, $t(182) = 13.58$, $p < .001$, [0.04, 0.05]. The youngest children were guided only by hindering and considered hindering the villain to be bad, but the older the children were, the more they considered the intentional premise and the oldest children saw this behavior as clearly positive. Figure 2 presents the results.

Choice

To identify predictors of the children's partner choices (agent giraffe; coded "1" vs. bystander giraffe; coded "0") moderated moderation analyses were conducted by using the logistic regression variant of Hayes PROCESS 4 tool (Model 3) with the agent's behavior (helping vs. hindering) as a main predictor, and the recipient's goals (prosocial vs. antisocial) and mean-centered age in months as moderators. The full moderated moderation model was highly significant; $\chi^2(7, N = 724) = 403.52$, $p < .001$, Nagelkerke $R^2 = 0.57$. As Table 2 shows, all effects in this model were also significant.

The expected three-way interaction between the agent's behavior, the children's, and recipient's goal was significant, $b = 0.18$, $z = 6.85$, $p < .001$, 95% CI = [0.13, 0.23]. Again in Figure 3, the three-way interaction of the children age with the agent's behavior and recipient's goal was driven by the two conditional two-way interaction of the children's age with the recipient's goals. In the condition of helping agent, interaction, $b = -0.10$, $z = -5.38$, $p < .001$, [-0.14, -0.06], results from different age effects on children's choices of a partner for the future play. The agent helping in prosocial behavior was chosen by the children for the future play, regardless of their age, Nagelkerke $R^2 = 0.006$, $b = 0.01$, Wald = 0.50,

Figure 2

The Interaction Effect of Children's Age and Recipient's Behavior on Agent's Behavior Judgments by Recipient's Intention
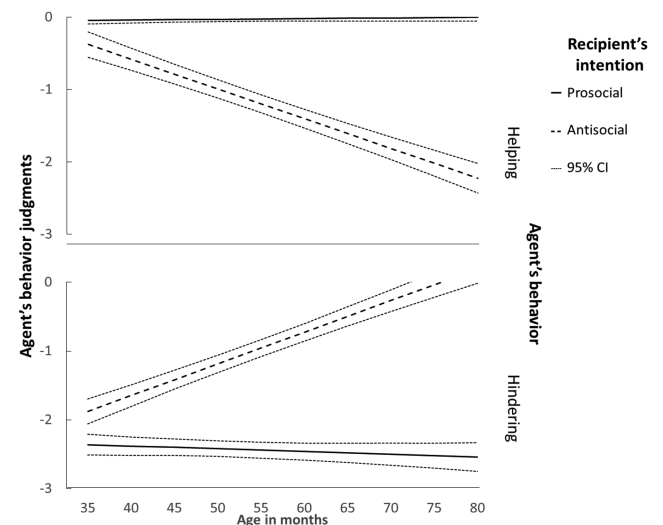
Table 2

Results of Parameter Estimates of Agent's Behavior, Children's Age, and Recipient's Intention on Children's Choices of Partner for the Future Play

Variable	b	Z	p	95% CI
Constant	13.49	11.35	<.001	[11.16, 15.82]
Agent's behavior (A)	−9.00	−12.16	<.001	[−10.45, −7.55]
Age (mean-centered, B)	0.30	4.45	<.001	[0.17, 0.43]
$A \times B$ interaction	−0.18	−4.46	<.001	[−0.26, −0.10]
Recipient's goal (C)	−6.98	−10.00	<.001	[−8.35, −5.61]
$A \times C$ interaction	4.71	10.83	<.001	[3.86, 5.56]
$B \times C$ interaction	−0.28	−6.68	<.001	[−0.36, −0.20]
$A \times B \times C$ interaction	0.18	6.85	<.001	[0.13, 0.23]

$p = .479$, [−0.02, 0.05], but the children's choices of agent helping with antisocial behavior were very strongly related to age, Nagelkerke $R^2 = 0.49$, $b = −0.09$, Wald $= 48.21$, $p < .001$, [−0.13, −0.07]. The youngest children were guided only by helping and they chose the helping agent for future play, but older children considered both intentions and behavior, and avoided playing with the agent if he helped in the immoral act.

In the condition of the hindering agent, interaction, $b = 0.08$, $z = 4.27$, $p < .001$, 95% CI $= [−0.04, 0.1]$, results from different age effects on children's choices of partner for the future play. The agent hindering in prosocial behavior was avoided by the children, regardless of their age, Nagelkerke $R^2 = 0.000$, $b = 0.002$, Wald $= 0.054$, $p = .845$, [−0.03, 0.03], but the children's choices of agent hindering with antisocial behavior were very strongly related to age, Nagelkerke $R^2 = 0.38$, $b = 0.08$, Wald $= 41.34$, $p < .001$, [0.06, 0.11]. The youngest children were guided only by hindering and they avoided choosing the hindering agent for the future play, but the older the children were, the more they considered

the intentional premise, and the oldest children definitely preferred the hindering agent.

Even though we believe that the change in children's assessment of helping/hindering acts is gradual, it is worth checking if there is a clear age pinpoint in which children start considering the recipient's goal and not only the act itself. Luckily the children's age in months (instead of in years) allowed us to use a Johnson–Neyman technique to see where the breaking point is. Using Process Macro by Hayes (Igartua and Hayes, 2021), we probed this two-way interaction by using the Johnson–Neyman (J–N) technique (Bauer & Curran, 2005; Hayes & Matthes, 2009), which reveals all the range of values of the moderator where the predictor variable relation to outcome variable is significant or insignificant. In this analysis, for the precision of conditional effect estimation, we used the age in months as the moderator, two-way interaction that measured age with actor's intention was significant, $B = 1.92$, $SE = 0.202$, $z = 9.51$, $p < .001$. Also, a clear pattern of J–N values emerged: when the age of children was <48.3 months, the conditional effect of actor's behavior on children's choices was positive and significant ($p < .05$); when the age of children was >54.5 months the conditional effect of actor's behavior on children's choices was negative and significant ($p < .05$); when the age of children was between 48.3 and 54.5 months the conditional effect was nonsignificant ($p > .05$; see Table 3). It seems that children begin to take into account the goal of the behavior (helping or hindering) at around 4.5 years of age, and before the age of four, they are mostly guided exclusively by the act.

Discussion

Our study examined the children's judgment of helping and hindering acts, depending on the goal to which this behavior leads. We studied a wide age group ranging from 2 to 7 years. Using a video of

Figure 3

The Interaction Effect of Children's Age and Agent's Behavior on Children's Choices of a Partner for the Future Play by Recipient's Goals
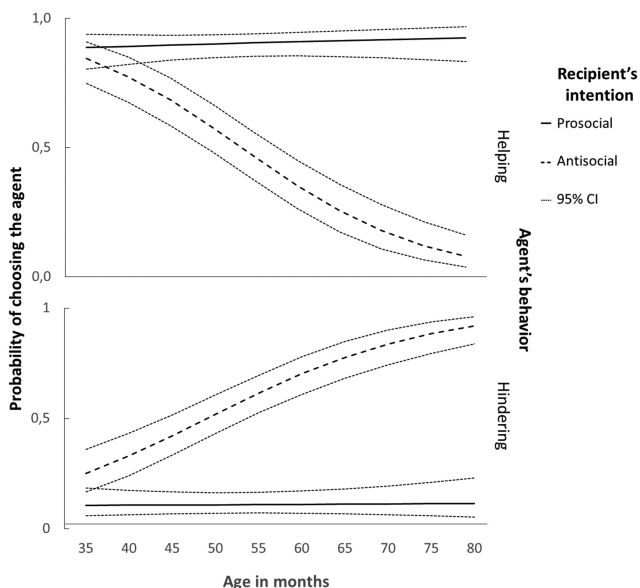

Table 3

Conditional Effect of Actor's Behavior With Values of the Children's Age as the Moderator (in Actor's Immoral Behavior Condition) Using Johnson–Neyman Technique

Age (months)	Effect B	z	p	LLCI	ULCI
23.0	4.83	8.24	.000	3.68	5.97
26.6	4.21	7.97	.000	3.17	5.24
30.3	3.59	7.60	.000	2.67	4.52
33.9	2.98	7.09	.000	2.15	3.80
37.5	2.36	6.35	.000	1.63	3.09
41.2	1.74	5.30	.000	1.10	2.38
44.8	1.12	3.82	.000	0.55	1.70
48.3	0.53	1.96	.050	0.00	1.06
48.4	0.51	1.87	.062	−0.02	1.04
52.1	−0.11	−0.42	.672	−0.63	0.40
54.5	−0.52	−1.96	.050	−1.04	0.00
55.7	−0.73	−2.70	.007	−1.26	−0.20
59.3	−1.35	−4.60	.000	−1.92	−0.77
63.0	−1.96	−6.01	.000	−2.60	−1.32
66.6	−2.58	−6.99	.000	−3.30	−1.86
70.2	−3.20	−7.66	.000	−4.02	−2.38
73.8	−3.81	−8.12	.000	−4.74	−2.89
77.5	−4.43	−8.44	.000	−5.46	−3.40
81.1	−5.05	−8.66	.000	−6.19	−3.91
84.7	−5.67	−8.83	.000	−6.92	−4.41
88.4	−6.28	−8.95	.000	−7.66	−4.91
92.0	−6.90	−9.05	.000	−8.40	−5.41

a puppet show, in which the recipient puppet asked the agent for help in a moral or immoral act and, depending on the research condition, the agent either helped or hindered the recipient in achieving his goal.

As we predicted, there were no developmental differences in the assessment of helping/hindering behavior if the goal was moral. This result is no surprise and is in line with the previous studies showing that infants and toddlers assess helping behavior as morally good and hindering as morally bad if the behavior matches the recipient's moral character or immoral intentions (Bocian & Myslinska Szarek, 2021; Hamlin et al., 2011). Thus, when the goal was judged as morally good, then children in all age groups had no reason to doubt that helping in that act is morally positive and hindering morally negative behavior. However, consistent with our hypotheses, the results showed significant differences by age in the assessment of helping and hindering acts when the goal of the helping/hindering was immoral. We found that until the age of approximately 4.5 years, children judge the helping behavior as morally good and hindering behavior as morally bad regardless of the outcome it leads to. Children younger than 4.5 years preferred the active puppet as a helper over the bystander, but the bystander over the hinderer, again not considering the goal's moral character.

Despite some inconsistency in the previous results, most of the studies indicate that around from 4 to 5 years, children make moral judgments based on both intentions and outcomes that are consistent with those made by adults (Margoni & Surian, 2017; Nobes et al., 2017).

Theoretical Contribution

First, the results are consistent with previous findings showing that helping others in need is a very early developing skill (Warneken & Tomasello, 2006, 2007) and that children from a very early age assess helping as good and hindering as morally bad behavior (Hamlin et al., 2007, 2010; Hamlin & Wynn, 2011; Woo et al., 2022).

Our results seem to complement the approach that highlights helping as an obligation toward others (Lanzetta & Wilke, 1971; Marshall et al., 2022). Younger children assessed helping the recipient as always good, regardless of the aim to which this help led. Similarly, to the study by Marshall et al. (2022), in our study it seems that younger children present a broad understanding of helping, thinking that if anyone asks for help, the default option is to provide the help they need; it is only later in development that they start to narrow it down by considering what the help is for.

The presented study also contributes to the line of research on intent-based moral judgment. In our study, children aged from 2 to around 4.5 years judged helping/hindering solely on the basis of the actor's behavior, not taking into account the moral nature of the agent's intentions. This is in tune with the results of research suggesting that in moral judgments toddlers do not take into account two simultaneously occurring factors of the situation, but focus only on one of them (Nelson, 1980; Nobes et al., 2016; Núñez & Harris, 1998). Interestingly, children of all age groups recognized the aim to destroy the tower as an immoral goal and the aim to build a tower as a moral goal. Nevertheless, in assessing the recipient's behavior, younger children did not consider this factor as crucial for their assessments. Based on our results, we cannot conclude what the mechanism is for why younger children do not consider

intentions in their judgments of helping/hindering acts. We speculate that there might be at least two equally possible explanations. First, it is possible that even younger children can take into account both the act of helping and the goals, but they do not do it as they consider helping as always good regardless of its goal. The second possibility lies in the cognitive capacities of the younger children, even though they perceive the intention as immoral, they are not cognitively able to integrate both sets of information (goals and agent's behavior) while making their judgments. A study by Dahl et al. (2013) suggests that toddlers aged 16–27 months help others regardless of their previous moral/immoral behavior. However, 26-month-old children prefer to help the prosocial rather than antisocial individual first. This result might suggest that even young children are aware of both the goal of the behavior and the agent's helping/hindering but believe that everyone should be helped when asked. Future research is needed to address more straightforwardly which of the potential mechanisms can better explain the result of the presented study.

The results also expand previous studies on paternalistic helping among children. While previous research proved that children from the age of 3 years adjust their helping behaviors to the recipient's goal (Hepach et al., 2020; Martin & Olson, 2013) and at the age of 5 acknowledge not only fulfilling the recipient's goal but also the positive/negative consequences of their help, our research shows that only from around 4.5 years of age, children in the assessment of prosocial and antisocial behavior take into account not only the behavior itself (helping or not) but also the consequences of this behavior for third parties.

Our findings also extend and challenge the previous studies showing that even infants can consider the social context in their sociomoral judgment of a given behavior, including the moral character of the recipient in their assessments (Hamlin et al., 2011). In our research, we found that in their assessments of helping/hindering act children under 4.5 years of age did not include the goal to which this behavior leads, even though they correctly distinguished the moral goal from the immoral one. The differences in our results compared to those obtained by Hamlin et al. (2011) may be due to at least three reasons. Firstly, our goal was to check whether the children take into account the goal of prosocial or antisocial behavior, and not the moral character of the recipients. Secondly, our research procedure was completely different from the one used by Hamlin et al. (2011), which is understandable considering the distinct research questions. While Hamlin et al. (2011) showed the infants a puppet show in which the actor behaved pro- or antisocially toward the previously prosocial or antisocial target, we presented participants with a character who declared his moral/immoral goal and asked the other character for a help. Thirdly, we included a much bigger research sample than in the previously cited studies (103 2-year-olds). Nevertheless, it is the further investigation of why in our paradigm children before the age of 4 and 5 years seemed to be unable to factor both the behavior and the goal to this behavior leads in their moral judgments, while in Hamlin et al. (2011), even 8-month-olds based their judgments on both the actor's act and the recipients previous prosocial or antisocial behavior.

Although our results do not provide an explanation about the mechanism of why children younger than 4 years do not consider the goal of an act in their assessment of helping/hindering behavior, we can speculate that at least two explanations might be equally possible. First, the transition can be a result of the developmental shift

that occurs in children around 4 years of age concerning the internalization and conscious respect of social norms. Research suggests that it is at this age that children fully acquire the ability to apply social norms (Tomasello, 2018). More specifically, while it may be an early tendency for children to evaluate helping as a moral behavior that builds the group and helps maintain social relationships, in contrast, assessing helping in an antisocial act as immoral can be rather a social norm learned by children in the process of socialization. Hence, children at the age of three, despite their ability to consider the goals and effects of the particular behavior, still assessed helping behavior as always good. This approach is also consistent with the social domain theory of moral judgments according to which socialization, as well as parental social norms transmission, plays an important role in children's moral judgment about others' behavior (Smetana et al. 2018). The results of the previous studies suggest that at the age of four, children judge hypothetical moral transgressions considering also the context of the situation (Smetana, 2006; Smetana et al., 2013, 2014). Moreover, numerous studies show how parents' expectations and their observed reactions to a given prosocial/antisocial behavior influence and modify the moral judgments of children (Killen & Smetana, 1999; Nucci & Turiel, 1978; Nucci & Weber, 1995). Hence, it may be that the default option for children is the attitude that helping is good regardless of what goal it leads to, and only during socialization and with the information provided to them by parents and guardians do they learn that helping in an immoral act is something wrong.

Second, an equally plausible explanation can be the cognitive changes that occur around the age of 4 years. Four years old is the age when the Theory of Mind and capacity to understand other people's perspectives increases significantly (Peterson & Wellman, 2019; Wellman et al., 2001). Thus, 4-year-olds, but not younger children, in our study were able to fully include the target of the helping/hindering act perspective in their moral judgments. Also, working memory and inhibitory control functions may play a role. Previous research has shown that children aged 4.5 years are significantly better at holding two pieces of information in mind and making decisions based on them than younger children (Diamond, 2002; Diamond & Taylor, 1996; Diamond et al, 2002). Thus, the normative development of the prefrontal cortex responsible for working memory may also explain that younger children, despite their noticing a discrepancy between the goal of the behavior and the agent's helping/hindering, were unable to integrate the two pieces of information when making the assessment of the helping/hindering act. Nevertheless, the firm explanation of the age differences warrants future research.

Limitations and Future Directions

We recognize that our work also has some limitations that need to be noted. First, we measured children's moral judgment about others' helping and hindering behavior. Hence, based on the results of our study, we cannot state how children would behave in a similar situation, but where they were in the role of the agent. Previous research suggests that preschoolers, despite their awareness of the social norm and expectation that others will follow it, behave contrary to the norm when it comes to their own actions (Smith et al., 2013). It would be interesting to verify how children in different age groups would react to being asked to help in a moral versus immoral act. Secondly, our study design was concerned with helping

as an example of a moral/immoral act. Instrumental helping/hindering is a typical type of prosocial behavior that is frequently used in studies concerning moral judgments, yet conclusions drawn from the assessment of the helping/hindering act should not be generalized to a moral judgment of other prosocial/antisocial behavior. For instance, it would be worth testing how participants would assess the character's behavior if the puppets (the agent and the recipient) had cooperated with each other. Many studies show how joint commitment, which arises based on cooperation, changes the attitude toward the partner (Hamann et al., 2012; Kachel et al., 2018). Thus, we could hypothesize that older children might perceive the cooperating partners as obligated to help each other regardless of the goal of the helping behavior and thus evaluate helping as always morally good regardless of the purpose the help serves. Thirdly, despite the fact that we tried to create a procedure that is understandable to children in all age groups and we have no grounds to believe that it was incomprehensible to the toddlers aged 2–3, we cannot exclude the possibility that if the procedure was further simplified, in their judgments, children under the age of 4 could also take into account both the act of helping and the consequences of this act for third parties.

An obvious limitation of our study is also the fact that it is not longitudinal. Based on cross-sectional results, we can only conclude that children of different ages differ from each other in the assessment of moral/immoral behavior depending on its goal. However, we cannot clearly define whether these changes result from the normal developmental process or whether other factors are involved. Hence, it would be of great importance to repeat the study in the longitudinal study design.

Another direction worth exploring is the cross-cultural context of the assessment of a helping/hindering act. If it is social norms that shape children's assessment of helping/hindering behavior at a later age, we would expect to observe cultural differences in this aspect. In some cultures, the goal to which helping leads may be more or less important depending on the cultural norms, and studies have shown that culture affects perceived helping obligation (Marshall et al., 2022). In the same vein, cultures differ in terms of intent-, versus outcome-based judgments (Barrett et al., 2016). Hence, we may observe similar effects in the assessments of children's helping/hindering behaviors as a function of its goal. Cross-cultural studies could also potentially shed new light on the mechanism underlying developmental differences in judgment of helping/hindering behavior. If the results we obtained were replicated in other cultures, it would indicate a probable basis for the development of cognitive functions (which are relatively independent of the culture), but if there were significant age differences in this respect between cultures, it would suggest the basis of acculturation and social norms.

Conclusions

In the study with 727 children aged 2–7 years, we found that toddlers and children up to their fourth birthday value a helping behavior positively and a hindering behavior negatively, regardless of the goal to which the helping leads. However, above the age of 4.5 years, they start to make more complex and mature moral judgments and consider both the act of helping/hindering and the aim of the received help in their assessments.

References

Barrett, H. C., Bolyanatz, A., Crittenden, A. N., Fessler, D. M., Fitzpatrick, S., Gurven, M., Henrich, J., Kanovsky, M., Kushnick, G., Pisor, A., & Scelza, B. A. (2016). Small-scale societies exhibit fundamental variation in the role of intentions in moral judgment. *Proceedings of the National Academy of Sciences*, 113(17), 4688–4693. https://doi.org/10.1073/pnas.1522070113

Bauer, D. J., & Curran, P. J. (2005). Probing interactions in fixed and multi-level regression: Inferential and graphical techniques. *Multivariate Behavioral Research*, 40(3), 373–400. https://doi.org/10.1207/s15327906mbr4003_5

Bocian, K., & Myslinska Szarek, K. (2021). Children's sociomoral judgments of antisocial but not prosocial others depend on recipients' past moral behavior. *Social Development*, 30(2), 396–409. https://doi.org/10.1111/sode.12480

Choi, Y. J., & Luo, Y. (2015). 13-month-olds' Understanding of social interactions. *Psychological Science*, 26(3), 274–283. https://doi.org/10.1177/0956797614562452

Corbit, J., Callaghan, T., & Svetlova, M. (2020). Toddlers' costly helping in three societies. *Journal of Experimental Child Psychology*, 195, Article 104841. https://doi.org/10.1016/j.jecp.2020.104841

Cushman, F., Sheketoff, R., Wharton, S., & Carey, S. (2013). The development of intent-based moral judgment. *Cognition*, 127(1), 6–21. https://doi.org/10.1016/j.cognition.2012.11.008

Dahl, A., Schuck, R. K., & Campos, J. J. (2013). Do young toddlers act on their social preferences?*Developmental Psychology*, 49(10), 1964–1970. https://doi.org/10.1037/a0031460

Diamond, A. (2002). Normal development of prefrontal cortex from birth to young adulthood: Cognitive functions, anatomy, and biochemistry. In D. Stuss & R. Knight (Eds.), *Principles of frontal lobe function* (pp. 466–503). Oxford University Press.

Diamond, A., Kirkham, N., & Amso, D. (2002). Conditions under which young children can hold two rules in mind and inhibit a prepotent response. *Developmental Psychology*, 38(3), 352. https://doi.org/10.1037/0012-1649.38.3.352

Diamond, A., & Taylor, C. (1996). Development of an aspect of executive control: Development of the abilities to remember what I said and to "Do as I say, not as I do." *Developmental Psychobiology*, 29(4), 315–334. https://doi.org/10.1002/(SICI)1098-2302(199605)29:4 < 315::AID-DEV2 > 3.0.CO;2-T

Dunfield, K. A., & Kuhlmeier, V. A. (2010). Intention-mediated selective helping in infancy. *Psychological Science*, 21(4), 523–527. https://doi.org/10.1177/0956797610364119

Dunfield, K. A., & Kuhlmeier, V. A. (2013). Classifying prosocial behavior: Children's responses to instrumental need, emotional distress, and material desire. *Child Development*, 84(5), 1766–1776. https://doi.org/10.1111/cdev.12075

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

Giner-Sorolla, R. (2018, January 24). *Powering your interaction* [blog post]. https://approachingblog.wordpress.com/2018/01/24/powering-your-interaction-2/

Hamann, K., Warneken, F., & Tomasello, M. (2012). Children's developing commitments to joint goals. *Child Development*, 83(1), 137–145. https://doi.org/10.1111/j.1467-8624.2011.01695.x

Hamlin, J. K. (2013). Moral judgment and action in preverbal infants and toddlers: Evidence for an innate moral core. *Current Directions in Psychological Science*, 22(3), 186–193. https://doi.org/10.1177/0963721412470687

Hamlin, J. K., & Wynn, K. (2011). Young infants prefer prosocial to antisocial others. *Cognitive Development*, 26(1), 30–39. https://doi.org/10.1016/j.cogdev.2010.09.001

Hamlin, J. K., Wynn, K., & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature*, 450(7169), 557–559. https://doi.org/10.1038/nature06288

Hamlin, J. K., Wynn, K., & Bloom, P. (2010). Three-month-olds show a negativity bias in their social evaluations. *Developmental Science*, 13(6), 923–929. https://doi.org/10.1111/desc.2010.13.issue-6

Hamlin, J. K., Wynn, K., Bloom, P., & Mahajan, N. (2011). How infants and toddlers react to antisocial others. *Proceedings of the National Academy of Sciences*, 108(50), 19931–19936. https://doi.org/10.1073/pnas.1110306108

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.

Hayes, A. F., & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behavior Research Methods*, 41(3), 924–936. https://doi.org/10.3758/BRM.41.3.924

Hepach, R., Benziad, L., & Tomasello, M. (2020). Chimpanzees help others with what they want; children help them with what they need. *Developmental Science*, 23(3), Article e12922. https://doi.org/10.1111/desc.12922

Hepach, R., Engelmann, J. M., Herrmann, E., Gerdemann, S. C., & Tomasello, M. (2023). Evidence for a developmental shift in the motivation underlying helping in early childhood. *Developmental Science*, 26(1), Article e13253. https://doi.org/10.1111/desc.v26.1

Hepach, R., Kante, N., & Tomasello, M. (2017a). Toddlers help a peer. *Child Development*, 88(5), 1642–1652. https://doi.org/10.1111/cdev.12686

Hepach, R., Vaish, A., Grossmann, T., & Tomasello, M. (2016). Young children want to see others get the help they need. *Child Development*, 87(6), 1703–1714. https://doi.org/10.1111/cdev.2016.87.issue-6

Hepach, R., Vaish, A., & Tomasello, M. (2012). Young children are intrinsically motivated to see others helped. *Psychological Science*, 23(9), 967–972. https://doi.org/10.1177/0956797612440571

Hepach, R., Vaish, A., & Tomasello, M. (2017b). The fulfillment of others' needs elevates children's body posture. *Developmental Psychology*, 53(1), 100. https://doi.org/10.1037/dev0000173

Igartua, J.-J., & Hayes, A. F. (2021). Mediation, moderation, and conditional process analysis: Concepts, computations, and some common confusions. *Spanish Journal of Psychology*, 24, e49. https://doi.org/10.1017/SJP.2021.46

Kachel, U., Svetlova, M., & Tomasello, M. (2018). Three-year-olds' reactions to a partner's failure to perform her role in a joint commitment. *Child Development*, 89(5), 1691–1703. https://doi.org/10.1111/cdev.12816

Killen, M, & Smetana, J. G. (1999). Social interactions in preschool classrooms and the development of young children's conceptions of the personal. *Child Development*, 70(2), 486–501. https://doi.org/10.1111/cdev.1999.70.issue-2

Lanzetta, J. T., & Wilke, H. (1971). The obligation to help: The effect of levels of prior help on subsequent helping behavior. *European Journal of Social Psychology*, 1(1), 97–106. https://doi.org/10.1002/(ISSN)1099-0992

Margoni, F., & Surian, L. (2016). Explaining the U-shaped development of intent-based moral judgments. *Frontiers in Psychology*, 7, 1241. https://doi.org/10.3389/fpsyg.2016.00219

Margoni, F., & Surian, L. (2017). Children's intention-based moral judgments of helping agents. *Cognitive Development*, 41, 46–64. https://doi.org/10.1016/j.cogdev.2016.12.001

Marshall, J., Gollwitzer, A., Mermin-Bunnell, K., Shinomiya, M., Retelsdorf, J., & Bloom, P. (2022). How development and culture shape intuitions about prosocial obligations. *Journal of Experimental Psychology: General*. 151(8), 1866–1882. https://doi.org/10.1037/xge0001136

Martin, A., Lin, K., & Olson, K. R. (2016). What you want versus what's good for you: Paternalistic motivation in children's helping behavior.

Child Development, 87(6), 1739–1746. https://doi.org/10.1111/cdev .12637

Martin, A., & Olson, K. R. (2013). When kids know better: Paternalistic helping in 3-year-old children. *Developmental Psychology*, 49(11), 2071. https://doi.org/10.1037/a0031715

Meristo, M., & Surian, L. (2013). Do infants detect indirect reciprocity?. *Cognition*, 129(1), 102–113. https://doi.org/10.1016/j.cognition.2013.06 .006

Nelson, S. A. (1980). Factors influencing young children's use of motives and outcomes as moral criteria. *Child Development*, 51(3), 823–829. https://doi.org/10.2307/1129470

Nobes, G., Panagiotaki, G., & Bartholomew, K. J. (2016). The influence of intention, outcome and question-wording on children's and adults' moral judgments. *Cognition*, 157, 190–204. https://doi.org/10.1016/j.cognition .2016.08.019

Nobes, G., Panagiotaki, G., & Engelhardt, P. E. (2017). The development of intention-based morality: The influence of intention salience and recency, negligence, and outcome on children's and adults' judgments. *Developmental Psychology*, 53(10), 1895–1911. https://doi.org/10.1037/ dev0000380

Nucci, L., Turiel, E., & Roded, A. D. (2017). Continuities and discontinuities in the development of moral judgments. *Human Development*, 60(6), 279–341. https://doi.org/10.1159/000484067

Nucci, L. P., & Turiel, E. (1978). Social interactions and the development of social concepts in preschool children. *Child Development*, 49(2), 400–407. https://doi.org/10.2307/1128704

Nucci, L. P., & Weber, E. K. (1995). Social interactions in the home and the development of young children's conceptions of the personal. *Child Development*, 66(5), 1438–1452. https://doi.org/10.1111/j.1467-8624 .1995.tb00944.x

Núñez, M., & Harris, P. L. (1998). Psychological and deontic concepts: Separate domains or intimate connection? *Mind & Language*, 13(2), 153–170. https://doi.org/10.1111/1468-0017.00071

Peterson, C. C., & Wellman, H. M. (2019). Longitudinal theory of mind (ToM) development from preschool to adolescence with and without ToM delay. *Child Development*, 90(6), 1917–1934. https://doi.org/10 .1111/cdev.13064

Smetana, J. G. (2006). Social-cognitive domain theory: Consistencies and variations in children's moral and social judgments. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (pp. 119–154). Erlbaum Associates.

Smetana, J. G., Jambon, M., & Ball, C. (2013). The social domain approach to children's moral and social judgments. In *Handbook of moral development* (pp. 23–45). Psychology Press.

Smetana, J. G., Jambon, M., & Ball, C. L. (2018). Normative changes and individual differences in early moral judgments: A constructivist developmental perspective. *Human Development*, 61(4–5), 264–280. https:// doi.org/10.1159/000492803

Smetana, J. G., Wong, M., Ball, C., & Yau, J. (2014). American and Chinese children's evaluations of personal domain events and resistance to parental authority. *Child Development*, 85(2), 626–642. https://doi.org/10.1111/ cdev.12140

Smith, C. E., Blake, P. R., & Harris, P. L. (2013). I should but I won't: Why young children endorse norms of fair sharing but do not follow them. *PLoS One*, 8(3), Article e59510. https://doi.org/10.1371/journal.pone.0059510

Sommerville, J. A., Enright, E. A., Horton, R. O., Lucca, K., Sitch, M. J., & Kirchner-Adelhart, S. (2018). Infants' prosocial behavior is governed by cost-benefit analyses. *Cognition*, 177, 12–20. https://doi.org/10.1016/j .cognition.2018.03.021

Svetlova, M., Nichols, S. R., & Brownell, C. A. (2010). Toddlers' prosocial behavior: From instrumental to empathic to altruistic helping. *Child Development*, 81(6), 1814–1827. https://doi.org/10.1111/j.1467-8624 .2010.01512.x

Tomasello, M. (2018). The normative turn in early moral development. *Human Development*, 61(4–5), 248–263. https://doi.org/10.1159/ 000492802

Van de Vondervoort, J. W., & Hamlin, J. K. (2018). Preschoolers focus on others' intentions when forming sociomoral judgments. *Frontiers in Psychology*, 9, Article 1851. https://doi.org/10.3389/fpsyg.2018.01851

Warneken, F., & Tomasello, M. (2006). Altruistic helping in human infants and young chimpanzees. *Science*, 311(5765), 1301–1303. https://doi.org/ 10.1126/science.1121448

Warneken, F., & Tomasello, M. (2007). Helping and cooperation at 14 months of age. *Infancy*, 11(3), 271–294. https://doi.org/10.1111/j.1532-7078.2007.tb00227.x

Warneken, F., & Tomasello, M. (2008). Extrinsic rewards undermine altruistic tendencies in 20-month-olds. *Developmental Psychology*, 44(6), 1785–1788. https://doi.org/10.1037/a0013860

Warneken, F., & Tomasello, M. (2009). The roots of human altruism. *British Journal of Psychology*, 100(3), 455–471. https://doi.org/10.1348/ 000712608X379061

Warneken, F., & Tomasello, M. (2013). Parental presence and encouragement do not influence helping in young children. *Infancy*, 18(3), 345–368. https://doi.org/10.1111/j.1532-7078.2012.00120.x

Warneken, F., & Tomasello, M. (2014). Extrinsic rewards undermine altruistic tendencies in 20-month-olds. *Motivation Science*, 1(S), 43–48. https:// doi.org/10.1037/2333-8113.1.S.43

Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-analysis of theory-of-mind development: The truth about false belief. *Child Development*, 72(3), 655–684. https://doi.org/10.1111/1467-8624.00304

Woo, B. M., Tan, E., & Hamlin, J. K. (2022). Human morality is based on an early-emerging moral core. *Annual Review of Developmental Psychology*, 4(1), 41–61. https://doi.org/10.1146/devpsych.2022.4.issue-1

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Oświadczenie o współautorstwie

Niniejszym oświadczam, że w pracy: Myslinska Szarek, K., Baryla, W., & Wojciszke, B. (2023). Is helping always morally good? Study with toddlers and preschool children. *Developmental Psychology, 59*(5), 918–927. https://doi.org/10.1037/dev0001521, mój udział polegał na: opracowaniu procedury badania, koordynacji przebiegu badania, analizie i interpretacji danych, pisaniu manuskryptu, odpowiedzi na uwagi recenzentów. Mój udział w powstaniu pracy wynosi 70 %.

Warszawa, dnia 20.06.2023

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Oświadczenie o współautorstwie

Niniejszym oświadczam, że w pracy: Bocian, K., & Myslinska-Szarek, K. (2020). Children's sociomoral judgment of antisocial others depends on social context. *Social Development, 30 (2*), 396-409. https://doi.org/10.1111/sode.12480, mój udział polegał na opracowaniu procedury badawczej, przeprowadzeniu badania, interpretacji wyników, wyciągnięciu wniosków, opracowaniu manuskryptu, odpowiedzi na uwagi recenzentów. Mój udział w powstaniu pracy wynosi 50 %.

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Niniejszym oświadczam, że w pracy: Myslinska-Szarek, K., Bocian, K., Baryla, W., & Wojciszke, B. (2021). Partner in crime: Rewarding cooperation overcomes children's aversion to antisocial others. *Developmental Science 24 (2*). https://doi.org/10.1111/desc.13038, mój udział polegał na: opracowaniu procedury badawczej, przeprowadzeniu badania, analizie i interpretacji danych, przygotowaniu manuskryptu. Mój udział w powstaniu pracy wynosi 60 %.

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mój udział polegał na: udziale w opracowaniu procedury badania, analizie zebranych danych, opisie wyników badania, korekcie tekstu artykułu. Mój udział w powstaniu pracy wynosi 10 %.

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   927. https://doi.org/10.1037/dev0001521,

mój udział polegał na: udziale w opracowaniu procedury badawczej, analizie danych, przygotowania
opisu wyników badania, korekcie artykułu. Mój udział w powstaniu pracy wynosi 20 %.

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